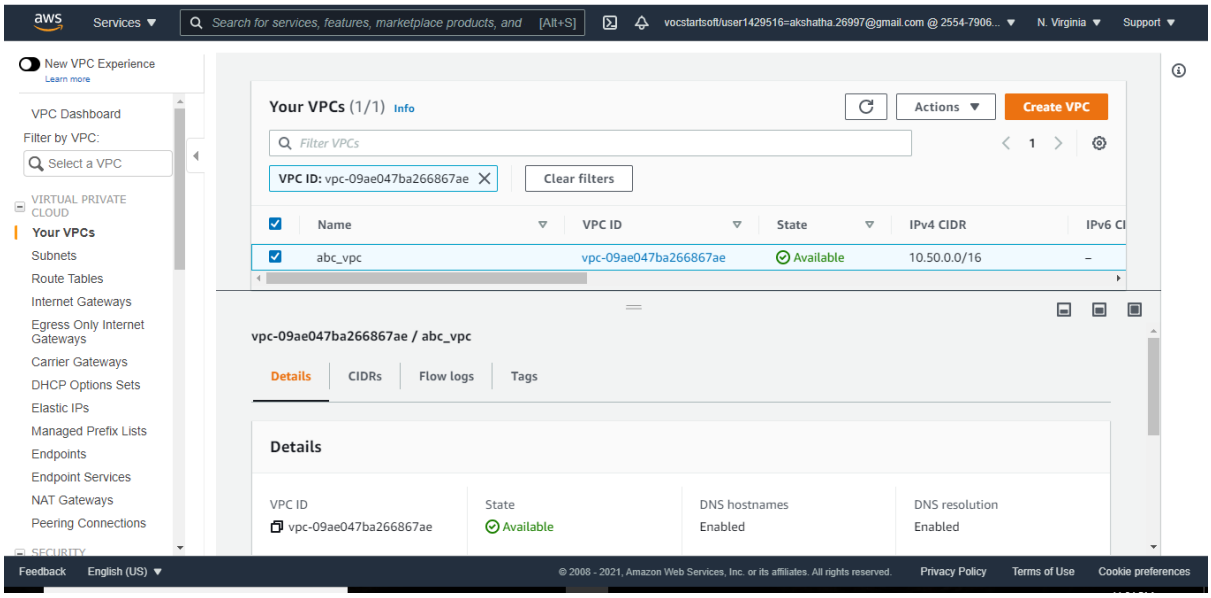
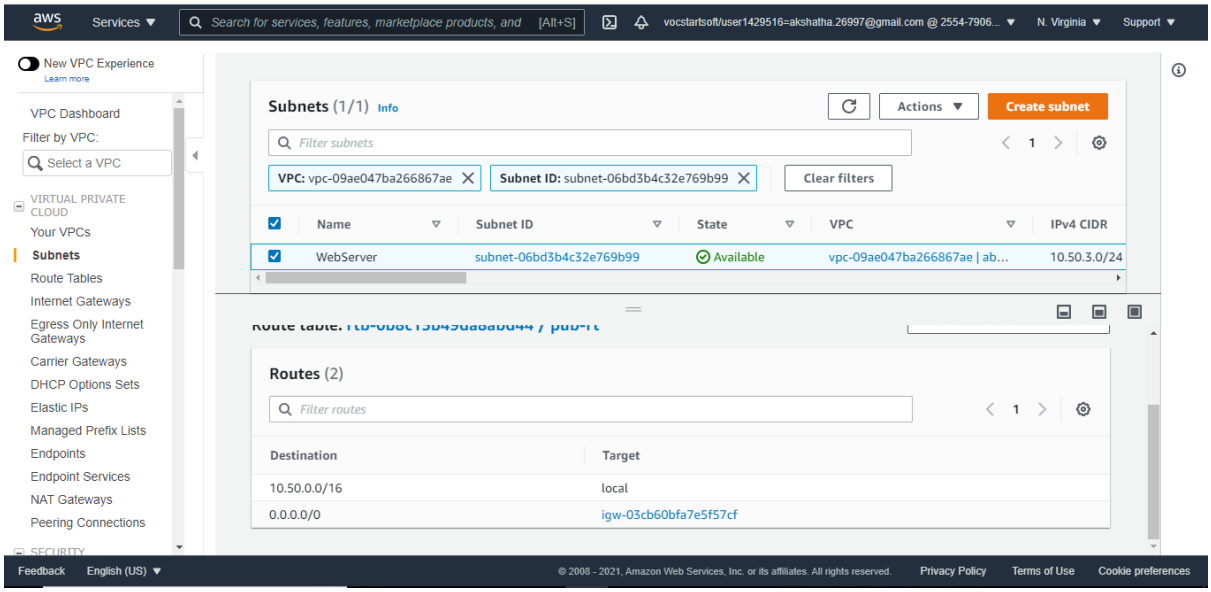
Assignment 3: Application Load Balancer - ALB simulation for ABC Corporates.

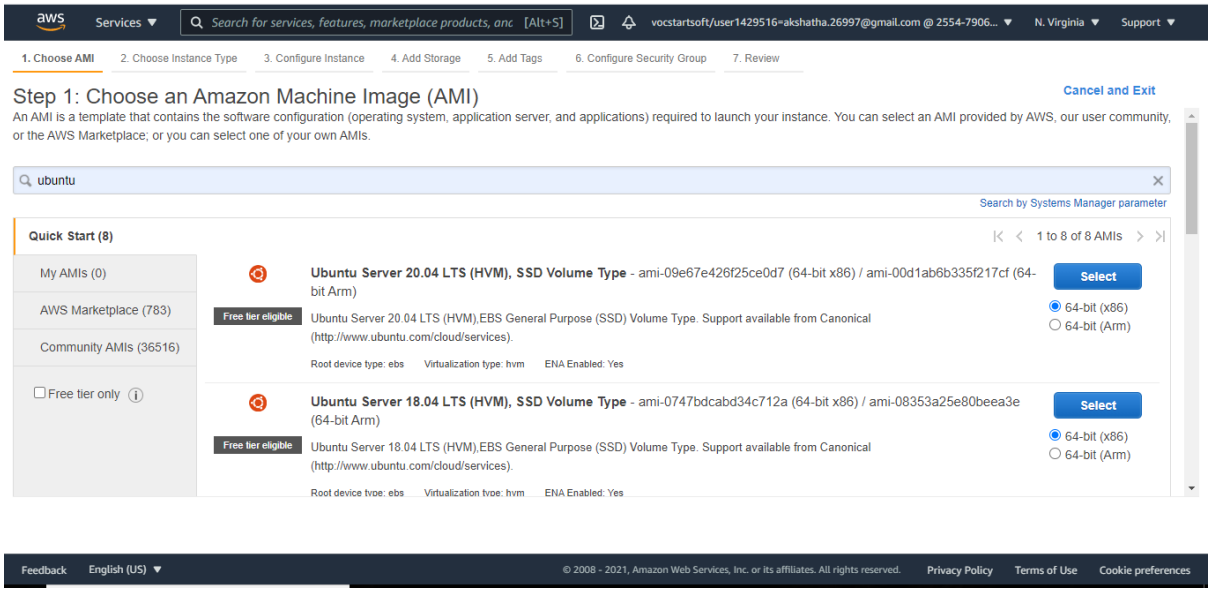
1. Create a VPC called “abc_vpc” with CIDR as 10.50.0.0/16.



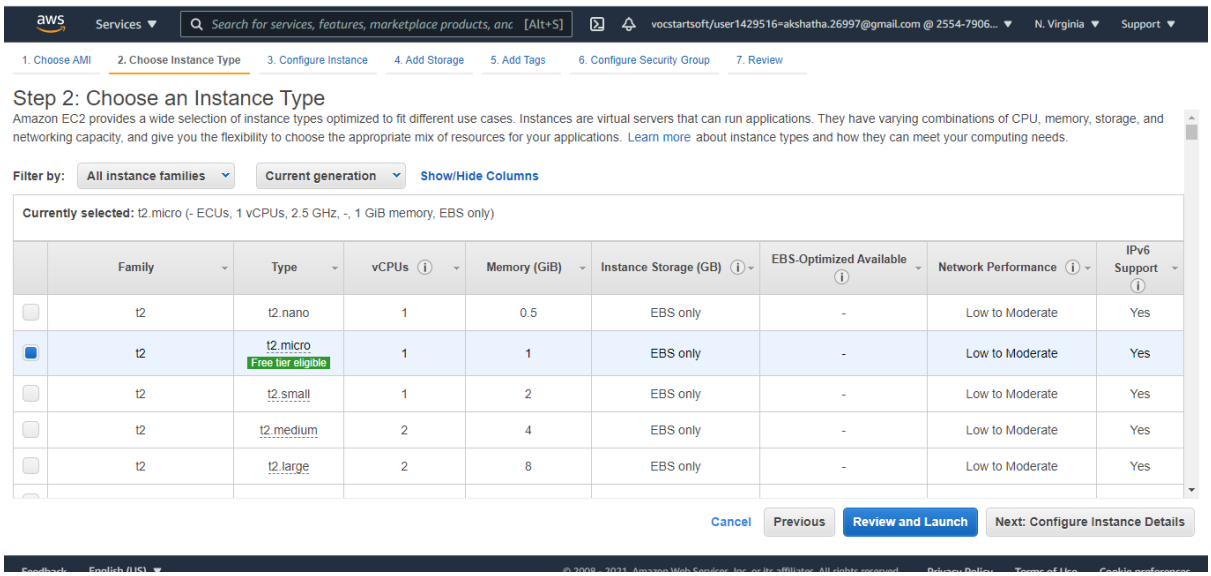
2. Create a public subnet which is attached to the internet gateway .



