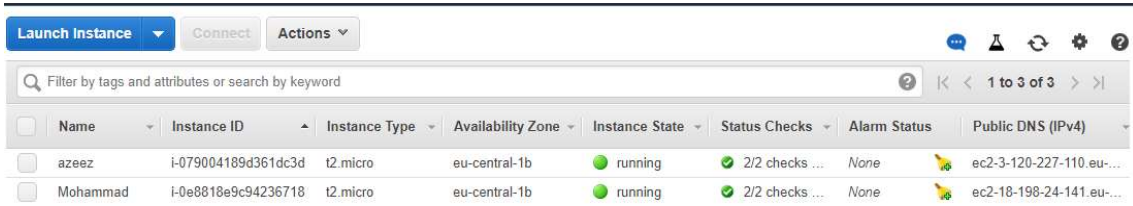


1. Create EC2 Instance:

- Created two EC2 instances
- Name: Azeez
- Surname: Mohammad




The screenshot shows the AWS Management Console interface for EC2 instances. At the top, there are buttons for 'Launch Instance', 'Connect', and 'Actions'. Below is a search bar and a table of instances. The table has columns for Name, Instance ID, Instance Type, Availability Zone, Instance State, Status Checks, Alarm Status, and Public DNS (IPv4). Two instances are listed: 'azeez' and 'Mohammad', both in a 'running' state.

Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS (IPv4)
azeez	i-079004189d361dc3d	t2.micro	eu-central-1b	running	2/2 checks ...	None	ec2-3-120-227-110.eu...
Mohammad	i-0e8818e9c94236718	t2.micro	eu-central-1b	running	2/2 checks ...	None	ec2-18-198-24-141.eu...

2. Create Elastic Block Store:

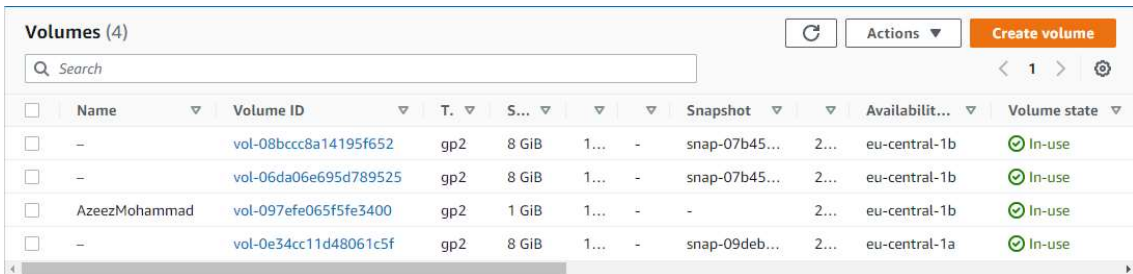
- Created the EBS with Name: AzeezMohammad



The screenshot shows the AWS Management Console interface for EBS volumes. At the top, there are buttons for 'Actions' and 'Create volume'. Below is a search bar and a table of volumes. The table has columns for Name, Volume ID, T., S..., Snapshot, Availabil..., and Volume state. Three volumes are listed: two unnamed volumes in 'In-use' state and one named 'AzeezMohammad' in 'Available' state.

Name	Volume ID	T.	S...	Snapshot	Availabil...	Volume state
-	vol-08bcc8a14195f652	gp2	8 GiB	1... - snap-07b45...	2... eu-central-1b	In-use
-	vol-06da06e695d789525	gp2	8 GiB	1... - snap-07b45...	2... eu-central-1b	In-use
AzeezMohammad	vol-097efe065f5fe3400	gp2	1 GiB	1... - -	2... eu-central-1b	Available

- After attach EBS Volume to EC2 Instance:



The screenshot shows the AWS Management Console interface for EBS volumes after attachment. At the top, there are buttons for 'Actions' and 'Create volume'. Below is a search bar and a table of volumes. The table has columns for Name, Volume ID, T., S..., Snapshot, Availabil..., and Volume state. Four volumes are listed: three unnamed volumes in 'In-use' state and one named 'AzeezMohammad' in 'In-use' state.

