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- Assignment/Project Day 4

## Project 3

### Check the functioning of ELB.

1. Task 1 : :Create two linux instances, Use the first free linux AMI

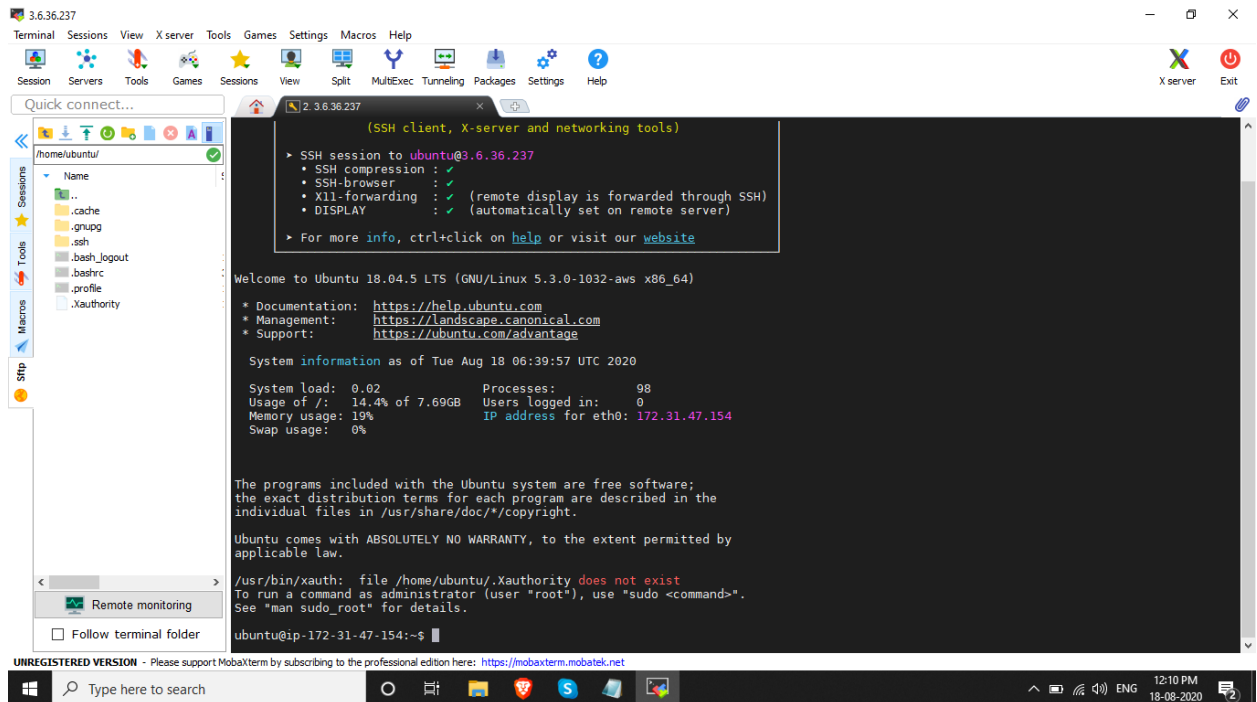
The screenshot displays the AWS Management Console interface for the ap-south-1 region. The left sidebar shows the navigation menu with options like EC2 Dashboard, Events, Tags, Limits, Instances, Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Capacity Reservations, Images, and AMIs. The main content area shows a list of EC2 instances. Two instances are listed, both in a 'running' state. The second instance, 'ec2-13-232-248-209.ap-south-1', is selected, and its details are shown in the lower pane. The details include the Instance ID 'i-0c9f11906ba45cde2', Public DNS 'ec2-13-232-248-209.ap-south-1.compute.amazonaws.com', Instance state 'running', Instance type 't2.micro', and Availability zone 'ap-south-1b'.

Zone	Instance State	Status Checks	Alarm Status	Public DNS (IPv4)	IPv4 Public IP	IPv6 IPs	Key Name	Monitoring
	running	2/2 checks ...	None	ec2-13-127-5-120.ap-s...	13.127.5.120	-	LetsUpgradeUbuntu	disabled
	running	2/2 checks ...	None	ec2-13-232-248-209.ap...	13.232.248.209	-	LetsUpgradeUbuntu3	disabl

Instance: i-0c9f11906ba45cde2		Public DNS: ec2-13-232-248-209.ap-south-1.compute.amazonaws.com	
<b>Description</b>	Instance ID	i-0c9f11906ba45cde2	Public DNS (IPv4)
	Instance state	running	ec2-13-232-248-209.ap-south-1.compute.amazonaws.com
	Instance type	t2.micro	IPv4 Public IP
	Finding	Opt-in to AWS Compute Optimizer for recommendations. <a href="#">Learn more</a>	IPv6 IPs
	Private DNS	ip-172-31-6-63.ap-south-1.compute.internal	Elastic IPs
			Availability zone
			ap-south-1b