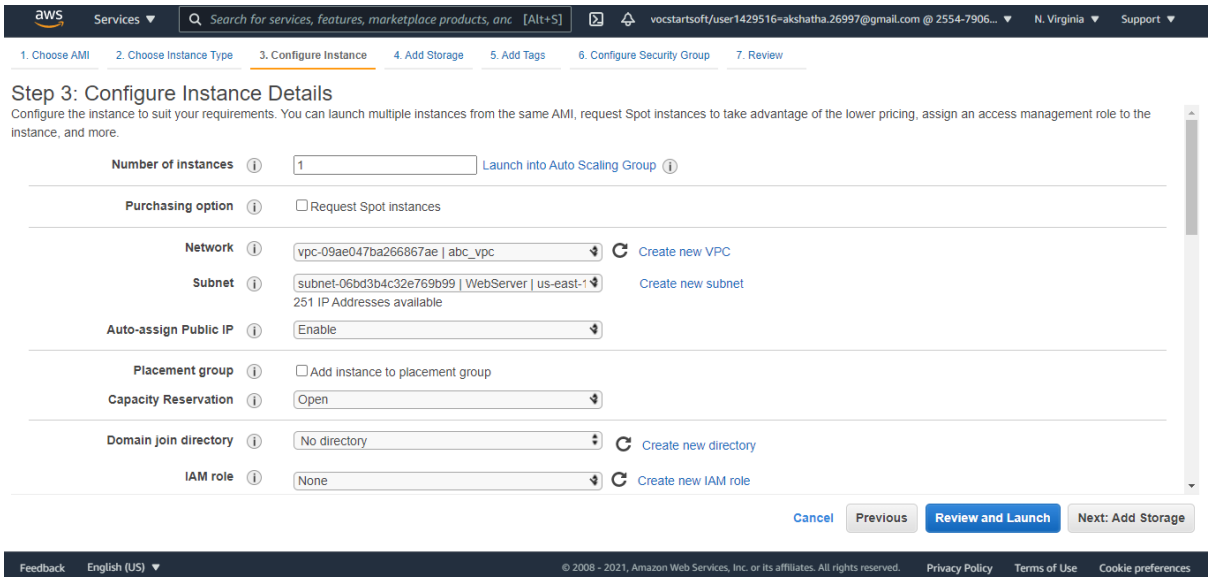
3. Launch EC2 instances , by selecting Ubuntu Server 20.04 as AMI.



4. Choose Instance type as t2.micro.

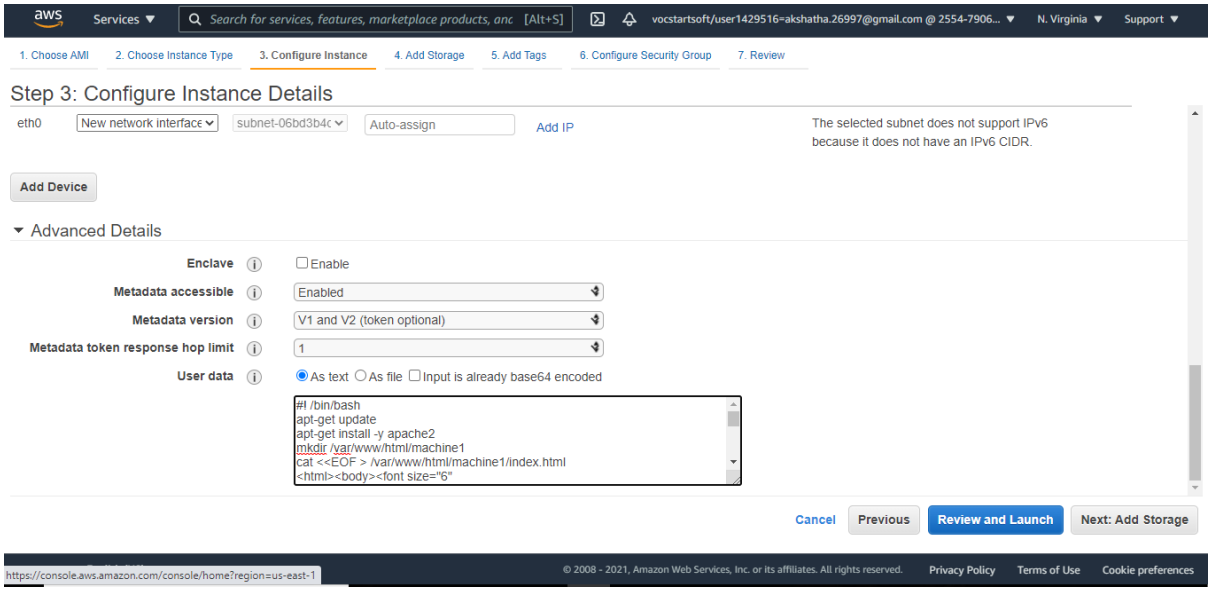


5. Launch the EC2 instance in the vpc and subnet which was created earlier . Enable Public IP for the instance .

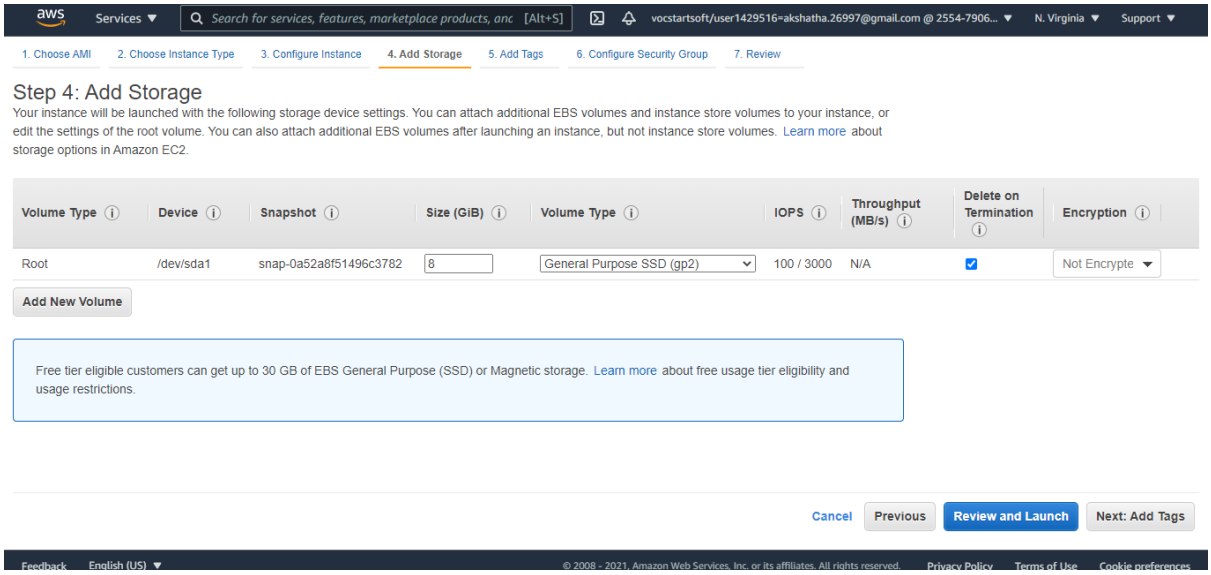


6. While configuring the EC2 instance , add the below script as user_data :

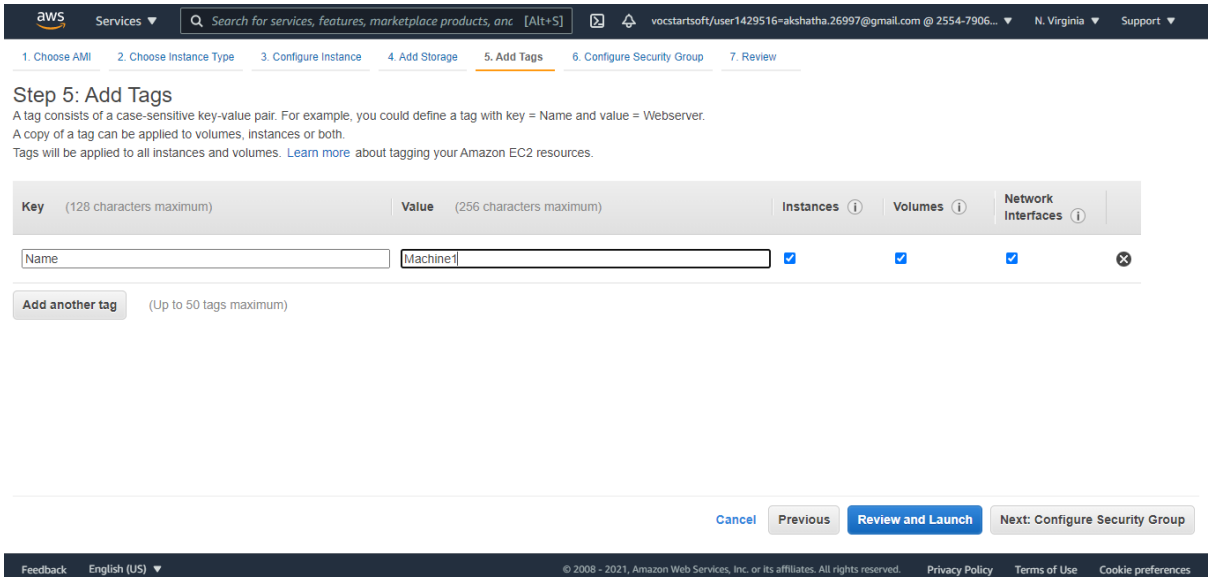
```
#! /bin/bash
apt-get update
apt-get install -y apache2
mkdir /var/www/html/machine1
cat <<EOF > /var/www/html/machine1/index.html
<html><body><font size="6"
        face="verdana"
        color="green">
<h1>Hello from $(hostname) vm.</h1>
<font size="5"
        face="verdana"
        color="blue">
<h2 > I am from Machine-1 </h2>
<font size="6"
        face="verdana"
        color="red">
<h3> This is my first my first website </h3></font>
</body></html>
EOF
```



