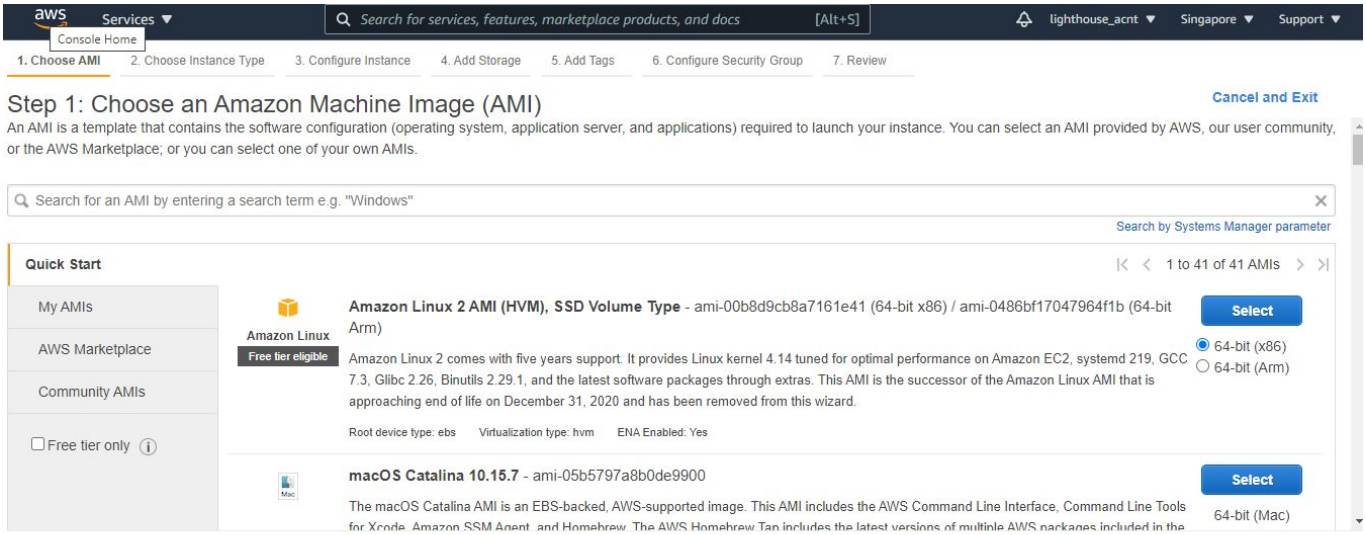
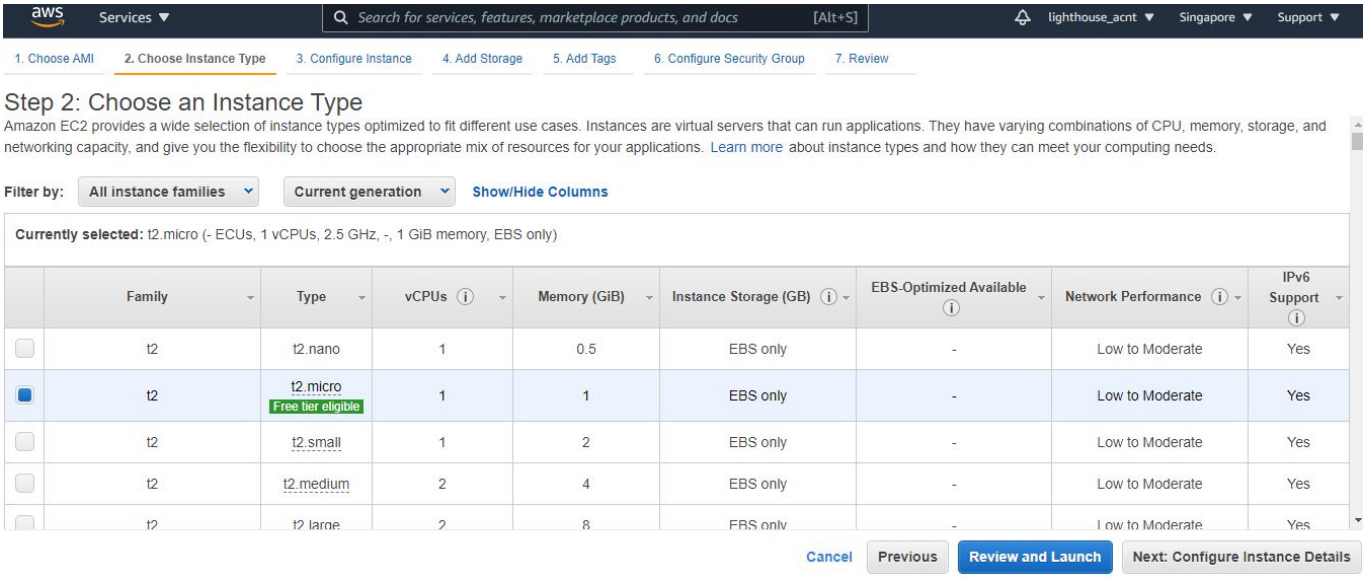
# Week 2 Lab

## Launch EC2 with the user data to configure httpd

Step 1: Go to the Launch page in the console after selecting the region. Select Amazon Linux 2 AMI

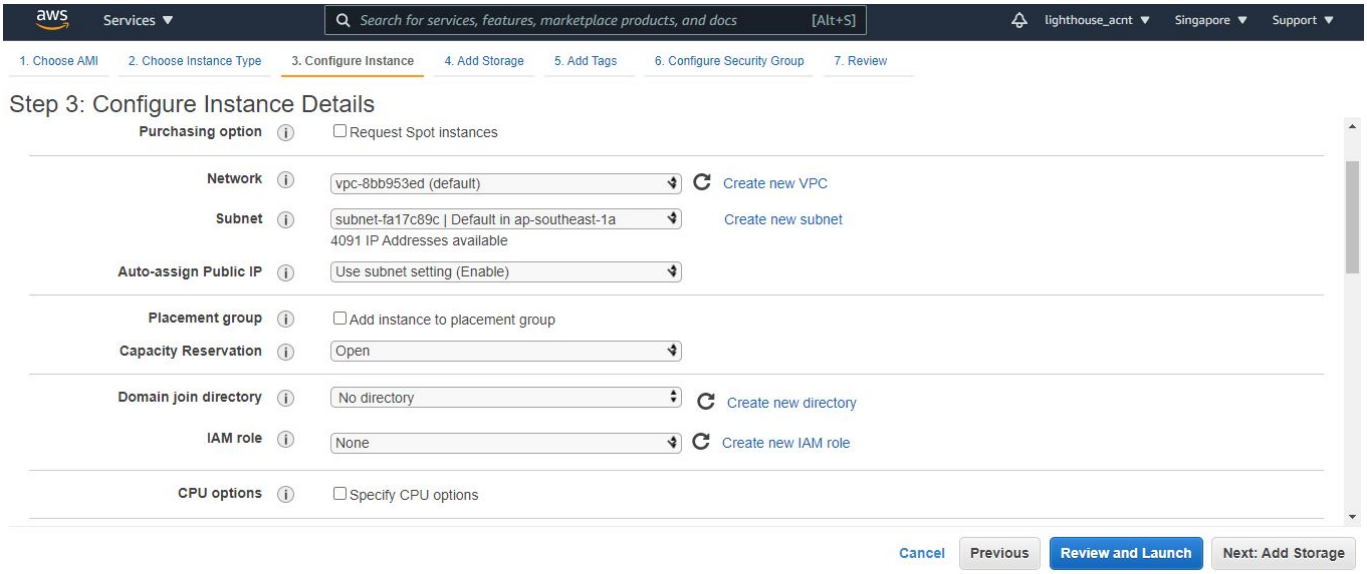


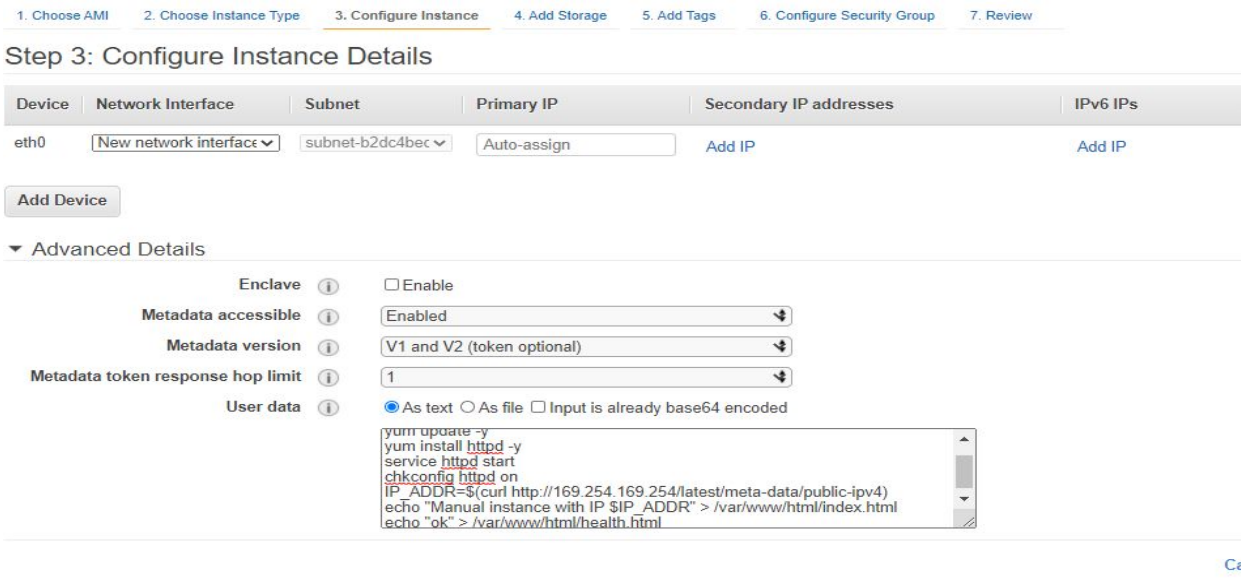

Step 2: Use the free tier instance type



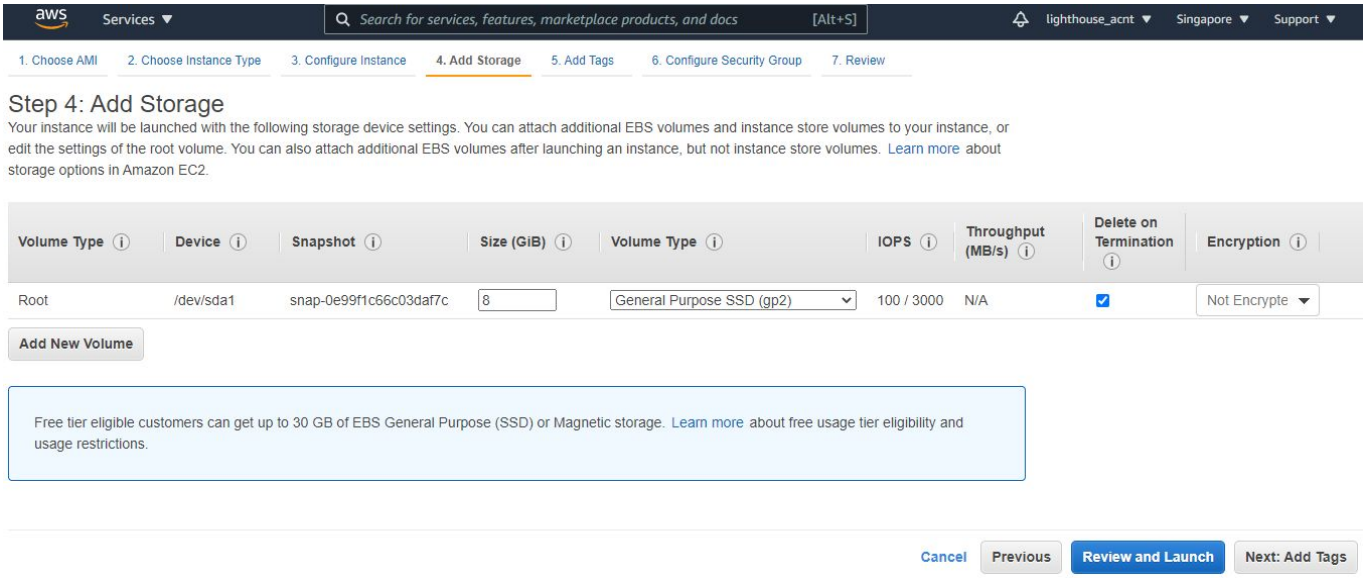
Step 3: Use the default VPC and change the subnet to **1a**. Add the user data. Remaining can be left as default.
Copy the user data line by line(avoid unwanted spaces in between)

```
#!/bin/bash
yum update -y
yum install httpd -y
service httpd start
chkconfig httpd on
IP_ADDR=$(curl http://169.254.169.254/latest/meta-data/public-ipv4)
echo "Manual instance with IP $IP_ADDR" > /var/www/html/index.html
echo "ok" > /var/www/html/health.html
```

