

Project 3

Step1: Create two Linux instances, Use the first free Linux AMI

The screenshot shows the AWS Management Console for the us-east-2 region. The left sidebar contains navigation links for EC2 Dashboard, Events, Tags, Limits, Instances, Images, Elastic Block Store, and Network & Security. The main content area displays a table of EC2 instances. Two instances are listed: Linux1 (Instance ID: i-0f09bd0a2c8277512) and Linux2 (Instance ID: i-0fb43b0078d484b22). Both are t2.micro instances in the us-east-2c Availability Zone, running in the running state. The details pane for Linux1 is open, showing its Public DNS (ec2-3-21-75-153.us-east-2.compute.amazonaws.com) and other configuration details.

Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS (IPv4)	IPv4 Public IP	IPv6
Linux1	i-0f09bd0a2c8277512	t2 micro	us-east-2c	running	2/2 checks ...	None	ec2-3-21-75-153.us-east-2.compute.amazonaws.com	3.21.75.153	-
Linux2	i-0fb43b0078d484b22	t2 micro	us-east-2c	running	2/2 checks ...	None	ec2-13-59-36-34.us-east-2.compute.amazonaws.com	13.59.36.34	-

Instance: i-0f09bd0a2c8277512 (Linux1) Public DNS: ec2-3-21-75-153.us-east-2.compute.amazonaws.com

Description Status Checks Monitoring Tags

Instance ID: i-0f09bd0a2c8277512
Instance state: running
Instance type: t2 micro
Finding: Opt-in to AWS Compute Optimizer for recommendations.

Public DNS (IPv4): ec2-3-21-75-153.us-east-2.compute.amazonaws.com
IPv4 Public IP: 3.21.75.153
IPv6 IPs: -
Elastic IPs: -

The screenshot shows the AWS Management Console for the us-east-2 region. The left sidebar contains navigation links for EC2 Dashboard, Events, Tags, Limits, Instances, Images, Elastic Block Store, and Network & Security. The main content area displays a table of EC2 instances. Two instances are listed: Linux1 (Instance ID: i-0f09bd0a2c8277512) and Linux2 (Instance ID: i-0fb43b0078d484b22). Both are t2.micro instances in the us-east-2c Availability Zone, running in the running state. The details pane for Linux2 is open, showing its Public DNS (ec2-13-59-36-34.us-east-2.compute.amazonaws.com) and other configuration details.

Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS (IPv4)	IPv4 Public IP	IPv6
Linux1	i-0f09bd0a2c8277512	t2 micro	us-east-2c	running	2/2 checks ...	None	ec2-3-21-75-153.us-east-2.compute.amazonaws.com	3.21.75.153	-
Linux2	i-0fb43b0078d484b22	t2 micro	us-east-2c	running	2/2 checks ...	None	ec2-13-59-36-34.us-east-2.compute.amazonaws.com	13.59.36.34	-