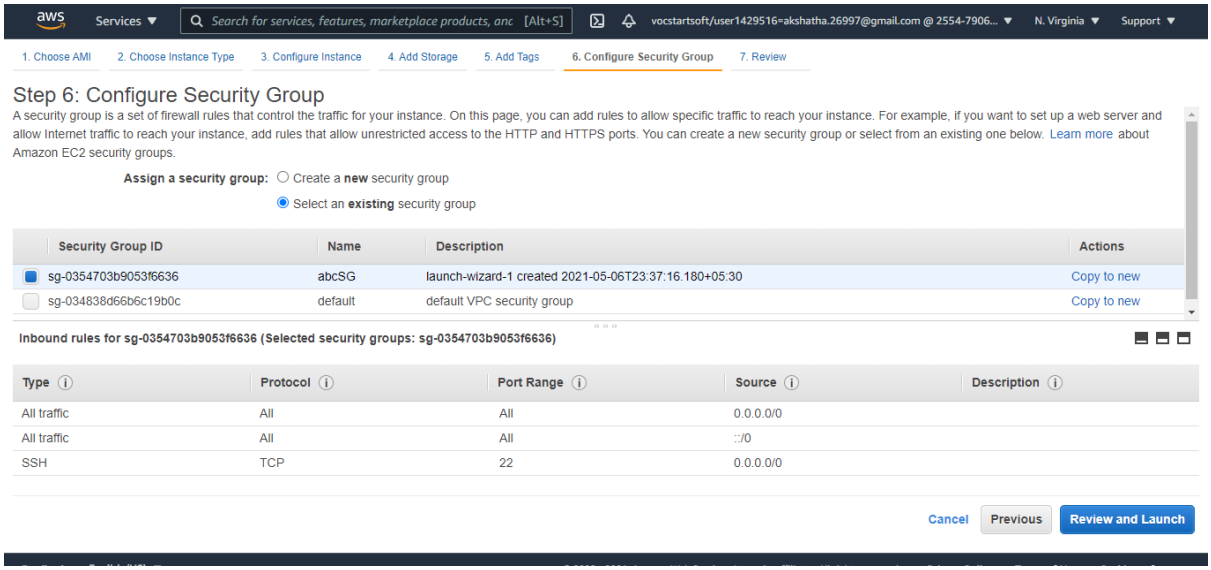
7. Add 8GB storage to the instance.



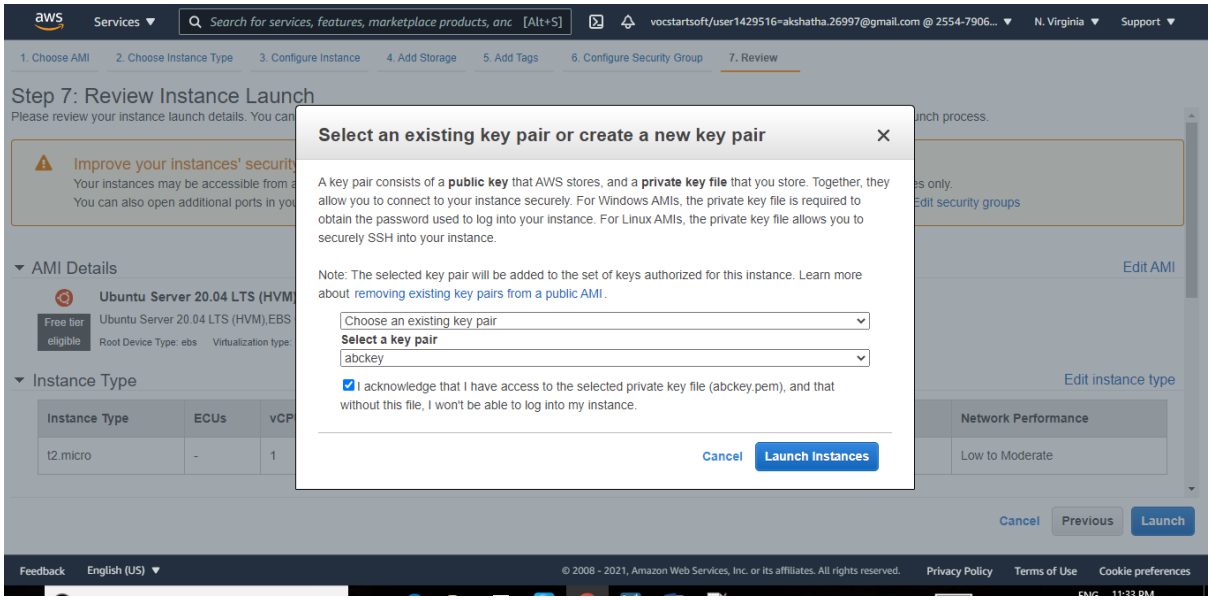
8. Add a name tag to the instance as “Machine1”



9. Attach a security group to the instance which allows “All traffic”

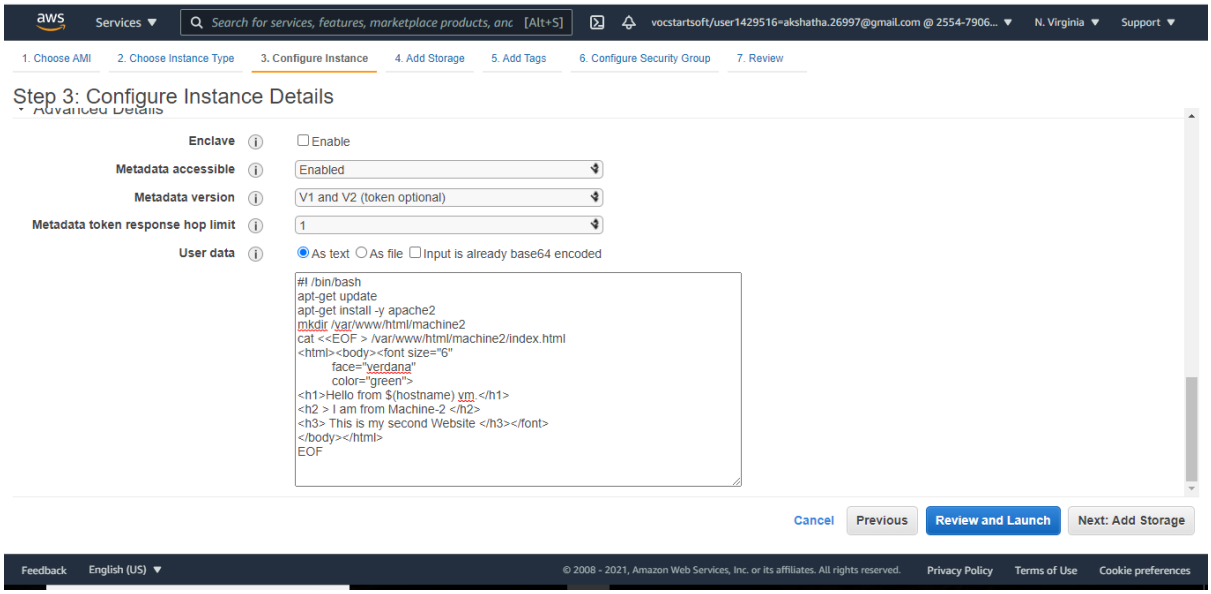


10. Launch the instance by selecting an available key-pair file.



11. Repeat steps 3-10 for machine 2. Add a name tag as “Machine2” .
    Add the below user_data to machine2:

```
#! /bin/bash
apt-get update
apt-get install -y apache2
mkdir /var/www/html/machine2
cat <<EOF > /var/www/html/machine2/index.html
<html><body><font size="6"
        face="verdana"
        color="green">
<h1>Hello from $(hostname) vm.</h1>
<h2 > I am from Machine-2 </h2>
<h3> This is my second Website </h3></font>
</body></html>
EOF
```


