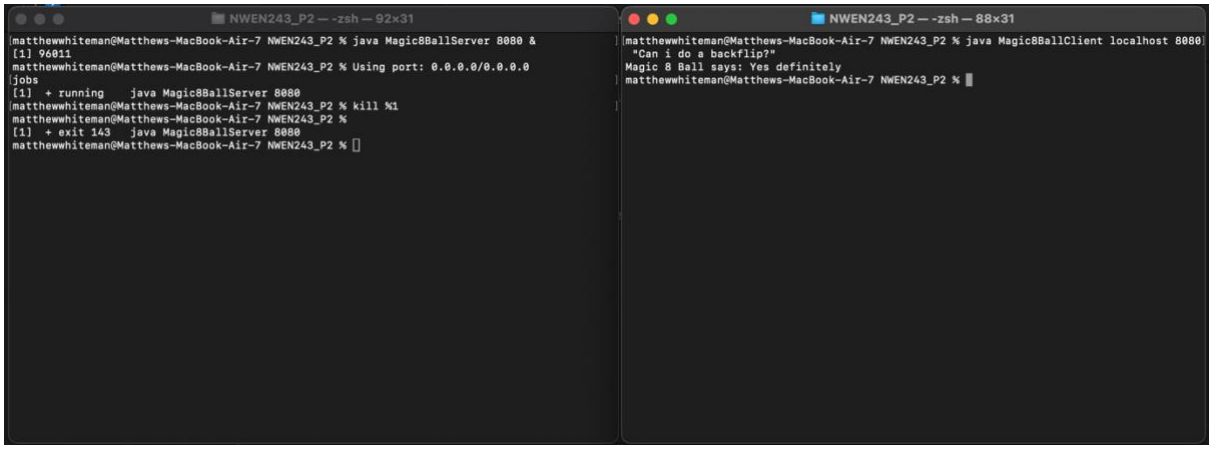
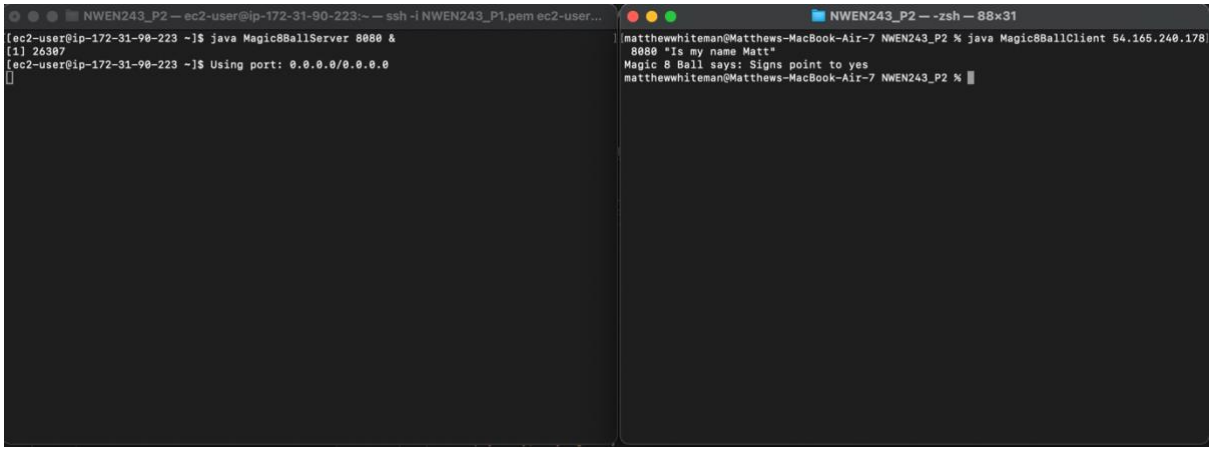
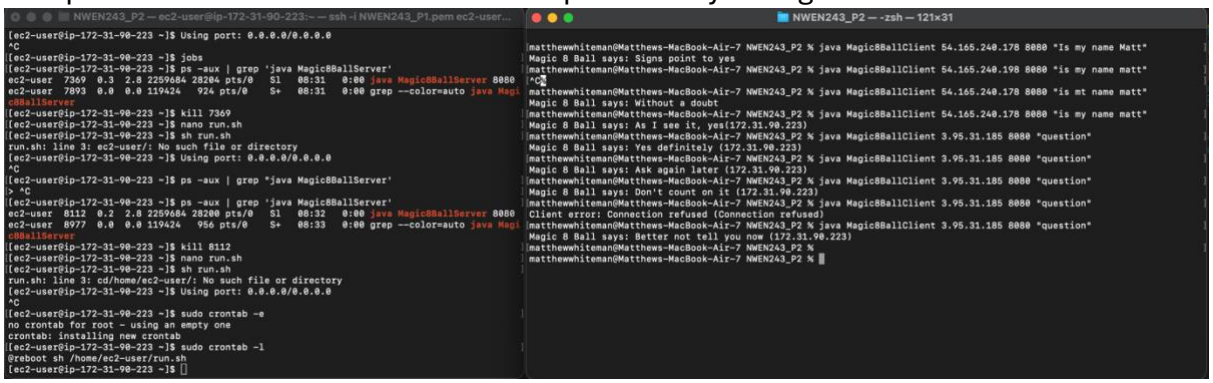


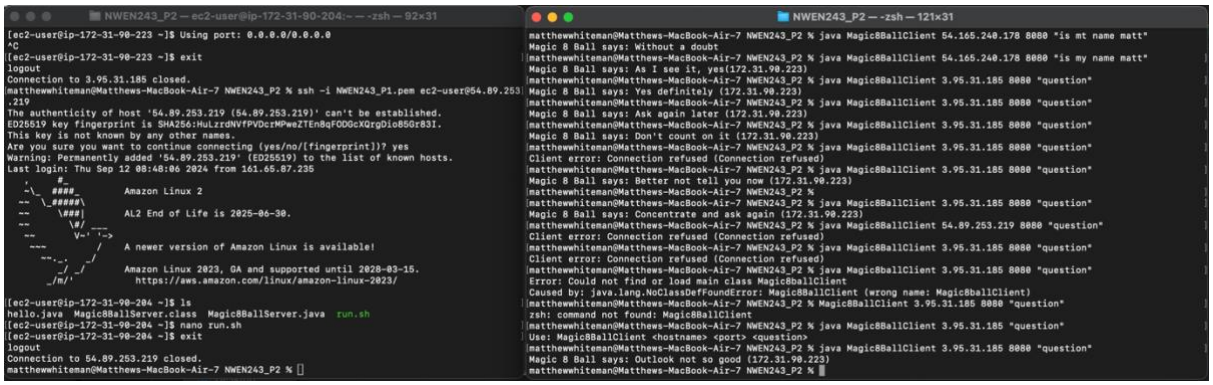
This is after I set up the client and server locally and tested them out in my terminal