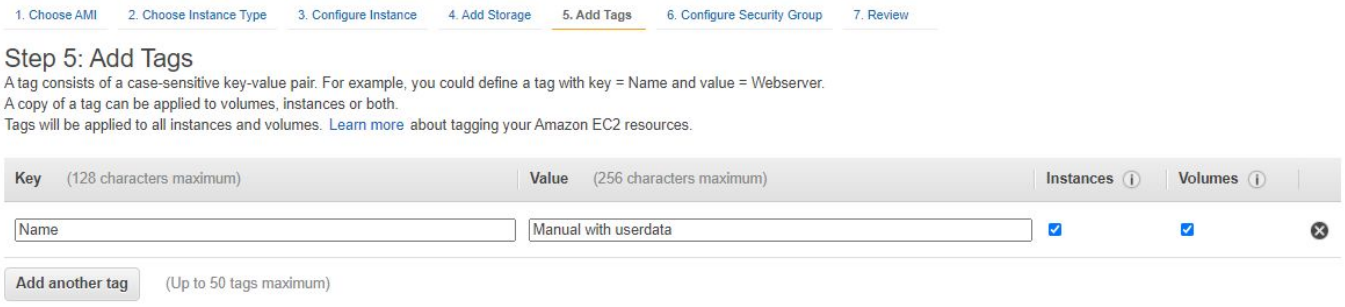


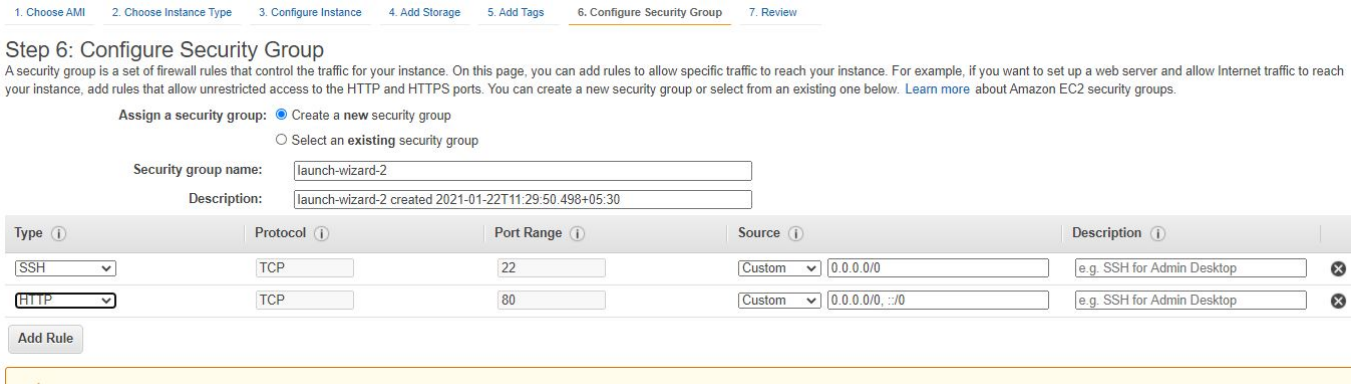
Step 4: Default EBS volume of 8GiB is sufficient.



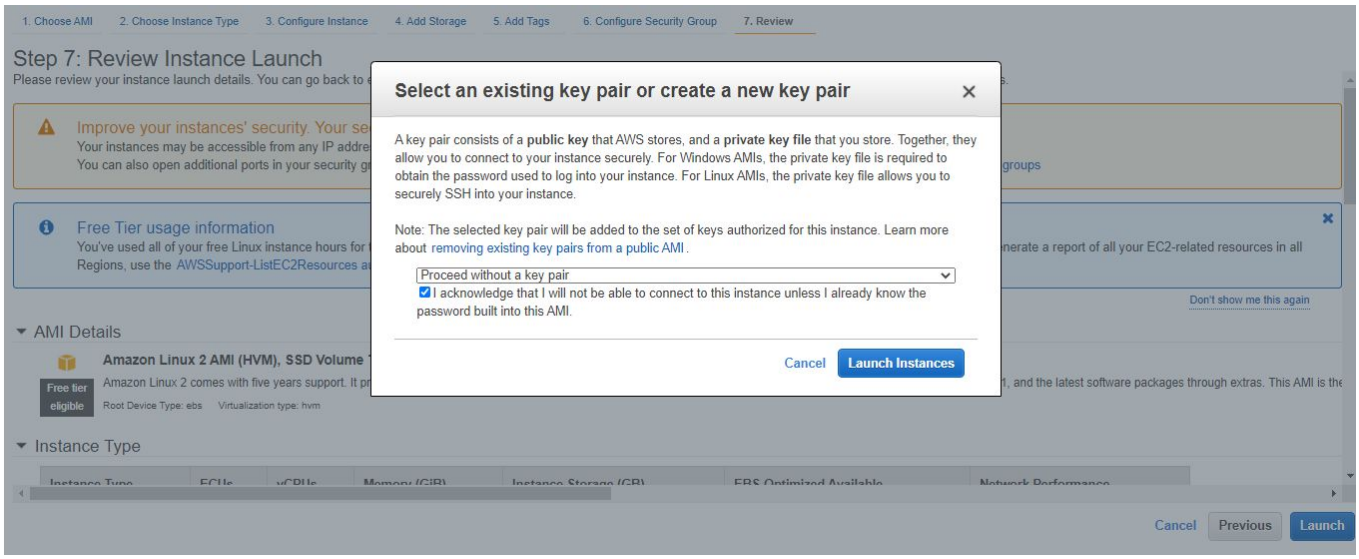

Step 5: Add the name tag for server identification

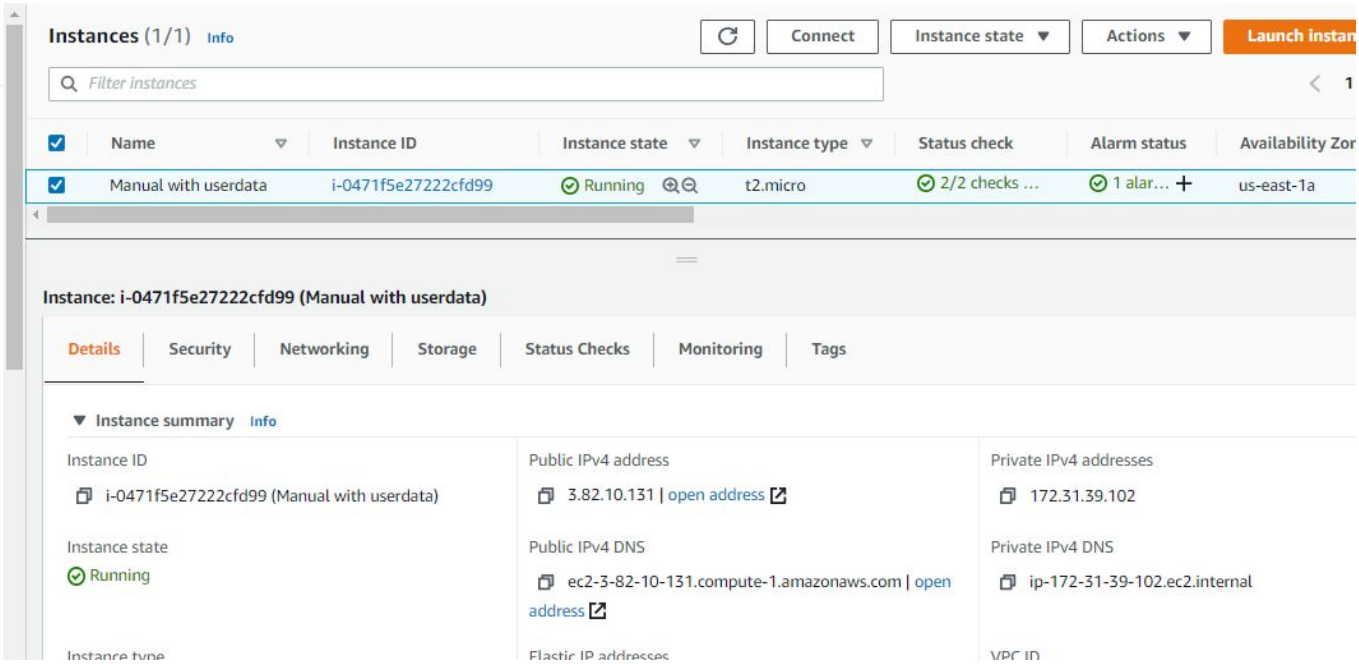


Step 6: By default a security group is created with port 22 open to the public. Add HTTP port 80 to the public.




Step 7: Review the configuration - Click Launch->Proceed without a key pair, since the need to ssh is not required

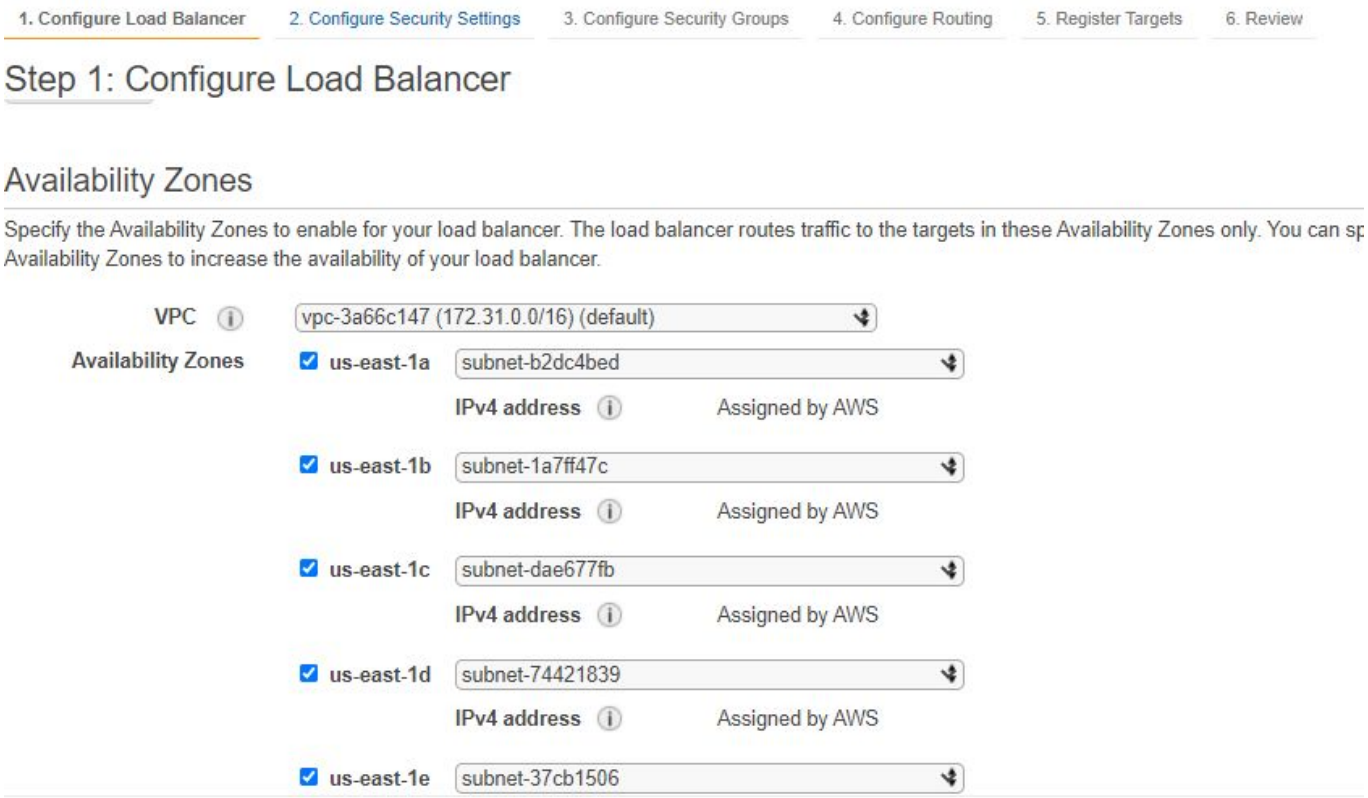





Use the ec2 public IP on the browser tab to view the index.html page which we configured thru the user data.