Services
Search for services, features, marketplace products, anc [Alt+S]
vocstartsoft/user1429516=akshatha.26997@gmail.com @ 2554-7906...
N. Virginia
Support
1. Choose AMI
2. Choose Instance Type
3. Configure Instance
4. Add Storage
5. Add Tags
6. Configure Security Group
7. Review
Step 3: Configure Instance Details
Enclave
Enable
Metadata accessible
Enabled
Metadata version
V1 and V2 (token optional)
Metadata token response hop limit
1
User data
As text
As file
Input is already base64 encoded
#! /bin/bash
apt-get update
apt-get install -y apache2
mkdir /var/www/html/machine2
cat <<EOF > /var/www/html/machine2/index.html
<html><body><font size="6"
face="verdana"
color="green">
<h1>Hello from $(hostname) vm </h1>
<h2 > I am from Machine-2 </h2>
<h3> This is my second Website </h3>
</body></html>
EOF
Cancel
Previous
Review and Launch
Next: Add Storage

Feedback
English (US)
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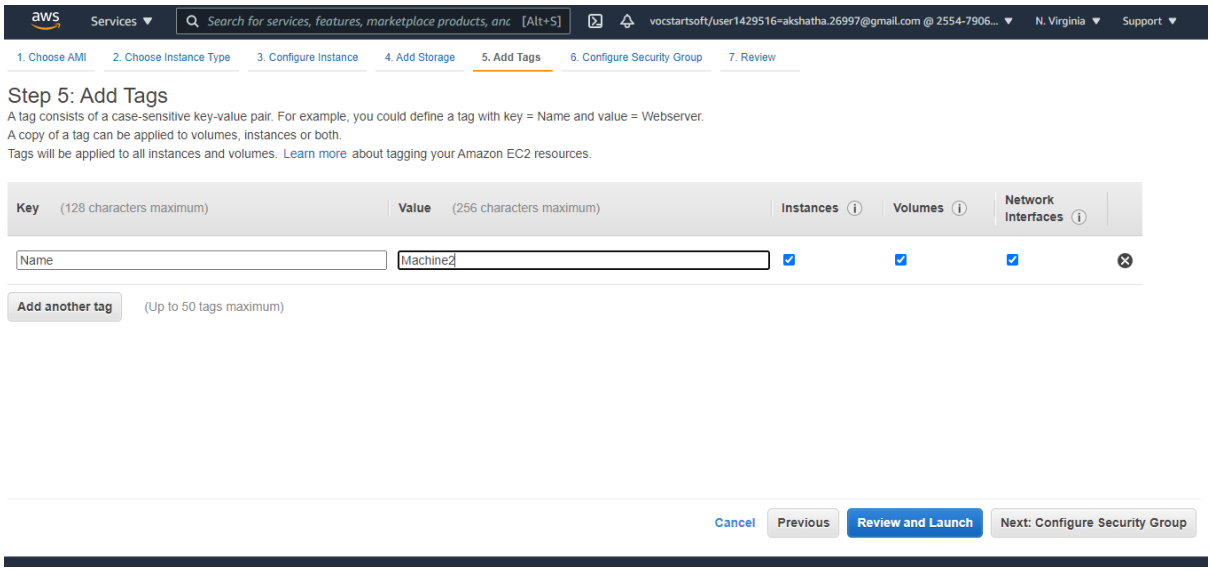
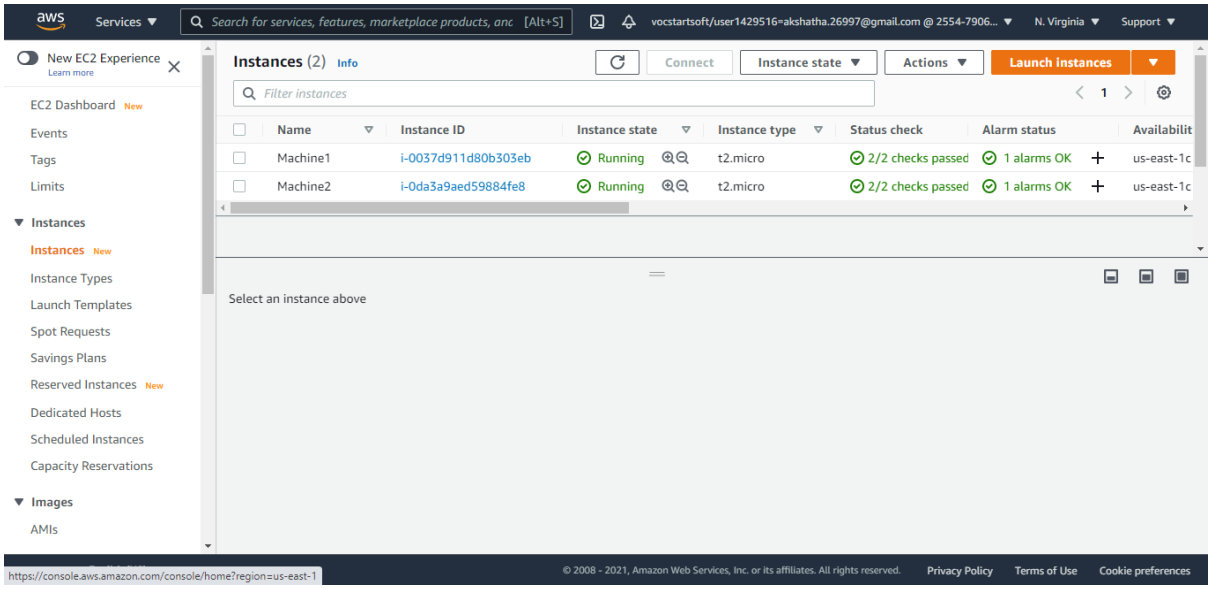

Services
Search for services, features, marketplace products, anc [Alt+S]
vocstartsoft/user1429516=akshatha.26997@gmail.com @ 2554-7906...
N. Virginia
Support
1. Choose AMI
2. Choose Instance Type
3. Configure Instance
4. Add Storage
5. Add Tags
6. Configure Security Group
7. Review
Step 5: Add Tags
A tag consists of a case-sensitive key-value pair. For example, you could define a tag with key = Name and value = Webserver.
A copy of a tag can be applied to volumes, instances or both.
Tags will be applied to all instances and volumes. Learn more about tagging your Amazon EC2 resources.
Key (128 characters maximum)
Value (256 characters maximum)
Instances
Volumes
Network Interfaces
Name
Machine2
Add another tag
(Up to 50 tags maximum)
Cancel
Previous
Review and Launch
Next: Configure Security Group

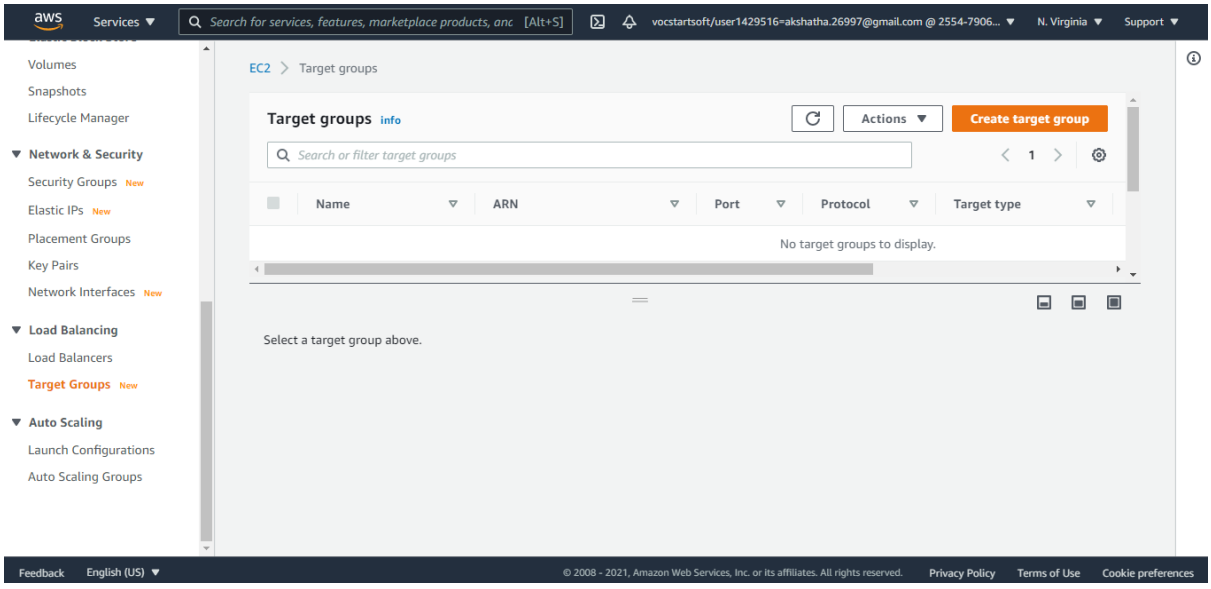
12. Two instances are launched successfully as shown below.