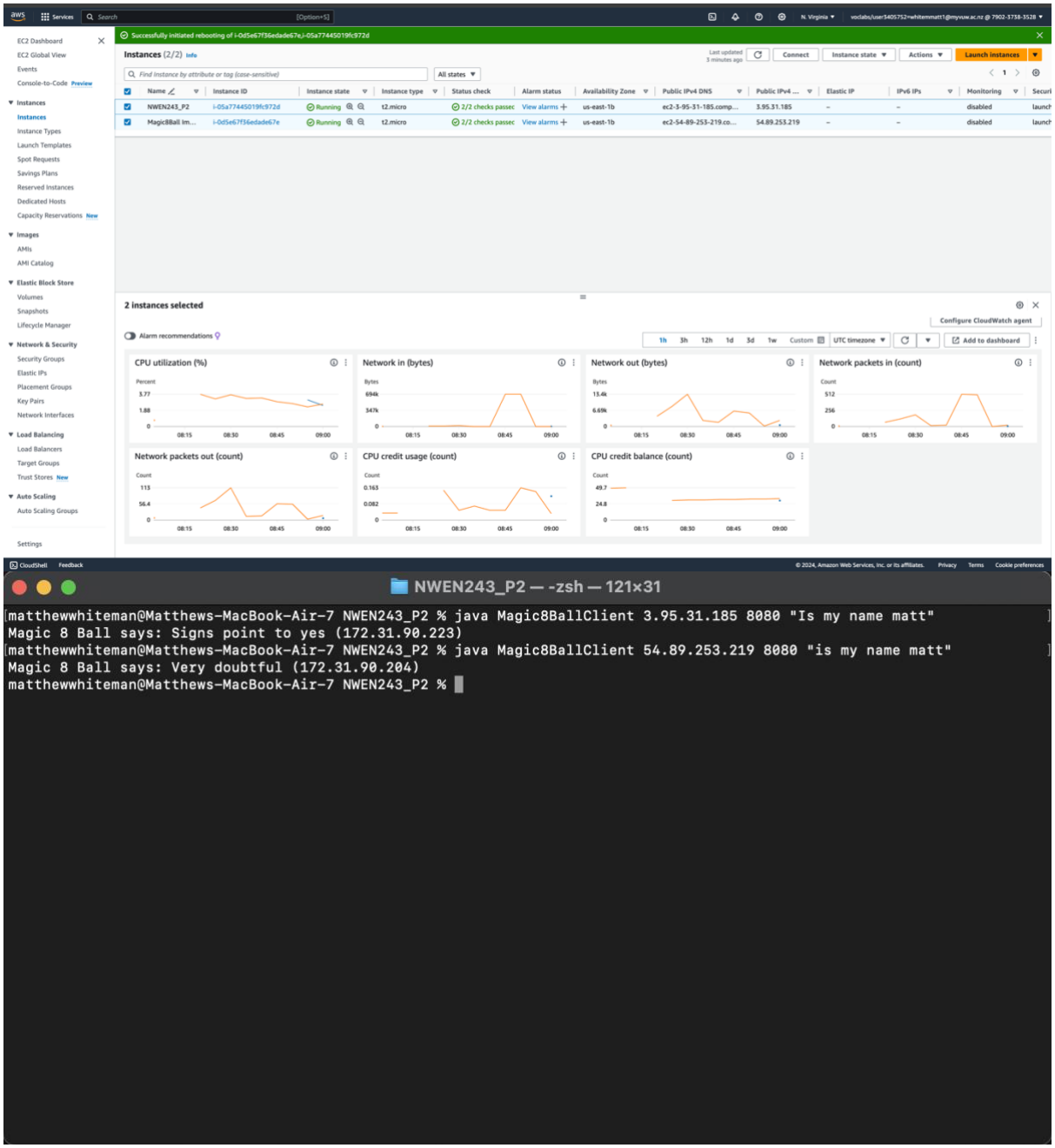
This is after I created my ec2 instance and uploaded my code, I found out I compiled my code with java 17 in my ide and had to install jdk 11 to ec2 which had some problems so I used ai to help work around the problems and get it installed so I could just edit and compile in the terminal and not have to upload every change.