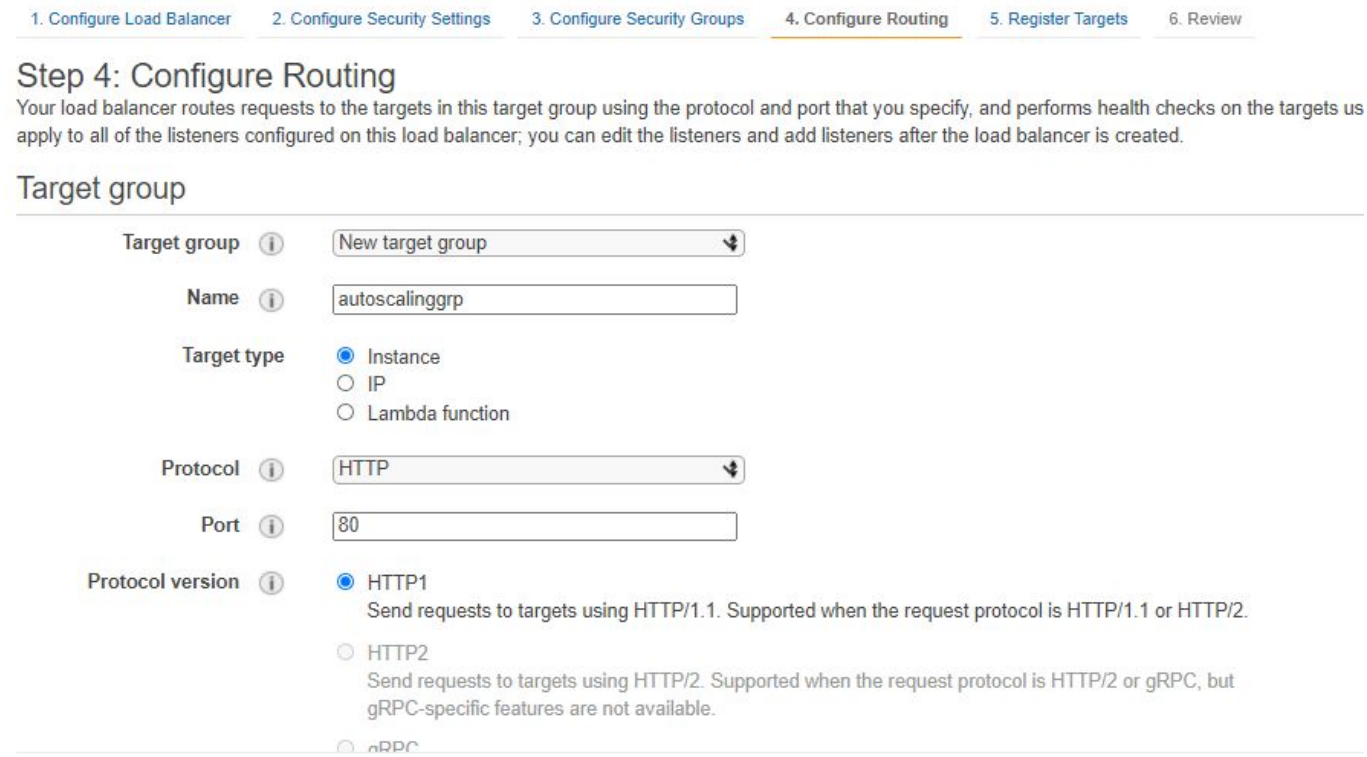

The above line on the web page is from the following input in the user data
echo "Manual instance with IP $IP_ADDR" > /var/www/html/index.html

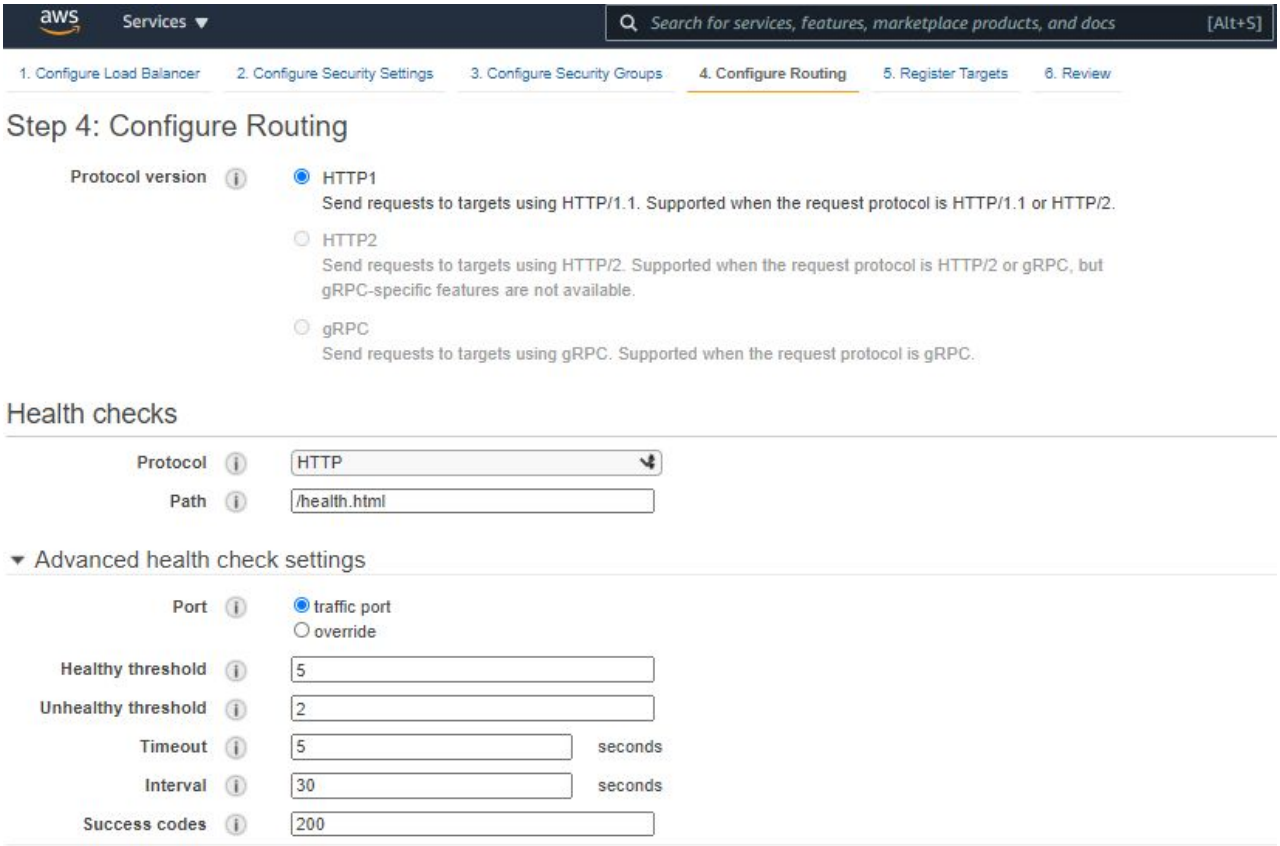
## Load Balancer creation:



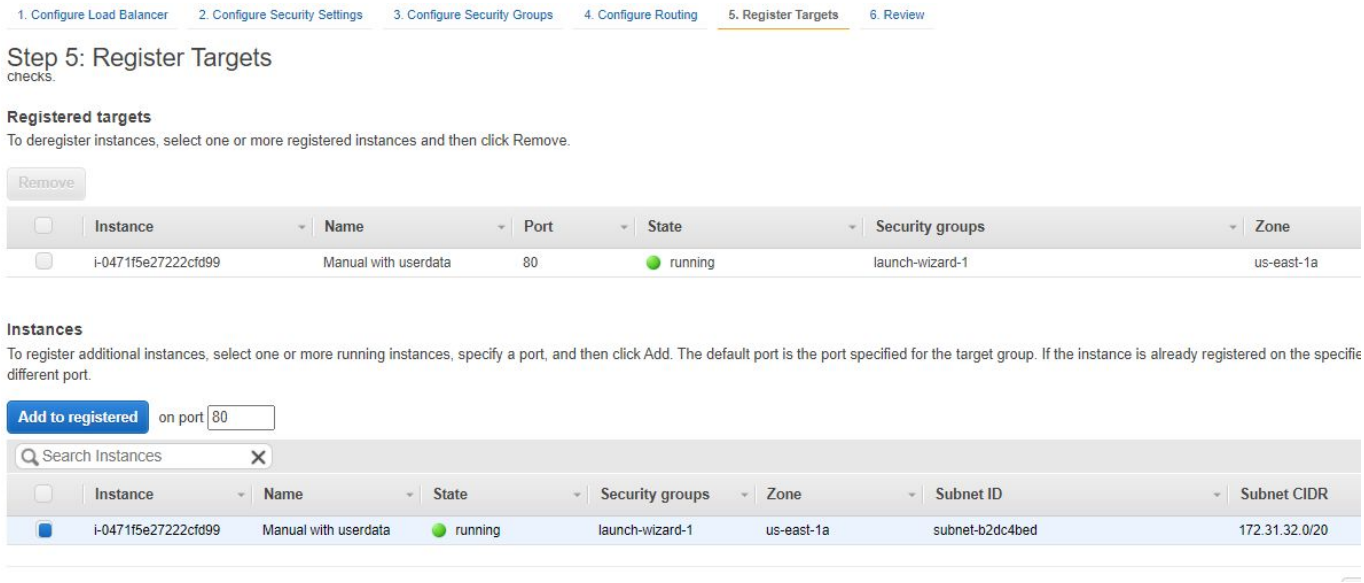

Configure a new security group with only 80 port open.

