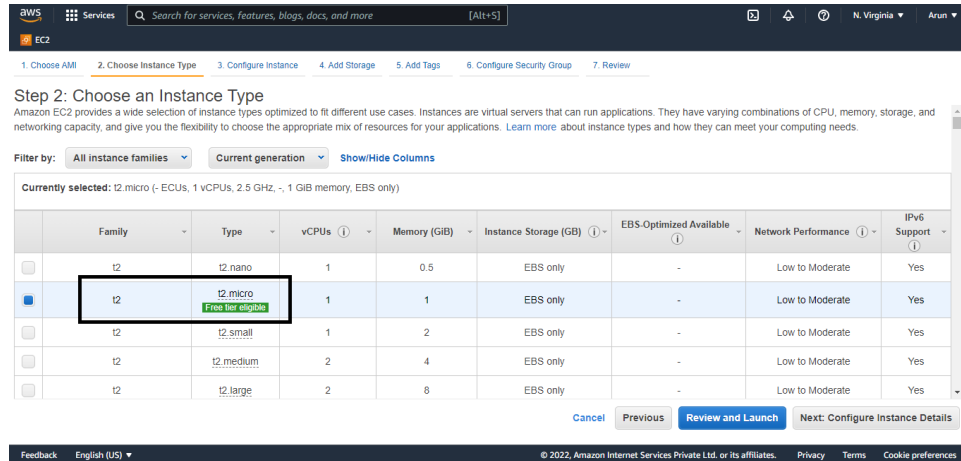
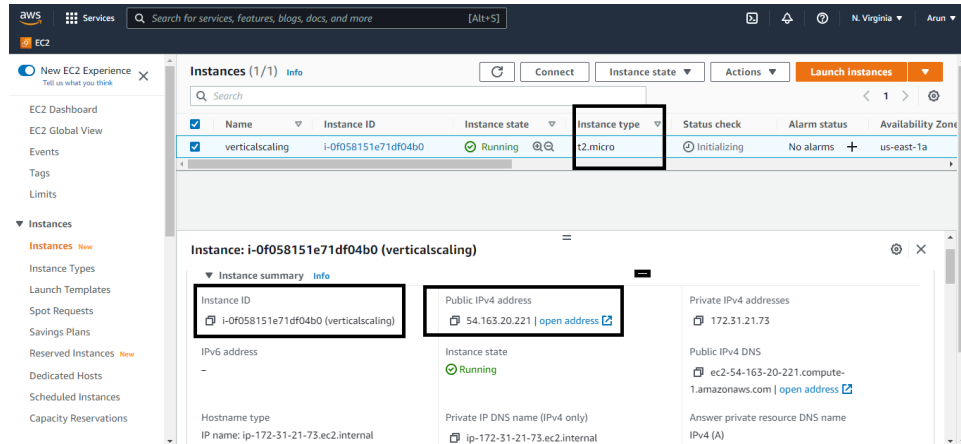


POC : Vertical Scaling

Step 1 : Create Ec2 Instance using the instance type : t2.micro



Step 2 : Now the Instance has launched with t2.micro also notedown the Public ip address and instance id



Step 3: Connect the instance and check memory allocation using lsblk command

```

root@ip-172-31-21-73:/home/ubuntu# lsblk
NAME        MAJ:MIN RM  SIZE RO TYPE MOUNTPOINT
loop0        7:0      0   25M  1 loop /snap/amazon-ssm-agent/4046
loop1        7:1      0  55.5M  1 loop /snap/core18/2253
loop2        7:2      0  61.9M  1 loop /snap/core20/1242
loop3        7:3      0  67.2M  1 loop /snap/lxd/21835
loop4        7:4      0  42.2M  1 loop /snap/snapd/14066
xvda         202:0     0    8G   0 disk
└─xvda1      202:1     0    8G   0 part /
root@ip-172-31-21-73:/home/ubuntu#

