DEVOPS with MULTI-CLOUD
Practice Tasks

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Course : DevOps with Multi-Cloud

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TASK-9 : 2-Tier with 2 Load Balancers.

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Objective :-

To design and implement a two-tier architecture in Azure using a public load balancer for the web tier and a private load balancer for the application tier, ensuring secure traffic flow, high availability, and scalable communication between the tiers.

2-Tier with 2 Load Balancers :-

→ In the two tier we have a webserver and an application server.

→ We will create two Load Balancers i.e one public load balancer and one private load balancer.

→ we will attach the public load balancer to the web server and the private load balancer to the application server.

To Implement the 2-Tier :-

→Create two virtual machines VM01 & VM02 under the resource group RG01 and virtual network VN01 with subnets SN01 & SN02. while creating vm's allow the ports 22 & 80 also install nginx in vm01 and tomcat in vm02.
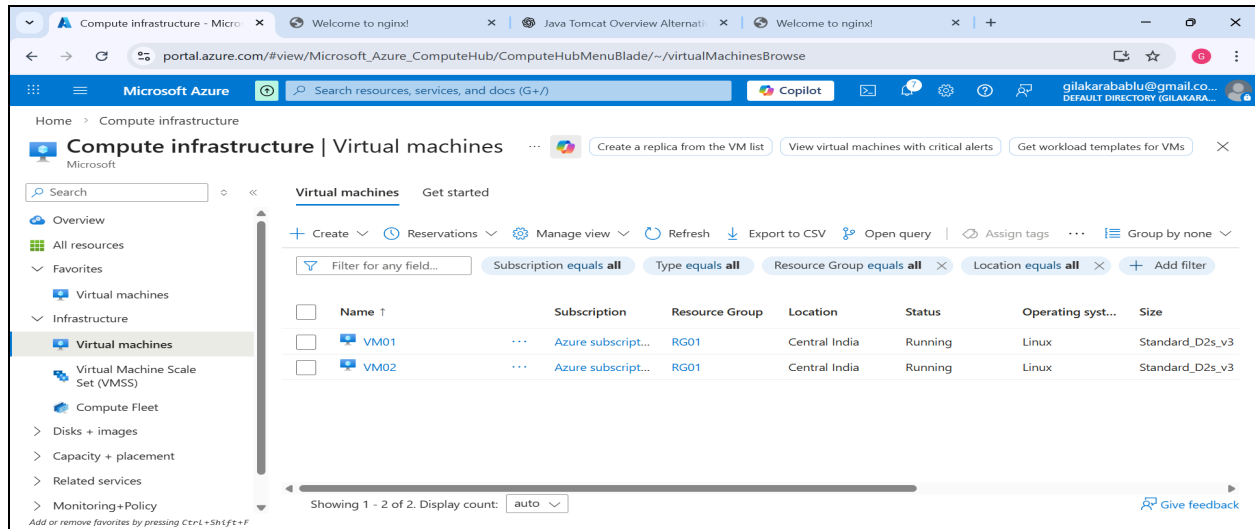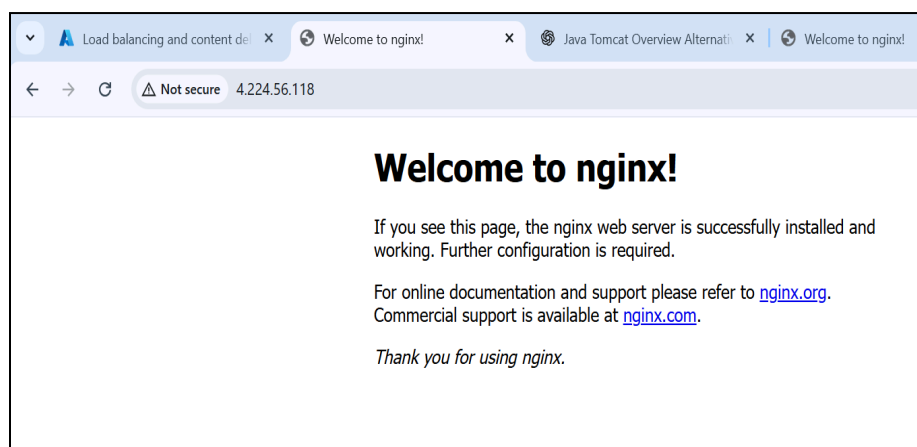
fig(1) successfully created two virtual machines.