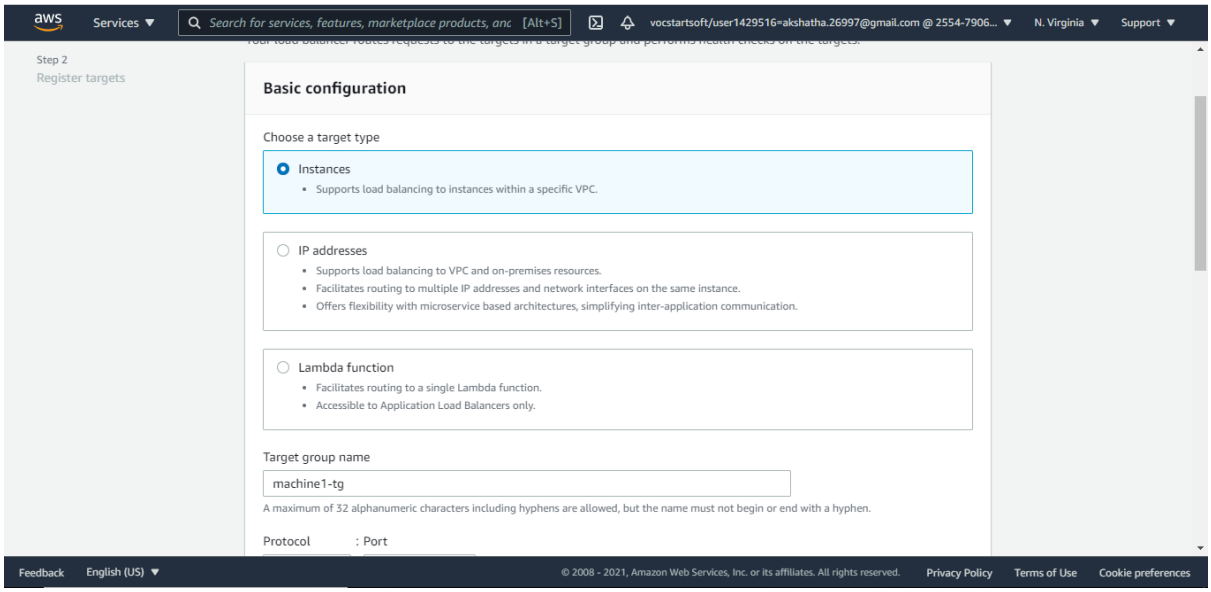
13. Copy and paste the Public DNS of both Machine1 and Machine2. The below pages must be accessible respectively.
For Machine1:

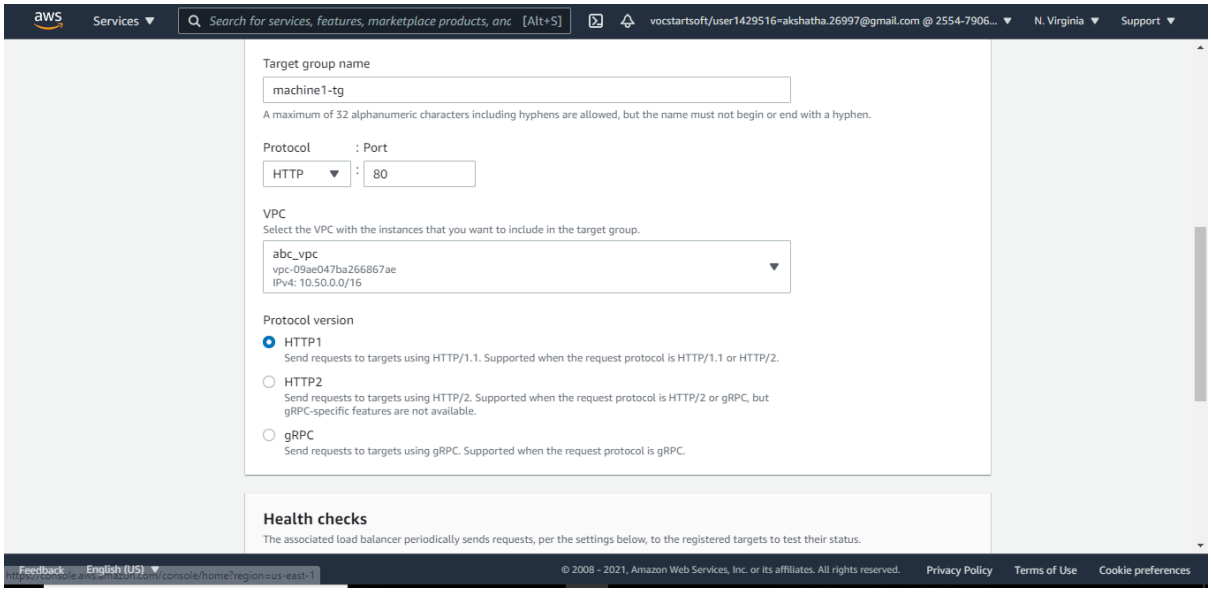
For Machine2:

