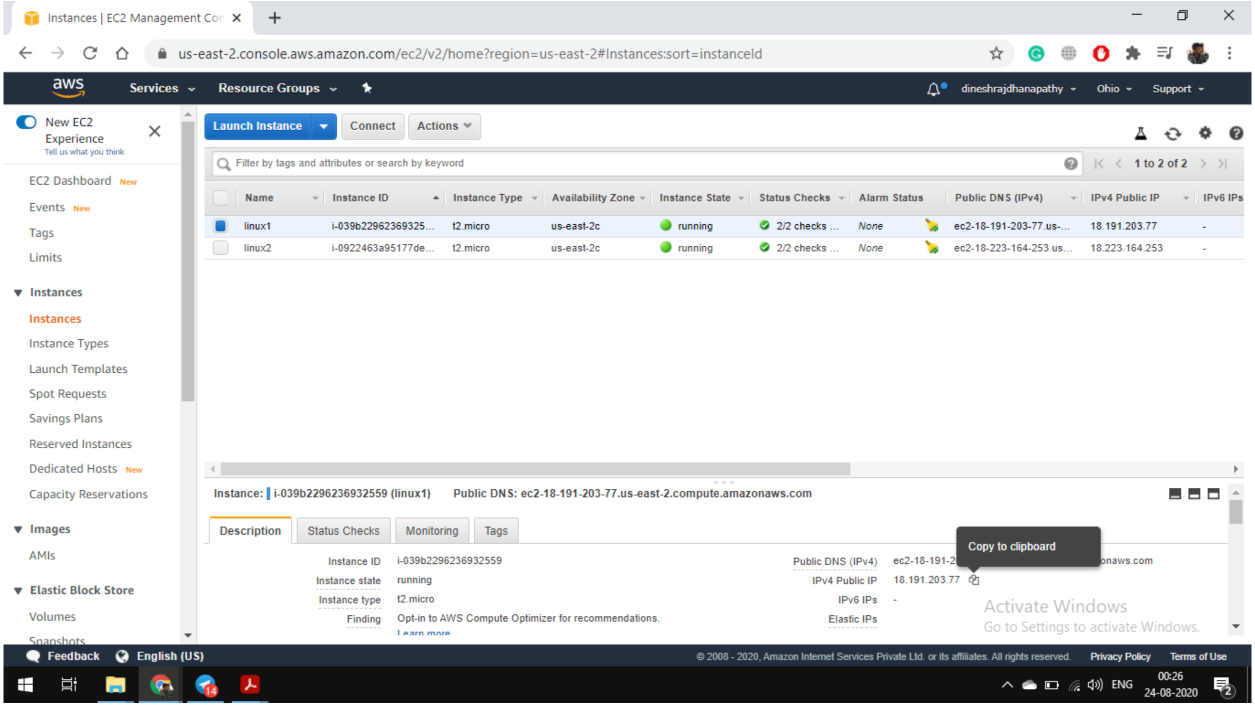
AWS Essential Day 4 Assignment Solution - Dineshraj Dhanapathy

1. Launching two Linux instances : Linux 1 and Linux 2:

   Public IP Linux 1**: 18.191.203.77**

   Public IP Linux 2**: 18.223.164.253**



	Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS (IPv4)	IPv4 Public IP	IPv6 IPs
■	linux1	i-039b22962369325...	t2.micro	us-east-2c	● running	✓ 2/2 checks ...	None	ec2-18-191-203-77.us-...	18.191.203.77	-
□	linux2	i-0922463a95177de...	t2.micro	us-east-2c	● running	✓ 2/2 checks ...	None	ec2-18-223-164-253.us...	18.223.164.253	-

Instance: i-039b2296236932559 (linux1)   Public DNS: ec2-18-191-203-77.us-east-2.compute.amazonaws.com

Instance ID	i-039b2296236932559	Public DNS (IPv4)	ec2-18-191-2 onaws.com
Instance state	running	IPv4 Public IP	18.191.203.77
Instance type	t2.micro	IPv6 IPs	-
Finding	Opt-in to AWS Compute Optimizer for recommendations. Learn more	Elastic IPs	

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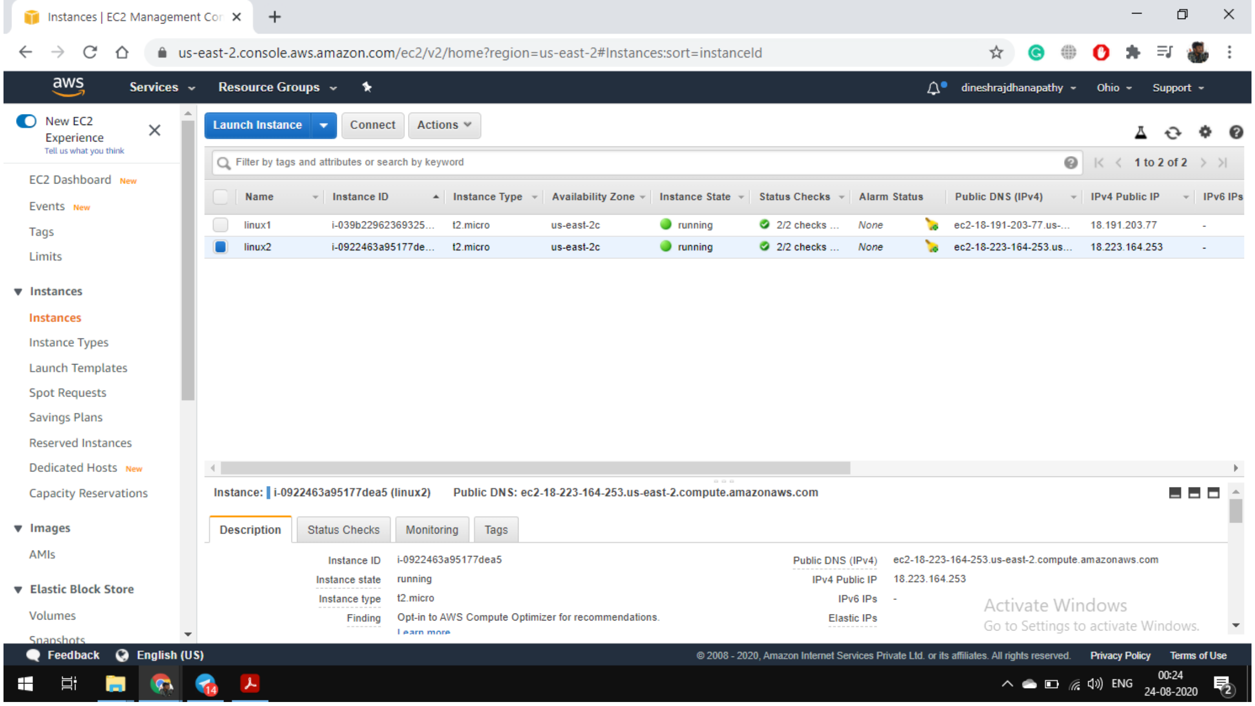

	Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS (IPv4)	IPv4 Public IP	IPv6 IPs
□	linux1	i-039b22962369325...	t2.micro	us-east-2c	● running	✓ 2/2 checks ...	None	ec2-18-191-203-77.us-...	18.191.203.77	-
■	linux2	i-0922463a95177de...	t2.micro	us-east-2c	● running	✓ 2/2 checks ...	None	ec2-18-223-164-253.us...	18.223.164.253	-

Instance: i-0922463a95177dea5 (linux2)   Public DNS: ec2-18-223-164-253.us-east-2.compute.amazonaws.com

Instance ID	i-0922463a95177dea5	Public DNS (IPv4)	ec2-18-223-164-253.us-east-2.compute.amazonaws.com
Instance state	running	IPv4 Public IP	18.223.164.253
Instance type	t2.micro	IPv6 IPs	-
Finding	Opt-in to AWS Compute Optimizer for recommendations. Learn more	Elastic IPs	

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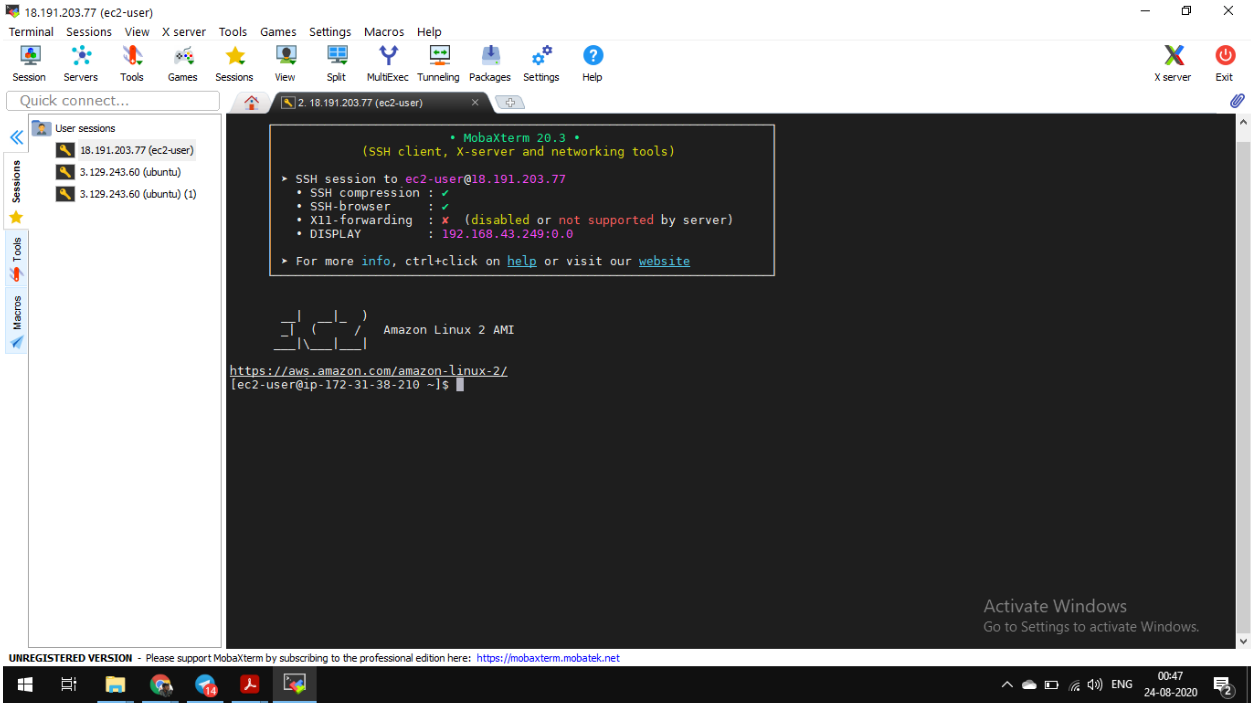
2. Launching both instances using Mobaxterm:



18.191.203.77 (ec2-user)

User sessions
- 18.191.203.77 (ec2-user)
- 3.129.243.60 (ubuntu)
- 3.129.243.60 (ubuntu) (1)

2. 18.191.203.77 (ec2-user)

```
                    • MobaXterm 20.3 •
          (SSH client, X-server and networking tools)

 ➤ SSH session to ec2-user@18.191.203.77
   • SSH compression : ✔
   • SSH-browser     : ✔
   • X11-forwarding  : ✘  (disabled or not supported by server)
   • DISPLAY         : 192.168.43.249:0.0

 ➤ For more info, ctrl+click on help or visit our website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       _|  (     /   Amazon Linux 2 AMI
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https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-172-31-38-210 ~]$
```

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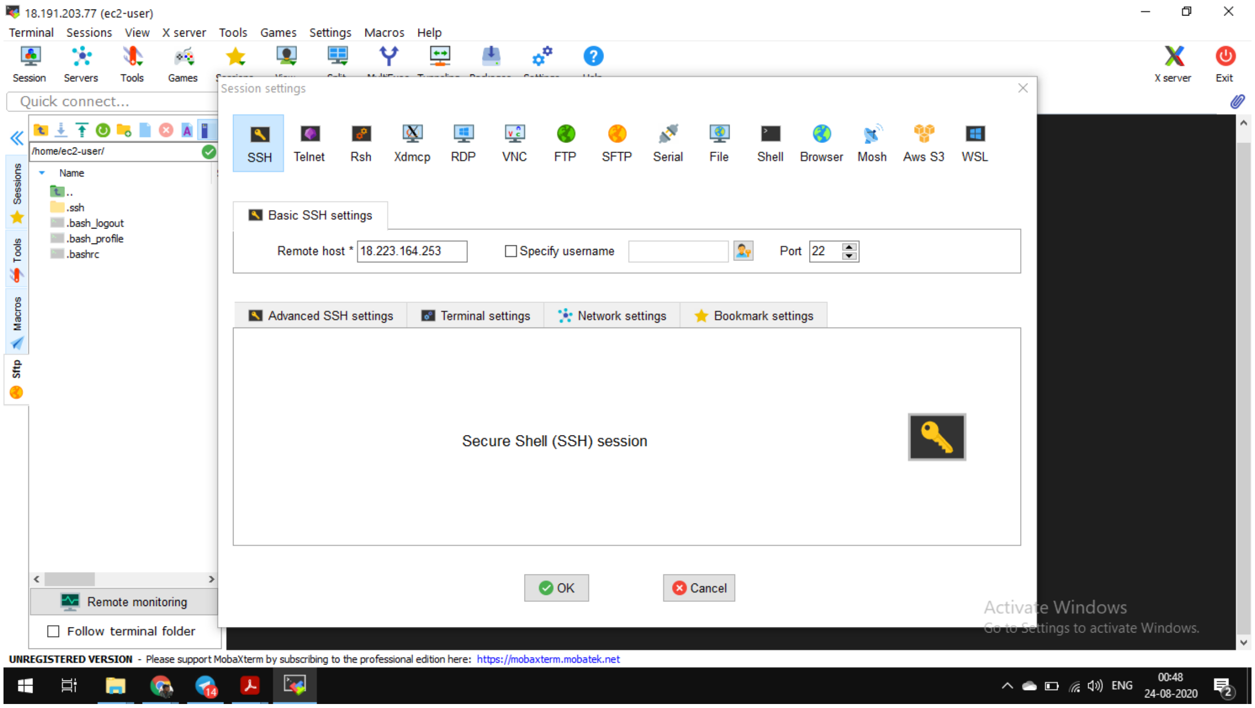