→ After installing the nginx in vm01, validate by browsing with the vm's ip addresses (same for tomcat also).
→ Now create two load balancers, one public and one private.
→ Give the frontend port no as 80 and backend port no 80 for the public load balancer & frontend port as 8080 and backend as 8080 for the private load balancer.
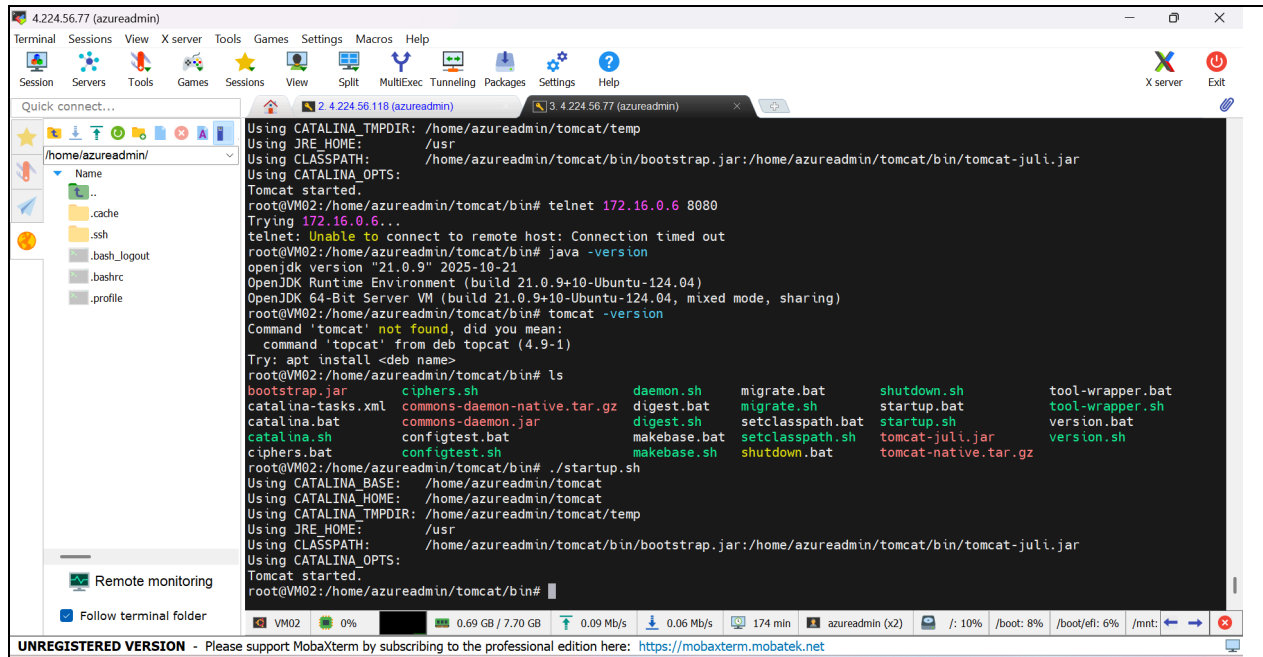

fig(2) nginx is successfully installed.

Fig (3) tomcat is successfully installed.