14. Two target groups must be created and the instances must be attached to it.

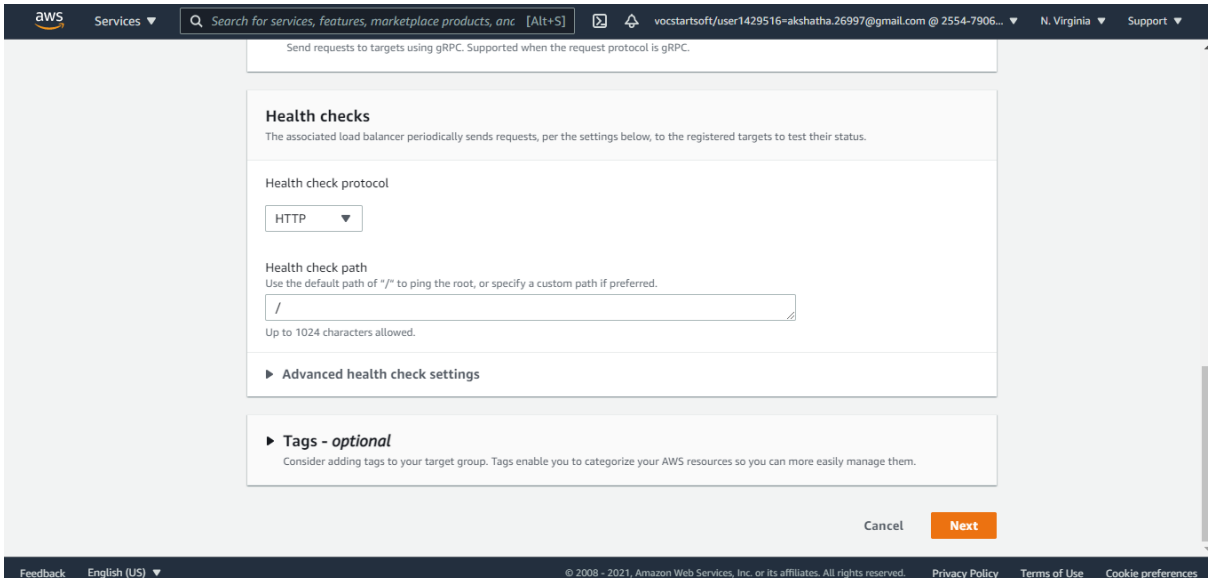


15. Choose Target type as Instances, and select the VPC in which the instances are launched.

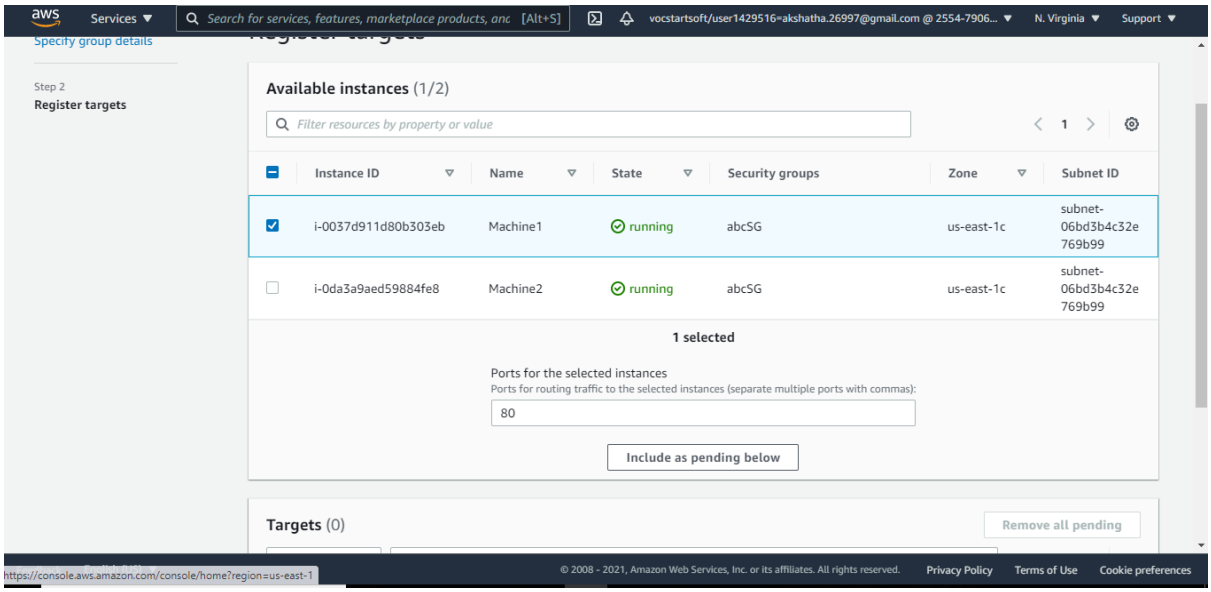


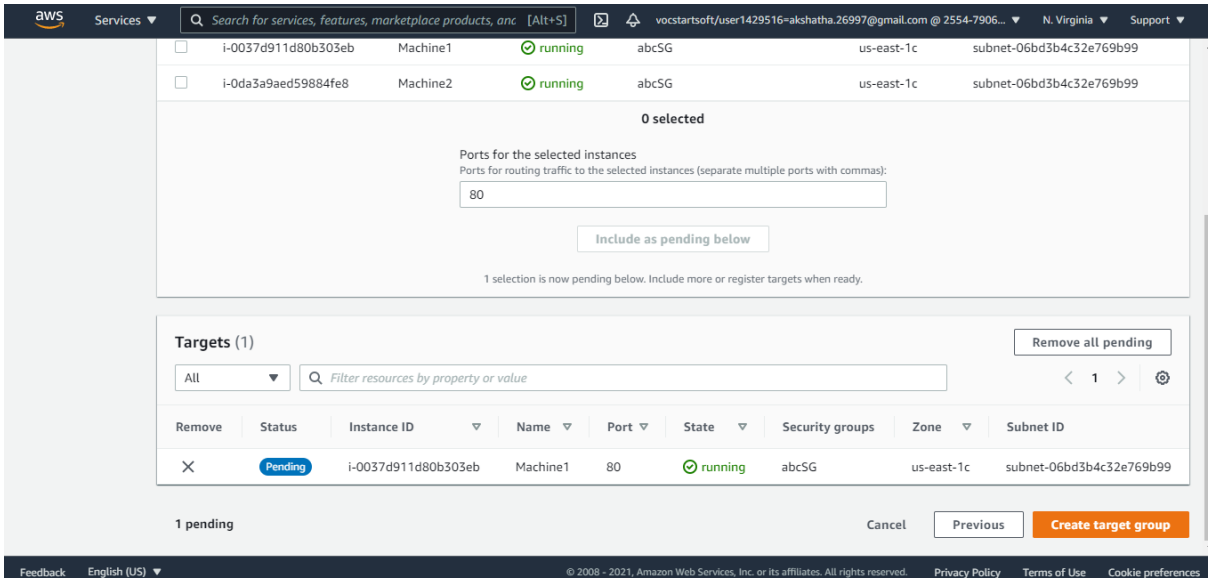


Health Check Path can be set as – ‘/’

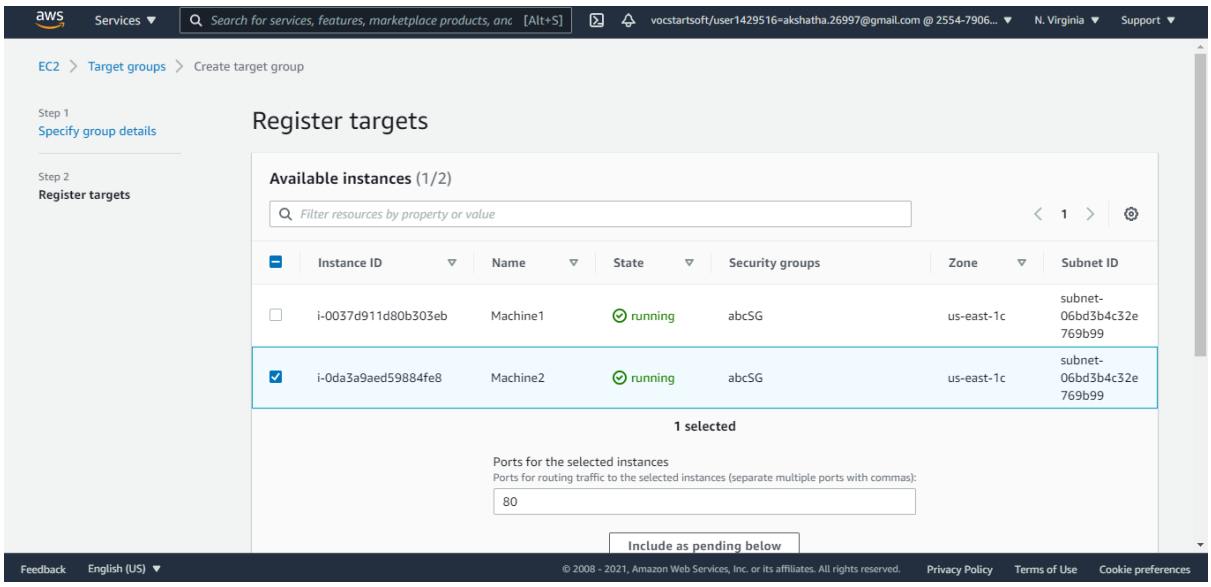


16. Register Machine1 to first target group.

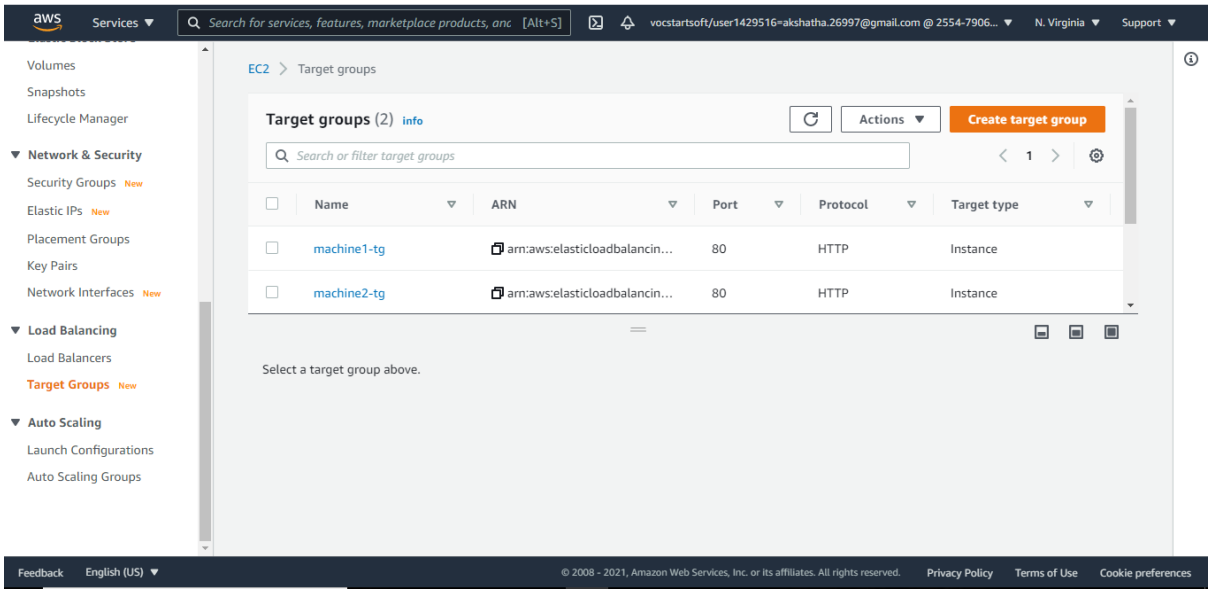




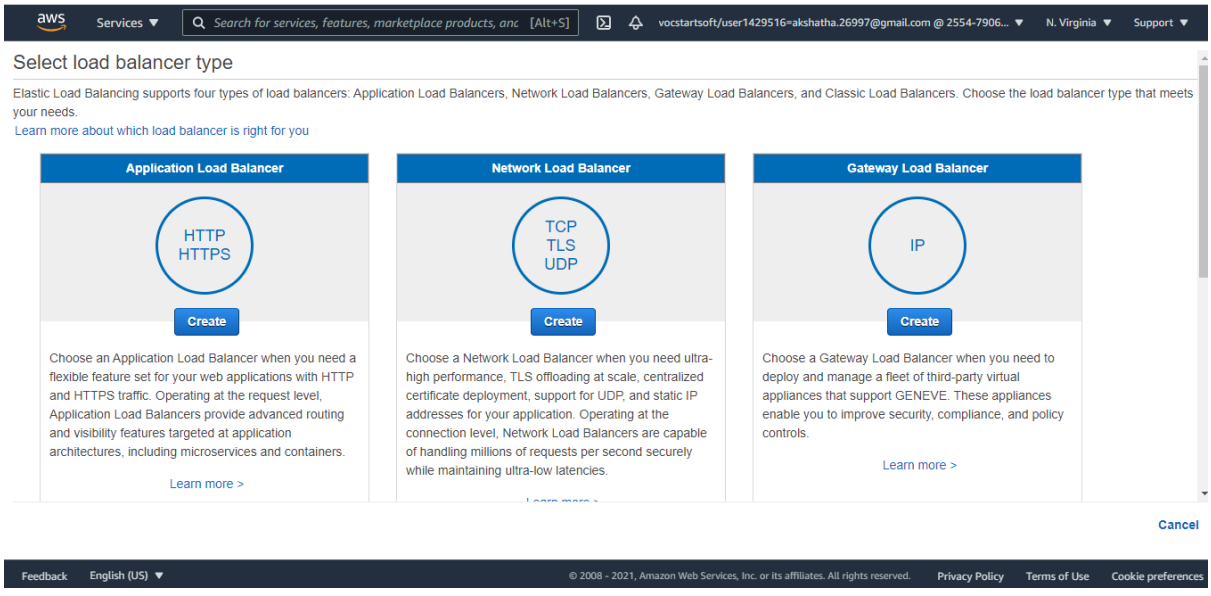
17. Similarly launch another target group, by registering Machine2 as target .