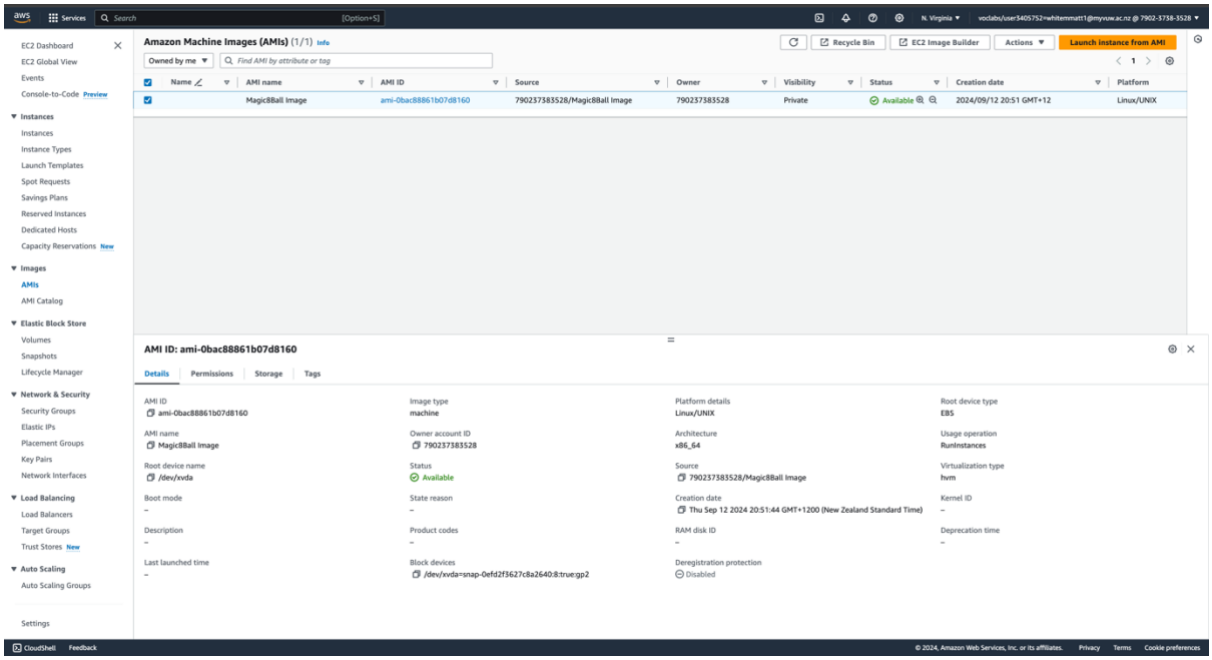
I found out I had some problems later on with creating images and instances from those images because I forgot a space in cd /home/ec2-user/run.sh but fixed it later and It still didn't work and finally figured out I had to re do the crontab so it had the fix in the thing, if this makes sense



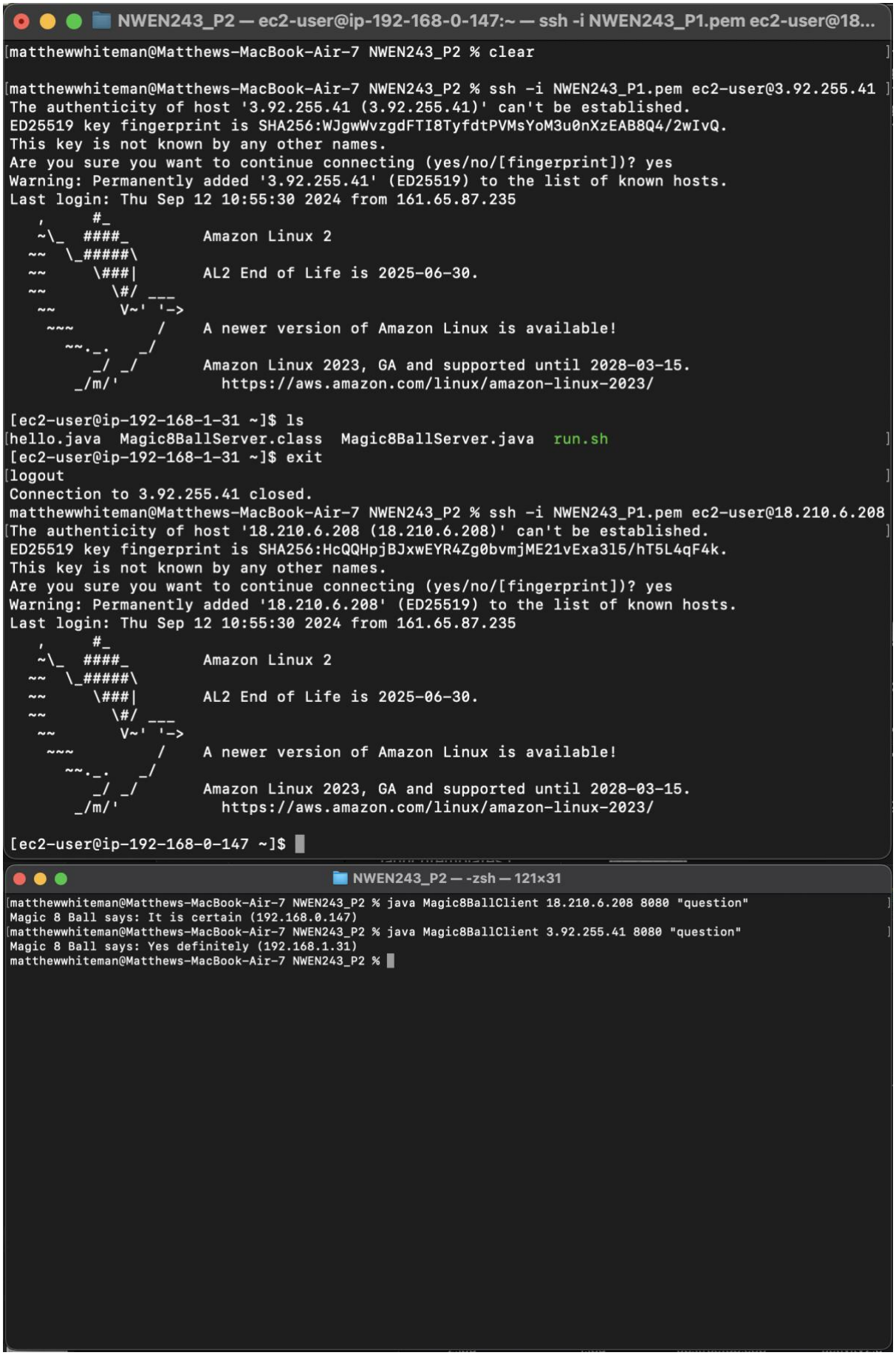
This is image 4 that shows it still works after the instance reboot