Configure health.html to health check parameter:

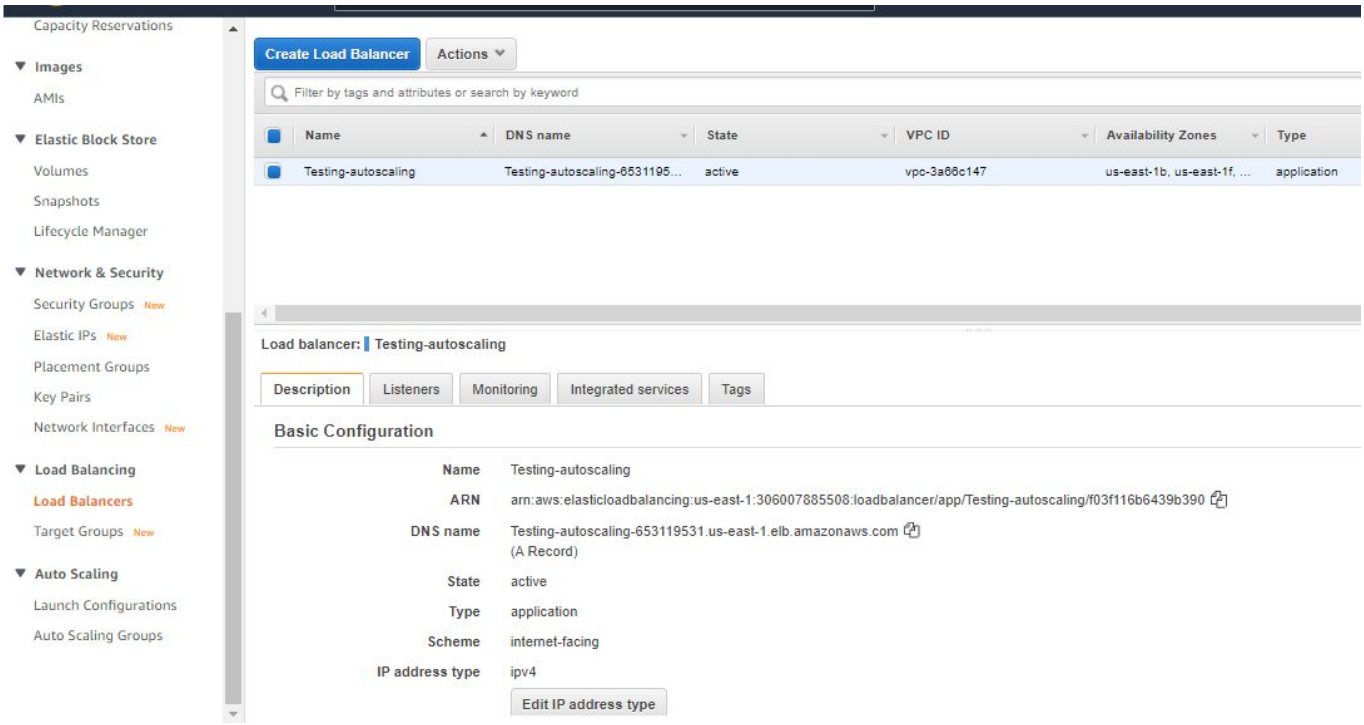


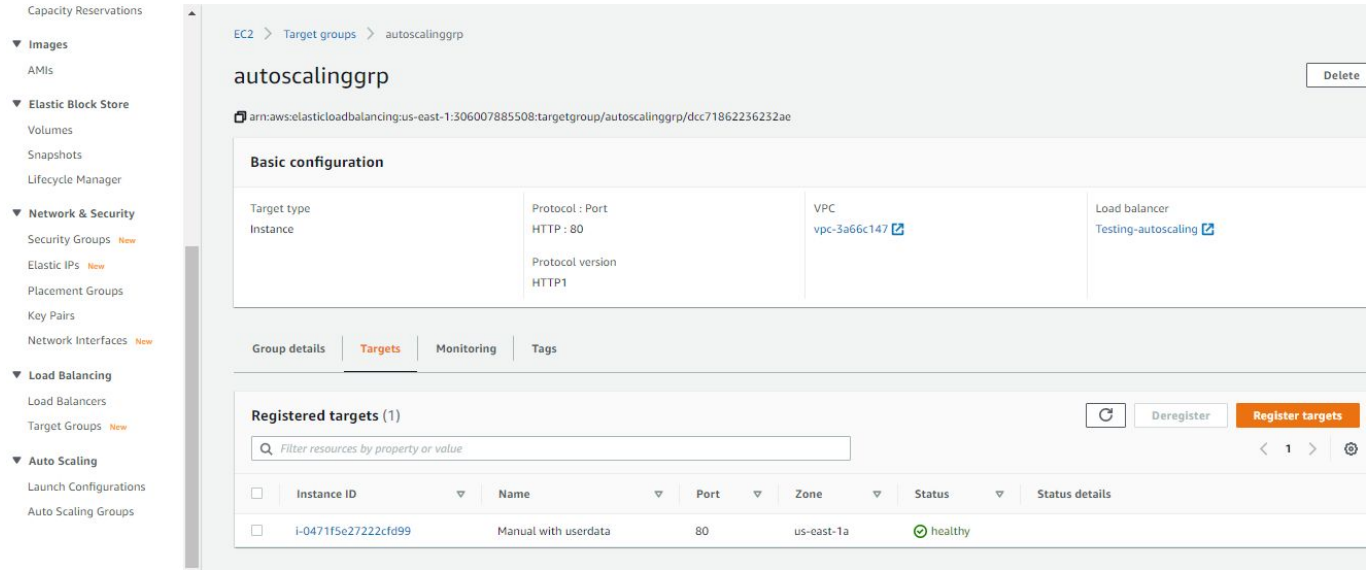
Register the ‘manual with userdata’ as target:



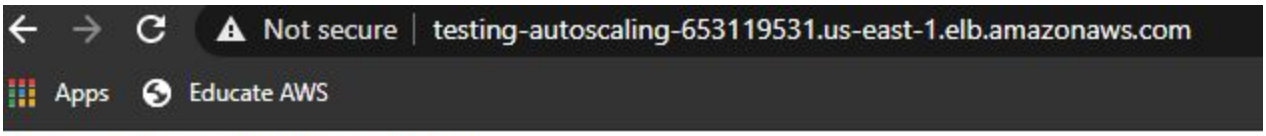

Launch the Load balancer. Wait for the load balancer to be provisioned.




Check the Target group and the health status of the manual EC2 server we added.



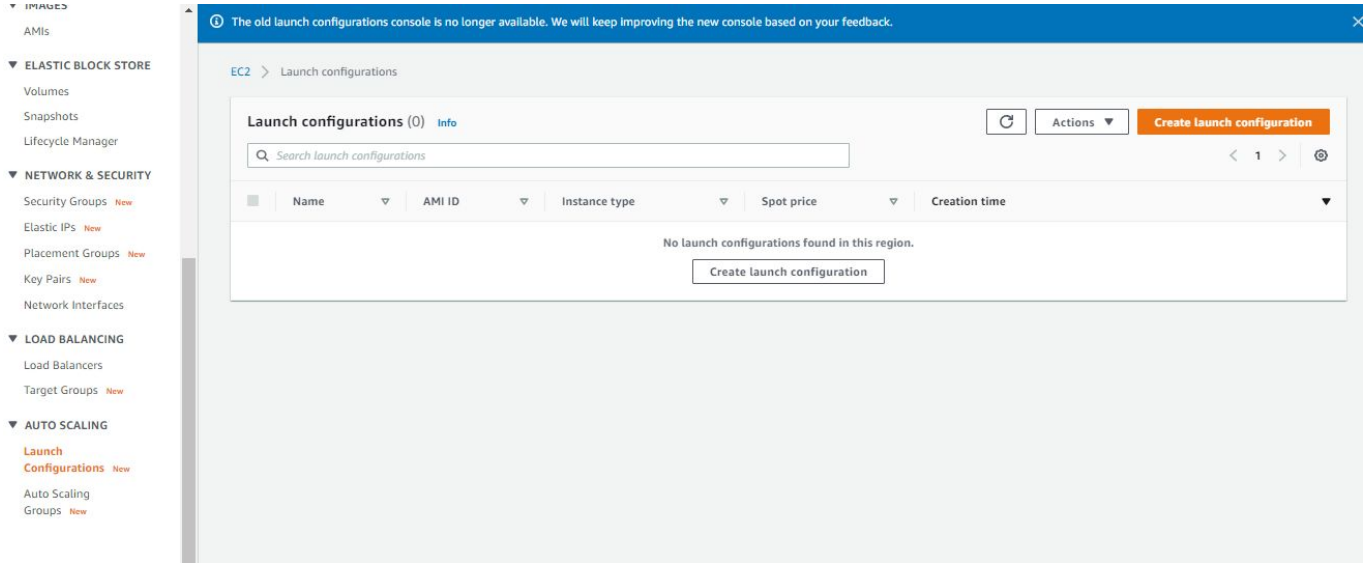

Use the DNS name of the load balancer and refresh the page. We should be able to see the same web page from our manual server.