18.191.203.77 (ec2-user)

/home/ec2-user/

- ..
- .ssh
- .bash_logout
- .bash_profile
- .bashrc

Session settings

Basic SSH settings

Remote host * 18.223.164.253 ☐ Specify username Port 22

Secure Shell (SSH) session

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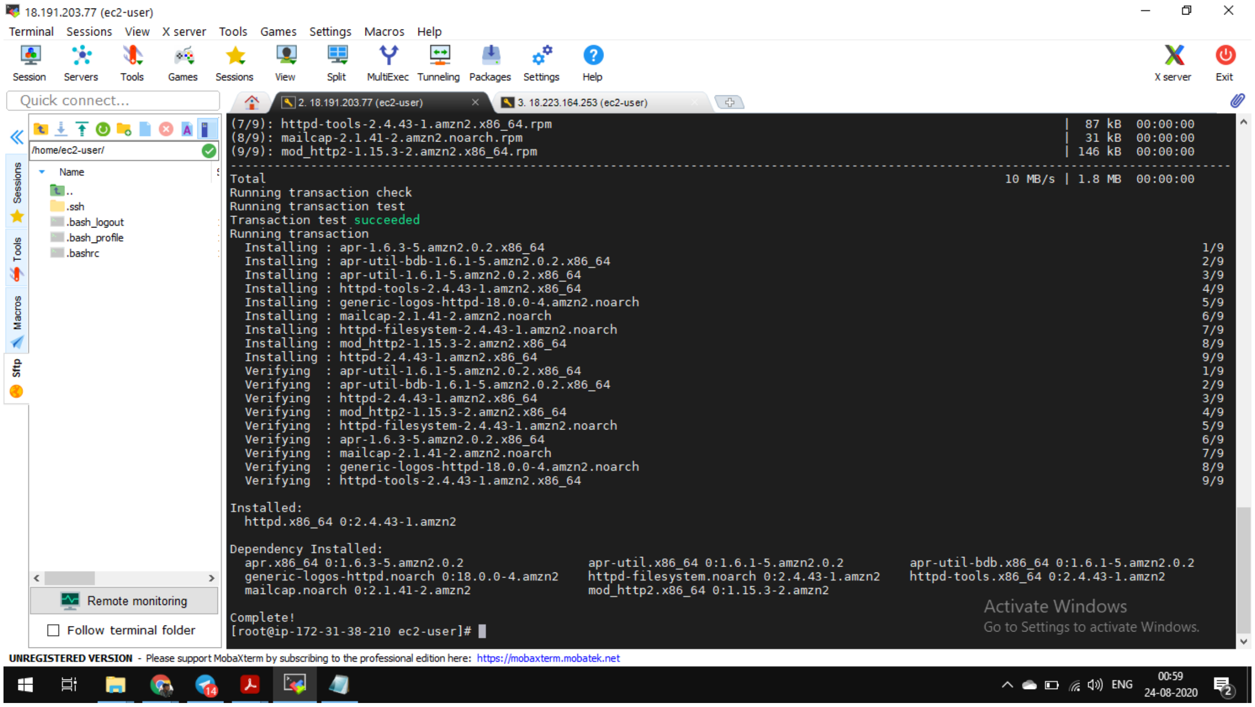
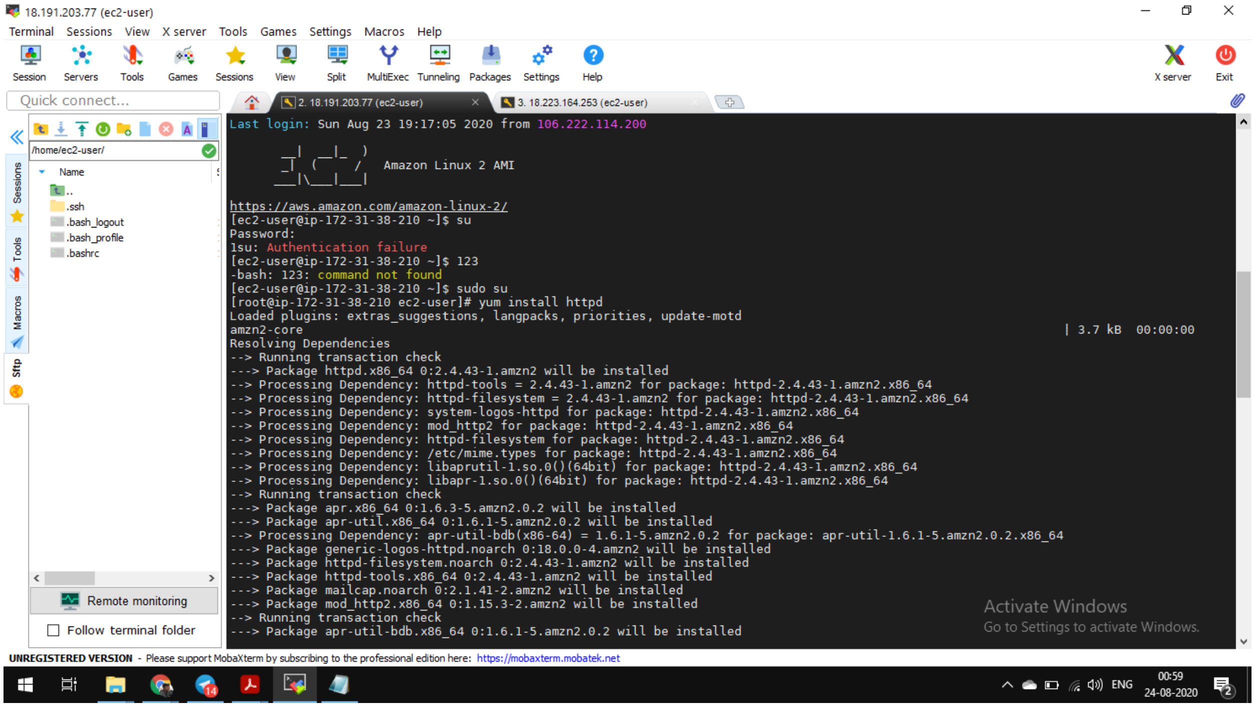

