

## Seif Eldin Mohamed Aboelhassan Mohamed Hendawy

### Lab 3

#### 1-create 3 public ec2 machines

<input type="checkbox"/>	Public-Subnet-1	<a href="#">subnet-0ecad2f9a163e8734</a>		Available	<a href="#">vpc-08e383a42e5cc6a47</a>   lab2...	10.0.0.0/28	-	10	eu-north-1a
<input type="checkbox"/>	Public-Subnet-2	<a href="#">subnet-08e91b67add660127</a>		Available	<a href="#">vpc-08e383a42e5cc6a47</a>   lab2...	10.0.0.16/28	-	10	eu-north-1b
<input type="checkbox"/>	Public-Subnet-3	<a href="#">subnet-0a15c1c96c3c5574f</a>		Available	<a href="#">vpc-08e383a42e5cc6a47</a>   lab2...	10.0.0.32/28	-	10	eu-north-1c

#### Instances (3) [Info](#)

<input type="checkbox"/>	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...
<input type="checkbox"/>	ec2-1	<a href="#">i-0be496a9f9df1a05b</a>	Running	t3.micro	2/2 checks passed	No alarms +	eu-north-1a	-	16.170.238.127
<input type="checkbox"/>	ec2-2	<a href="#">i-0ccb1522aad2918e1</a>	Running	t3.micro	2/2 checks passed	No alarms +	eu-north-1b	-	16.171.129.202
<input type="checkbox"/>	ec2-3	<a href="#">i-04584056002c1491d</a>	Running	t3.micro	2/2 checks passed	No alarms +	eu-north-1c	-	13.51.36.143

#### Details [Info](#)

Route table ID  
 [rtb-04b7765efc5f83e47](#)

VPC  
[vpc-08e383a42e5cc6a47](#) | lab2-VPC

Main

No

Owner ID  
 [355001659877](#)

Explicit subnet as:  
[3 subnets](#)

[Routes](#) | [Subnet associations](#) | [Edge associations](#) | [Route propagation](#) | [Tags](#)

#### Explicit subnet associations (3)

Name	Subnet ID	IPv4 CIDR
Public-Subnet-3	<a href="#">subnet-0a15c1c96c3c5574f</a>	10.0.0.32/28
Public-Subnet-2	<a href="#">subnet-08e91b67add660127</a>	10.0.0.16/28
Public-Subnet-1	<a href="#">subnet-0ecad2f9a163e8734</a>	10.0.0.0/28

2- install httpd in all of them

```
[cloudshell-user@ip-10-6-68-170 ~]$ vim D0_ITI.pem
[cloudshell-user@ip-10-6-68-170 ~]$ ssh -i "D0_ITI.pem" ec2-user@16.170.238.127
ssh: connect to host 16.170.238.127 port 22: Connection timed out
[cloudshell-user@ip-10-6-68-170 ~]$ ssh -i "D0_ITI.pem" ec2-user@16.170.238.127
The authenticity of host '16.170.238.127 (16.170.238.127)' can't be established.
ECDSA key fingerprint is SHA256:DObZhu1JHocKD/7LBV1Npkc1HYhbcqncNgcMiFM+Fc.
ECDSA key fingerprint is MD5:71:48:04:aa:6a:81:e8:5d:8a:16:4a:3f:84:59:7a:6f.
Are you sure you want to continue connecting (yes/no)? yesd
Warning: Permanently added '16.170.238.127' (ECDSA) to the list of known hosts.
@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
@          WARNING: UNPROTECTED PRIVATE KEY FILE!          @
@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
Permissions 0664 for 'D0_ITI.pem' are too open.
It is required that your private key files are NOT accessible by others.
This private key will be ignored.
Load key "D0_ITI.pem": bad permissions
Permission denied (publickey,gssapi-keyex,gssapi-with-mic).
[cloudshell-user@ip-10-6-68-170 ~]$ ssh -i "D0_ITI.pem" ec2-user@16.170.238.127
@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
@          WARNING: UNPROTECTED PRIVATE KEY FILE!          @
@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
Permissions 0664 for 'D0_ITI.pem' are too open.
It is required that your private key files are NOT accessible by others.
This private key will be ignored.
Load key "D0_ITI.pem": bad permissions
Permission denied (publickey,gssapi-keyex,gssapi-with-mic).
[cloudshell-user@ip-10-6-68-170 ~]$ chmod 400 D0_ITI.pem
[cloudshell-user@ip-10-6-68-170 ~]$ ssh -i "D0_ITI.pem" ec2-user@16.170.238.127
```

```

#_
#####
#####
#####
#/#
V~' ->
~m/