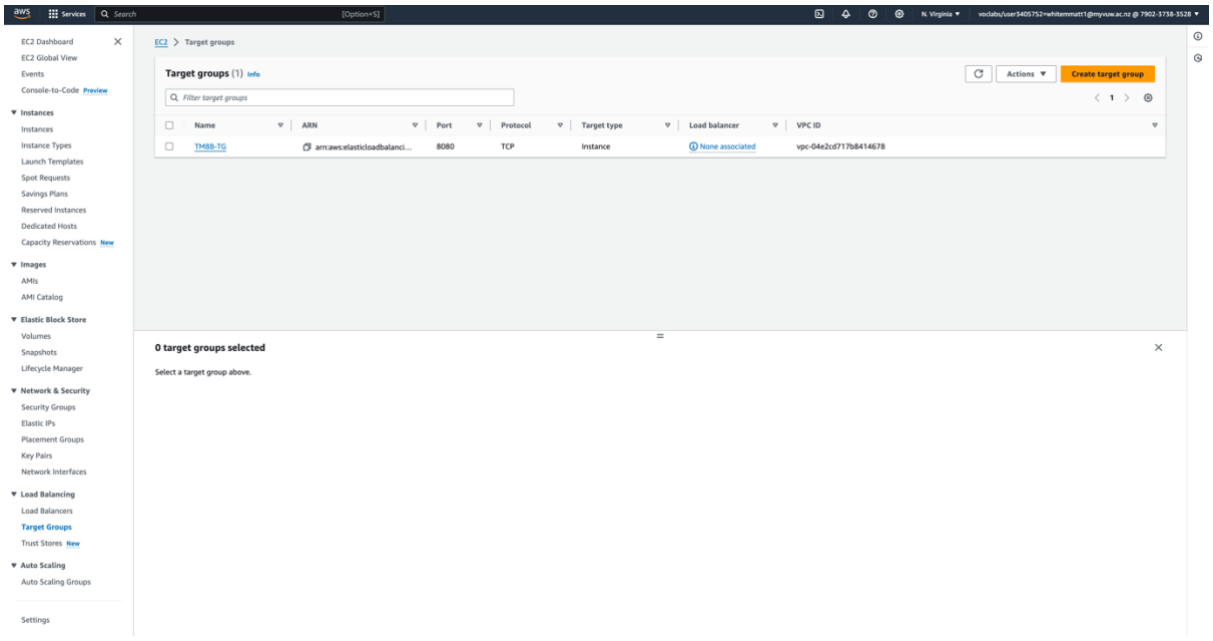
This is showing the AMI and original instance work with the client



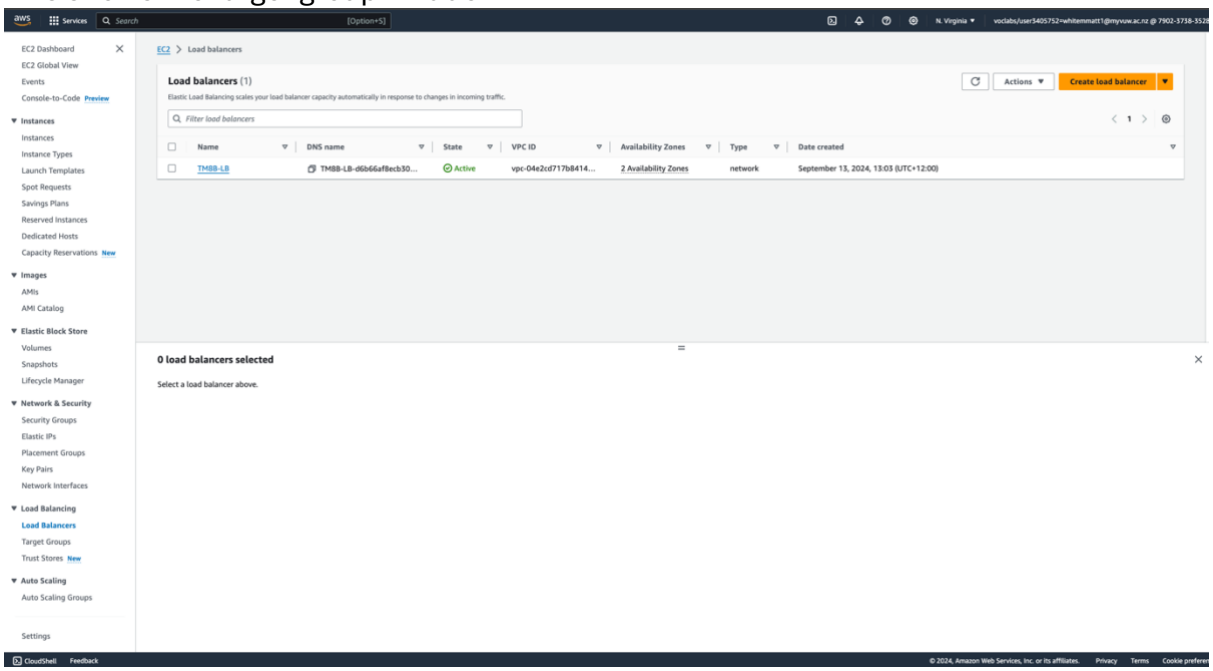
This screenshot shows the AMI I created


NWEN243_P2 — ec2-user@ip-192-168-0-147:~ — ssh -i NWEN243_P1.pem ec2-user@18...
matthewwhiteman@Matthews-MacBook-Air-7 NWEN243_P2 % clear
matthewwhiteman@Matthews-MacBook-Air-7 NWEN243_P2 % ssh -i NWEN243_P1.pem ec2-user@3.92.255.41
The authenticity of host '3.92.255.41 (3.92.255.41)' can't be established.
ED25519 key fingerprint is SHA256:WJgwWvzgdFTI8TyfdtPVMsYoM3u0nXzEAB8Q4/2wIvQ.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '3.92.255.41' (ED25519) to the list of known hosts.
Last login: Thu Sep 12 10:55:30 2024 from 161.65.87.235
Amazon Linux 2
AL2 End of Life is 2025-06-30.
A newer version of Amazon Linux is available!
Amazon Linux 2023, GA and supported until 2028-03-15.
https://aws.amazon.com/linux/amazon-linux-2023/
[ec2-user@ip-192-168-1-31 ~]$ ls
hello.java Magic8BallServer.class Magic8BallServer.java run.sh
[ec2-user@ip-192-168-1-31 ~]$ exit
logout
Connection to 3.92.255.41 closed.
matthewwhiteman@Matthews-MacBook-Air-7 NWEN243_P2 % ssh -i NWEN243_P1.pem ec2-user@18.210.6.208
The authenticity of host '18.210.6.208 (18.210.6.208)' can't be established.
ED25519 key fingerprint is SHA256:HcQQHpjBJxwEYR4Zg0bvmjME21vExa3l5/hT5L4qF4k.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '18.210.6.208' (ED25519) to the list of known hosts.
Last login: Thu Sep 12 10:55:30 2024 from 161.65.87.235
Amazon Linux 2
AL2 End of Life is 2025-06-30.
A newer version of Amazon Linux is available!
Amazon Linux 2023, GA and supported until 2028-03-15.
https://aws.amazon.com/linux/amazon-linux-2023/
[ec2-user@ip-192-168-0-147 ~]$
NWEN243_P2 — -zsh — 121×31
matthewwhiteman@Matthews-MacBook-Air-7 NWEN243_P2 % java Magic8BallClient 18.210.6.208 8080 "question"
Magic 8 Ball says: It is certain (192.168.0.147)
matthewwhiteman@Matthews-MacBook-Air-7 NWEN243_P2 % java Magic8BallClient 3.92.255.41 8080 "question"
Magic 8 Ball says: Yes definitely (192.168.1.31)
matthewwhiteman@Matthews-MacBook-Air-7 NWEN243_P2 %