## 2. Task 2 : Launch both instances using Mobaxterm



```
3.6.36.237
Terminal Sessions View Xserver Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help

Quick connect...

SSH client, X-server and networking tools

SSH session to ubuntu@3.6.36.237
• SSH compression : ✓
• SSH-browser : ✓
• X11-forwarding : ✓ (remote display is forwarded through SSH)
• DISPLAY : ✓ (automatically set on remote server)
• For more info, ctrl+click on help or visit our website

Welcome to Ubuntu 18.04.5 LTS (GNU/Linux 5.3.0-1032-aws x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:        https://ubuntu.com/advantage

System information as of Tue Aug 18 06:39:57 UTC 2020

System load:  0.02               Processes:    98
Usage of /:   14.4% of 7.69GB    Users logged in:  0
Memory usage: 19%               IP address for eth0: 172.31.47.154
Swap usage:   0%

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

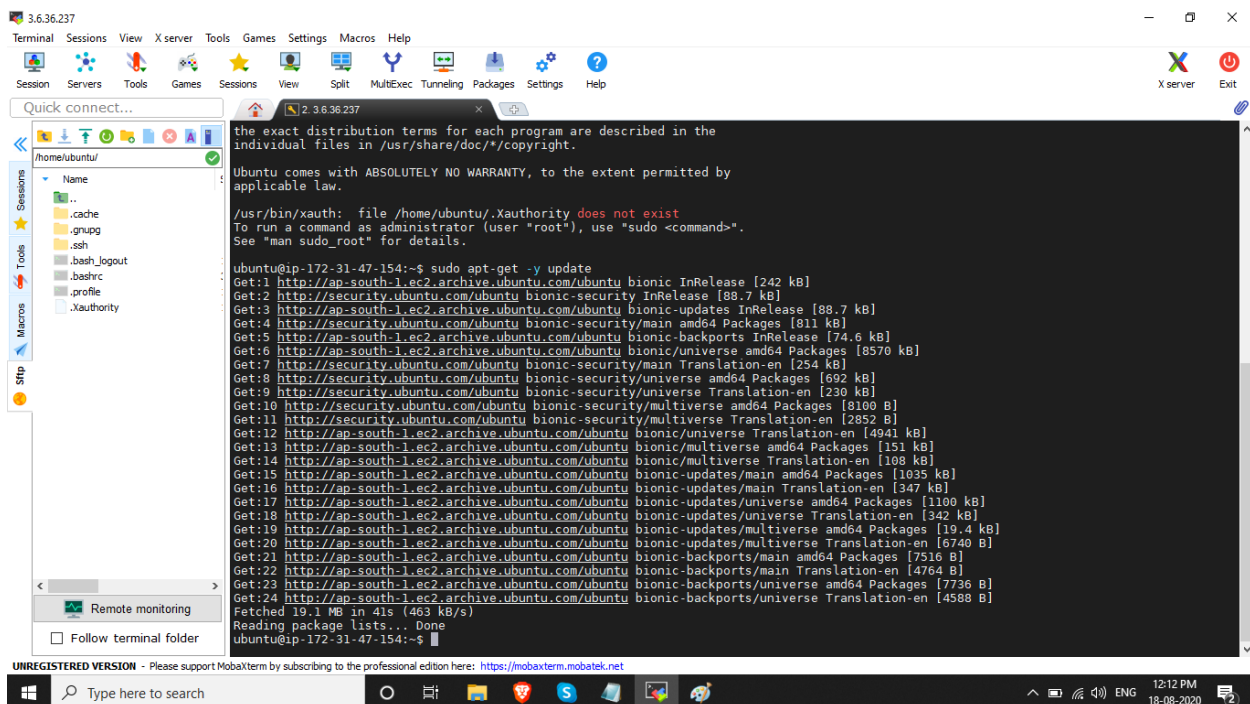
Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

/usr/bin/xdmcp: file /home/ubuntu/.Xauthority does not exist
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

ubuntu@ip-172-31-47-154:~$
```