18.191.203.77 (ec2-user)
Terminal Sessions View X server Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help
X server Exit
Quick connect...
2. 18.191.203.77 (ec2-user)
3. 18.223.164.253 (ec2-user)
/home/ec2-user/
Name
..
.ssh
.bash_logout
.bash_profile
.bashrc
Sessions
Tools
Macros
Sftp
Remote monitoring
Follow terminal folder
UNREGISTERED VERSION - Please support MobaXterm by subscribing to the professional edition here: https://mobaxterm.mobatek.net
Activate Windows
Go to Settings to activate Windows.
ENG
00:59
24-08-2020

```
(7/9): httpd-tools-2.4.43-1.amzn2.x86_64.rpm                                                                      |  87 kB  00:00:00
(8/9): mailcap-2.1.41-2.amzn2.noarch.rpm                                                                          |  31 kB  00:00:00
(9/9): mod_http2-1.15.3-2.amzn2.x86_64.rpm                                                                        | 146 kB  00:00:00
-----------------------------------------------------------------------------------------------------------------------------------------
Total                                                                                                     10 MB/s | 1.8 MB  00:00:00
Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
  Installing : apr-1.6.3-5.amzn2.0.2.x86_64                                                                                          1/9
  Installing : apr-util-bdb-1.6.1-5.amzn2.0.2.x86_64                                                                                 2/9
  Installing : apr-util-1.6.1-5.amzn2.0.2.x86_64                                                                                     3/9
  Installing : httpd-tools-2.4.43-1.amzn2.x86_64                                                                                     4/9
  Installing : generic-logos-httpd-18.0.0-4.amzn2.noarch                                                                             5/9
  Installing : mailcap-2.1.41-2.amzn2.noarch                                                                                         6/9
  Installing : httpd-filesystem-2.4.43-1.amzn2.noarch                                                                                7/9
  Installing : mod_http2-1.15.3-2.amzn2.x86_64                                                                                       8/9
  Installing : httpd-2.4.43-1.amzn2.x86_64                                                                                           9/9
  Verifying  : apr-util-1.6.1-5.amzn2.0.2.x86_64                                                                                     1/9
  Verifying  : apr-util-bdb-1.6.1-5.amzn2.0.2.x86_64                                                                                 2/9
  Verifying  : httpd-2.4.43-1.amzn2.x86_64                                                                                           3/9
  Verifying  : mod_http2-1.15.3-2.amzn2.x86_64                                                                                       4/9
  Verifying  : httpd-filesystem-2.4.43-1.amzn2.noarch                                                                                5/9
  Verifying  : apr-1.6.3-5.amzn2.0.2.x86_64                                                                                          6/9
  Verifying  : mailcap-2.1.41-2.amzn2.noarch                                                                                         7/9
  Verifying  : generic-logos-httpd-18.0.0-4.amzn2.noarch                                                                             8/9
  Verifying  : httpd-tools-2.4.43-1.amzn2.x86_64                                                                                     9/9

Installed:
  httpd.x86_64 0:2.4.43-1.amzn2

Dependency Installed:
  apr.x86_64 0:1.6.3-5.amzn2.0.2                 apr-util.x86_64 0:1.6.1-5.amzn2.0.2         apr-util-bdb.x86_64 0:1.6.1-5.amzn2.0.2
  generic-logos-httpd.noarch 0:18.0.0-4.amzn2    httpd-filesystem.noarch 0:2.4.43-1.amzn2    httpd-tools.x86_64 0:2.4.43-1.amzn2
  mailcap.noarch 0:2.1.41-2.amzn2                mod_http2.x86_64 0:1.15.3-2.amzn2

Complete!
[root@ip-172-31-38-210 ec2-user]#
```


18.191.203.77 (ec2-user)
Terminal Sessions View X server Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help
X server Exit
Quick connect...
2. 18.191.203.77 (ec2-user)
3. 18.223.164.253 (ec2-user)
/home/ec2-user/
Name
..
.ssh
.bash_logout
.bash_profile
.bashrc
Sessions
Tools
Macros
Sftp
Remote monitoring
Follow terminal folder
UNREGISTERED VERSION - Please support MobaXterm by subscribing to the professional edition here: https://mobaxterm.mobatek.net
Activate Windows
Go to Settings to activate Windows.
ENG
00:59
24-08-2020

```
Last login: Sun Aug 23 19:17:05 2020 from 106.222.114.200

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https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-172-31-38-210 ~]$ su
Password:
1su: Authentication failure
[ec2-user@ip-172-31-38-210 ~]$ 123
-bash: 123: command not found
[ec2-user@ip-172-31-38-210 ~]$ sudo su
[root@ip-172-31-38-210 ec2-user]# yum install httpd
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
amzn2-core                                                                                                        | 3.7 kB  00:00:00
Resolving Dependencies
--> Running transaction check
---> Package httpd.x86_64 0:2.4.43-1.amzn2 will be installed
--> Processing Dependency: httpd-tools = 2.4.43-1.amzn2 for package: httpd-2.4.43-1.amzn2.x86_64
--> Processing Dependency: httpd-filesystem = 2.4.43-1.amzn2 for package: httpd-2.4.43-1.amzn2.x86_64
--> Processing Dependency: system-logos-httpd for package: httpd-2.4.43-1.amzn2.x86_64
--> Processing Dependency: mod_http2 for package: httpd-2.4.43-1.amzn2.x86_64
--> Processing Dependency: httpd-filesystem for package: httpd-2.4.43-1.amzn2.x86_64
--> Processing Dependency: /etc/mime.types for package: httpd-2.4.43-1.amzn2.x86_64
--> Processing Dependency: libaprutil-1.so.0()(64bit) for package: httpd-2.4.43-1.amzn2.x86_64
--> Processing Dependency: libapr-1.so.0()(64bit) for package: httpd-2.4.43-1.amzn2.x86_64
--> Running transaction check
---> Package apr.x86_64 0:1.6.3-5.amzn2.0.2 will be installed
---> Package apr-util.x86_64 0:1.6.1-5.amzn2.0.2 will be installed
--> Processing Dependency: apr-util-bdb(x86-64) = 1.6.1-5.amzn2.0.2 for package: apr-util-1.6.1-5.amzn2.0.2.x86_64
---> Package generic-logos-httpd.noarch 0:18.0.0-4.amzn2 will be installed
---> Package httpd-filesystem.noarch 0:2.4.43-1.amzn2 will be installed
---> Package httpd-tools.x86_64 0:2.4.43-1.amzn2 will be installed
---> Package mailcap.noarch 0:2.1.41-2.amzn2 will be installed
---> Package mod_http2.x86_64 0:1.15.3-2.amzn2 will be installed
--> Running transaction check
---> Package apr-util-bdb.x86_64 0:1.6.1-5.amzn2.0.2 will be installed
```
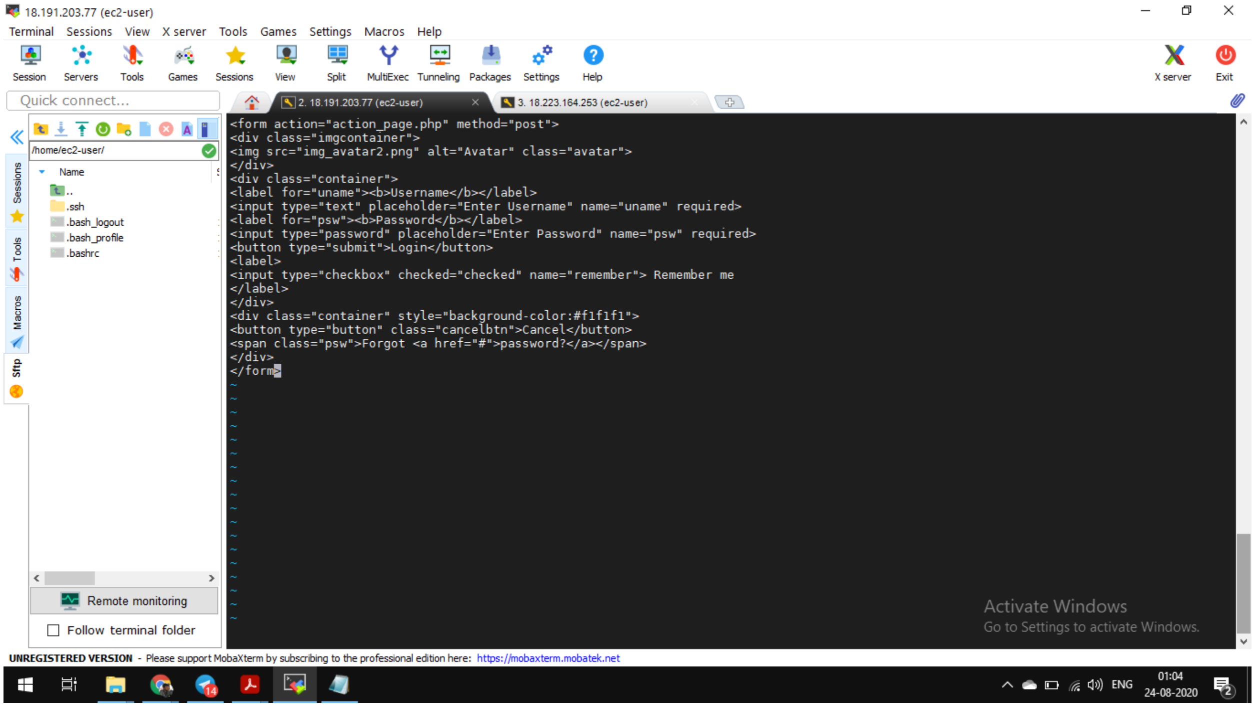