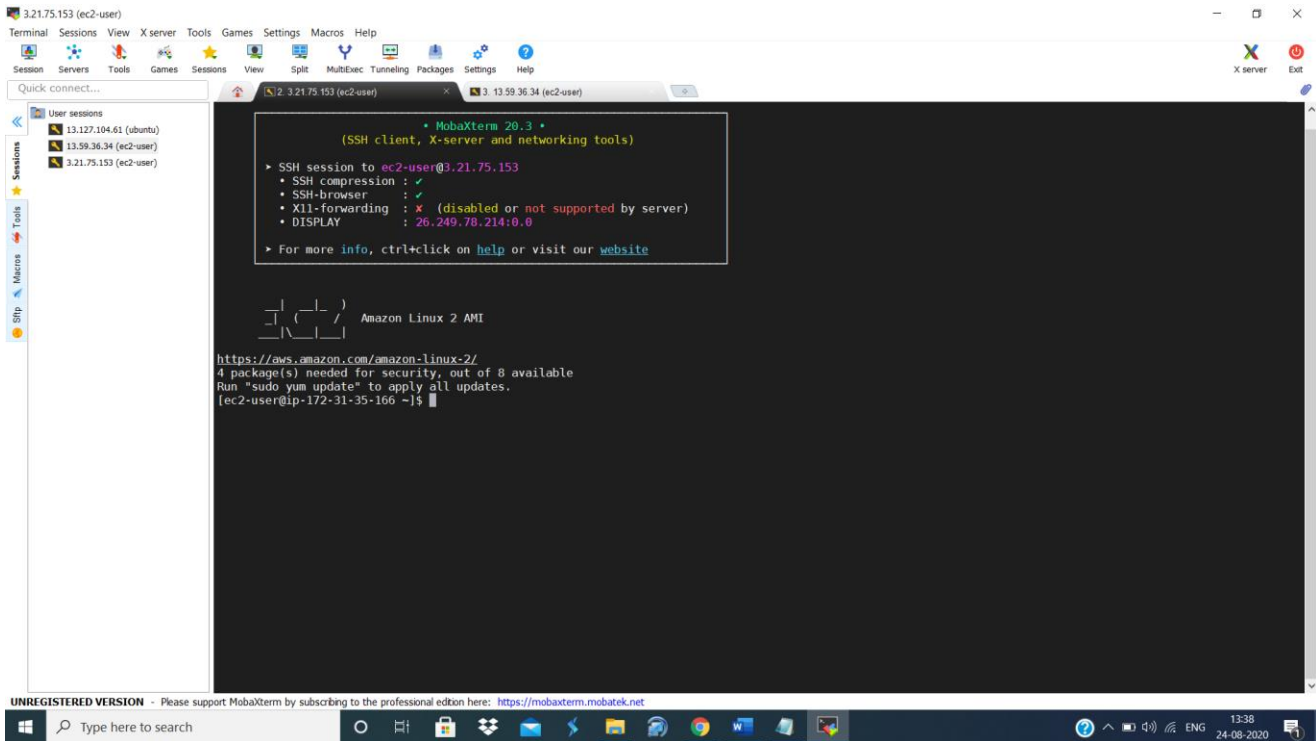
Instance: i-0fb43b0078d484b22 (Linux2) Public DNS: ec2-13-59-36-34.us-east-2.compute.amazonaws.com

Description Status Checks Monitoring Tags

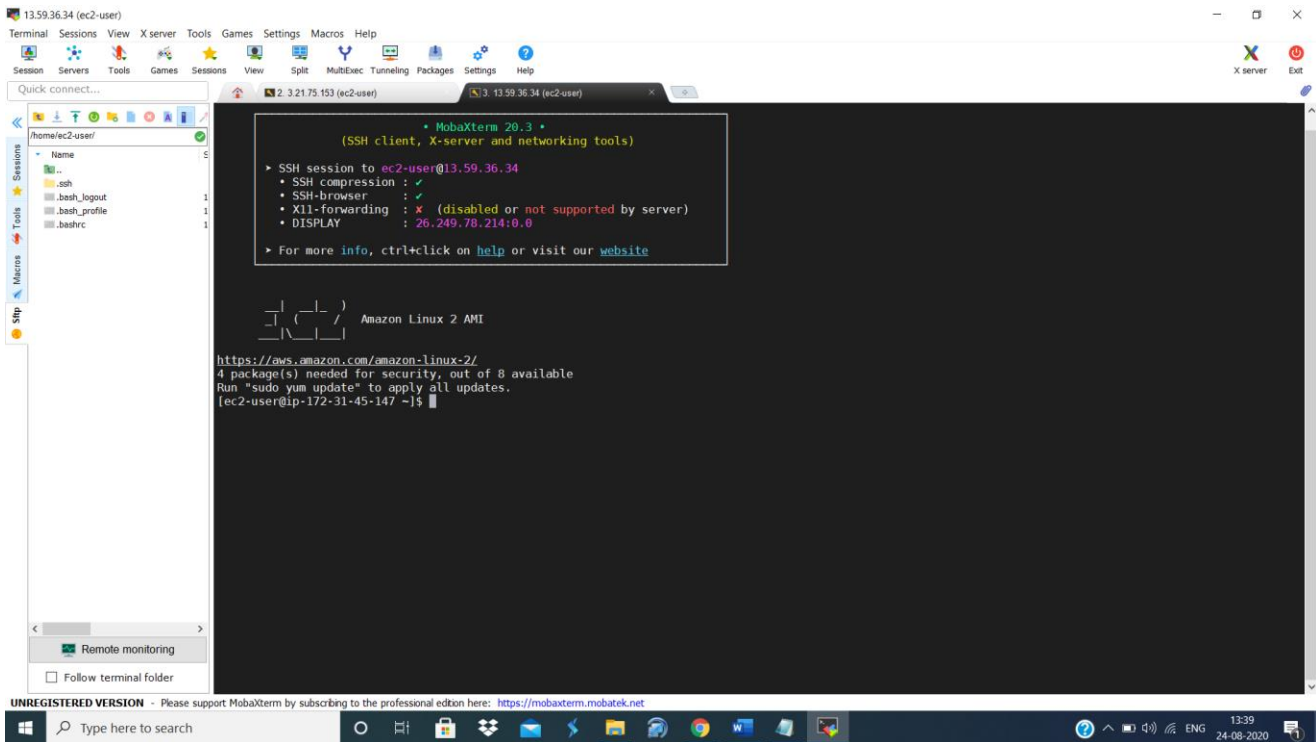
Instance ID: i-0fb43b0078d484b22
Instance state: running
Instance type: t2 micro
Finding: Opt-in to AWS Compute Optimizer for recommendations.