Manual instance with IP 3.82.10.131

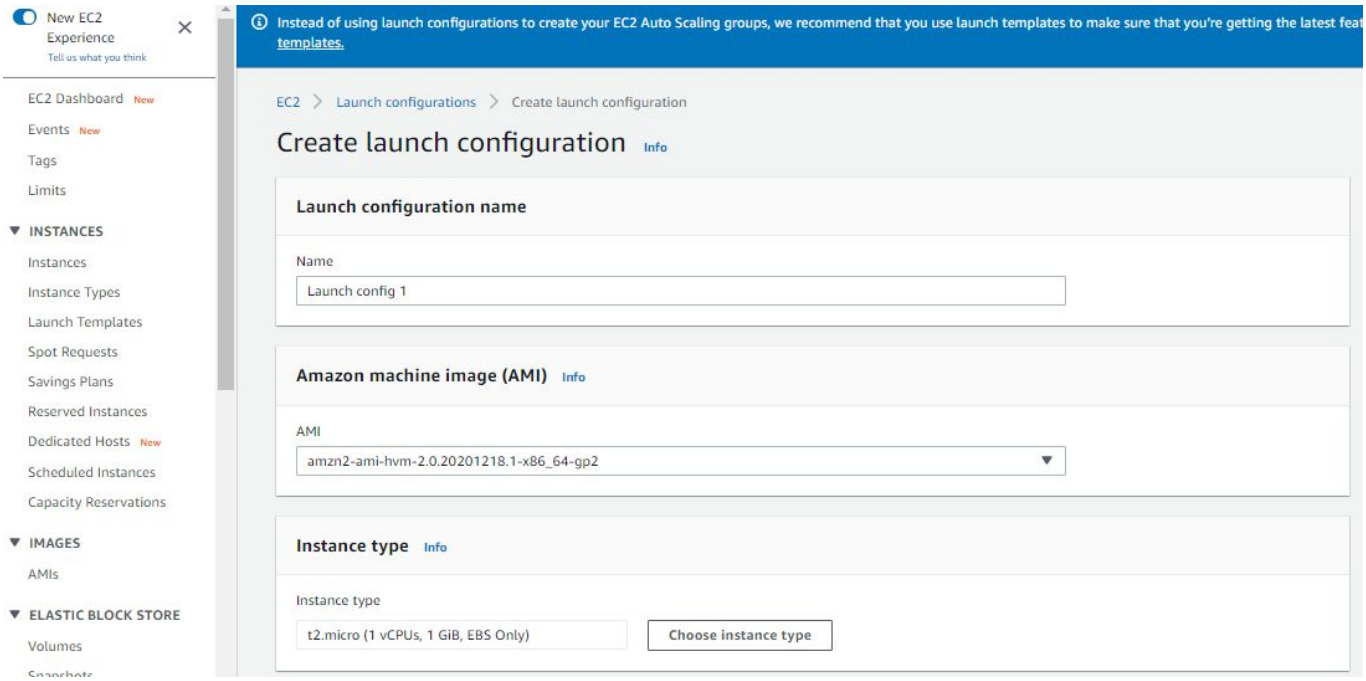
# Launching a Autoscaling EC2

## Creating the Launch configuration

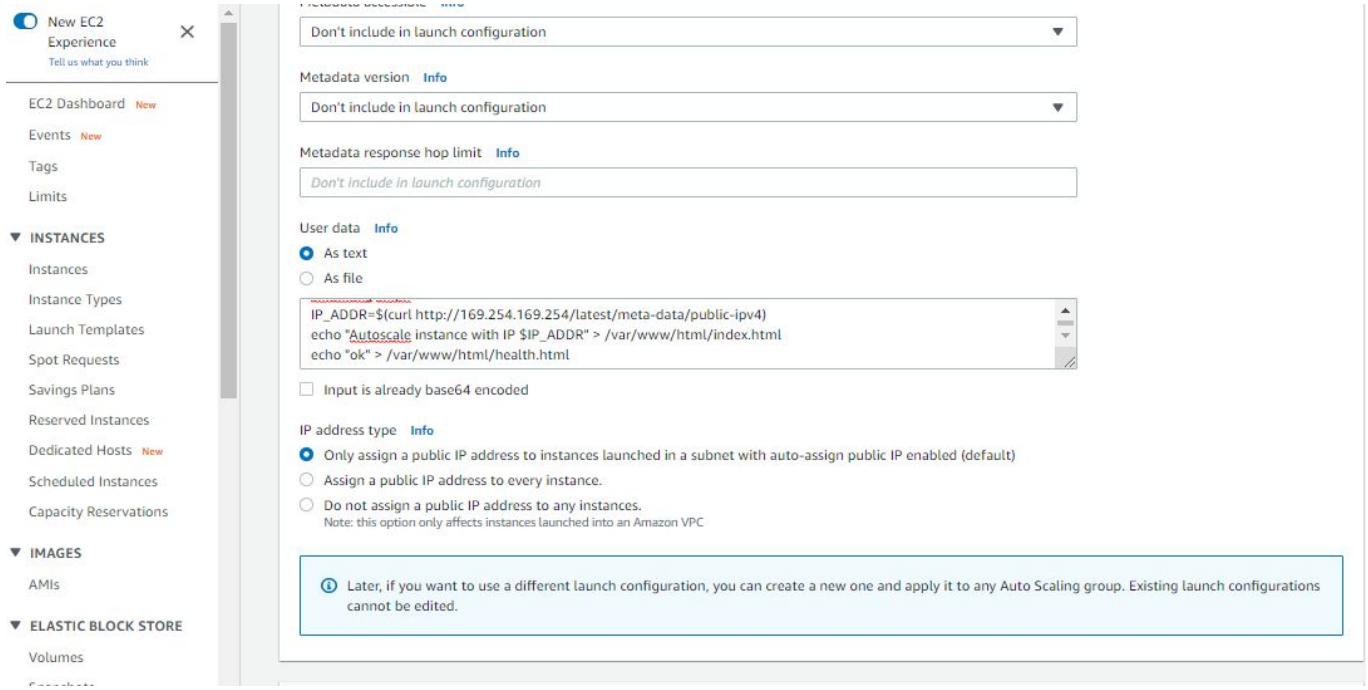


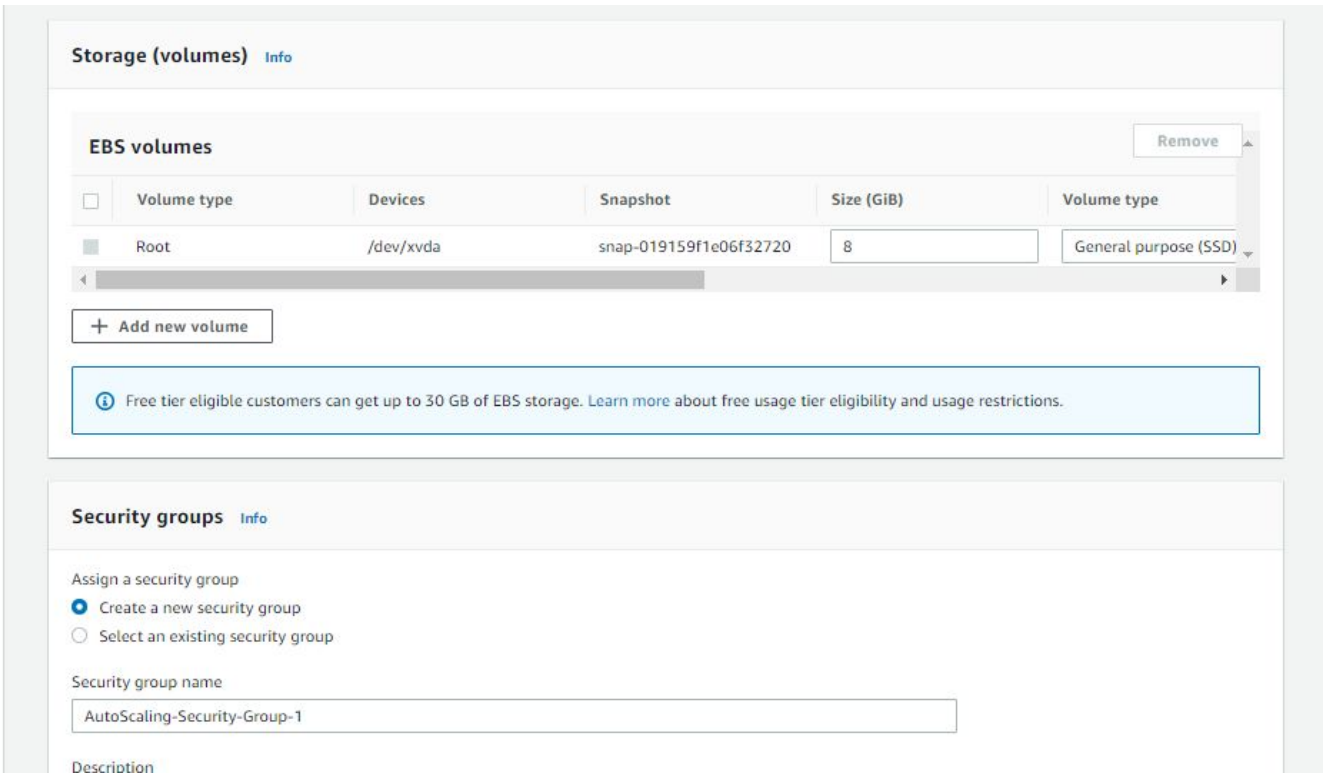

Use the AMI ID from the already launched instance to map the AMI ID faster, else the search for AMI might take up more time.

Also carefully choose t2 micro instances to save up credits for later.