## 3. Task 3 : Install nginx web server using bash

### a. sudo apt-get -y update



```
3.6.36.237
Terminal Sessions View Xserver Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help

Quick connect...

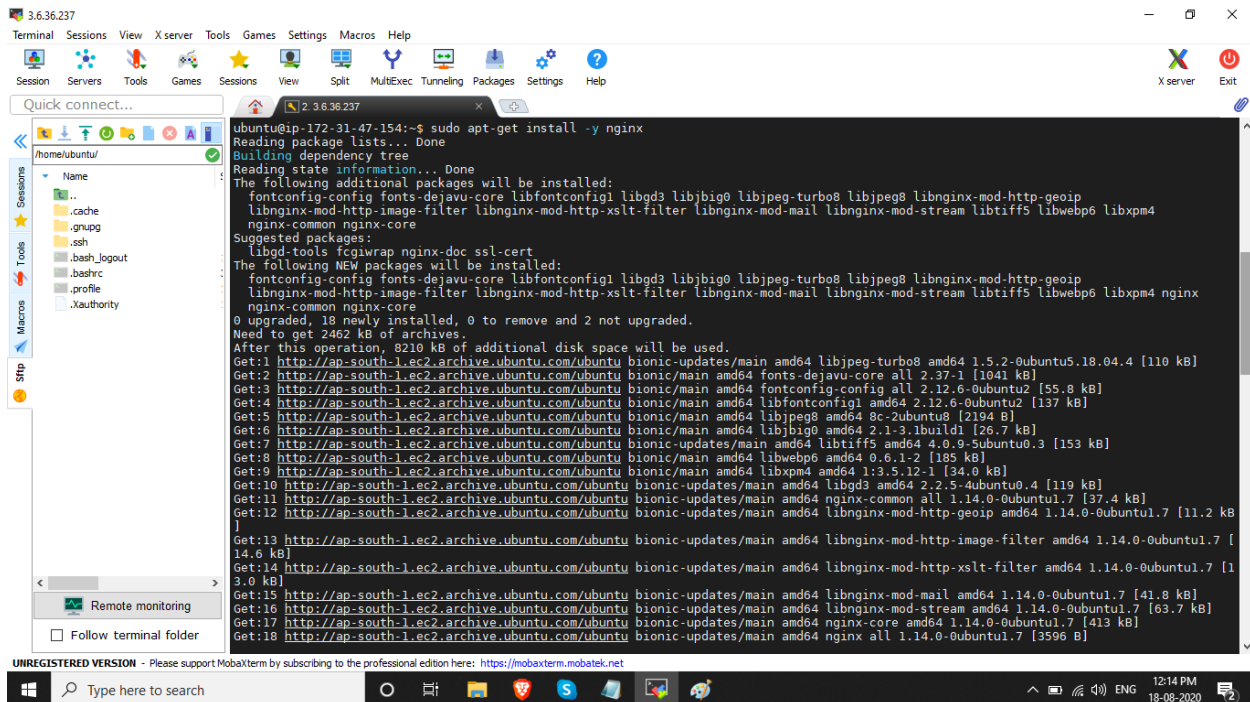
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

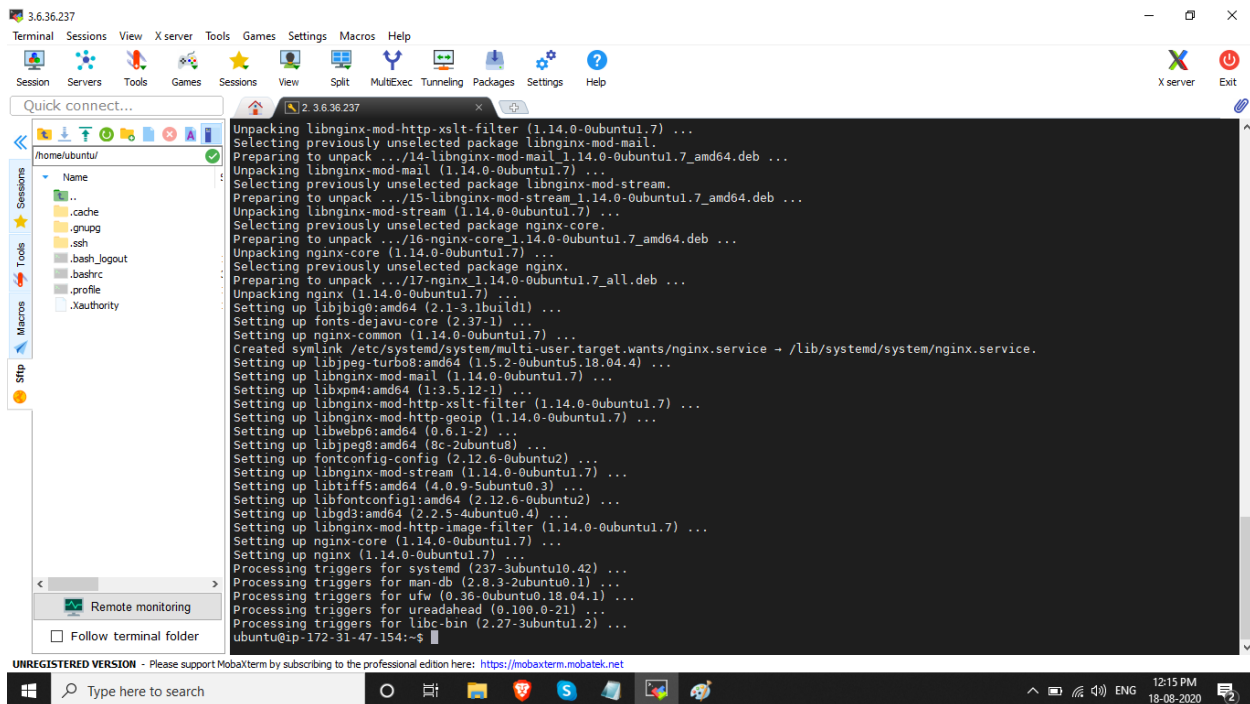
/usr/bin/xdmcp: file /home/ubuntu/.Xauthority does not exist
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

ubuntu@ip-172-31-47-154:~$ sudo apt-get -y update
Get:1 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic InRelease [242 kB]
Get:2 http://security.ubuntu.com/ubuntu bionic-security InRelease [88.7 kB]
Get:3 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic-updates InRelease [88.7 kB]
Get:4 http://security.ubuntu.com/ubuntu bionic-security/main amd64 Packages [811 kB]
Get:5 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic-backports InRelease [74.6 kB]
Get:6 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic/universe amd64 Packages [8570 kB]
Get:7 http://security.ubuntu.com/ubuntu bionic-security/main Translation-en [254 kB]
Get:8 http://security.ubuntu.com/ubuntu bionic-security/universe amd64 Packages [692 kB]
Get:9 http://security.ubuntu.com/ubuntu bionic-security/universe Translation-en [230 kB]
Get:10 http://security.ubuntu.com/ubuntu bionic-security/multiverse amd64 Packages [8100 B]
Get:11 http://security.ubuntu.com/ubuntu bionic-security/multiverse Translation-en [2852 B]
Get:12 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic/universe Translation-en [4941 kB]
Get:13 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic/multiverse amd64 Packages [151 kB]
Get:14 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic/multiverse Translation-en [108 kB]
Get:15 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic-updates/main amd64 Packages [1035 kB]
Get:16 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic-updates/main Translation-en [347 kB]
Get:17 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic-updates/universe amd64 Packages [1100 kB]
Get:18 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic-updates/universe Translation-en [342 kB]
Get:19 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic-updates/multiverse amd64 Packages [19.4 kB]
Get:20 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic-updates/multiverse Translation-en [6740 B]
Get:21 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic-backports/main amd64 Packages [7516 B]
Get:22 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic-backports/main Translation-en [4764 B]
Get:23 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic-backports/universe amd64 Packages [7736 B]
Get:24 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic-backports/universe Translation-en [4588 B]
Fetched 19.1 MB in 41s (463 kB/s)
Reading package lists... Done
ubuntu@ip-172-31-47-154:~$
```