→ now create two load balancers, one public and one private.
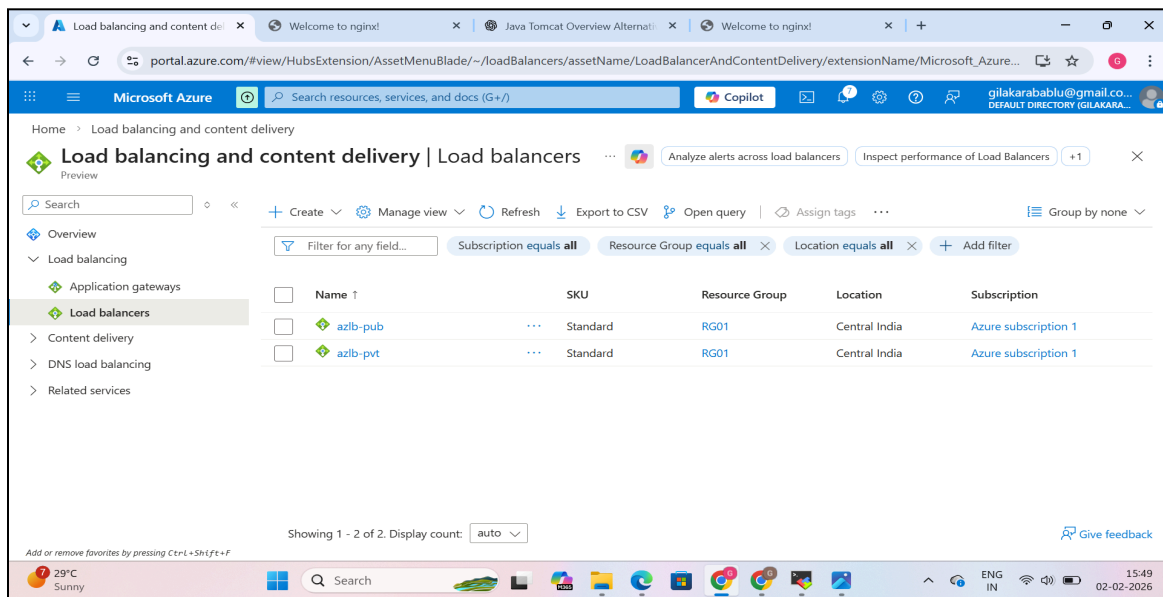

Fig (4) Two load balancers are created.