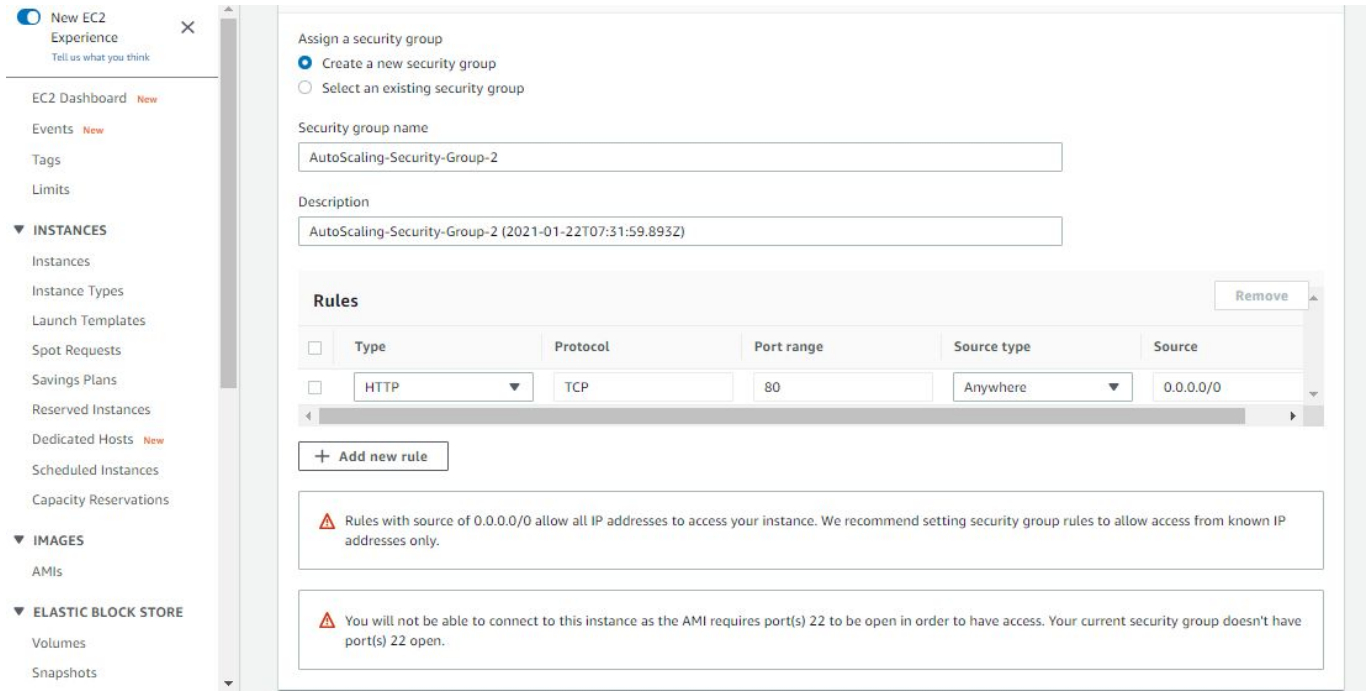


Under Additional configuration - optional
add the user data as input

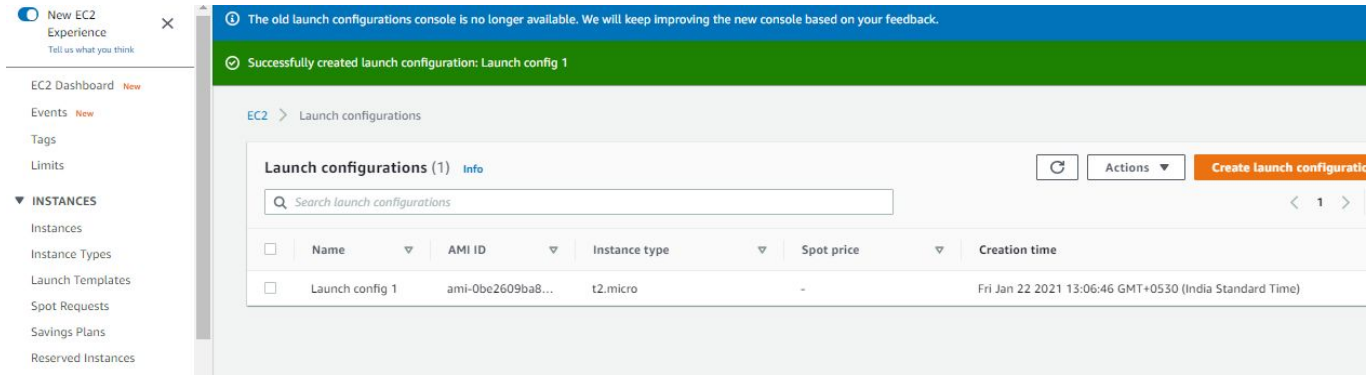


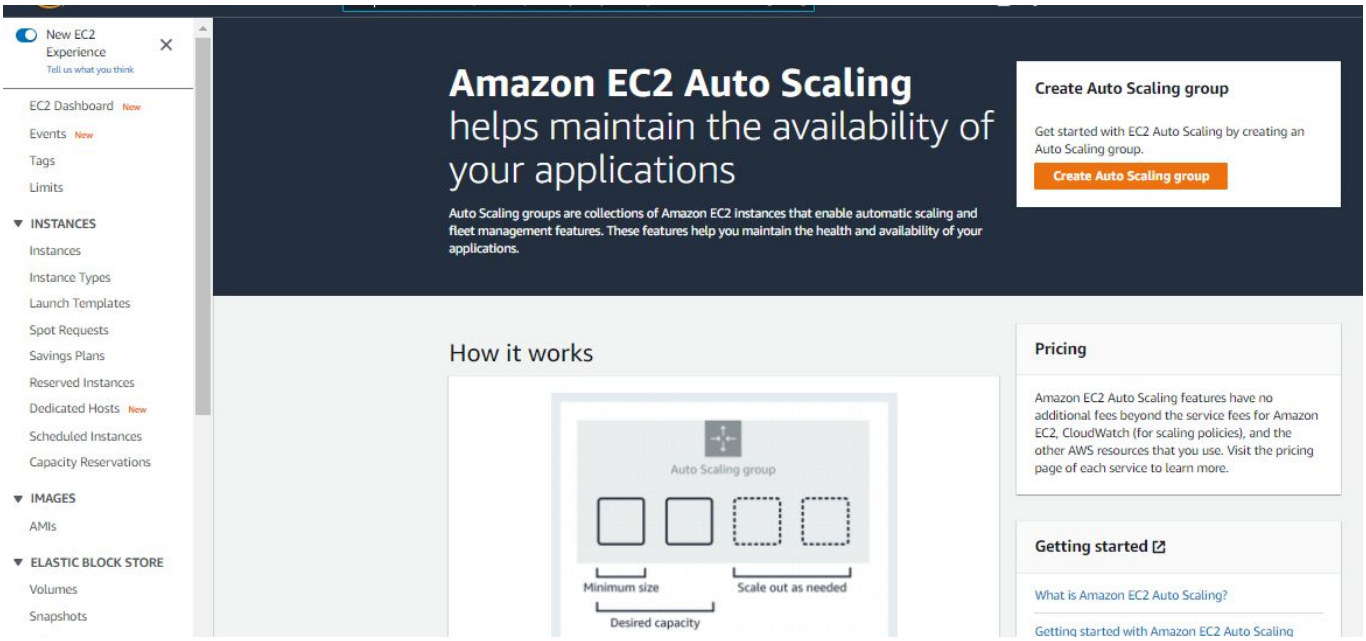
Open the port 80 for HTTP traffic alone



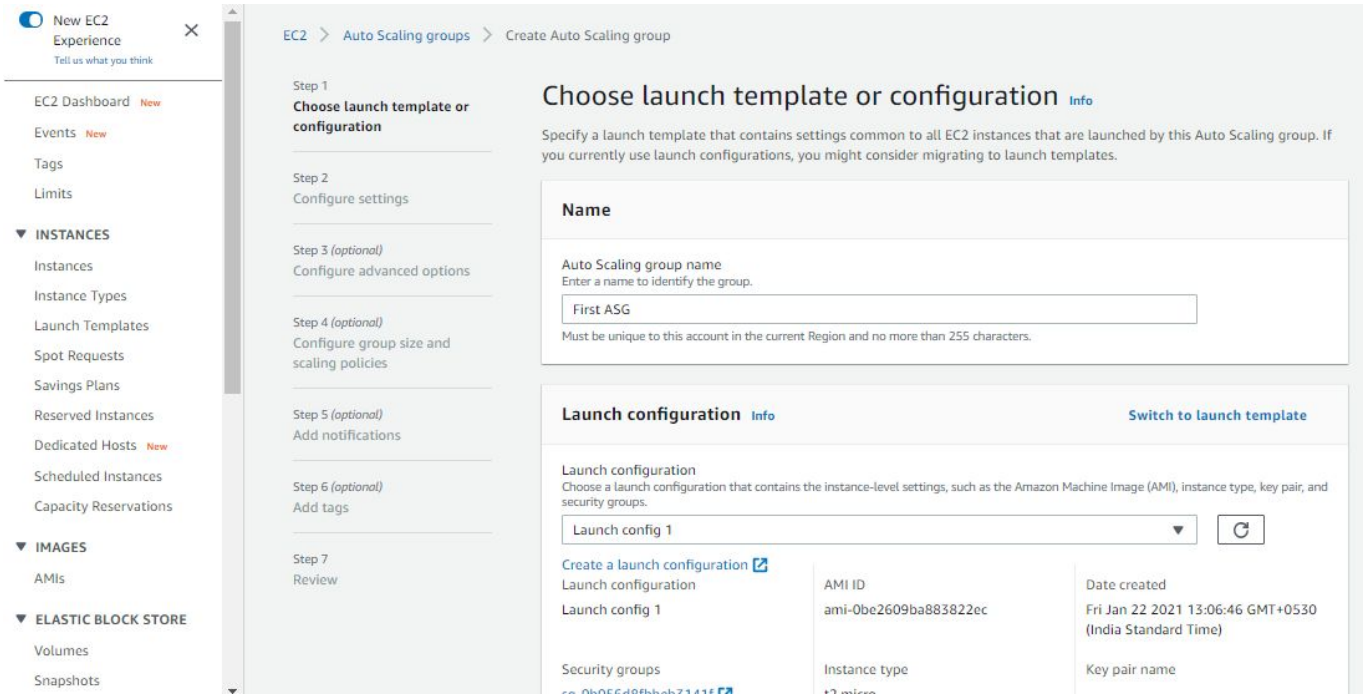

Create the launch configuration.



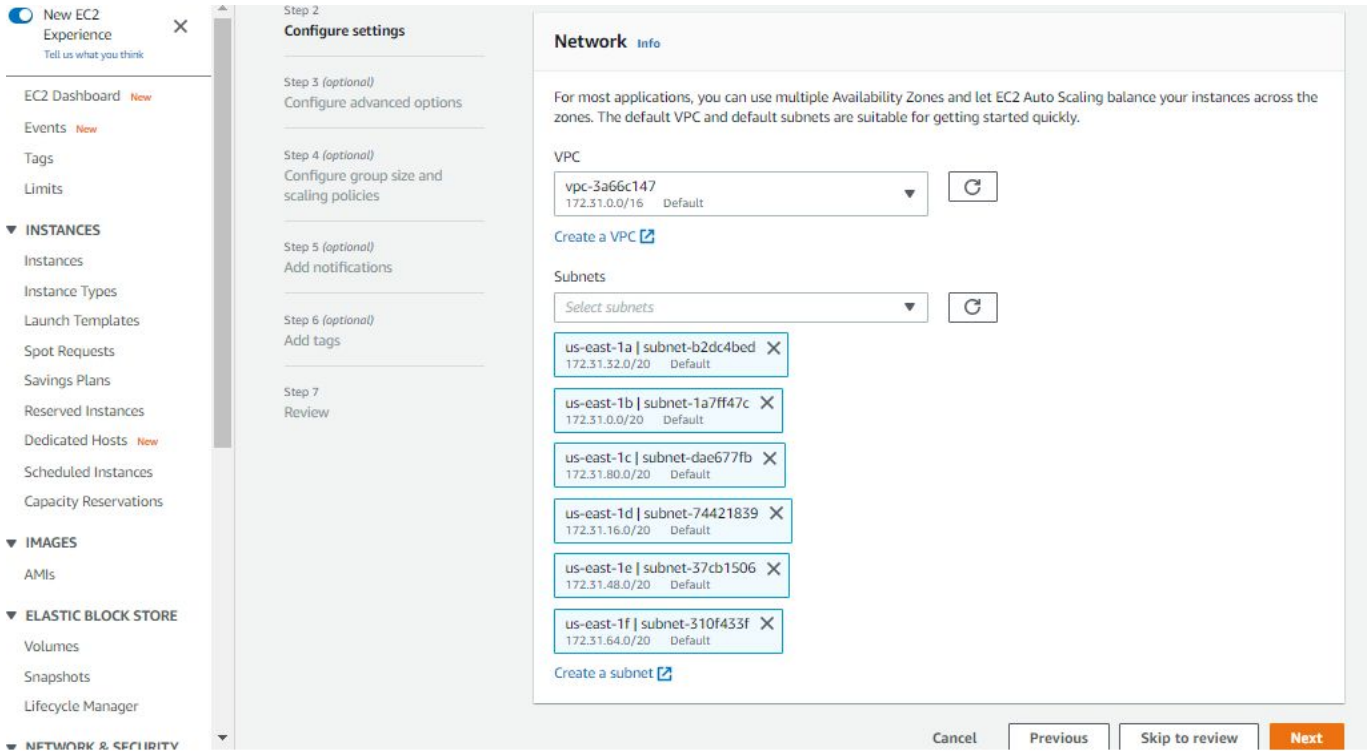
Create the autoscaling group



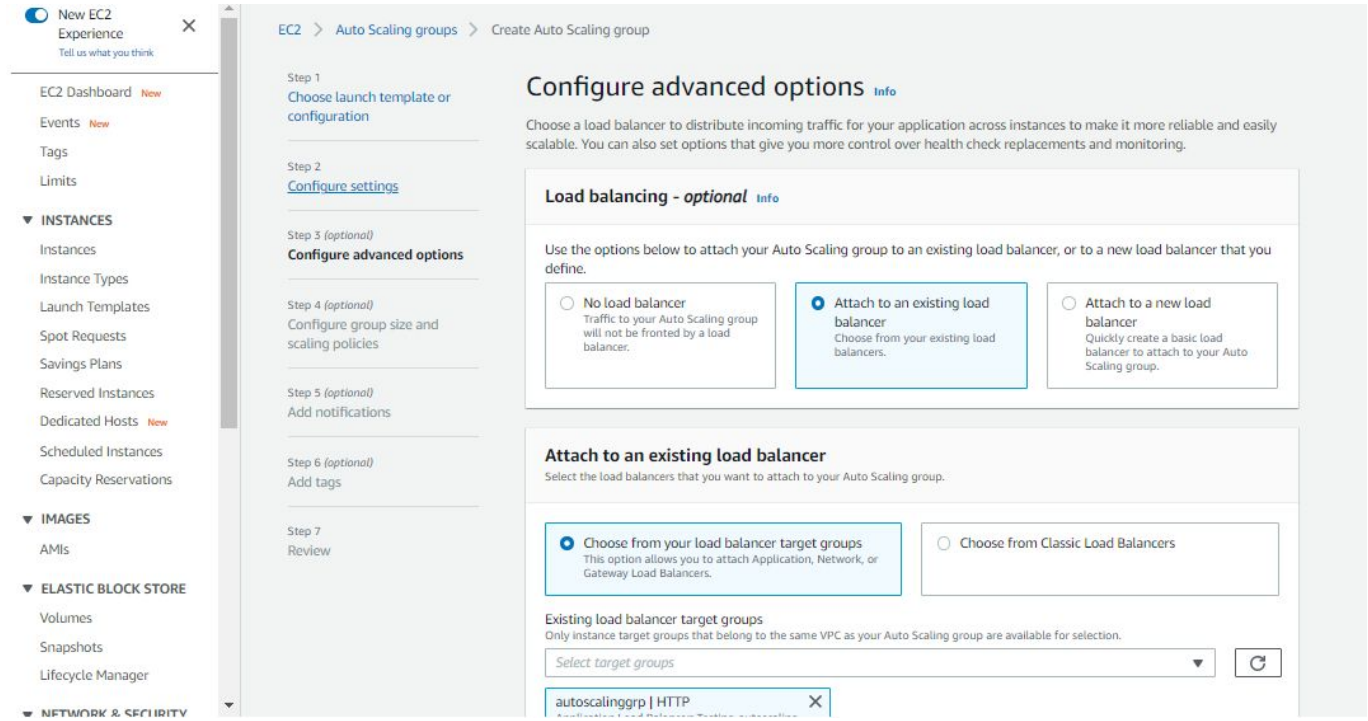

Switch to Launch configuration from Launch Template and select the created launch configuration