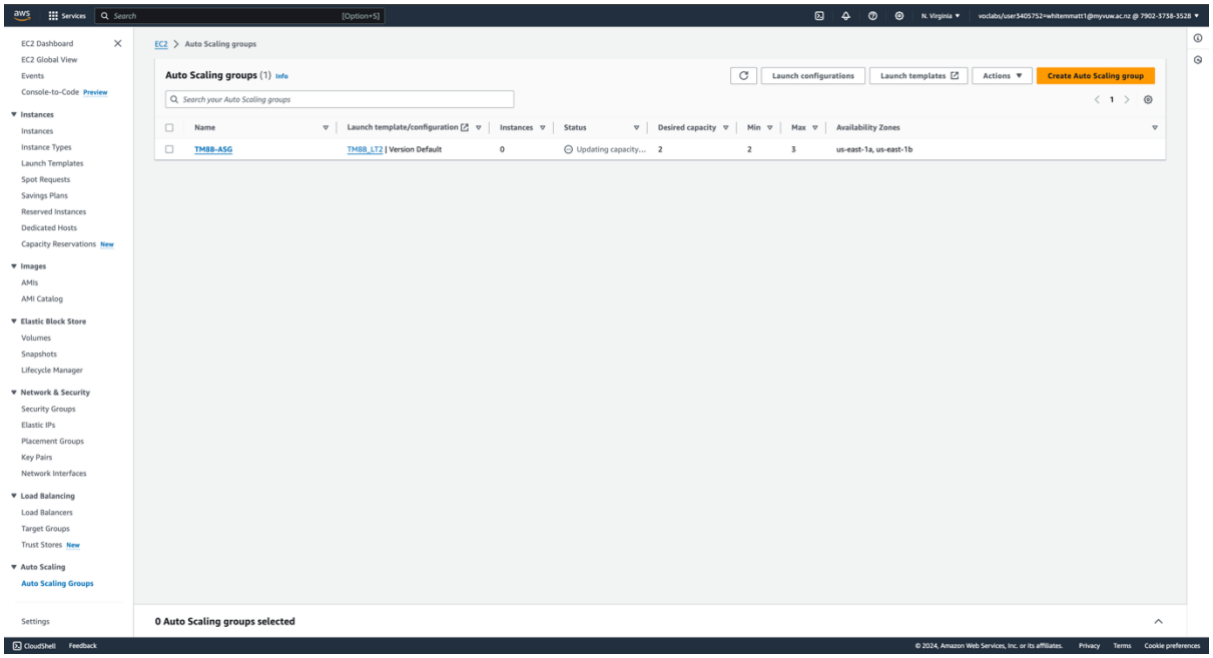
The screenshots above show that both the subnets from the launch template work with the client and the server