3.Open index.html file and write the following code :


18.191.203.77 (ec2-user)
Terminal Sessions View X server Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help
X server Exit
Quick connect...
2. 18.191.203.77 (ec2-user)
3. 18.223.164.253 (ec2-user)
/home/ec2-user/
Name
..
.ssh
.bash_logout
.bash_profile
.bashrc
Sessions
Tools
Macros
Sftp
Remote monitoring
Follow terminal folder
Activate Windows
Go to Settings to activate Windows.
ENG
01:04
24-08-2020

```
<form action="action_page.php" method="post">
<div class="imgcontainer">
<img src="img_avatar2.png" alt="Avatar" class="avatar">
</div>
<div class="container">
<label for="uname"><b>Username</b></label>
<input type="text" placeholder="Enter Username" name="uname" required>
<label for="psw"><b>Password</b></label>
<input type="password" placeholder="Enter Password" name="psw" required>
<button type="submit">Login</button>
<label>
<input type="checkbox" checked="checked" name="remember"> Remember me
</label>
</div>
<div class="container" style="background-color:#f1f1f1">
<button type="button" class="cancelbtn">Cancel</button>
<span class="psw">Forgot <a href="#">password?</a></span>
</div>
</form>
~
~
~
~
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```

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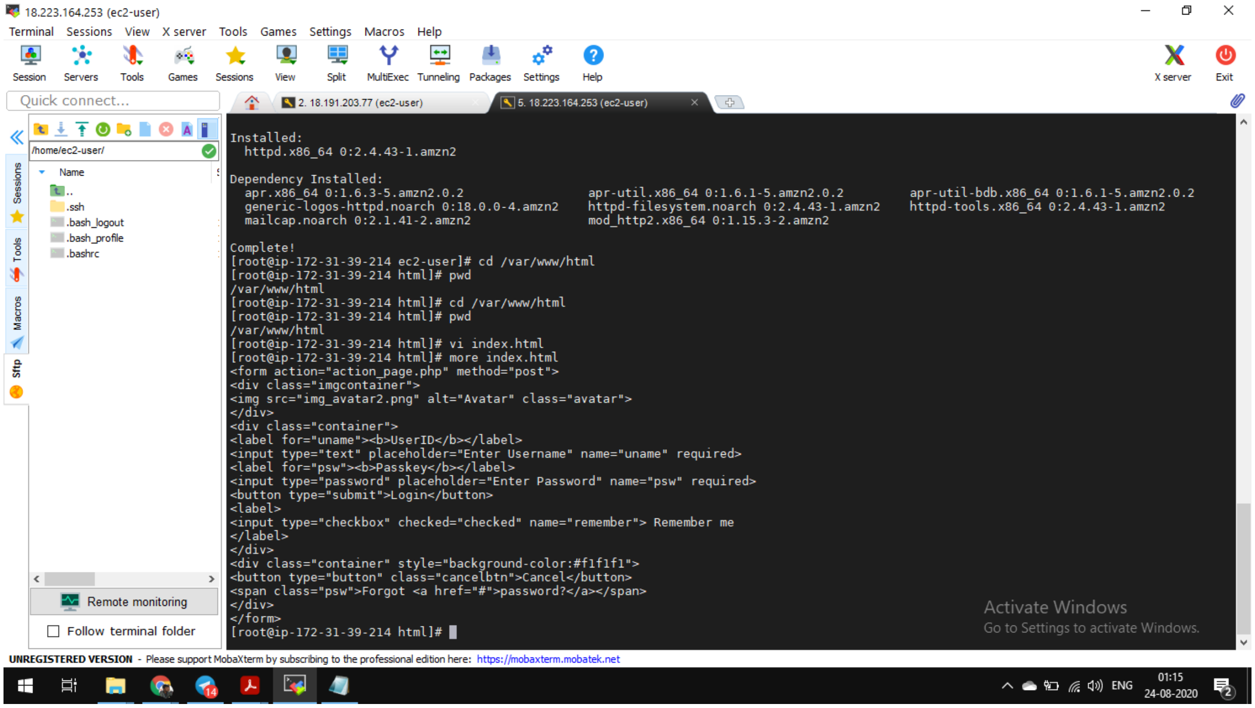
3. 1.Repeat Step 2. for creating Linux2 instance:


18.223.164.253 (ec2-user)
Terminal Sessions View X server Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help
X server Exit
Quick connect...
2. 18.191.203.77 (ec2-user)
5. 18.223.164.253 (ec2-user)
/home/ec2-user/
Name
..
.ssh
.bash_logout
.bash_profile
.bashrc
Sessions
Tools
Macros
Sftp
Remote monitoring
Follow terminal folder
Activate Windows
Go to Settings to activate Windows.
ENG
01:15
24-08-2020