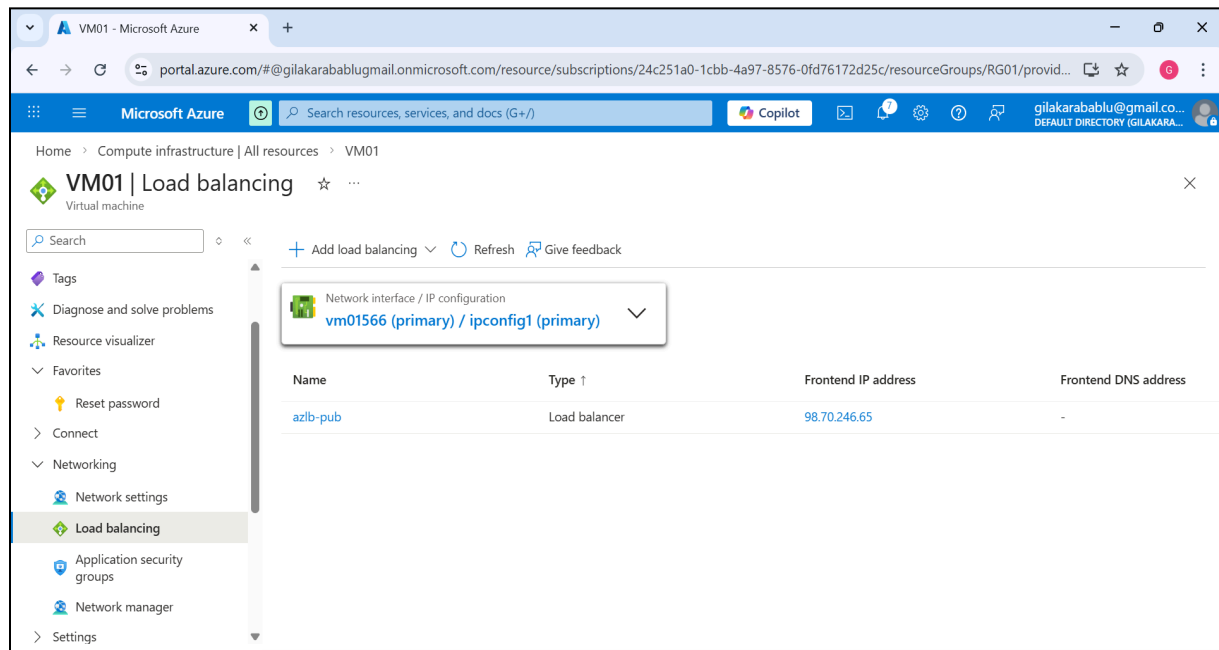→ also add the vm's in the backend of the load balancers.
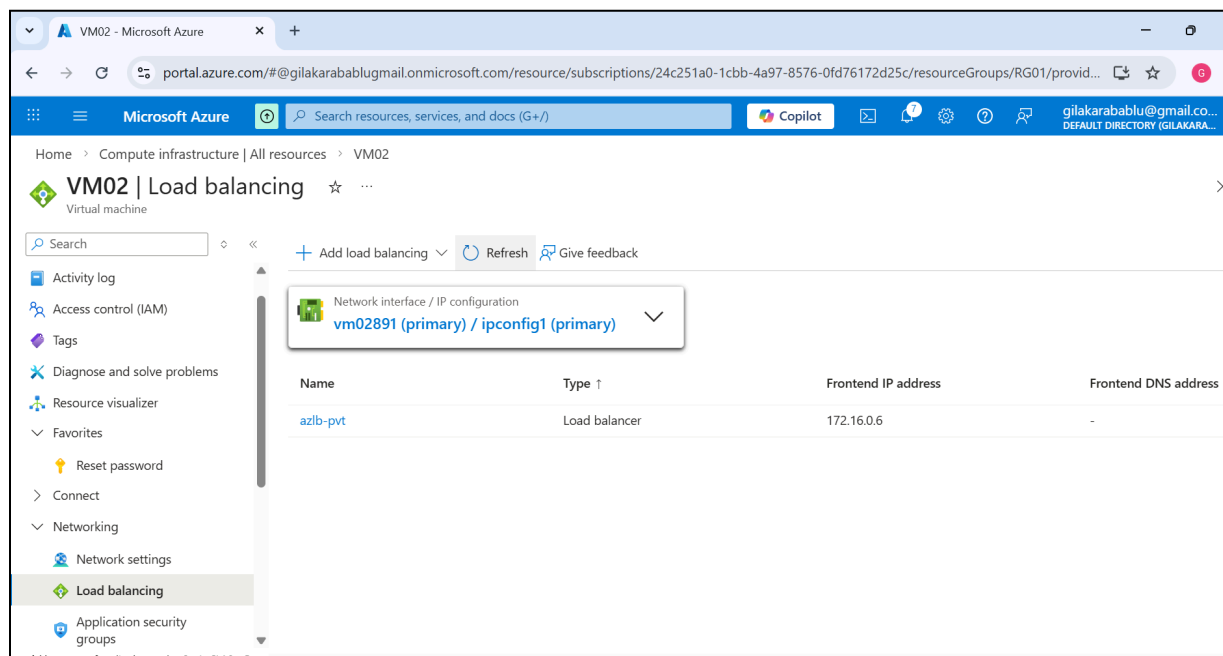