Public DNS (IPv4): ec2-13-59-36-34.us-east-2.compute.amazonaws.com
IPv4 Public IP: 13.59.36.34
IPv6 IPs: -
Elastic IPs: -

Step2: Launch both instances using MobaXterm Linux1



Linux2



Step3: Host html login webpage on both servers

Linux1

```
[root@ip-172-31-35-166 html]# vi index.html
[root@ip-172-31-35-166 html]# more index.html
<form action="action_page.php" method="post">
<div class="imgcontainer">

</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>

[root@ip-172-31-35-166 html]# service httpd start
Redirecting to /bin/systemctl start httpd.service
[root@ip-172-31-35-166 html]#
```

ort MobaXterm by subscribing to the professional edition here: <https://mobaxterm.mobatek.net>

Linux2

```
[root@ip-172-31-45-147 html]# vi index.html
[root@ip-172-31-45-147 html]# more index.html
<form action="action_page.php" method="post">
<div class="imgcontainer">

</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>

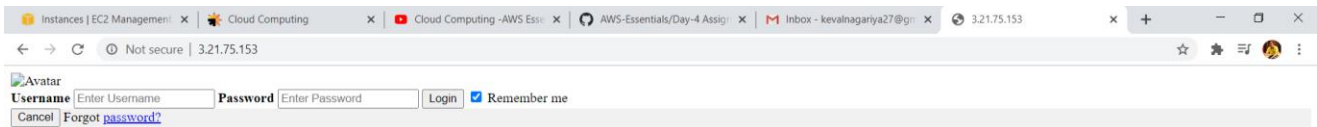
<div class="container" style="background-color:#f1f1f1">
<button type="button" class="cancelbtn">Cancel</button>
<span class="psw">Forgot <a href="#">password?</a></span>
</div>
</form>

[root@ip-172-31-45-147 html]# service httpd start
Redirecting to /bin/systemctl start httpd.service
[root@ip-172-31-45-147 html]#
```

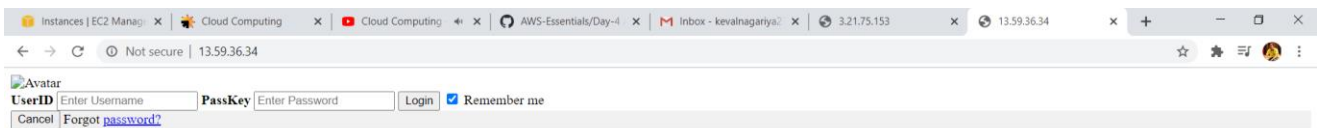
ort MobaXterm by subscribing to the professional edition here: <https://mobaxterm.mobatek.net>

Step4: Check if the application is deployed on both servers by copy pasting the public IP of the servers into the browser.