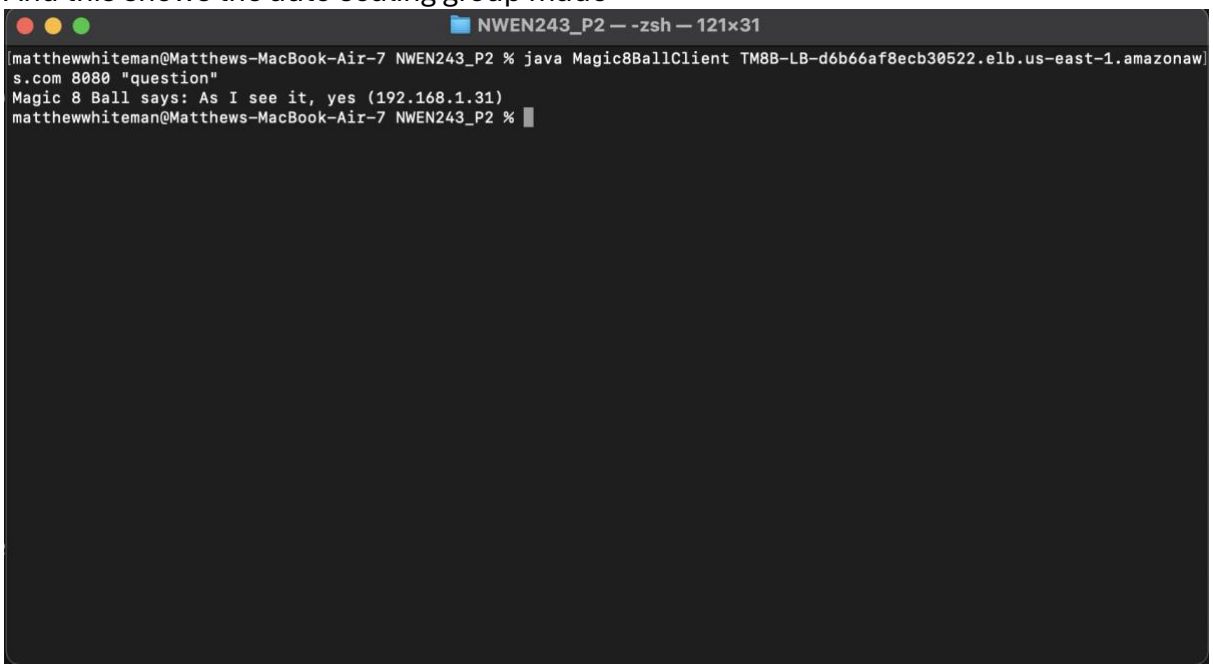
This shows the target group I made



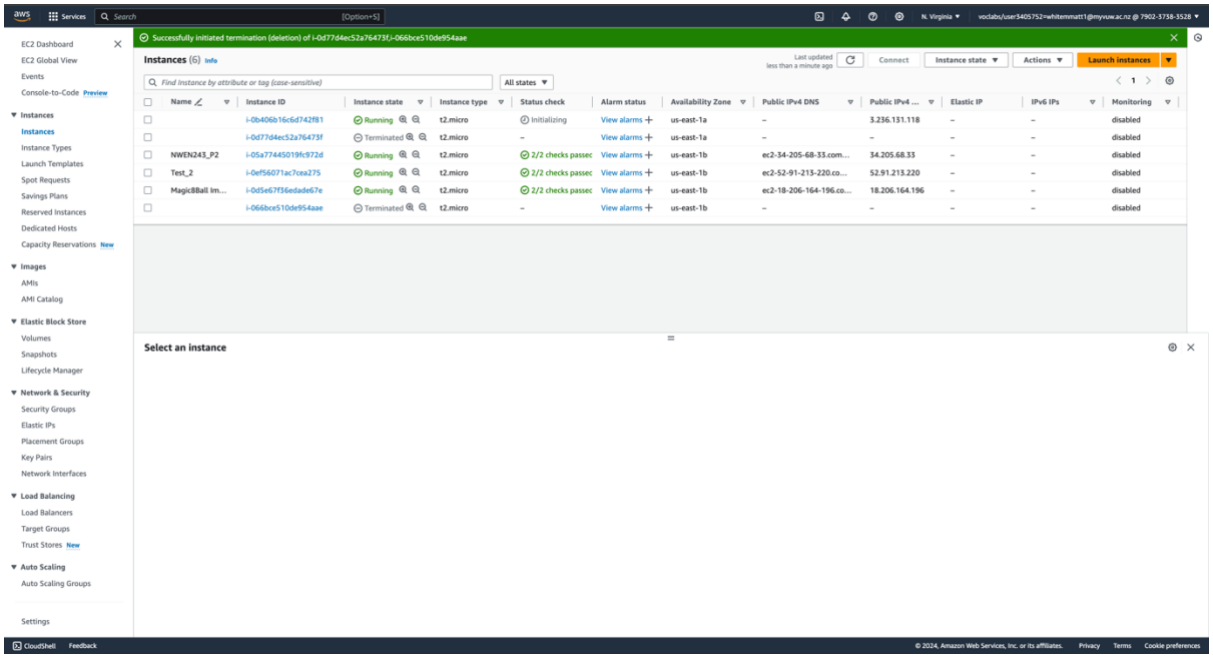
This shows the load balancer



And this shows the auto scaling group made

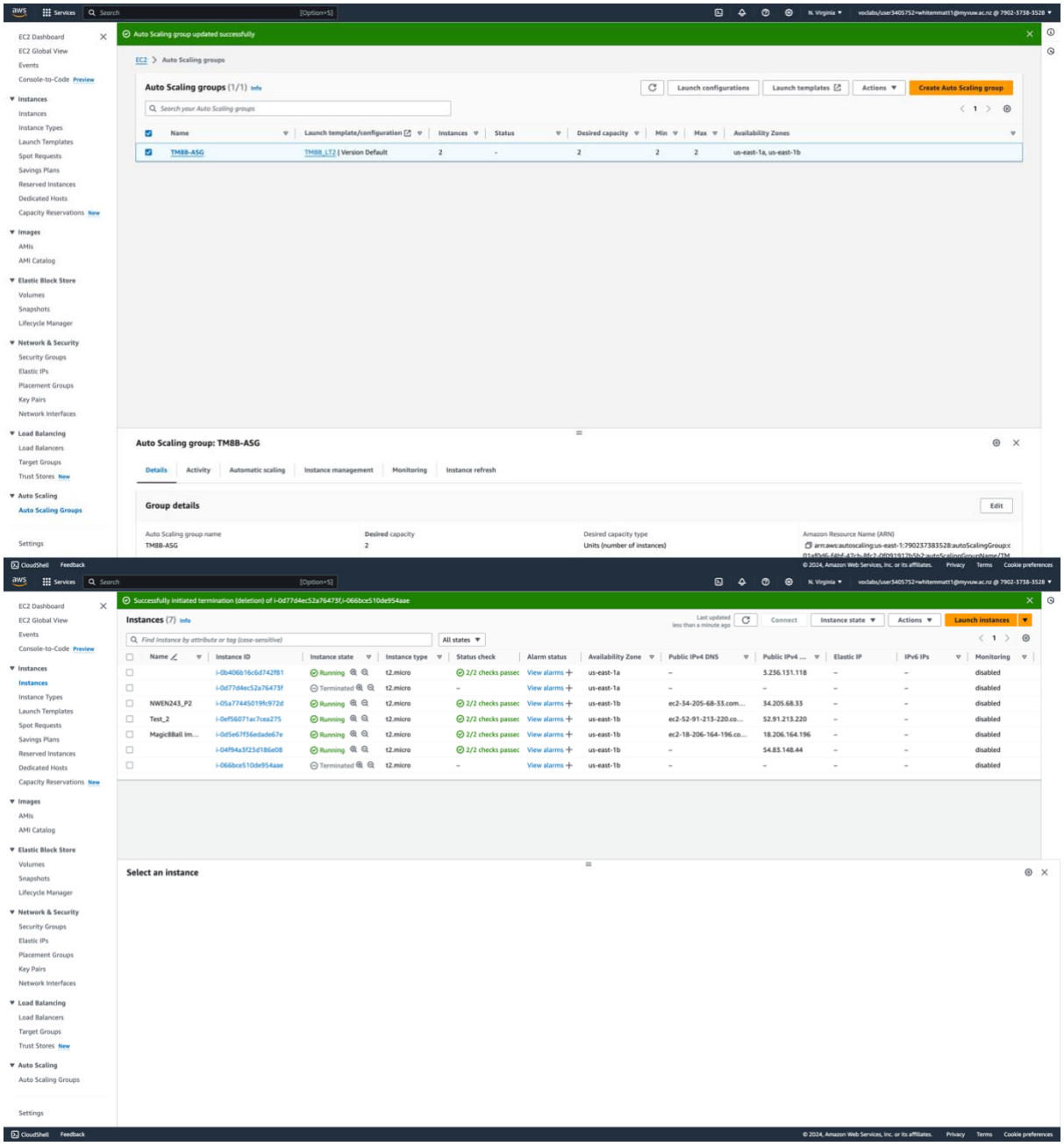