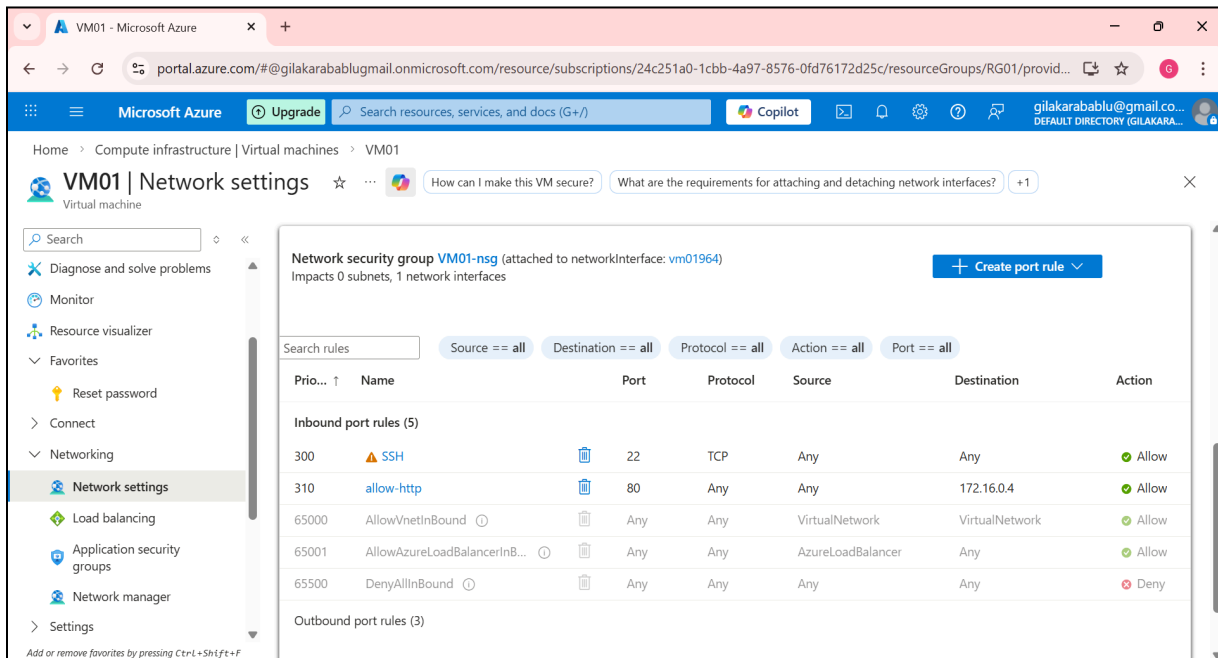
Fig (5) vm added for public load balancers.
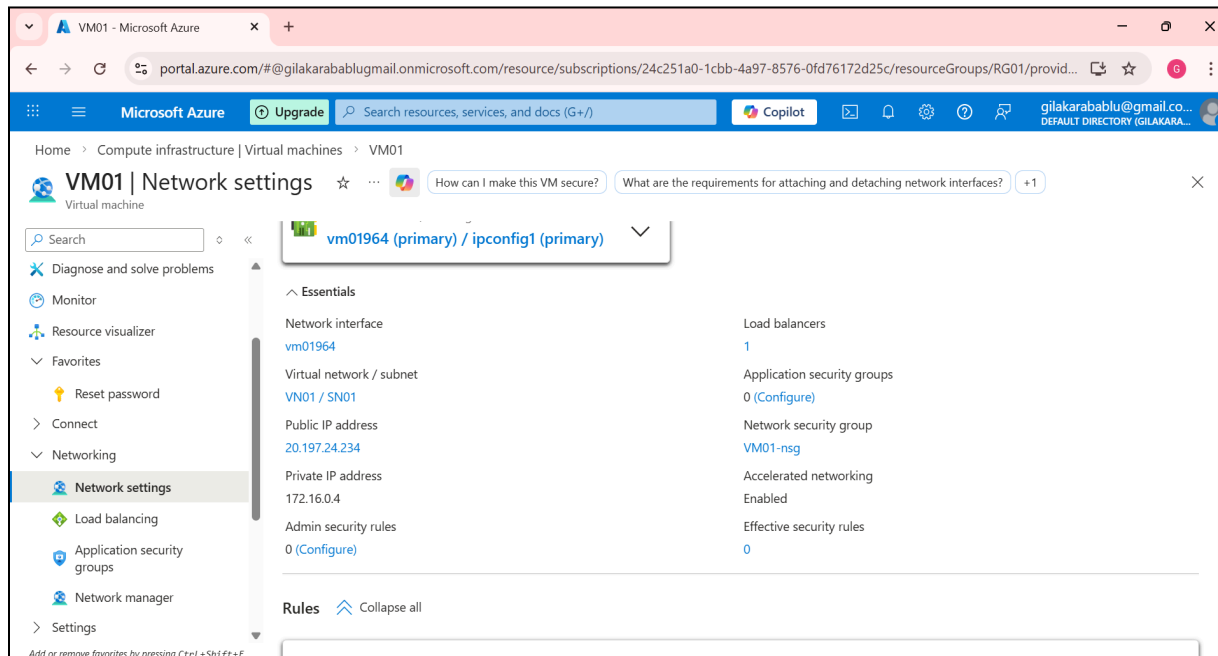