Name	Volume ID	T.	S...	Snapshot	Availabil...	Volume state
-	vol-08bcc8a14195f652	gp2	8 GiB	1... - snap-07b45...	2... eu-central-1b	In-use
-	vol-06da06e695d789525	gp2	8 GiB	1... - snap-07b45...	2... eu-central-1b	In-use
AzeezMohammad	vol-097efe065f5fe3400	gp2	1 GiB	1... - -	2... eu-central-1b	In-use
-	vol-0e34cc11d48061c5f	gp2	8 GiB	1... - snap-09deb...	2... eu-central-1a	In-use

- EC2 Screen short:

```

root@ip-172-31-38-53:/home/ec2-user
login as: ec2-user
Authenticating with public key "azeeztest"

  _ | _ | _ |
  _ | ( _ | _ )
  _ | \ _ | _ |
                Amazon Linux 2 AMI

https://aws.amazon.com/amazon-linux-2/
13 package(s) needed for security, out of 16 available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-172-31-38-53 ~]$ ls
[ec2-user@ip-172-31-38-53 ~]$ sudo su
[root@ip-172-31-38-53 ec2-user]# lsblk
NAME        MAJ:MIN RM  SIZE RO  TYPE  MOUNTPOINT
xvda        202:0    0   8G  0  disk
└─xvda1     202:1    0   8G  0  part  /
xvdf        202:80   0   1G  0  disk
[root@ip-172-31-38-53 ec2-user]# █

```

3. Snapshot Screenshot:

The screenshot shows the AWS Snapshots console with one snapshot listed. The table below represents the data shown in the screenshot.

Owned by me	Search	Refresh	Recycle Bin	Actions	Create snapshot		
<input type="checkbox"/>	Name	Snapshot ID	Size	Description	Storage...	Snapshot status	Started
<input type="checkbox"/>	-	snap-022821bafd8d8ac9b	1 GiB	AzeezMohammad snapshot	Standard	Completed	2022/10/25

4. AMI Creation:


- a) First created 1 EC2 Instance with Apache php install:
Name: AzeezMohammadlampapachephp

The screenshot shows the AWS EC2 Instances console with two instances listed. The table below represents the data shown in the screenshot.

Name	Instance ID	Instance state	Instance type	Status check	Alarm status
<input checked="" type="checkbox"/> AzeezMohammadlampapachephp	i-05cec20c0c3785c45	Running	t2.micro	2/2 checks passed	No alarms
<input type="checkbox"/> AzeezMohammad-AMI-EC2	i-06e6ddf064e3f46e5	Running	t2.micro	2/2 checks passed	No alarms

Apache2:

← → ↻ Not secure | 35.159.26.59



Apache2 Default Page

Ubuntu

It works!

This is the default welcome page used to test the correct operation of the Apache2 server after installation on Ubuntu systems. It is based on the equivalent page on Debian, from which the Ubuntu Apache packaging is derived. If you can read this page, it means that the Apache HTTP server installed at this site is working properly. You should **replace this file** (located at `/var/www/html/index.html`) before continuing to operate your HTTP server.

If you are a normal user of this web site and don't know what this page is about, this probably means that the site is currently unavailable due to maintenance. If the problem persists, please contact the site's administrator.

Configuration Overview

Ubuntu's Apache2 default configuration is different from the upstream default configuration, and split into several files optimized for interaction with Ubuntu tools. The configuration system is **fully documented in `/usr/share/doc/apache2/README.Debian.gz`**. Refer to this for the full documentation. Documentation for the web server itself can be found by accessing the **manual** if the `apache2-doc` package was installed on this server.