## b. sudo apt-get -y install nginx

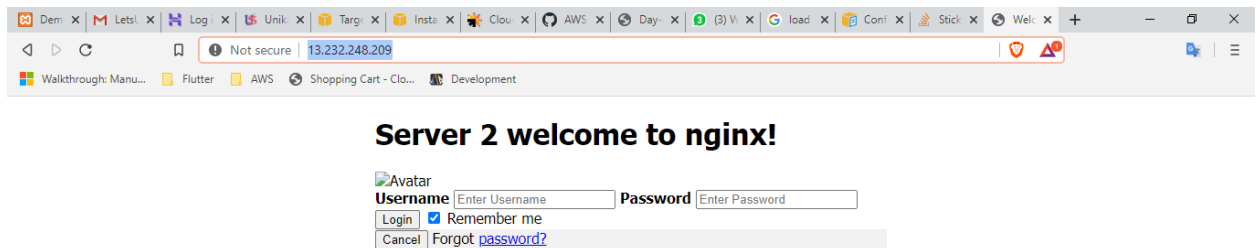


```
ubuntu@ip-172-31-47-154:~$ sudo apt-get install -y nginx
Reading package lists... Done
Building dependency tree
Done
The following additional packages will be installed:
fontconfig-config fonts-dejavu-core libfontconfig1 libgd3 libjpeg-turbo8 libjpeg8 libnginx-mod-http-geoip
libnginx-mod-http-image-filter libnginx-mod-http-xslt-filter libnginx-mod-mail libnginx-mod-stream libtiff5 libwebp6 libxpm4
nginx-common nginx-core
Suggested packages:
libgd-tools fcgiwrap nginx-doc ssl-cert
The following NEW packages will be installed:
fontconfig-config fonts-dejavu-core libfontconfig1 libgd3 libjpeg-turbo8 libjpeg8 libnginx-mod-http-geoip
libnginx-mod-http-image-filter libnginx-mod-http-xslt-filter libnginx-mod-mail libnginx-mod-stream libtiff5 libwebp6 libxpm4 nginx
nginx-common nginx-core
0 upgraded, 18 newly installed, 0 to remove and 2 not upgraded.
Need to get 2462 kB of archives.
After this operation, 8210 kB of additional disk space will be used.
Get:1 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic-updates/main amd64 libjpeg-turbo8 amd64 1.5.2-0ubuntu5.18.04.4 [110 kB]
Get:2 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic/main amd64 fonts-dejavu-core all 2.37-1 [1041 kB]
Get:3 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic/main amd64 fontconfig-config all 2.12.6-0ubuntu2 [55.8 kB]
Get:4 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic/main amd64 libfontconfig1 amd64 2.12.6-0ubuntu2 [137 kB]
Get:5 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic/main amd64 libjpeg8 amd64 8c-2ubuntu8 [2194 B]
Get:6 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic/main amd64 libgd3 amd64 2.1.3-1build1 [26.7 kB]
Get:7 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic-updates/main amd64 libtiff5 amd64 4.0.9-5ubuntu0.3 [153 kB]
Get:8 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic/main amd64 libwebp6 amd64 0.6.1-2 [185 kB]
Get:9 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic/main amd64 libxpm4 amd64 1:3.5.12-1 [34.0 kB]
Get:10 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic-updates/main amd64 libgd3 amd64 2.2.5-4ubuntu0.4 [119 kB]
Get:11 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic-updates/main amd64 nginx-common all 1.14.0-0ubuntu1.7 [37.4 kB]
Get:12 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic-updates/main amd64 libnginx-mod-http-geoip amd64 1.14.0-0ubuntu1.7 [11.2 kB]
Get:13 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic-updates/main amd64 libnginx-mod-http-image-filter amd64 1.14.0-0ubuntu1.7 [14.6 kB]
Get:14 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic-updates/main amd64 libnginx-mod-http-xslt-filter amd64 1.14.0-0ubuntu1.7 [13.0 kB]
Get:15 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic-updates/main amd64 libnginx-mod-mail amd64 1.14.0-0ubuntu1.7 [41.8 kB]
Get:16 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic-updates/main amd64 libnginx-mod-stream amd64 1.14.0-0ubuntu1.7 [63.7 kB]
Get:17 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic-updates/main amd64 nginx-core amd64 1.14.0-0ubuntu1.7 [413 kB]
Get:18 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic-updates/main amd64 nginx all 1.14.0-0ubuntu1.7 [3596 B]
Unpacking libnginx-mod-http-xslt-filter (1.14.0-0ubuntu1.7) ...
Selecting previously unselected package libnginx-mod-mail.
Preparing to unpack .../14-libnginx-mod-mail_1.14.0-0ubuntu1.7_amd64.deb ...
Unpacking libnginx-mod-mail (1.14.0-0ubuntu1.7) ...
Selecting previously unselected package libnginx-mod-stream.
Preparing to unpack .../15-libnginx-mod-stream_1.14.0-0ubuntu1.7_amd64.deb ...
Unpacking libnginx-mod-stream (1.14.0-0ubuntu1.7) ...
Selecting previously unselected package nginx-core.
Preparing to unpack .../16-nginx-core_1.14.0-0ubuntu1.7_amd64.deb ...
Unpacking nginx-core (1.14.0-0ubuntu1.7) ...
Selecting previously unselected package nginx.
Preparing to unpack .../17-nginx_1.14.0-0ubuntu1.7_all.deb ...
Unpacking nginx (1.14.0-0ubuntu1.7) ...
Setting up libjpeg8:amd64 (8c-2ubuntu8) ...
Setting up fonts-dejavu-core (2.37-1) ...
Setting up nginx-common (1.14.0-0ubuntu1.7) ...
Created symlink /etc/systemd/system/multi-user.target.wants/nginx.service → /lib/systemd/system/nginx.service.
Setting up libjpeg-turbo8:amd64 (1.5.2-0ubuntu5.18.04.4) ...
Setting up libnginx-mod-mail (1.14.0-0ubuntu1.7) ...
Setting up libxpm4:amd64 (1:3.5.12-1) ...
Setting up libnginx-mod-http-xslt-filter (1.14.0-0ubuntu1.7) ...
Setting up libnginx-mod-http-geoip (1.14.0-0ubuntu1.7) ...
Setting up libwebp6:amd64 (0.6.1-2) ...
Setting up fontconfig-config (2.12.6-0ubuntu2) ...
Setting up libnginx-mod-stream (1.14.0-0ubuntu1.7) ...
Setting up libtiff5:amd64 (4.0.9-5ubuntu0.3) ...
Setting up libfontconfig1:amd64 (2.12.6-0ubuntu2) ...
Setting up libgd3:amd64 (2.2.5-4ubuntu0.4) ...
Setting up libnginx-mod-http-image-filter (1.14.0-0ubuntu1.7) ...
Setting up nginx-core (1.14.0-0ubuntu1.7) ...
Setting up nginx (1.14.0-0ubuntu1.7) ...
Processing triggers for systemd (237-3ubuntu10.42) ...
Processing triggers for man-db (2.8.3-2ubuntu0.1) ...
Processing triggers for ufw (0.36-0ubuntu0.18.04.1) ...
Processing triggers for ureadahead (0.100.0-21) ...
Processing triggers for libc-bin (2.27-3ubuntu1.2) ...
ubuntu@ip-172-31-47-154:~$
```