This screenshot shows that using the dns from the load balancer also works



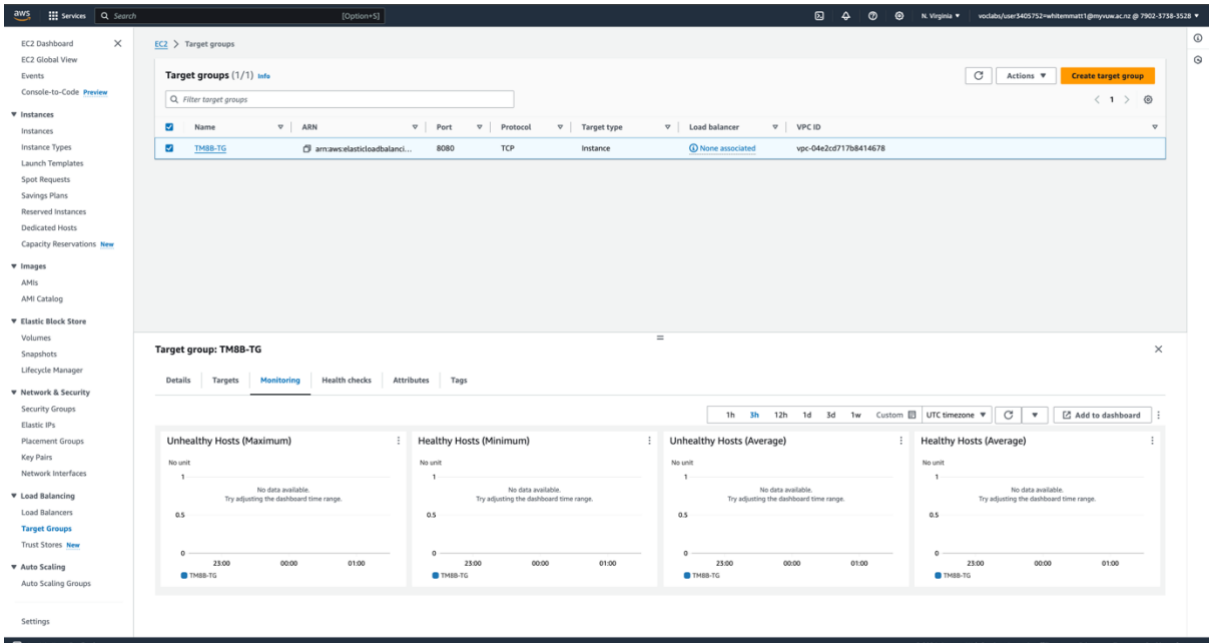
Question 1:

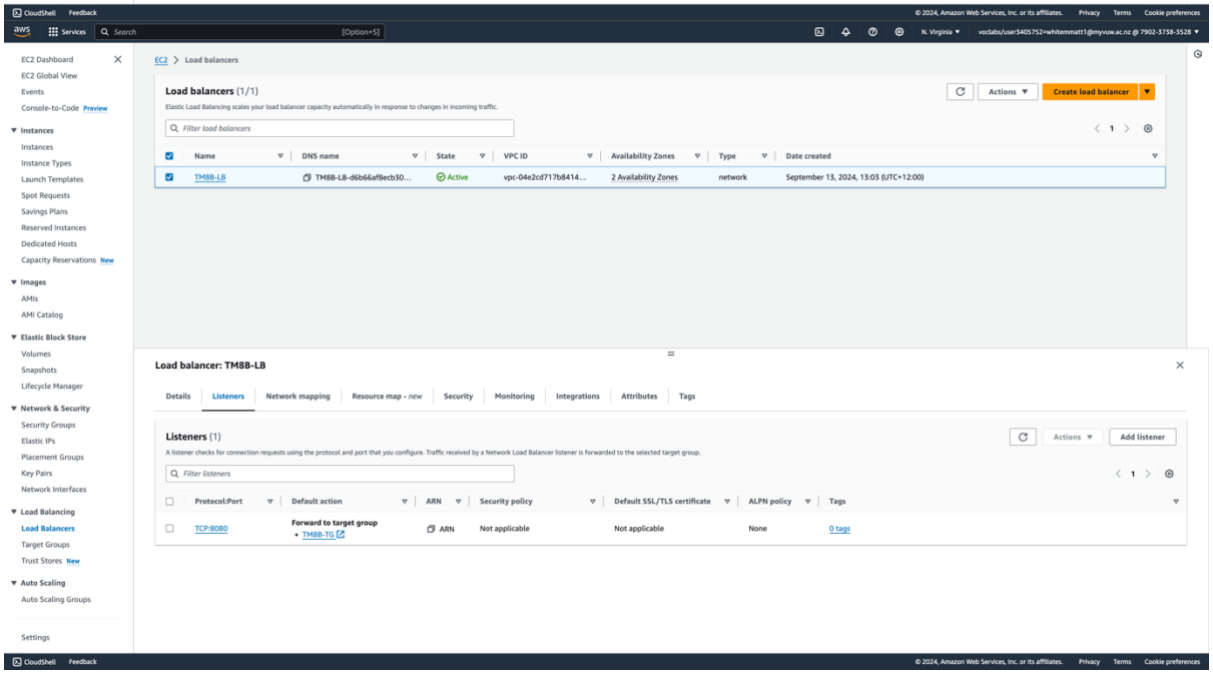
After deleting the instances then connecting to the load balancer again it created new instances