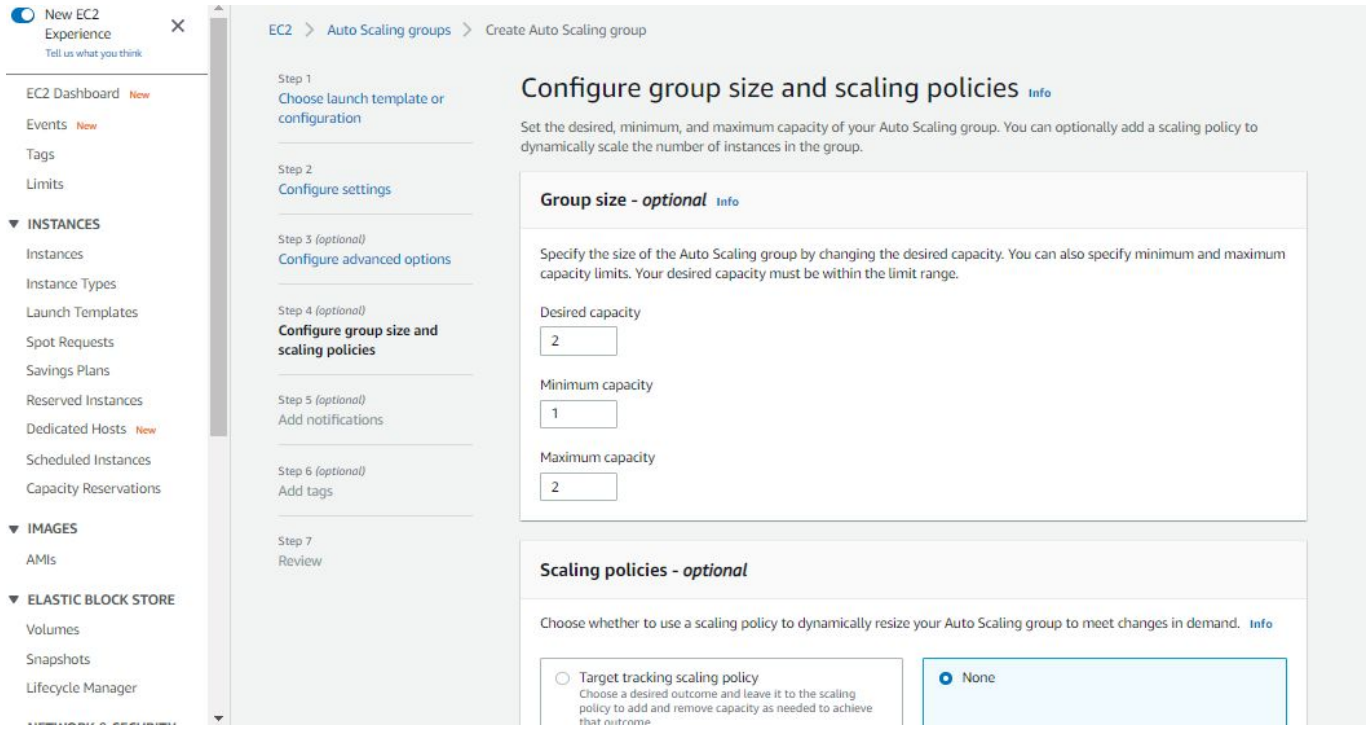
Select all the subnets:



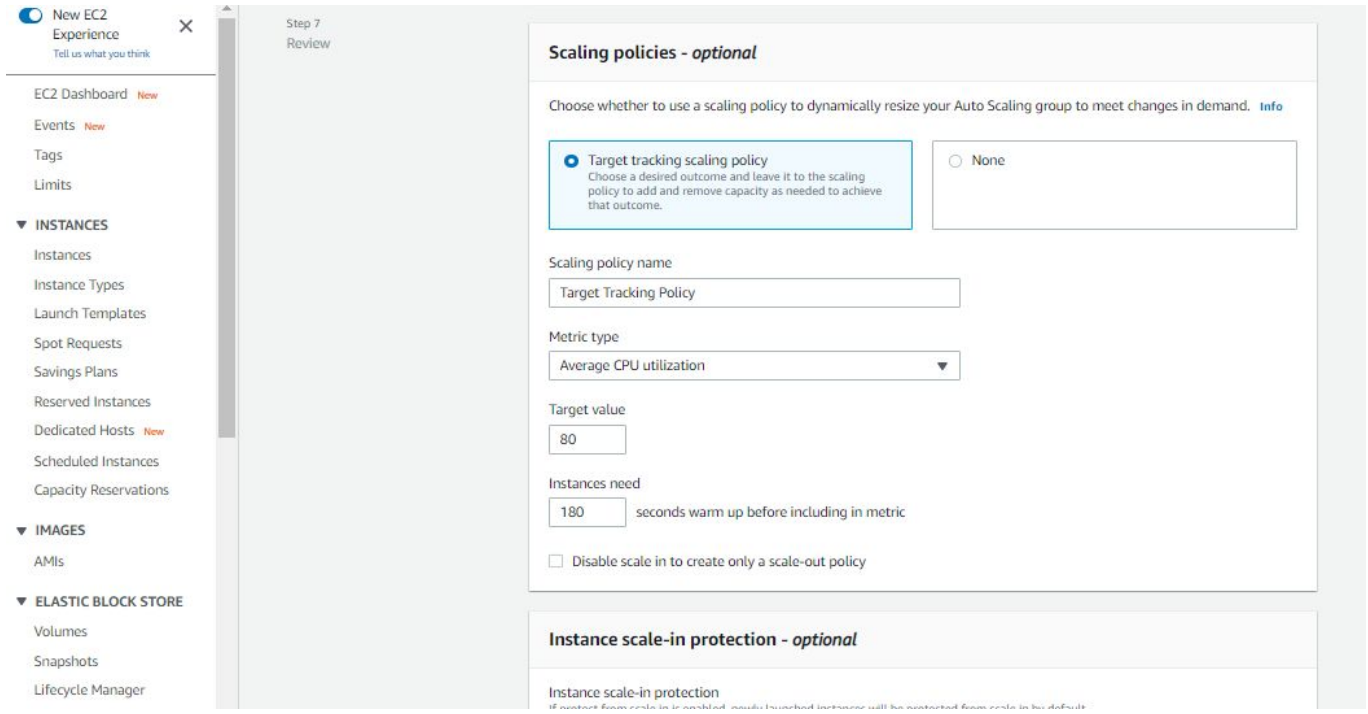

Configure the load balancer which we created already:



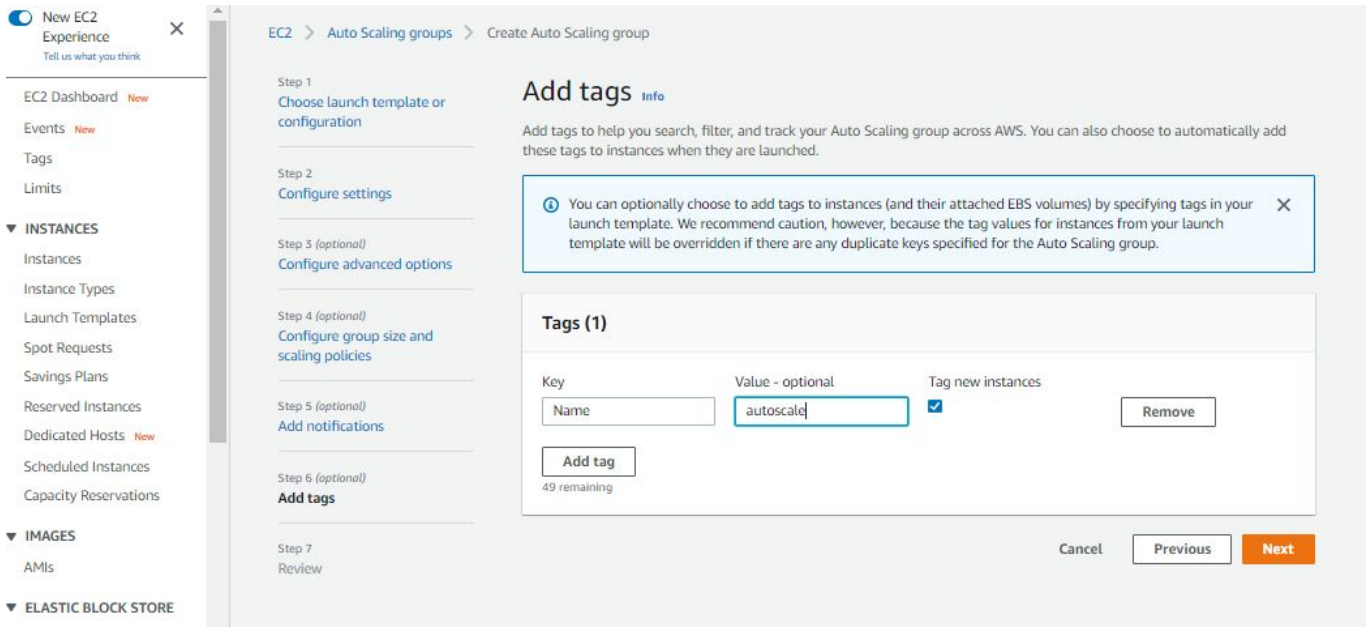
Fix the desired (1), min(1) and max(2) capacity details



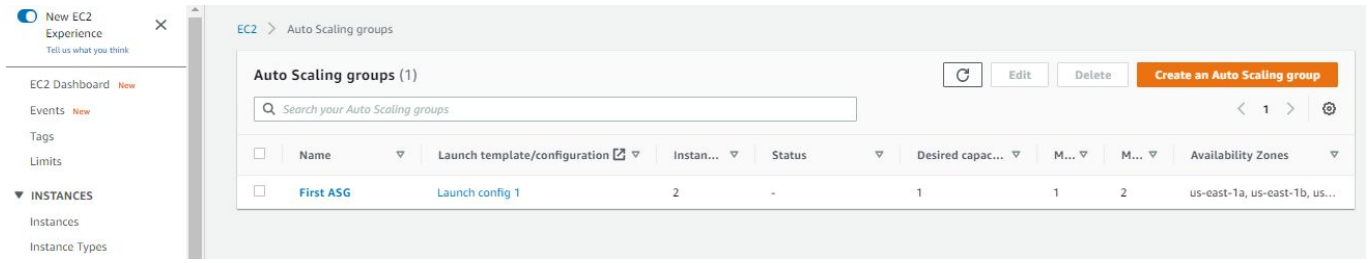

Scaling policy to add an instance if load is more than 80% for more than 180 seconds



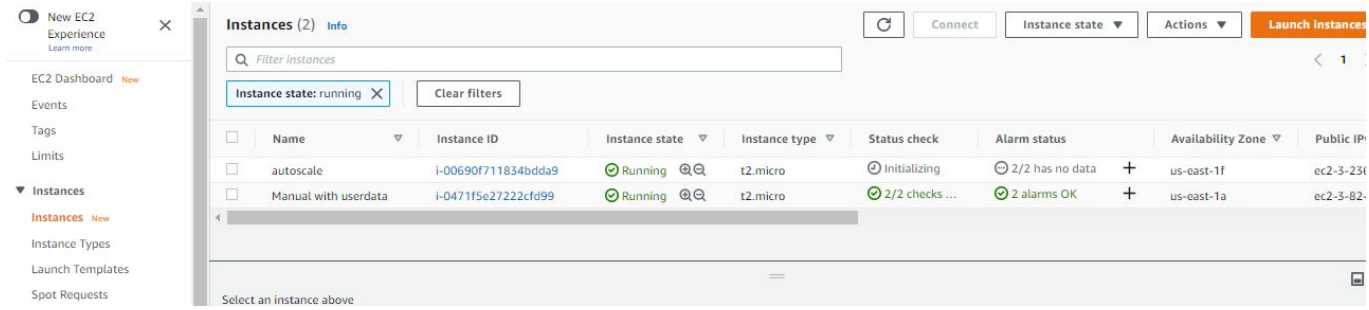
Tags



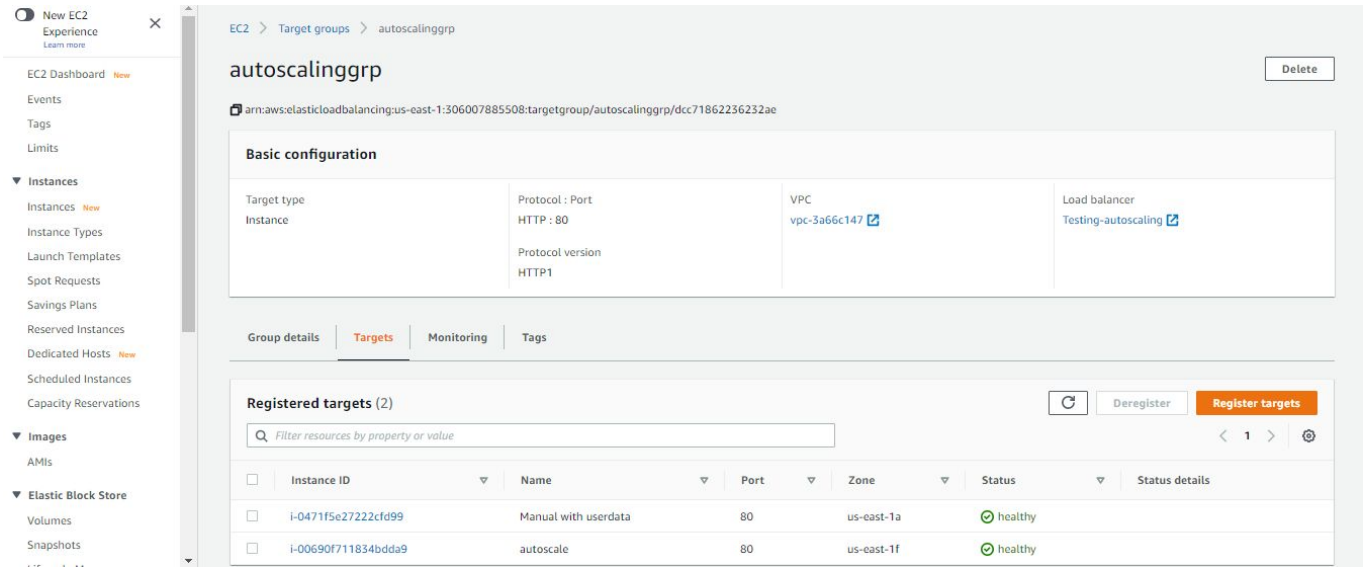

Review and Launch



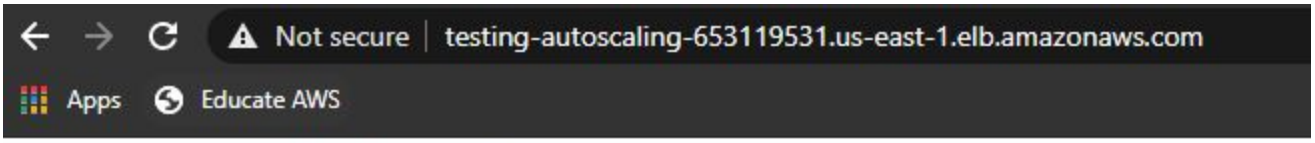

Keep a watch on the instance window of the console if autoscale is adding a new instance automatically.