```

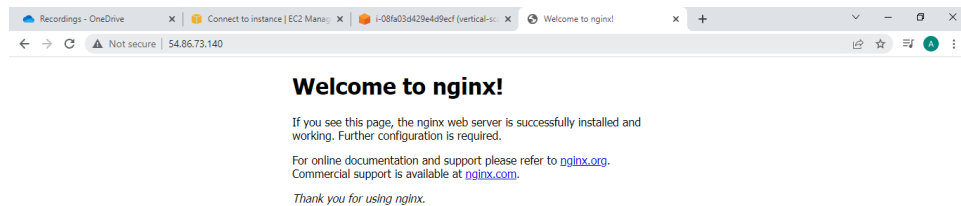
Step 4 : Create script file – touch one.sh Enter the following shell scripts in the file one.sh, give execution permission and run the bash file this will install the nginx

```

root@ip-172-31-82-133:~# cat one.sh
#!/bin/bash
sudo apt-get update -y
sleep 20
sudo apt install nginx -y
sleep 20
root@ip-172-31-82-133:~# sh one.sh

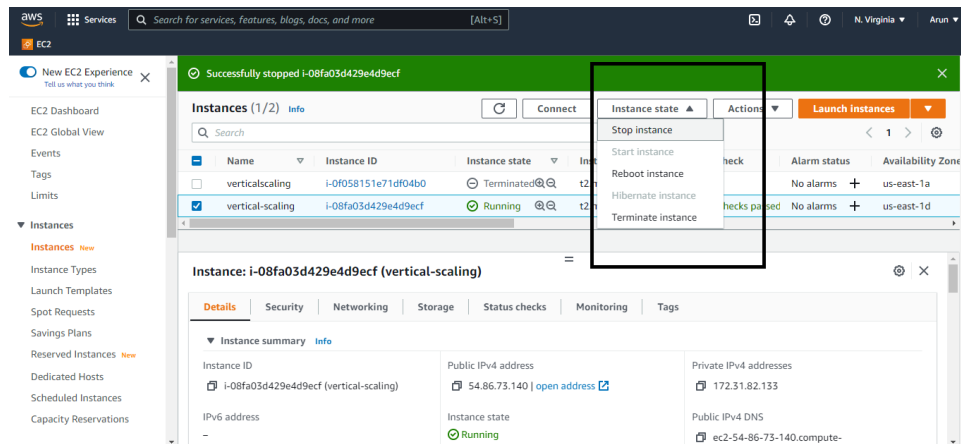
```

Step 5 : Go to browser and enter public ip of the machine. You are going to see nginx on your browser

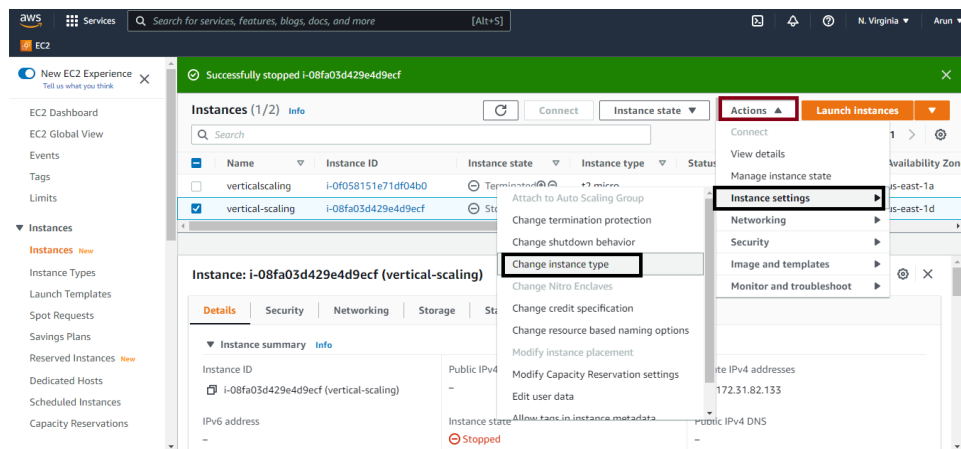


Now it's the time to Scale-Up

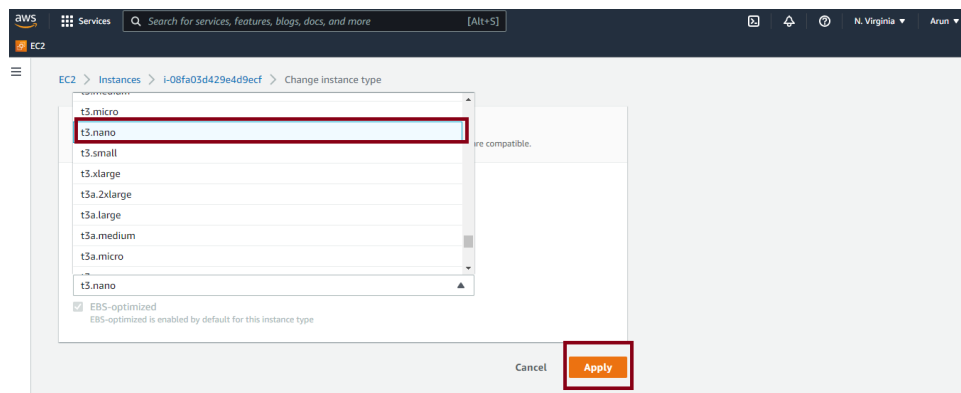
Step 6 : To change the Instance Family (vertical Scaling) Go to aws management console stop instance.