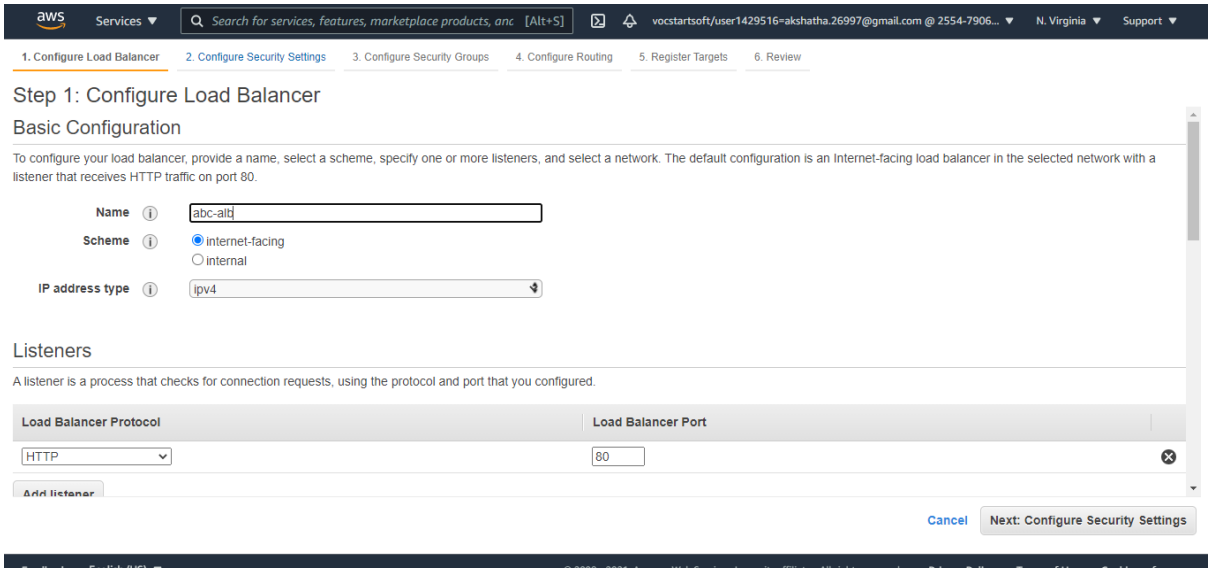
18. Two target groups are successfully created.



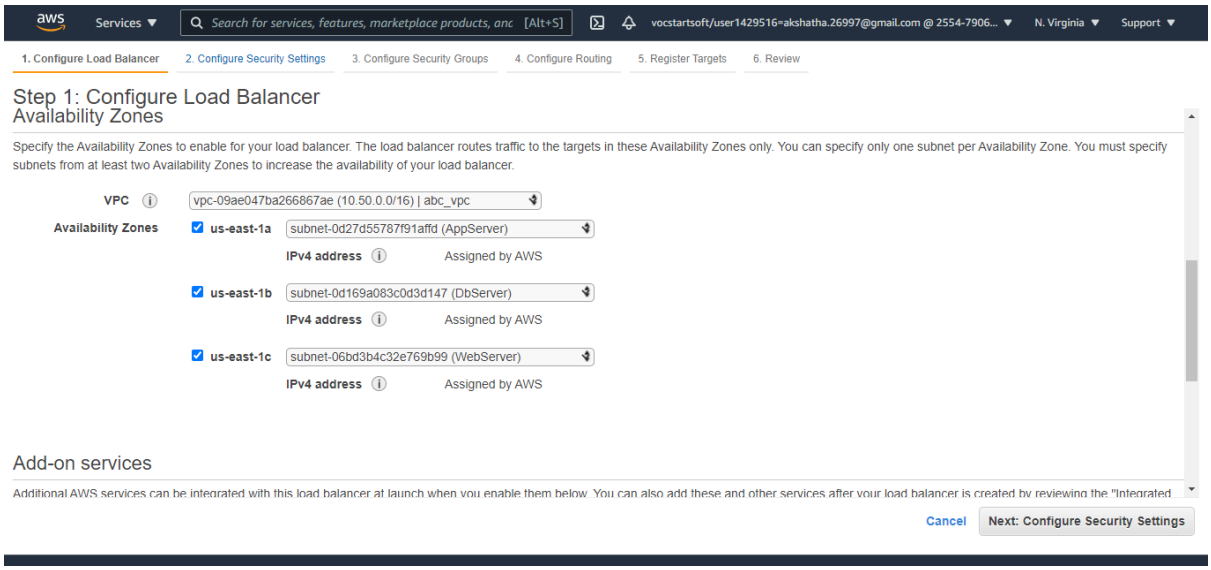
19. Create an Application Load balancer .

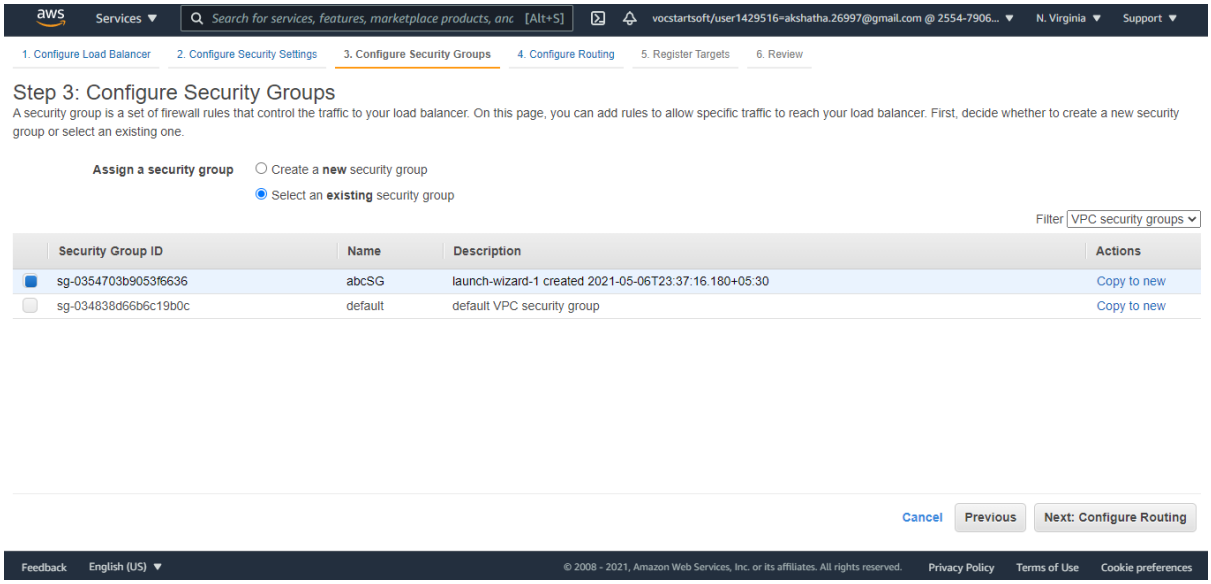


20. Name the ALB as abc-alb and select HTTP listener.

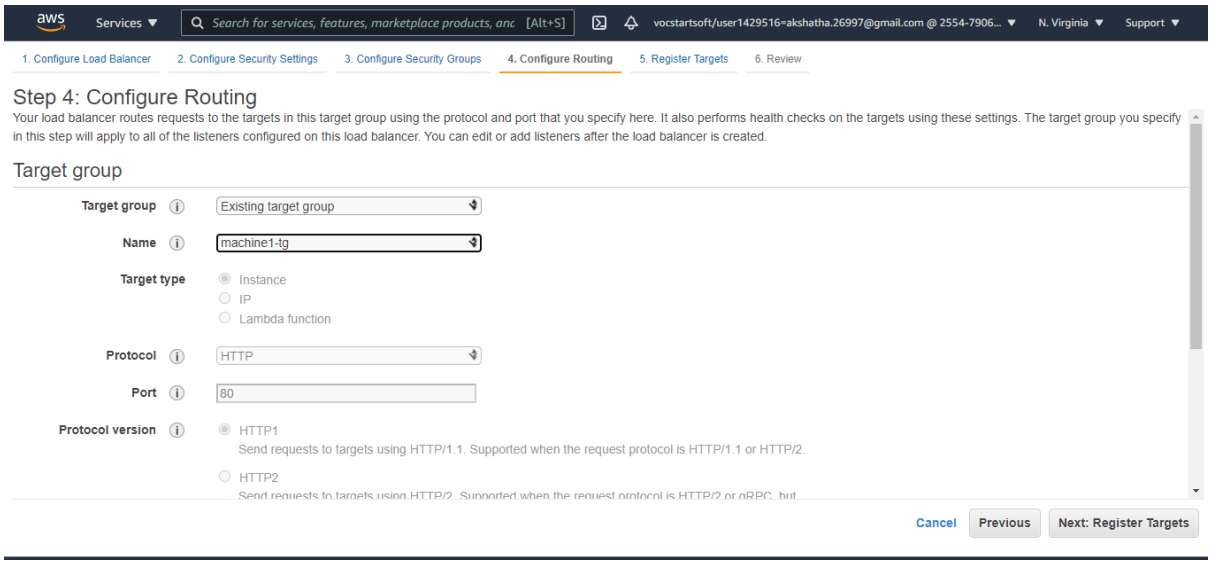


21. Create the load balancer in the vpc and subnets in which the instances are created and attach a security group to it.