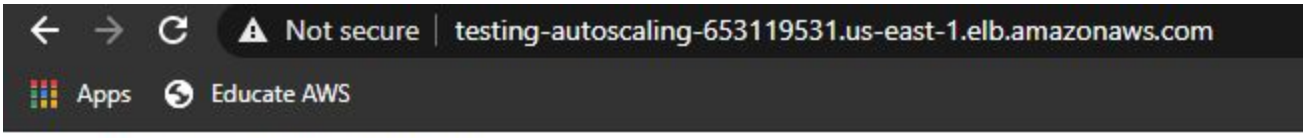
Check the Target group->Target group label-> Targets the autoscale instance should be available there




Now use the Load balancer link(DNS) and refresh the page to see the autoscale instance and the manual instance alternatively

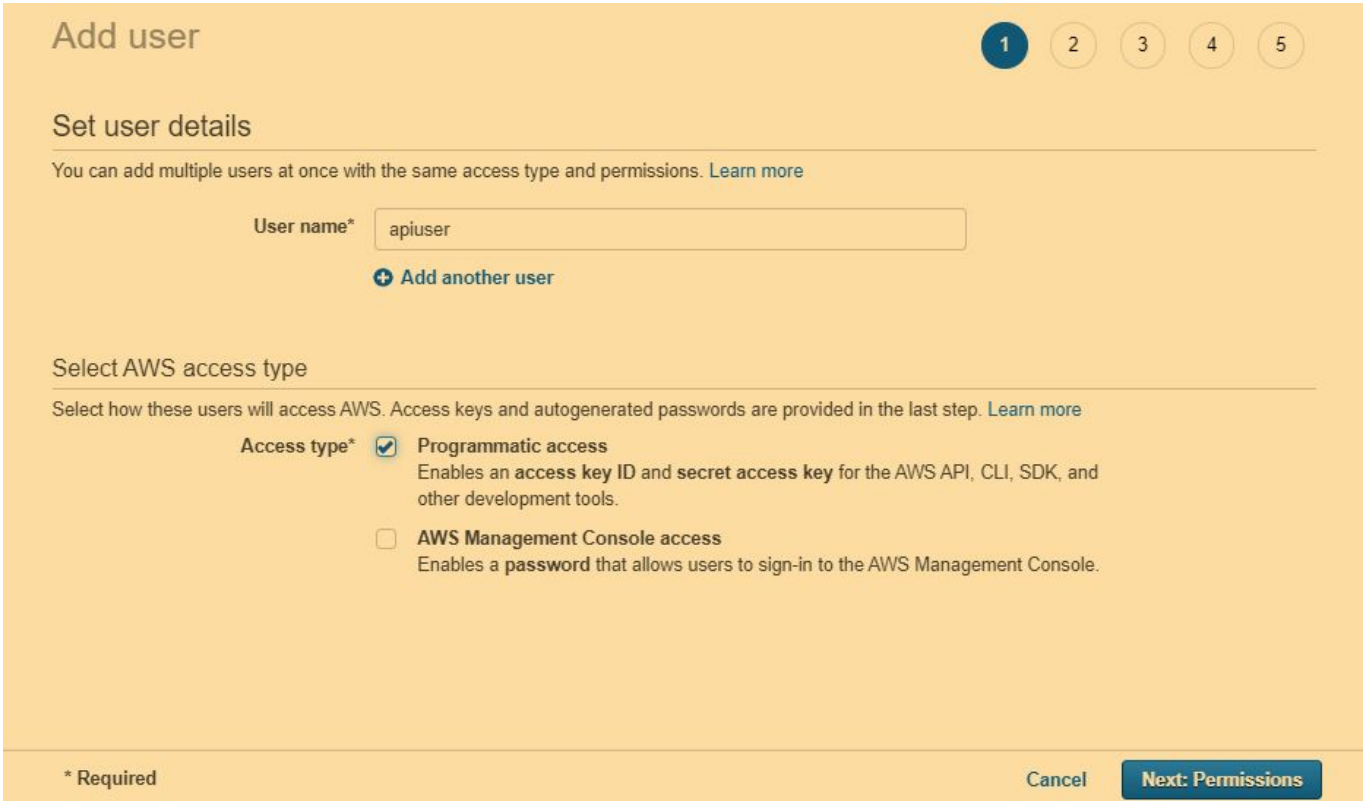



Autoscale instance with IP 3.236.64.46

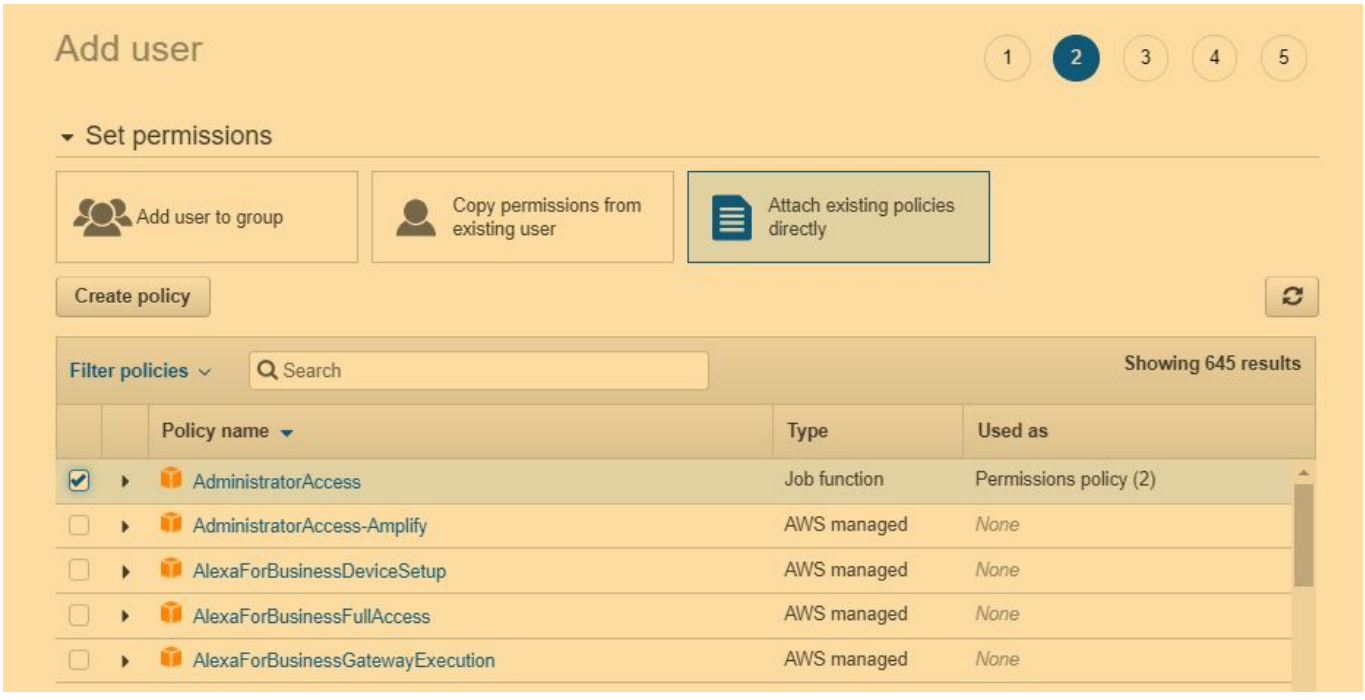



Manual instance with IP 3.82.10.131

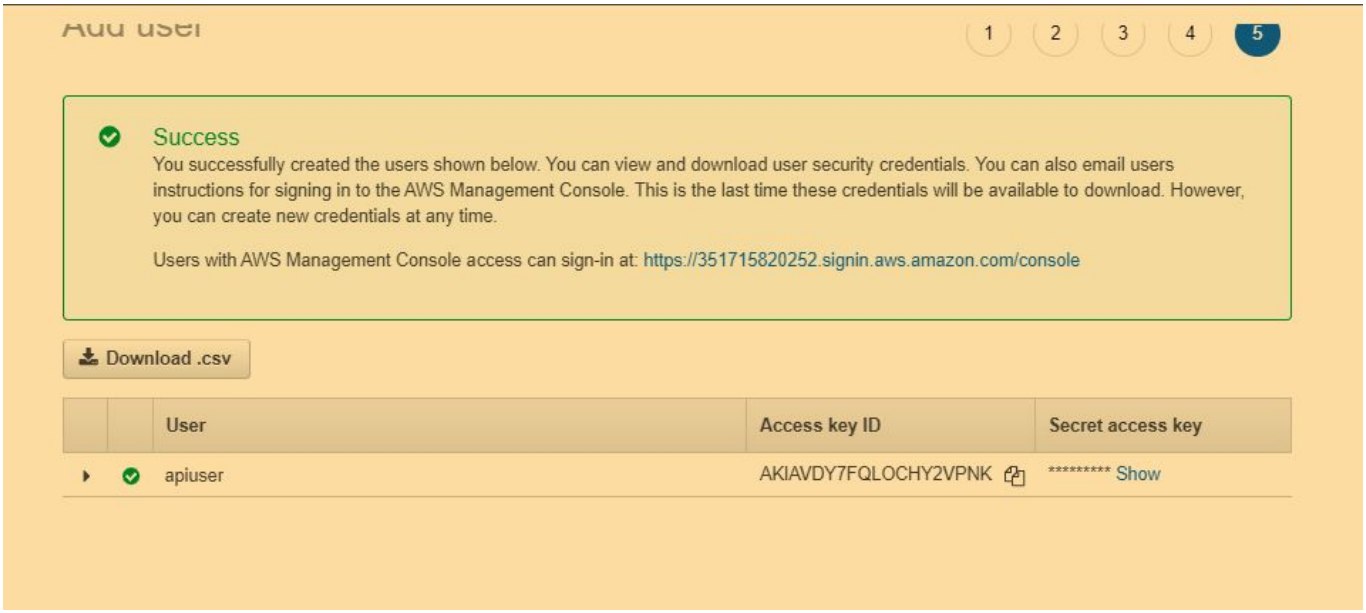
# Creating IAM user - apiuser




Policy addition



Access key and Secret key for configuring CLI




CLI Setup

You need to input your access key, secret key and region according to your region selection and configuration.

Give output type as **json (in small letters not capitals)**

(The secret key is blacked out in the following example)