The configuration layout for an Apache2 web server installation on Ubuntu systems is as follows:


```

/etc/apache2/
|-- apache2.conf
|   |-- ports.conf
|-- mods-enabled

```

phpinfo.php

← → ↻ Not secure | 35.159.26.59/phpinfo.php

PHP Version 8.1.2


System	Linux ip-172-31-37-192.5.15.0-1019-aws #23-Ubuntu SMP Wed Aug 17 18:33:13 UTC 2022 x86_64
Build Date	Aug 8 2022 07:28:23
Build System	Linux
Server API	Apache 2.0 Handler
Virtual Directory Support	disabled
Configuration File (php.ini) Path	/etc/php/8.1/apache2
Loaded Configuration File	/etc/php/8.1/apache2/php.ini
Scan this dir for additional .ini files	/etc/php/8.1/apache2/conf.d
Additional .ini files parsed	/etc/php/8.1/apache2/conf.d/10-opcache.ini, /etc/php/8.1/apache2/conf.d/10-pdo.ini, /etc/php/8.1/apache2/conf.d/20-calendar.ini, /etc/php/8.1/apache2/conf.d/20-ctype.ini, /etc/php/8.1/apache2/conf.d/20-exif.ini, /etc/php/8.1/apache2/conf.d/20-fileinfo.ini, /etc/php/8.1/apache2/conf.d/20-ftp.ini, /etc/php/8.1/apache2/conf.d/20-gettext.ini, /etc/php/8.1/apache2/conf.d/20-iconv.ini, /etc/php/8.1/apache2/conf.d/20-phar.ini, /etc/php/8.1/apache2/conf.d/20-posix.ini, /etc/php/8.1/apache2/conf.d/20-readline.ini, /etc/php/8.1/apache2/conf.d/20-shmop.ini, /etc/php/8.1/apache2/conf.d/20-sockets.ini, /etc/php/8.1/apache2/conf.d/20-sysvmsg.ini, /etc/php/8.1/apache2/conf.d/20-sysvsem.ini, /etc/php/8.1/apache2/conf.d/20-sysvshm.ini, /etc/php/8.1/apache2/conf.d/20-tokenizer.ini
PHP API	20210902
PHP Extension	20210902
Zend Extension	420210902
Zend Extension Build	API420210902.NTS
PHP Extension Build	API20210902.NTS
Debug Build	no
Thread Safety	disabled

```
ubuntu@ip-172-31-37-192:~$ php --version
PHP 8.1.2 (cli) (built: Aug  8 2022 07:28:23) (NTS)
Copyright (c) The PHP Group
Zend Engine v4.1.2, Copyright (c) Zend Technologies
    with Zend OPcache v8.1.2, Copyright (c), by Zend Technologies
ubuntu@ip-172-31-37-192:~$
```

AMIs: Created AMIs with Apache and php


<input checked="" type="checkbox"/>	Name	AMI ID	AMI name	Source	Owner
<input checked="" type="checkbox"/>	AzeezMohammadAMI	ami-0be4cf85cfa1cdc2	AzeezMohammad-apachephp-image	440205455740/AzeezMohammad-apac...	440205455740

Created another EC2 instance from Image (AzeezMohammad-AMI-EC2)

<input type="checkbox"/>	Name	Instance ID	Instance state	Instance type	Status check	Alarm status
<input type="checkbox"/>	AzeezMohammadlampapachephp	i-05cec20c0c3785c45	Running	t2.micro	2/2 checks passed	No alarms
<input type="checkbox"/>	AzeezMohammad-AMI-EC2	i-06e6ddf064e3f46e5	Running	t2.micro	2/2 checks passed	No alarms

AzeezMohammad-AMI-EC2 instance Apache

← → ↻ ⚠ Not secure | 54.93.178.29



Apache2 Default Page

Ubuntu

It works!

This is the default welcome page used to test the correct operation of the Apache2 server after installation on Ubuntu systems. It is based on the equivalent page on Debian, from which the Ubuntu Apache packaging is derived. If you can read this page, it means that the Apache HTTP server installed at this site is working properly. You should **replace this file** (located at `/var/www/html/index.html`) before continuing to operate your HTTP server.

If you are a normal user of this web site and don't know what this page is about, this probably means that the site is currently unavailable due to maintenance. If the problem persists, please contact the site's administrator.