```
Installed:
  httpd.x86_64 0:2.4.43-1.amzn2

Dependency Installed:
  apr.x86_64 0:1.6.3-5.amzn2.0.2                apr-util.x86_64 0:1.6.1-5.amzn2.0.2         apr-util-bdb.x86_64 0:1.6.1-5.amzn2.0.2
  generic-logos-httpd.noarch 0:18.0.0-4.amzn2   httpd-filesystem.noarch 0:2.4.43-1.amzn2    httpd-tools.x86_64 0:2.4.43-1.amzn2
  mailcap.noarch 0:2.1.41-2.amzn2               mod_http2.x86_64 0:1.15.3-2.amzn2

Complete!
[root@ip-172-31-39-214 ec2-user]# cd /var/www/html
[root@ip-172-31-39-214 html]# pwd
/var/www/html
[root@ip-172-31-39-214 html]# cd /var/www/html
[root@ip-172-31-39-214 html]# pwd
/var/www/html
[root@ip-172-31-39-214 html]# vi index.html
[root@ip-172-31-39-214 html]# more index.html
<form action="action_page.php" method="post">
<div class="imgcontainer">
<img src="img_avatar2.png" alt="Avatar" class="avatar">
</div>
<div class="container">
<label for="uname"><b>UserID</b></label>
<input type="text" placeholder="Enter Username" name="uname" required>
<label for="psw"><b>Passkey</b></label>
<input type="password" placeholder="Enter Password" name="psw" required>
<button type="submit">Login</button>
<label>
<input type="checkbox" checked="checked" name="remember"> Remember me
</label>
</div>
<div class="container" style="background-color:#f1f1f1">