Fig (6) vm is added for the private load balancer.

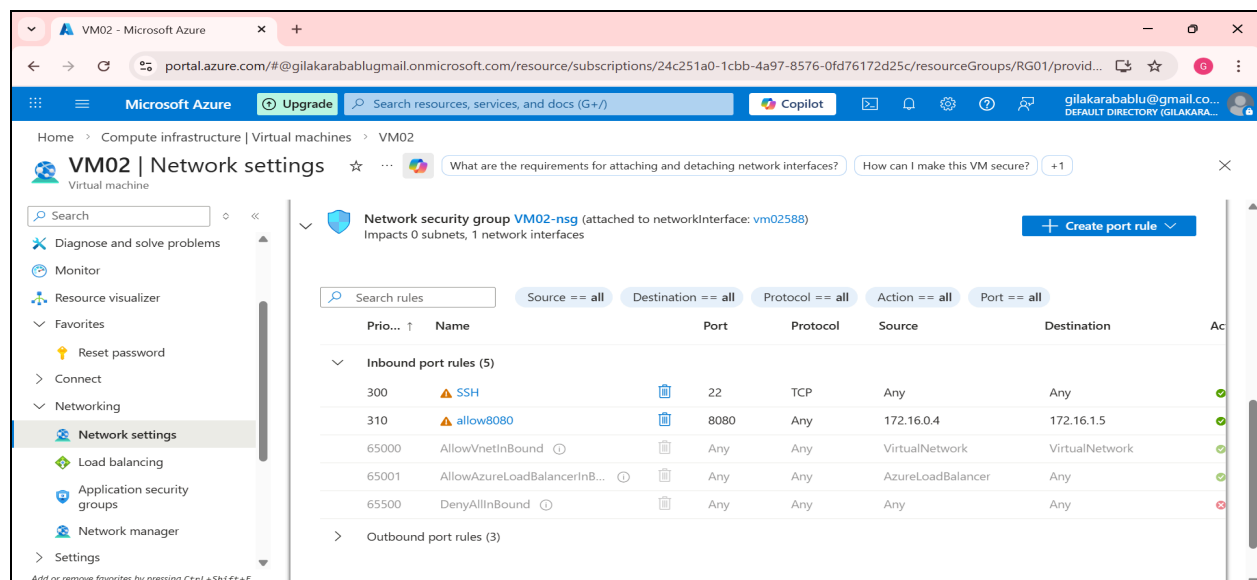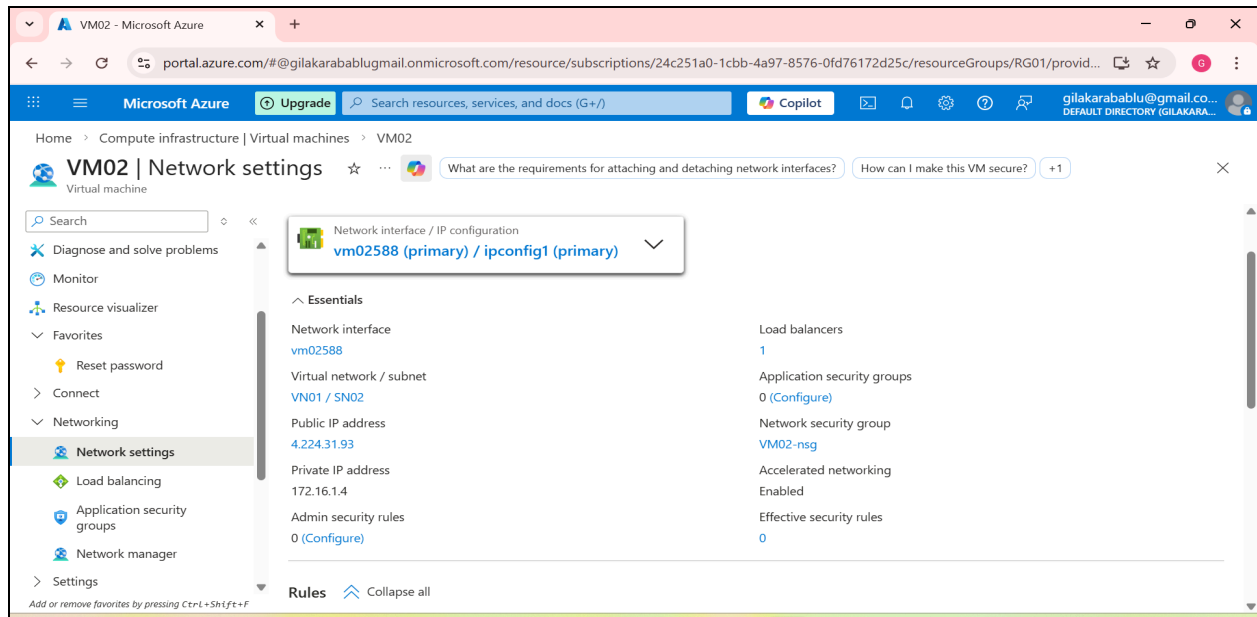→ Now let us configure the nsg rules and connections.