Configuration Overview

Ubuntu's Apache2 default configuration is different from the upstream default configuration, and split into several files optimized for interaction with Ubuntu tools. The configuration system is **fully documented in `/usr/share/doc/apache2/README.Debian.gz`**. Refer to this for the full documentation. Documentation for the web server itself can be found by accessing the **manual** if the `apache2-doc` package was installed on this server.

The configuration layout for an Apache2 web server installation on Ubuntu systems is as follows:

```


/etc/apache2/
|-- apache2.conf
|   |-- ports.conf
|-- mods-enabled
|   |-- *.Load
|   |-- *.conf
|-- conf-enabled
|   |-- *.conf

```

Two applications screenshots

Instances | EC2 Management Console | Connect to instance | EC2 Management Console | PHP 8.1.2 - phpinfo() | PHP 8.1.2 - phpinfo() | +

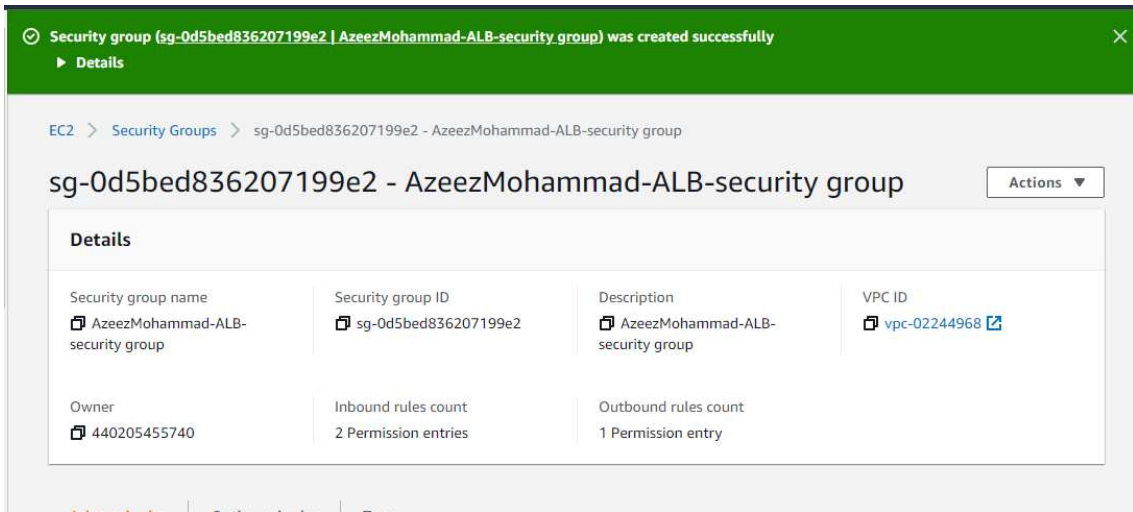
← → ↻ ⚠ Not secure | 54.93.178.29/phpinfo.php