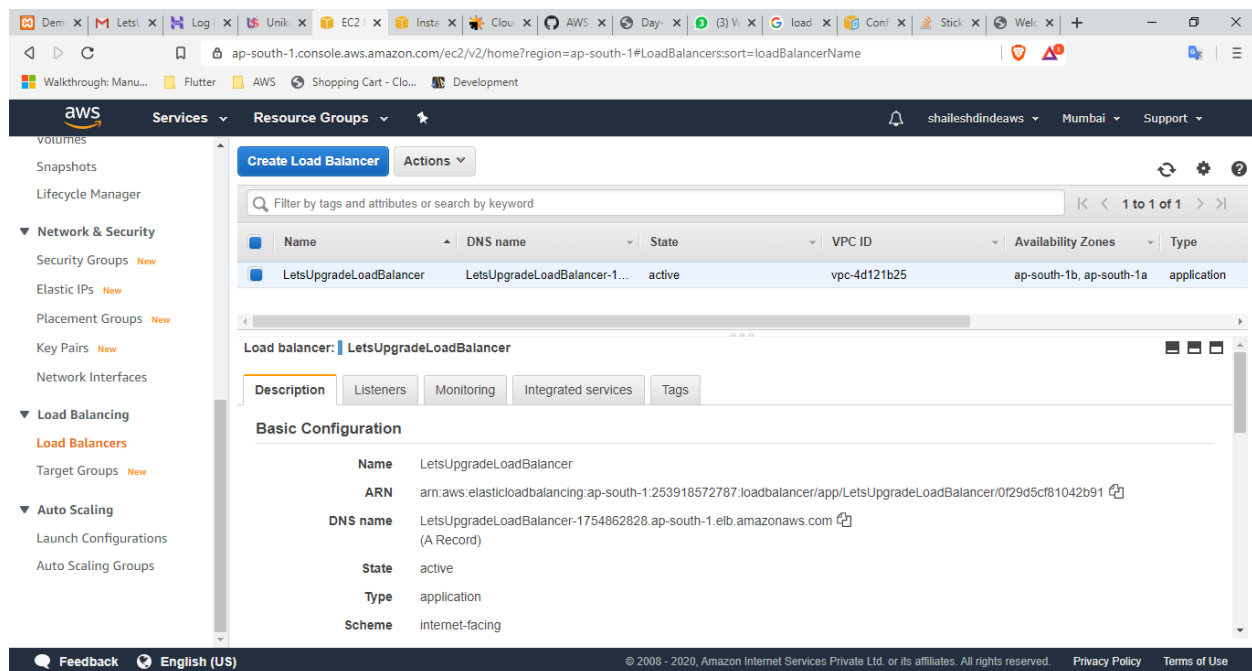


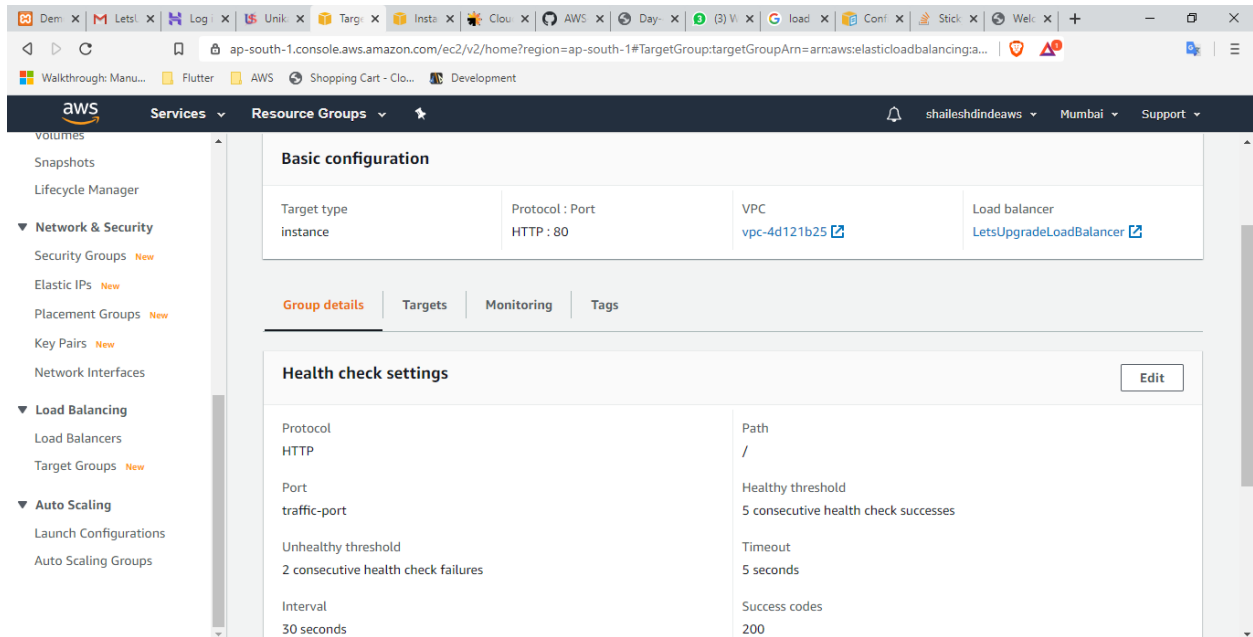
```
ubuntu@ip-172-31-47-154:~$ sudo apt-get install -y nginx
Reading package lists... Done
Building dependency tree
Done
The following additional packages will be installed:
fontconfig-config fonts-dejavu-core libfontconfig1 libgd3 libjpeg-turbo8 libjpeg8 libnginx-mod-http-geoip
libnginx-mod-http-image-filter libnginx-mod-http-xslt-filter libnginx-mod-mail libnginx-mod-stream libtiff5 libwebp6 libxpm4
nginx-common nginx-core
Suggested packages:
libgd-tools fcgiwrap nginx-doc ssl-cert
The following NEW packages will be installed:
fontconfig-config fonts-dejavu-core libfontconfig1 libgd3 libjpeg-turbo8 libjpeg8 libnginx-mod-http-geoip
libnginx-mod-http-image-filter libnginx-mod-http-xslt-filter libnginx-mod-mail libnginx-mod-stream libtiff5 libwebp6 libxpm4 nginx
nginx-common nginx-core
0 upgraded, 18 newly installed, 0 to remove and 2 not upgraded.
Need to get 2462 kB of archives.
After this operation, 8210 kB of additional disk space will be used.
Get:1 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic-updates/main amd64 libjpeg-turbo8 amd64 1.5.2-0ubuntu5.18.04.4 [110 kB]
Get:2 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic/main amd64 fonts-dejavu-core all 2.37-1 [1041 kB]
Get:3 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic/main amd64 fontconfig-config all 2.12.6-0ubuntu2 [55.8 kB]
Get:4 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic/main amd64 libfontconfig1 amd64 2.12.6-0ubuntu2 [137 kB]
Get:5 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic/main amd64 libjpeg8 amd64 8c-2ubuntu8 [2194 B]
Get:6 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic/main amd64 libgd3 amd64 2.1.3-1build1 [26.7 kB]
Get:7 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic-updates/main amd64 libtiff5 amd64 4.0.9-5ubuntu0.3 [153 kB]
Get:8 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic/main amd64 libwebp6 amd64 0.6.1-2 [185 kB]
Get:9 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic/main amd64 libxpm4 amd64 1:3.5.12-1 [34.0 kB]
Get:10 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic-updates/main amd64 libgd3 amd64 2.2.5-4ubuntu0.4 [119 kB]
Get:11 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic-updates/main amd64 nginx-common all 1.14.0-0ubuntu1.7 [37.4 kB]
Get:12 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic-updates/main amd64 libnginx-mod-http-geoip amd64 1.14.0-0ubuntu1.7 [11.2 kB]
Get:13 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic-updates/main amd64 libnginx-mod-http-image-filter amd64 1.14.0-0ubuntu1.7 [14.6 kB]