<button type="button" class="cancelbtn">Cancel</button>
<span class="psw">Forgot <a href="#">password?</a></span>
</div>
</form>
[root@ip-172-31-39-214 html]#
```

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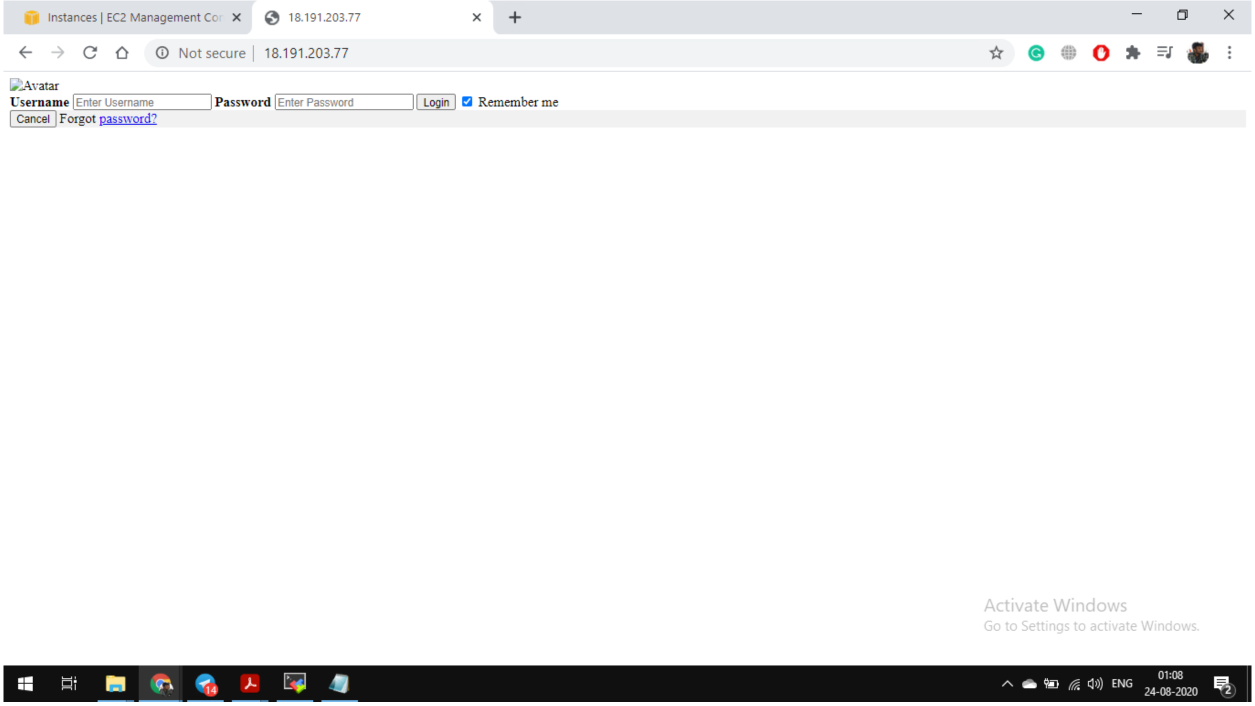
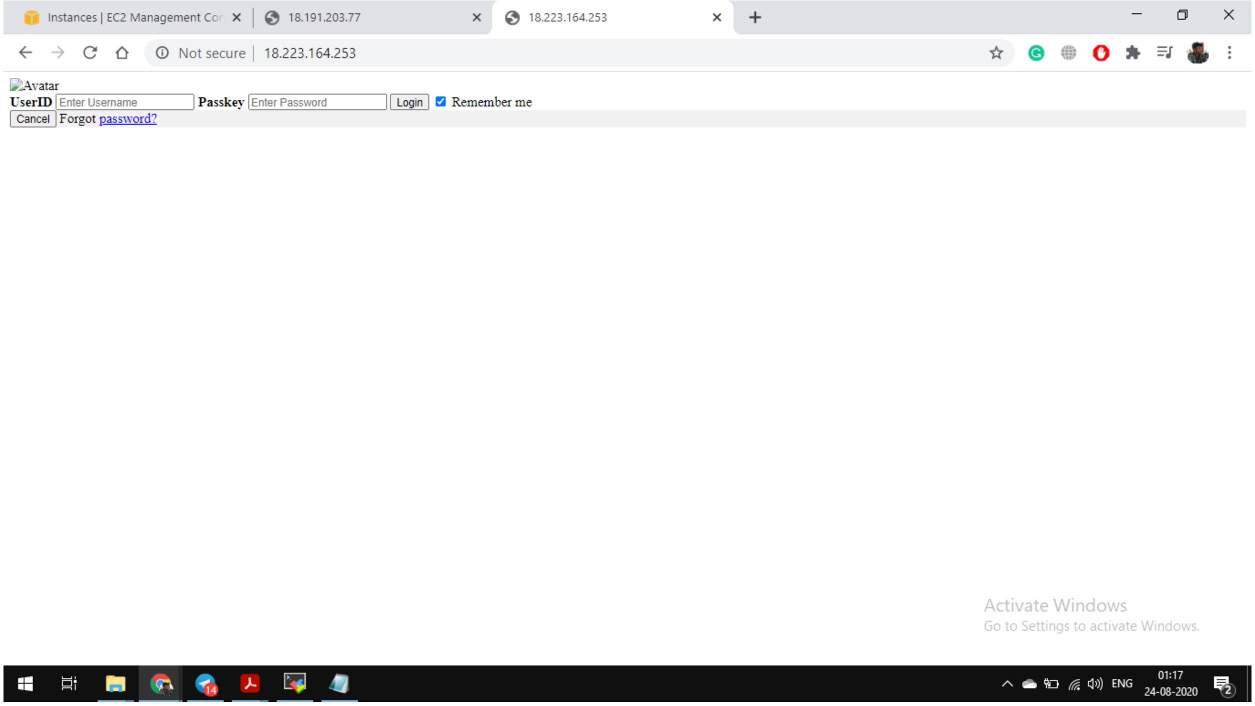
4. Hosting HTML webpage for both servers:

Linux1 Webpage:



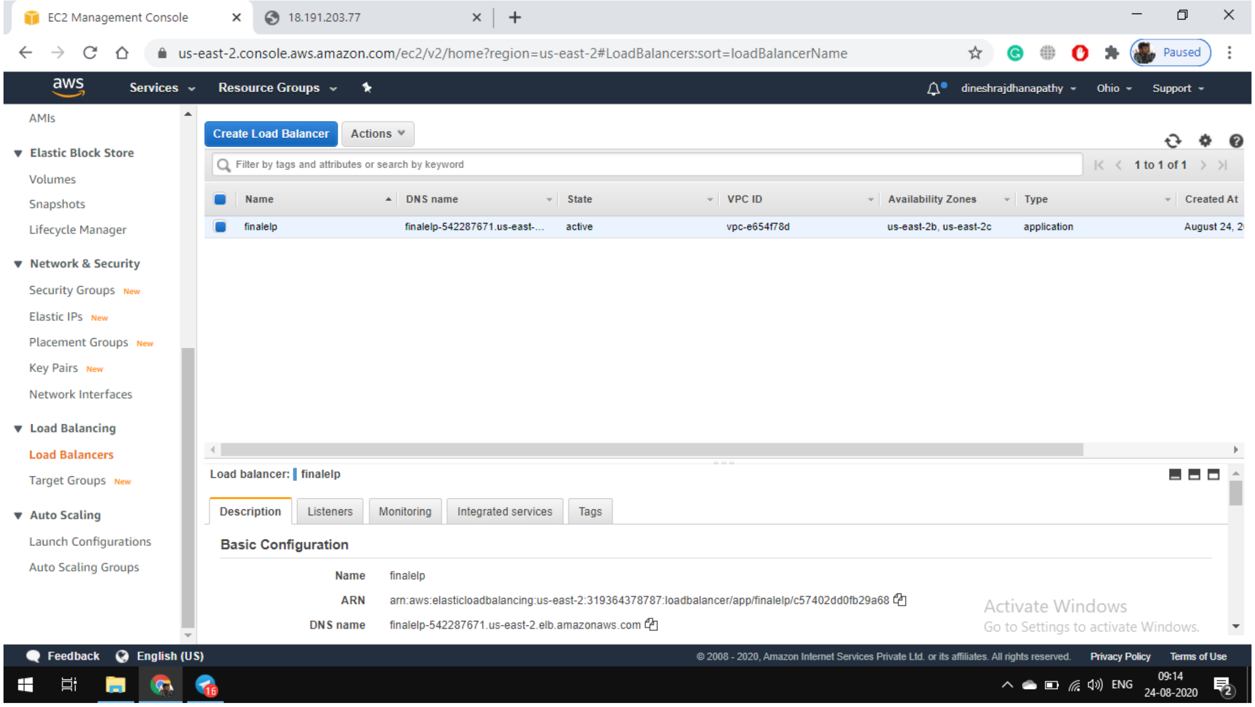
Avatar
Username Enter Username **Password** Enter Password Login ☑ Remember me
Cancel Forgot password?

Linux2 Webpage:



Avatar
UserID Enter Username **Passkey** Enter Password Login ☑ Remember me
Cancel Forgot password?

5. Creating Application Load Balancer with the above two instances as Targets:



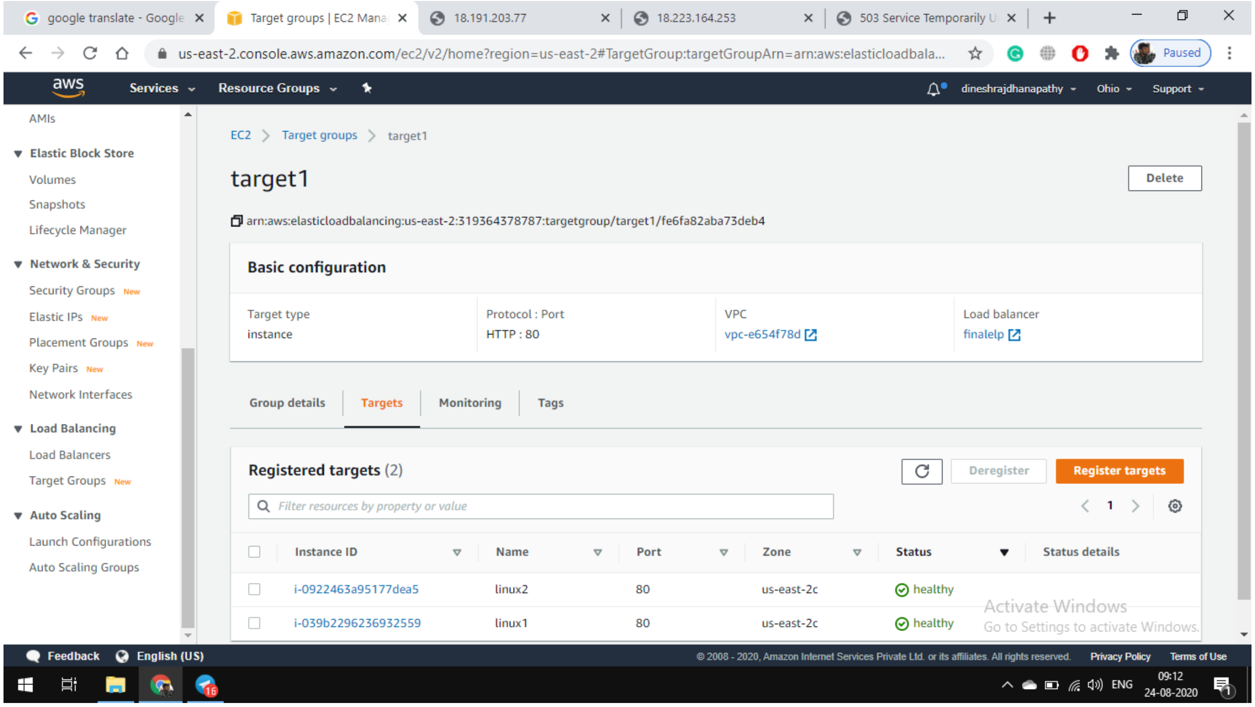
us-east-2.console.aws.amazon.com/ec2/v2/home?region=us-east-2#LoadBalancers:sort=loadBalancerName

Name	DNS name	State	VPC ID	Availability Zones	Type	Created At
finalelp	finalelp-542287671.us-east-...	active	vpc-e654f78d	us-east-2b, us-east-2c	application	August 24, 2

Load balancer: finalelp

Basic Configuration

Name	finalelp
ARN	arn:aws:elasticloadbalancing:us-east-2:319364378787:loadbalancer/app/finalelp/c57402dd0fb29a68
DNS name	finalelp-542287671.us-east-2.elb.amazonaws.com