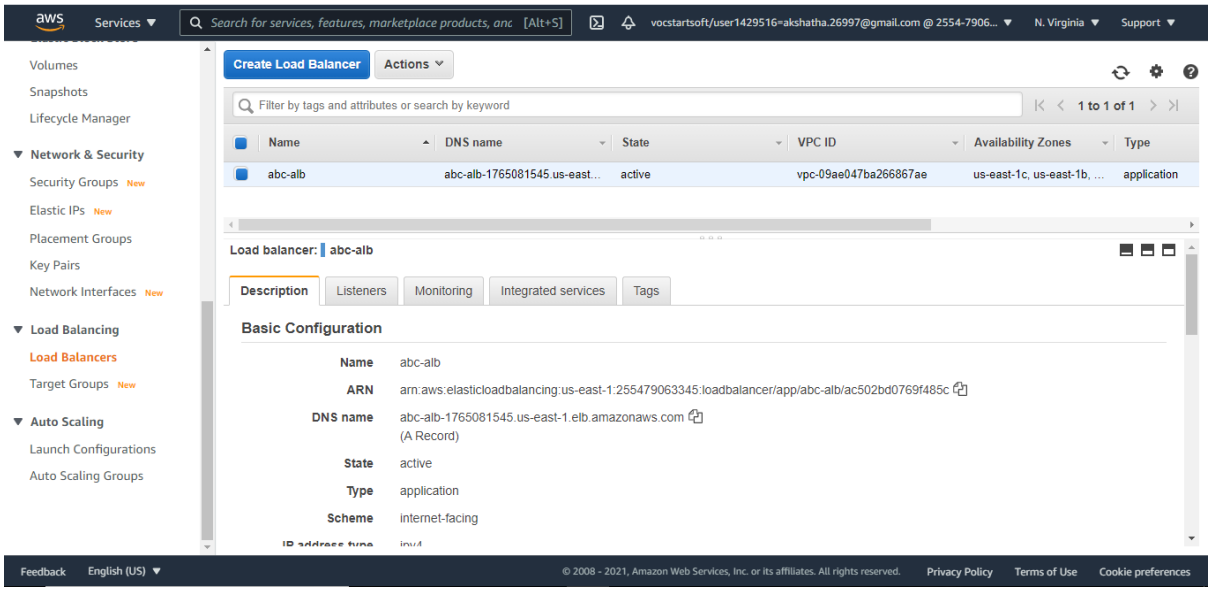




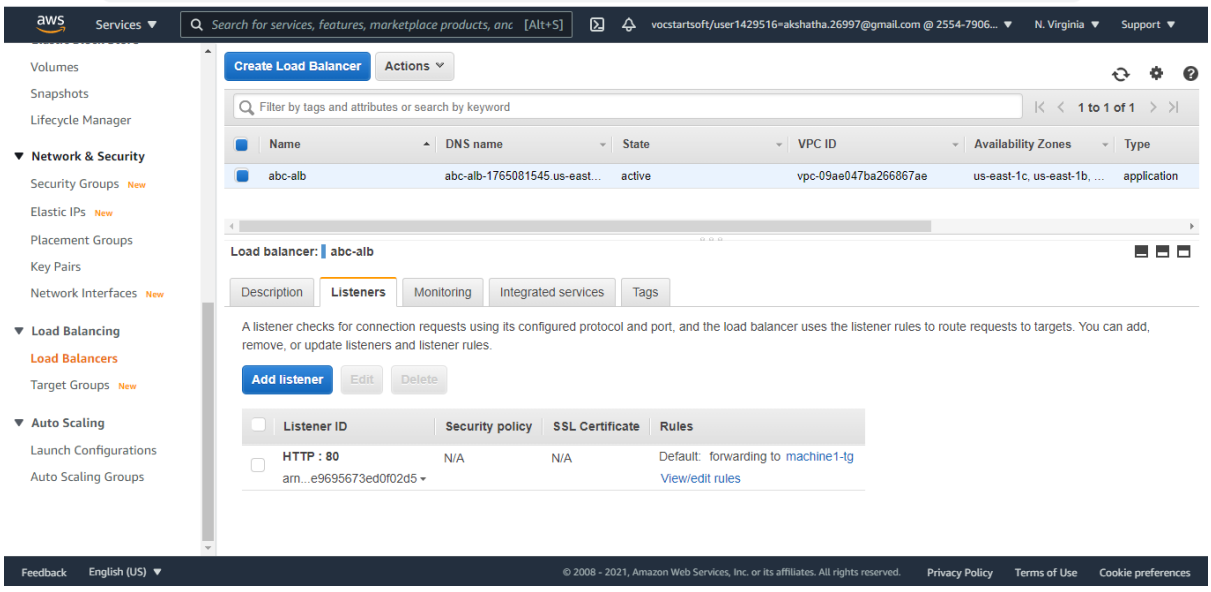
22. Select machine1-tg as Target-group while configuring the routing.



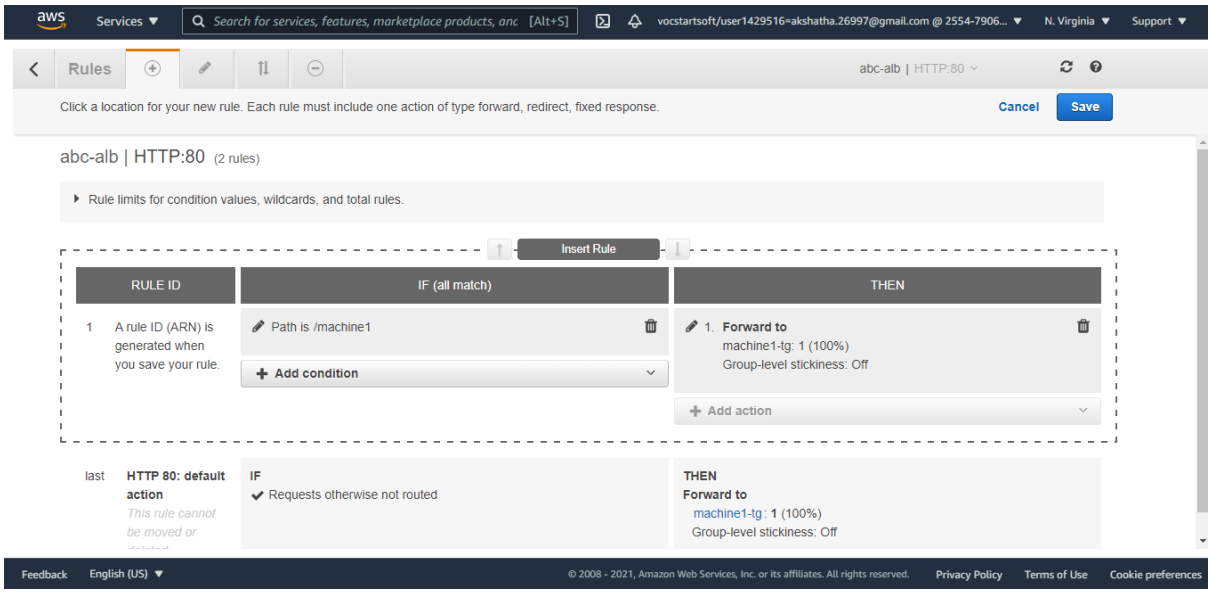
23. Application Loadbalancer is successfully created and is in “Active” state .



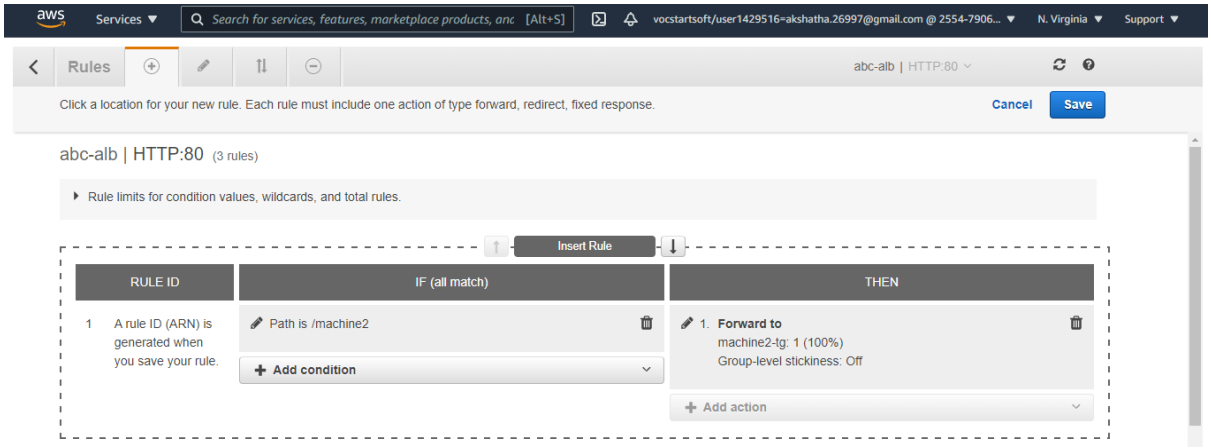
24. Navigate to the Listeners Tab and click on ‘View/edit rules’



25. Add a rule with Path as '/machine1' and forward it to the target group which has Machine1 as target.



26. Add another rule with Path as /machine2 and forward it to the target group which has Machine2 attached to it.



27. By copying the DNS name of the ALB to the browser window,
    <DNS Name of ALB>/machine1
    The below page of machine 1 will be visible.

28. <DNS name of ALB>/machine2 ,
    The below page of machine2 will be visible.

Submitted by,

Akshatha L