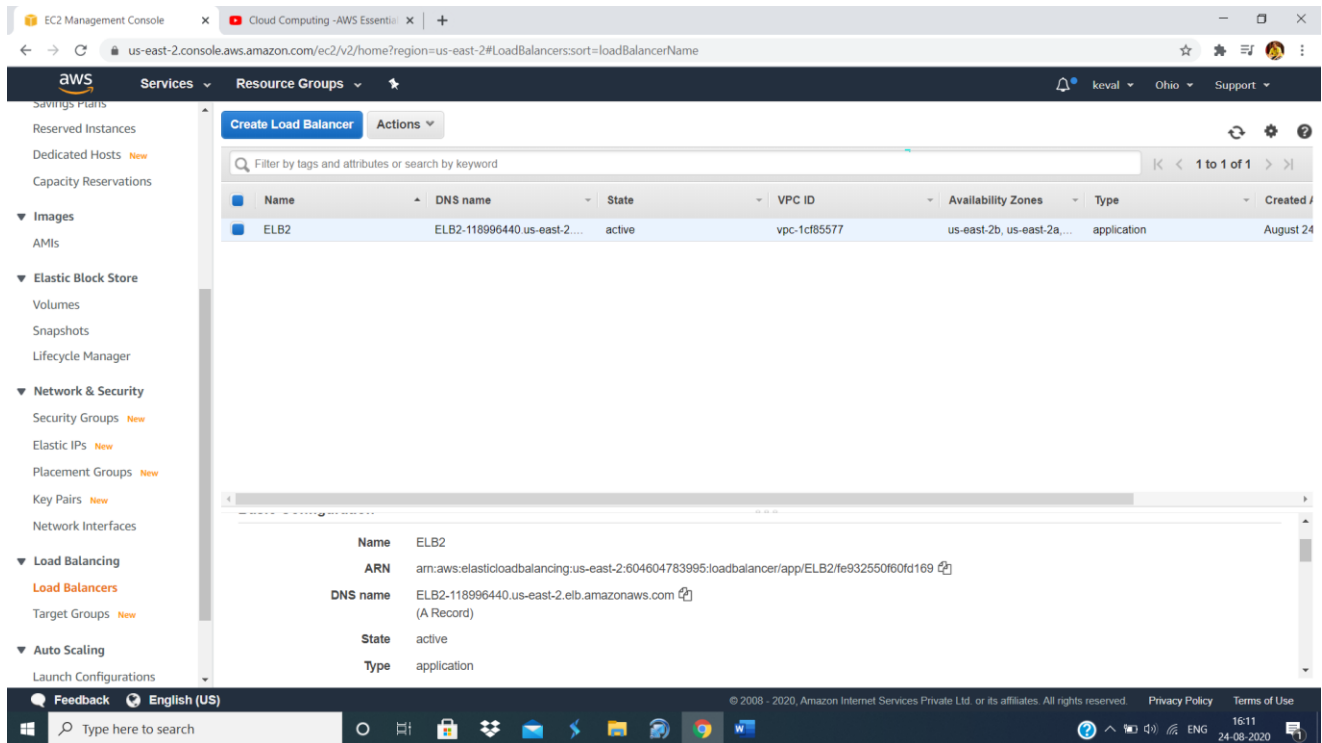
Linux1



Linux2



Step5: Create an application Load balancer with the above two instances as targets