Get:14 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic-updates/main amd64 libnginx-mod-http-xslt-filter amd64 1.14.0-0ubuntu1.7 [13.0 kB]
Get:15 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic-updates/main amd64 libnginx-mod-mail amd64 1.14.0-0ubuntu1.7 [41.8 kB]
Get:16 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic-updates/main amd64 libnginx-mod-stream amd64 1.14.0-0ubuntu1.7 [63.7 kB]
Get:17 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic-updates/main amd64 nginx-core amd64 1.14.0-0ubuntu1.7 [413 kB]
Get:18 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic-updates/main amd64 nginx all 1.14.0-0ubuntu1.7 [3596 B]
Unpacking libnginx-mod-http-xslt-filter (1.14.0-0ubuntu1.7) ...
Selecting previously unselected package libnginx-mod-mail.
Preparing to unpack .../14-libnginx-mod-mail_1.14.0-0ubuntu1.7_amd64.deb ...
Unpacking libnginx-mod-mail (1.14.0-0ubuntu1.7) ...
Selecting previously unselected package libnginx-mod-stream.
Preparing to unpack .../15-libnginx-mod-stream_1.14.0-0ubuntu1.7_amd64.deb ...
Unpacking libnginx-mod-stream (1.14.0-0ubuntu1.7) ...
Selecting previously unselected package nginx-core.
Preparing to unpack .../16-nginx-core_1.14.0-0ubuntu1.7_amd64.deb ...
Unpacking nginx-core (1.14.0-0ubuntu1.7) ...
Selecting previously unselected package nginx.
Preparing to unpack .../17-nginx_1.14.0-0ubuntu1.7_all.deb ...
Unpacking nginx (1.14.0-0ubuntu1.7) ...
Setting up libjpeg8:amd64 (8c-2ubuntu8) ...
Setting up fonts-dejavu-core (2.37-1) ...
Setting up nginx-common (1.14.0-0ubuntu1.7) ...
Created symlink /etc/systemd/system/multi-user.target.wants/nginx.service → /lib/systemd/system/nginx.service.
Setting up libjpeg-turbo8:amd64 (1.5.2-0ubuntu5.18.04.4) ...
Setting up libnginx-mod-mail (1.14.0-0ubuntu1.7) ...
Setting up libxpm4:amd64 (1:3.5.12-1) ...
Setting up libnginx-mod-http-xslt-filter (1.14.0-0ubuntu1.7) ...
Setting up libnginx-mod-http-geoip (1.14.0-0ubuntu1.7) ...
Setting up libwebp6:amd64 (0.6.1-2) ...
Setting up fontconfig-config (2.12.6-0ubuntu2) ...
Setting up libnginx-mod-stream (1.14.0-0ubuntu1.7) ...
Setting up libtiff5:amd64 (4.0.9-5ubuntu0.3) ...
Setting up libfontconfig1:amd64 (2.12.6-0ubuntu2) ...
Setting up libgd3:amd64 (2.2.5-4ubuntu0.4) ...
Setting up libnginx-mod-http-image-filter (1.14.0-0ubuntu1.7) ...
Setting up nginx-core (1.14.0-0ubuntu1.7) ...
Setting up nginx (1.14.0-0ubuntu1.7) ...
Processing triggers for systemd (237-3ubuntu10.42) ...
Processing triggers for man-db (2.8.3-2ubuntu0.1) ...
Processing triggers for ufw (0.36-0ubuntu0.18.04.1) ...
Processing triggers for ureadahead (0.100.0-21) ...
Processing triggers for libc-bin (2.27-3ubuntu1.2) ...
ubuntu@ip-172-31-47-154:~$
```