→ These are from another 2-tier :

→ These are the nsg rules for web

Source : any , destination : web private ip. ,port : 80
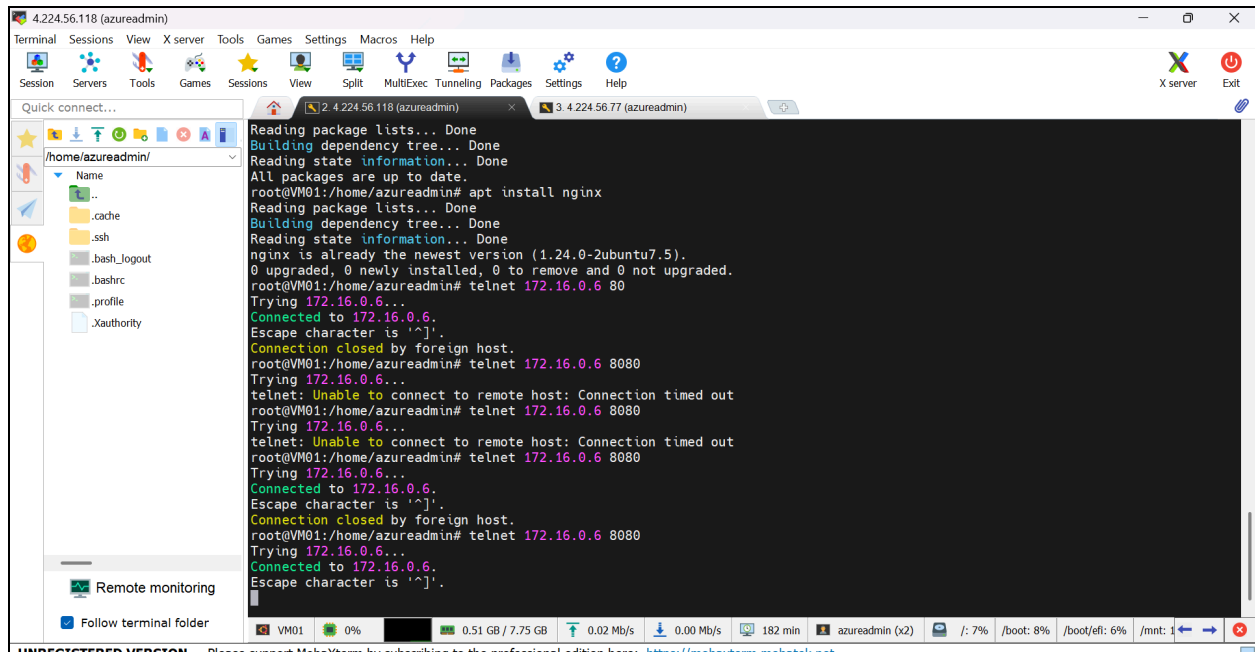
And 22 is for login to the machine.

→ these are the nsg rules for the app.

Source : web pvt-ip, destination : pvt-lb ip, port : 8080.

And 22 is for login to the machine.

→ Now we need to connect from the web to the app using the telnet command.

fig(11) successfully connected to the app from the web using telnet command.

→ Now the connection is successfully established and the traffic is flowing from the web to the private load balancer and next to the app.

✦ Successfully completed the 2 tier Architecture.