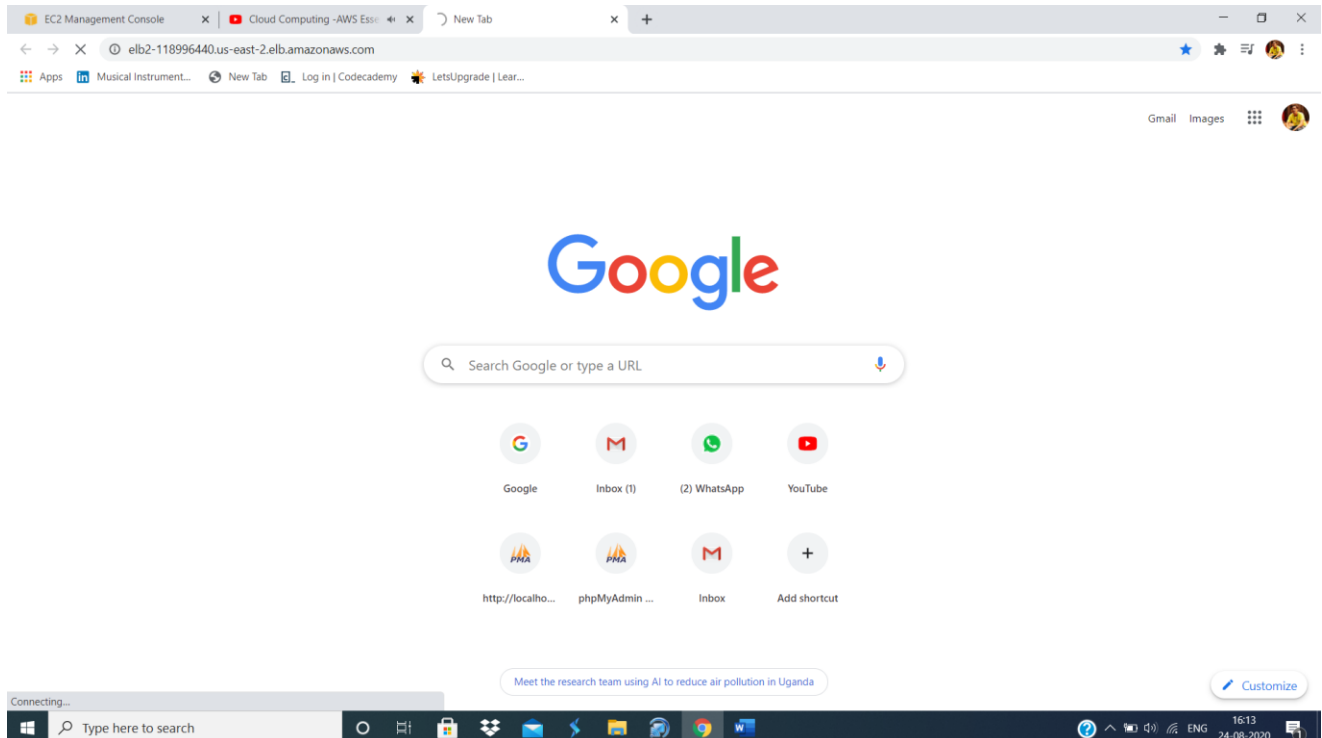
The screenshot shows the AWS Management Console interface. On the left, the navigation menu is visible with categories like Savings Plans, Reserved Instances, Dedicated Hosts, Capacity Reservations, Images, Elastic Block Store, Network & Security, Load Balancing, and Auto Scaling. The 'Load Balancing' section is expanded, showing 'Load Balancers' and 'Target Groups'. The main content area displays a table of load balancers. One load balancer, 'ELB2', is listed with the following details:

Name	DNS name	State	VPC ID	Availability Zones	Type	Created
ELB2	ELB2-118996440.us-east-2....	active	vpc-1cf85577	us-east-2b, us-east-2a...	application	August 24

Below the table, the details for 'ELB2' are shown:

- Name: ELB2
- ARN: am:aws:elasticloadbalancing:us-east-2:604604783995:loadbalancer/app/ELB2/fe932550f60fd169
- DNS name: ELB2-118996440.us-east-2.elb.amazonaws.com (A Record)
- State: active
- Type: application

Step6: Check the functioning of ELB



The screenshot shows a web browser window with the Google homepage. The address bar displays 'elb2-118996440.us-east-2.elb.amazonaws.com'. The Google logo is prominently displayed in the center. Below the logo is a search bar with the text 'Search Google or type a URL'. Underneath the search bar are several shortcuts: Google, Inbox (1), (2) WhatsApp, YouTube, PMA, phpMyAdmin..., and an 'Add shortcut' button. At the bottom of the page, there is a banner for 'Meet the research team using AI to reduce air pollution in Uganda' and a 'Customize' button. The Windows taskbar is visible at the bottom of the screen.