us-east-2.console.aws.amazon.com/ec2/v2/home?region=us-east-2#TargetGroup:targetGroupArn=arn:aws:elasticloadbala...

target1

arn:aws:elasticloadbalancing:us-east-2:319364378787:targetgroup/target1/fe6fa82aba73deb4

Basic configuration

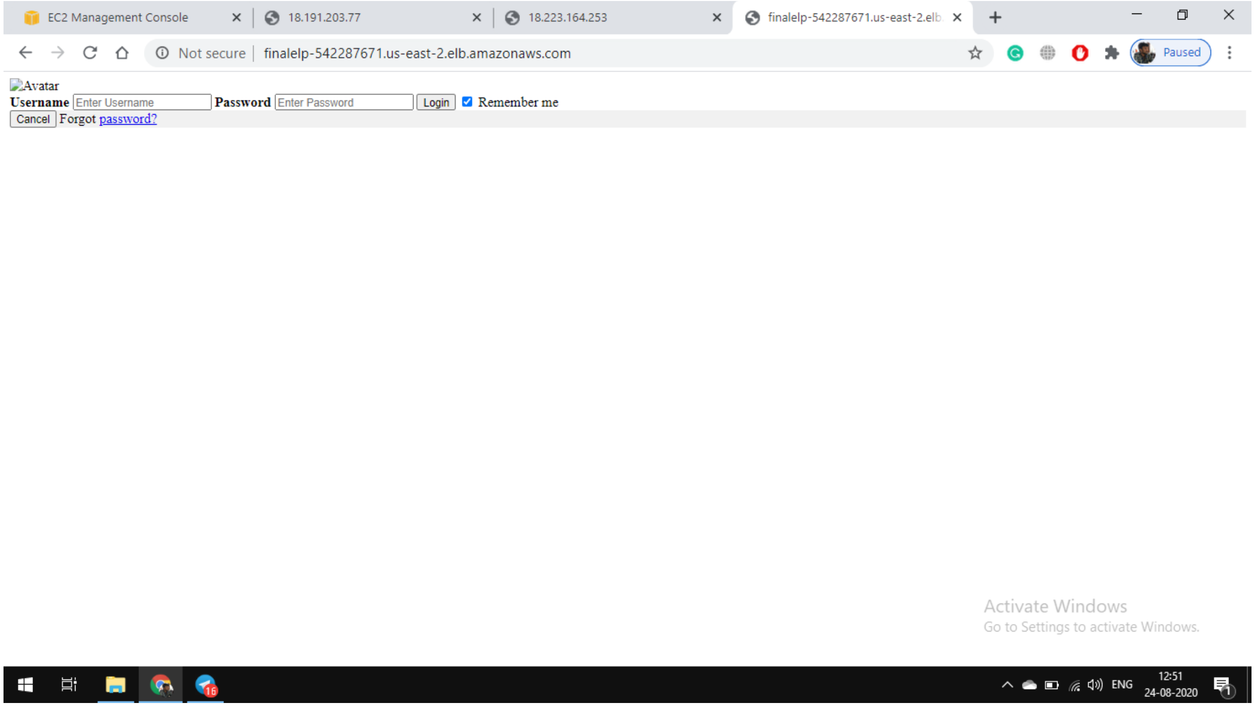
Target type	Protocol : Port	VPC	Load balancer
instance	HTTP : 80	vpc-e654f78d	finalelp

Registered targets (2)

Instance ID	Name	Port	Zone	Status	Status details
i-0922463a95177dea5	linux2	80	us-east-2c	✓ healthy	
i-039b2296236932559	linux1	80	us-east-2c	✓ healthy	

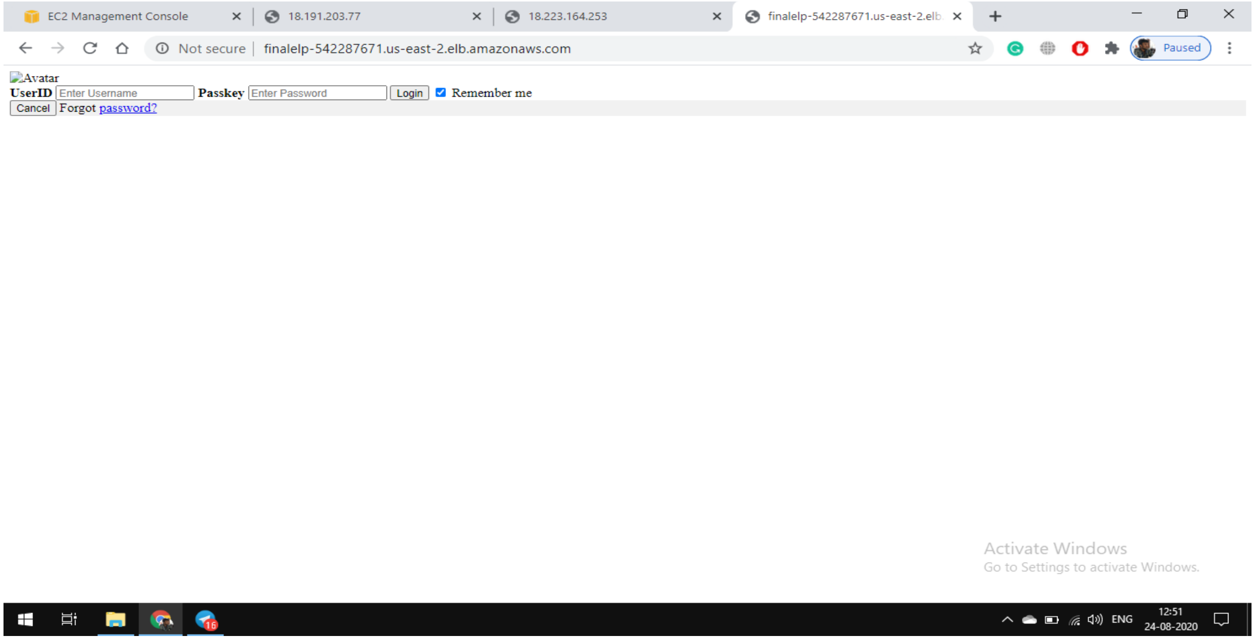
6. Checking the functionality of ELB:

Linux1:


EC2 Management Console
18.191.203.77
18.223.164.253
finalelp-542287671.us-east-2.elb
Not secure
finalelp-542287671.us-east-2.elb.amazonaws.com
Paused
Activate Windows
Go to Settings to activate Windows.
ENG
12:51
24-08-2020

Avatar
Username Enter Username **Password** Enter Password Login ☑ Remember me
Cancel Forgot password?

Linux2:


EC2 Management Console
18.191.203.77
18.223.164.253
finalelp-542287671.us-east-2.elb
Not secure
finalelp-542287671.us-east-2.elb.amazonaws.com
Paused
Activate Windows
Go to Settings to activate Windows.
ENG
12:51
24-08-2020

Avatar
UserID Enter Username **Passkey** Enter Password Login ☑ Remember me
Cancel Forgot password?