4. Task 5 : Check if the application is deployed on both servers by copy pasting the public ip of the servers into the browser.

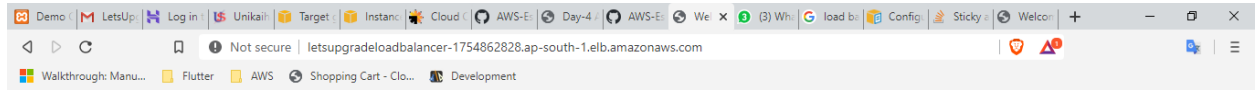


5. Step 6 : Create a application Load balancer with the above two instances as targets.



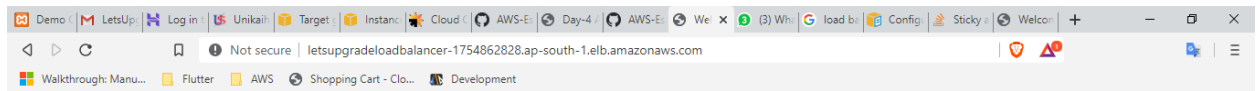


## 6. Step7:Check the functioning of ELB



**Server 1 welcome to nginx!**

Avatar  
 Username  Password   
 ☒ Remember me  
 [Forgot password?](#)



**Server 2 welcome to nginx!**

Avatar  
 Username  Password   
 ☒ Remember me  
 [Forgot password?](#)