```

Amazon Linux 2023

<https://aws.amazon.com/linux/amazon-linux-2023>

```
Last login: Thu Sep  7 10:36:08 2023 from 156.204.37.143
[ec2-user@ip-10-0-0-4 ~]$ sudo yum install httpd -y
Amazon Linux 2023 repository
Amazon Linux 2023 Kernel Livepatch repository
Dependencies resolved.
```

Package	Architecture
Installing:	
httpd	x86_64
Installing dependencies:	
apr	x86_64
apr-util	x86_64
generic-logos-httpd	noarch
httpd-core	x86_64
httpd-filesystem	noarch
httpd-tools	x86_64
libbrotli	x86_64
mailcap	noarch
Installing weak dependencies:	
apr-util-openssl	x86_64
mod_http2	x86_64
mod_lua	x86_64

### Transaction Summary

```
[ec2-user@ip-10-0-0-4 ~]$ sudo systemctl enable httpd
Created symlink /etc/systemd/system/multi-user.target.wants/httpd.service → /usr/lib/systemd/system/httpd.service.
[ec2-user@ip-10-0-0-4 ~]$ sudo systemctl start httpd
[ec2-user@ip-10-0-0-4 ~]$ sudo systemctl status httpd
● httpd.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; enabled; preset: disabled)
   Active: active (running) since Thu 2023-09-07 10:46:16 UTC; 12s ago
     Docs: man:httpd.service(8)
  Main PID: 25447 (httpd)
    Status: "Total requests: 0; Idle/Busy workers 100/0; Requests/sec: 0; Bytes served/sec: 0 B/sec"
    Tasks: 177 (limit: 1061)
   Memory: 13.4M
      CPU: 74ms
    CGroup: /system.slice/httpd.service
            └─25447 /usr/sbin/httpd -DFOREGROUND
            └─25448 /usr/sbin/httpd -DFOREGROUND
            └─25449 /usr/sbin/httpd -DFOREGROUND
            └─25450 /usr/sbin/httpd -DFOREGROUND
            └─25451 /usr/sbin/httpd -DFOREGROUND

Sep 07 10:46:16 ip-10-0-0-4.eu-north-1.compute.internal systemd[1]: Starting httpd.service - The Apache HTTP Server...
Sep 07 10:46:16 ip-10-0-0-4.eu-north-1.compute.internal httpd[25447]: Server configured, listening on: port 80
Sep 07 10:46:16 ip-10-0-0-4.eu-north-1.compute.internal systemd[1]: Started httpd.service - The Apache HTTP Server.
[ec2-user@ip-10-0-0-4 ~]$
```

3- make index file with uniq message

```
[ec2-user@ip-10-0-0-4 ~]$ echo "This is EC2 Instance 1" | sudo tee /var/www/html/index.html
This is EC2 Instance 1
[ec2-user@ip-10-0-0-4 ~]$ cat /var/www/html/index.html
This is EC2 Instance 1
```

Repeat number 2 and 3 for the other instances

4- create app load application and balance traffic on the 3 machines.

The screenshot shows the AWS Management Console for EC2 Load balancers. The 'Load balancers (1/1)' section displays a table with one entry: 'firstLB' (firstLB-667549888.eu-nor...). A tooltip for '3 Availability Zones' lists 'eu-north-1b (eun1-az2)', 'eu-north-1c (eun1-az3)', and 'eu-north-1a (eun1-az1)'. Below, the 'Target groups (1/1)' section shows a table with one entry: 'TG-DO-ITI' (arn:aws:elasticloadbalanci...). The browser tabs at the bottom include 'Load balancers | Load Balancin...', 'AWS Lab 3 - Google Docs', and 'firstlb-667549888.eu-north-1...'. The address bar shows 'firstlb-667549888.eu-north-1.elb.amazonaws.com'.

Name	DNS name	State	VPC ID	Availability Zones	Type	Date created
firstLB	firstLB-667549888.eu-nor...	Active	vpc-08e383a42e5cc6a47	3 Availability Zones	application	September 7, 2023, 14:03 (UTC+03:00)

Name	ARN	Port	Protocol	Target type	Load balancer	VPC ID
TG-DO-ITI	arn:aws:elasticloadbalanci...	80	HTTP	Instance	firstLB	vpc-08e383a42e5cc6a47

This is EC2 Instance 1

The screenshot shows a browser window with the address bar displaying 'firstlb-667549888.eu-north-1.elb.amazonaws.com'. The page content displays the message 'This is EC2 Instance 2'.

This is EC2 Instance 2

The screenshot shows a browser window with the address bar displaying 'firstlb-667549888.eu-north-1.elb.amazonaws.com'. The page content displays the message 'This is EC2 Instance 3'.

This is EC2 Instance 3