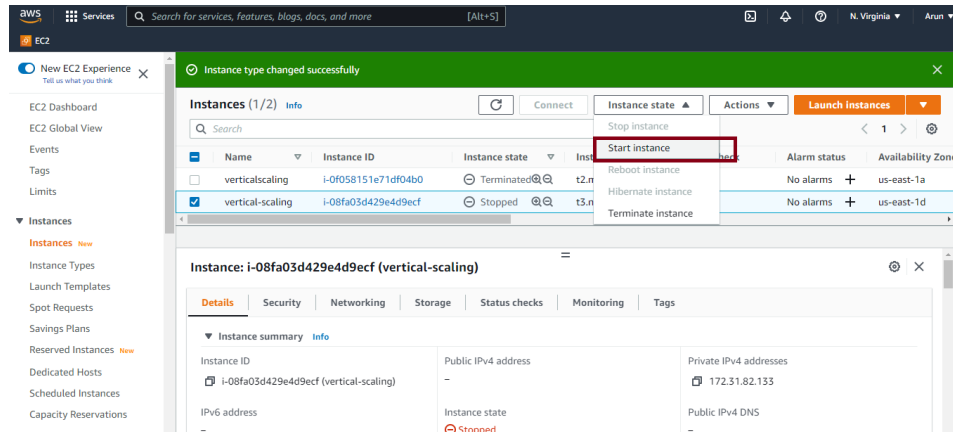
Step 7 : Move to Actions >> Instance Setting >> Change Instance Type



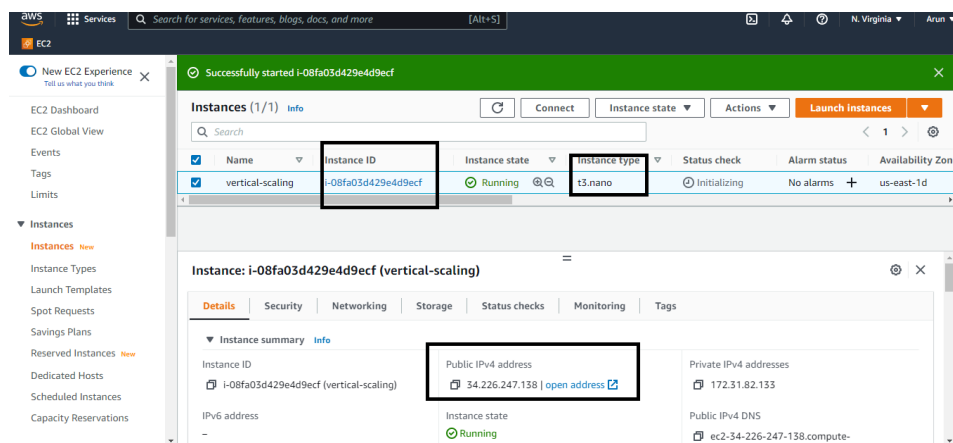
Step 8: Select the changed instance type , Here I selected t2.micro to t2 nano



Step 9 : Now Start the instance from instance Dashboard



Step 10: Now Note down Instance id (not changed), Public IP (changed), instance type(changed)



Step 11 : connect to instance. And check the files available in the machine by ls command

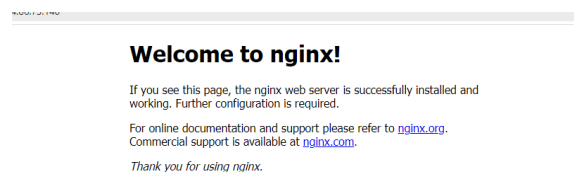
The file which one created previously, t2.micro is also available

```
← → ↻ console.aws.amazon.com/ec2/v2/connect/ubuntu/i
root@ip-172-31-82-133:~# ls
one.sh  snap
root@ip-172-31-82-133:~# touch two.sh
root@ip-172-31-82-133:~# ls
one.sh  snap  two.sh
root@ip-172-31-82-133:~# █
```

Step 12 : create two.sh and write shell scripts to install java, git maven and jenkins.

```
Recordings - OneDrive x | Connect to instance | EC2 Manag x | i-08fa03d429e4d9ecf (vertical-scr
← → ↻ console.aws.amazon.com/ec2/v2/connect/ubuntu/i-08fa03d429e4d9ecf
sudo apt-get update
sleep 30
sudo apt-get install -y openjdk-8-jdk
sleep 30
sudo apt-get install -y git maven
sleep 30
wget http://mirrors.jenkins.io/war-stable/latest/jenkins.war
sleep 30
java -jar jenkins.war
~
~
```

Step 13: Now check with new public ip, you can see nginx which is installed previously



Step 14 : now go to browser and go to newip:8080 and observe jenkins has installed.

Unlock Jenkins

To ensure Jenkins is securely set up by the administrator, a password has been written to the log (not sure where to find it?) and this file on the server:

`/var/jenkins_home/secrets/initialAdminPassword`

Please copy the password from either location and paste it below.

Administrator password

Continue

Step :15 Again repeat the steps 6, 7, 8, 9, 10 But change instance type to t2.micro again (scale down) and connect to instance

Welcome to nginx!

If you see this page, the nginx web server is successfully installed and working. Further configuration is required.

For online documentation and support please refer to nginx.org.
Commercial support is available at nginx.com.

Thank you for using nginx.

Unlock Jenkins

To ensure Jenkins is securely set up by the administrator, a password has been written to the log (not sure where to find it?) and this file on the server:

`/var/jenkins_home/secrets/initialAdminPassword`

Please copy the password from either location and paste it below.

Administrator password

Continue

Here we observe that during Vertical scaling only public ip has been changed, but files and applications are unaltered.