PHP Version 8.1.2


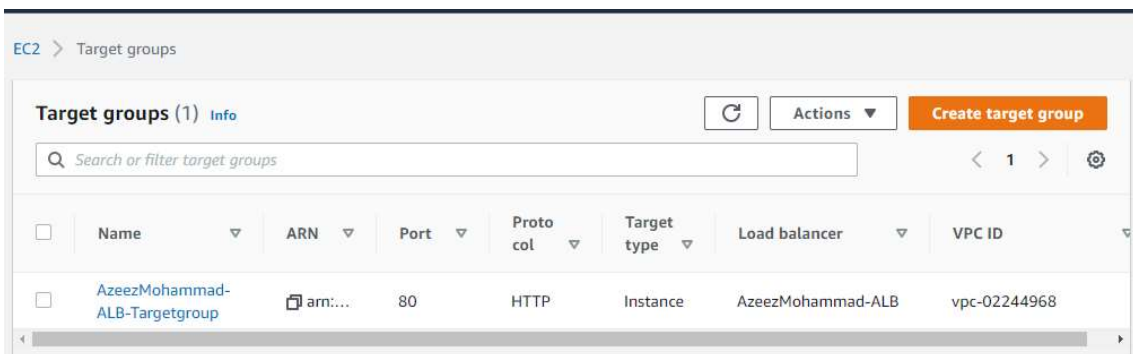
System	Linux ip-172-31-41-71-5-15-0-1019-aws #23-Ubuntu SMP Wed Aug 17 18:33:13 UTC 2022 x86_64
Build Date	Aug 8 2022 07:28:23
Build System	Linux
Server API	Apache 2.0 Handler
Virtual Directory Support	disabled
Configuration File (php.ini) Path	/etc/php/8.1/apache2
Loaded Configuration File	/etc/php/8.1/apache2/php.ini
Scan this dir for additional .ini files	/etc/php/8.1/apache2/conf.d
Additional .ini files parsed	/etc/php/8.1/apache2/conf.d/10-opcache.ini, /etc/php/8.1/apache2/conf.d/10-pdo.ini, /etc/php/8.1/apache2/conf.d/20-calendar.ini, /etc/php/8.1/apache2/conf.d/20-ctype.ini, /etc/php/8.1/apache2/conf.d/20-exif.ini, /etc/php/8.1/apache2/conf.d/20-fileinfo.ini, /etc/php/8.1/apache2/conf.d/20-ftp.ini, /etc/php/8.1/apache2/conf.d/20-gettext.ini, /etc/php/8.1/apache2/conf.d/20-iconv.ini, /etc/php/8.1/apache2/conf.d/20-imagick.ini, /etc/php/8.1/apache2/conf.d/20-imap.ini, /etc/php/8.1/apache2/conf.d/20-intl.ini, /etc/php/8.1/apache2/conf.d/20-ldap.ini, /etc/php/8.1/apache2/conf.d/20-mbstring.ini, /etc/php/8.1/apache2/conf.d/20-mcrypt.ini, /etc/php/8.1/apache2/conf.d/20-mysqlnd.ini, /etc/php/8.1/apache2/conf.d/20-openssl.ini, /etc/php/8.1/apache2/conf.d/20-pdo_mysql.ini, /etc/php/8.1/apache2/conf.d/20-posix.ini, /etc/php/8.1/apache2/conf.d/20-readline.ini, /etc/php/8.1/apache2/conf.d/20-shmop.ini, /etc/php/8.1/apache2/conf.d/20-sockets.ini, /etc/php/8.1/apache2/conf.d/20-sysmsg.ini, /etc/php/8.1/apache2/conf.d/20-syssem.ini, /etc/php/8.1/apache2/conf.d/20-sysshm.ini, /etc/php/8.1/apache2/conf.d/20-sysvshm.ini, /etc/php/8.1/apache2/conf.d/20-tokenizer.ini
PHP API	20210902
PHP Extension	20210902
Zend Extension	420210902
Zend Extension Build	API420210902.NTS
PHP Extension Build	API20210902.NTS

5. Load Balancer:

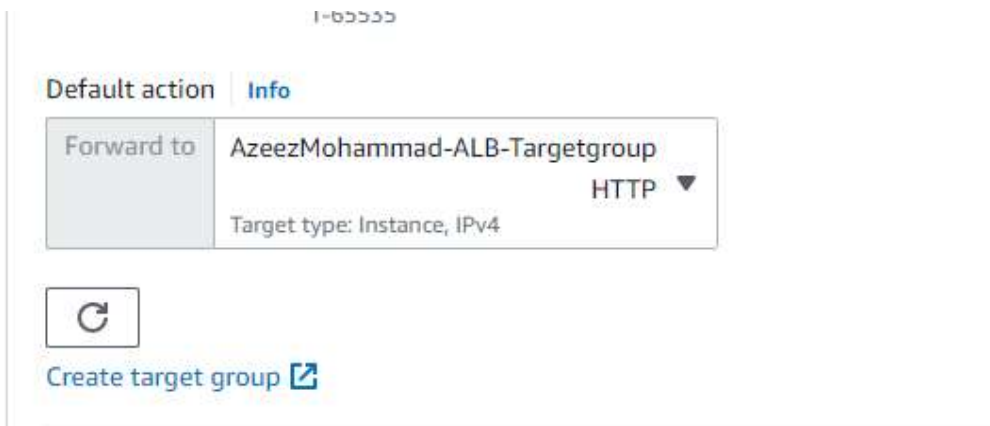
- a. Created the Security group
Name: AzeezMohammad-ALB-security group