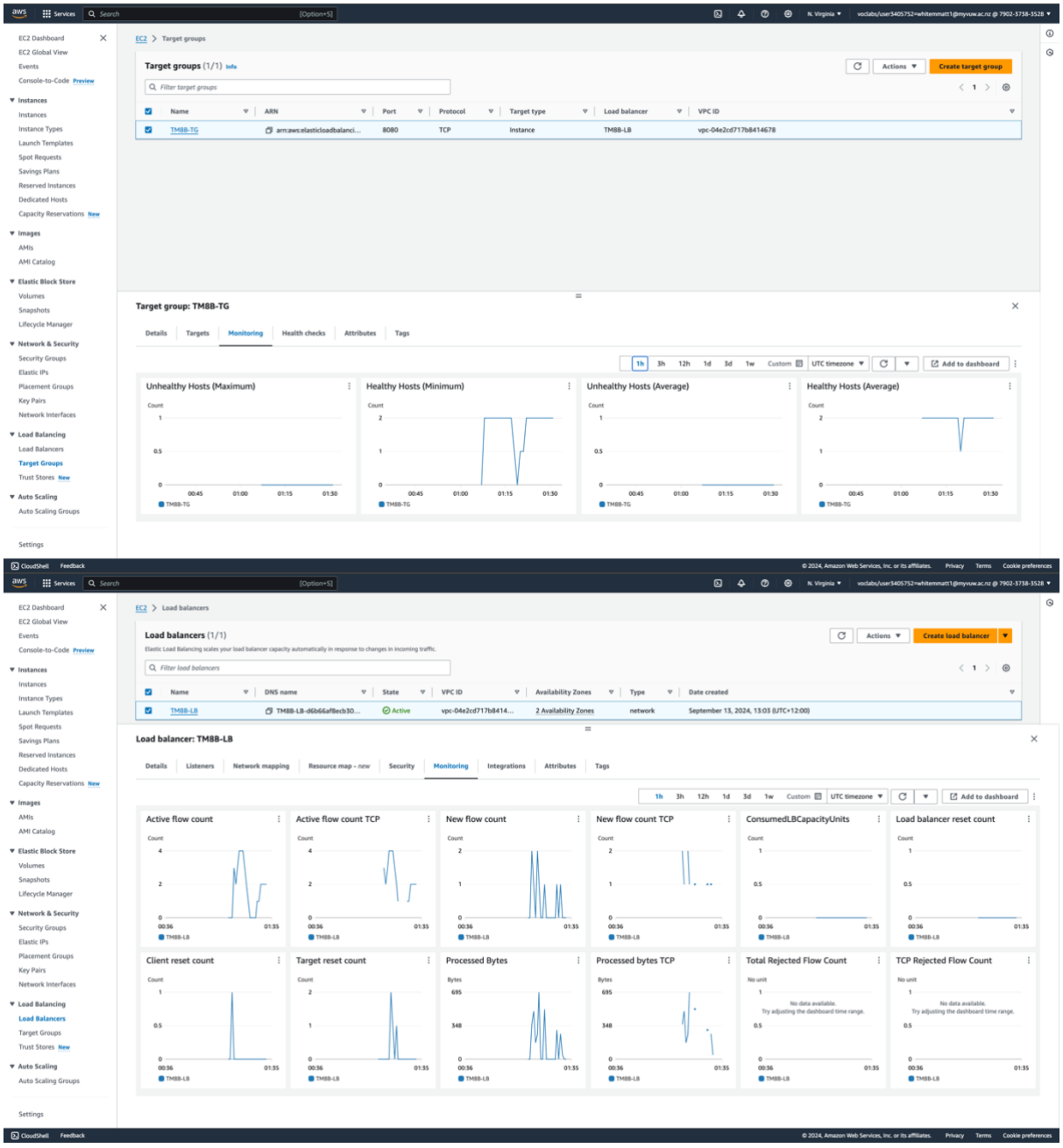


Question 2:

I increased it to 4 first then re-read the question and decreased it, which then terminates the instances to the autoscaling setting or increases it.


EC2 > Target groups
Target groups (1/1) Info
Actions
Create target group
Filter target groups
Name
ARN
Port
Protocol
Target type
Load balancer
VPC ID
TM8B-TG
arn:aws:elasticloadbalanci...
8080
TCP
Instance
None associated
vpc-04e2cd717b8414678
Target group: TM8B-TG
Details
Targets
Monitoring
Health checks
Attributes
Tags
Add to dashboard
Unhealthy Hosts (Maximum)
Healthy Hosts (Minimum)
Unhealthy Hosts (Average)
Healthy Hosts (Average)
No unit
No data available.
Try adjusting the dashboard time range.
TM8B-TG


EC2 > Load balancers
Load balancers (1/1)
Elastic Load Balancing scales your load balancer capacity automatically in response to changes in incoming traffic.
Actions
Create load balancer
Filter load balancers
Name
DNS name
State
VPC ID
Availability Zones
Type
Date created
TM8B-LB
TM8B-LB-d6b66af8ecb30...
Active
vpc-04e2cd717b8414...
2 Availability Zones
network
September 13, 2024, 13:03 (UTC+12:00)
Load balancer: TM8B-LB
Details
Listeners
Network mapping
Resource map - new
Security
Monitoring
Integrations
Attributes
Tags
Listeners (1)
A listener checks for connection requests using the protocol and port that you configure. Traffic received by a Network Load Balancer listener is forwarded to the selected target group.
Add listener
Filter listeners
Protocol:Port
Default action
ARN
Security policy
Default SSL/TLS certificate
ALPN policy
Tags
TCP:8080
Forward to target group
TM8B-TG
Not applicable
None
0 tags



The first two screenshots show that for some reason the target group didn't have an associated load balancer to it, even though checking the load balancer it get forwarded to the target group so I didn't get any monitoring for what was previously done. So I had to manually associate the load balancer and re run some of the experiments to get data.

I changed the desired from 2 to 1 and then back to 2 and it shows that in the monitoring of the target groups, meanwhile in the load balancer monitoring it showed my old and new experiments in where I increased the max to 4 and back down to 3, you can see that in the number of connections and the amount of data being processed, it also worked fine when I increased the max to 4 when you said I shouldn't ☺

The target group monitoring shows me how many healthy instances are running while the load balancer monitoring shows how its handling the traffic from the client. I think also when I t was dropping to zero was when I was terminating the instances.