- b. Created the Target Group:



Added target group



Summary
Review and confirm your configurations. [Estimate cost](#)

Basic configuration Edit AzeezMohammad-ALB <ul style="list-style-type: none"> Internet-facing IPv4 	Security groups Edit <ul style="list-style-type: none"> default sg-aa9549d AzeezMohammad-ALB-security group sg-0d5bed836207199e2 	Network mapping Edit VPC vpc-02244968 <ul style="list-style-type: none"> eu-central-1a subnet-529ecb38 eu-central-1b subnet-944ecee8 eu-central-1c subnet-1717805b 	Listeners and routing Edit <ul style="list-style-type: none"> HTTP:80 defaults to AzeezMohammad-ALB-Targetgroup
Add-on services Edit None	Tags Edit None		

Attributes

ⓘ Certain default attributes will be applied to your load balancer. You can view and edit them after creating the load balancer.

Associate Azeez Mohammad-ALB

Successfully created target group: [AzeezMohammad-ALB-Targetgroup](#)

EC2 > Target groups

Target groups (1) [Info](#) [Refresh](#) [Actions](#) [Create target group](#)

Search or filter target groups

<input type="checkbox"/>	Name	ARN	Port	Protocol	Target type	Load balancer	VPC ID
<input type="checkbox"/>	AzeezMohammad-ALB-Targetgroup	arn:...	80	HTTP	Instance	AzeezMohammad-ALB	vpc-02244968

With Health status:

EC2 > Target groups

Target groups (1/1) [Info](#) [Refresh](#) [Actions](#) [Create target group](#)

Search or filter target groups

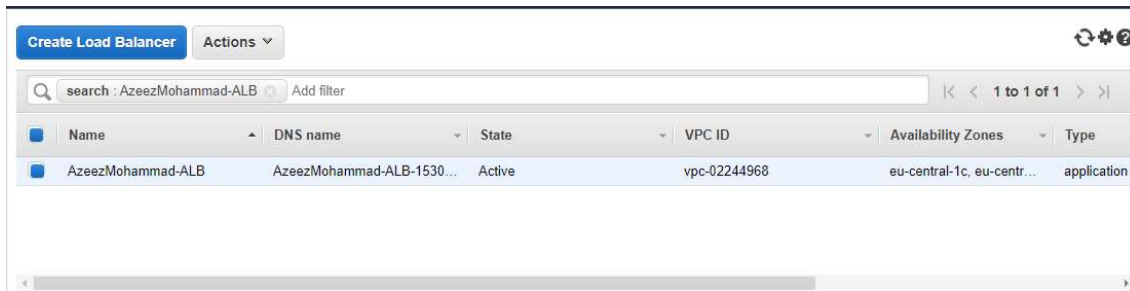
<input checked="" type="checkbox"/>	Name	ARN	Port	Protocol	Target type	Load balancer	VPC ID
<input checked="" type="checkbox"/>	AzeezMohammad-ALB-Targetgroup	arn:...	80	HTTP	Instance	AzeezMohammad-ALB	vpc-02244968

Target group: AzeezMohammad-ALB-Targetgroup

<input type="checkbox"/>	Instance ID	Name	Port	Zone	Health status	Health status details
<input type="checkbox"/>	i-06e6ddf064e3f46e5	AzeezMohammad-AMI-EC2	80	eu-central-1b	✔ healthy	
<input type="checkbox"/>	i-05cec20c0c3785c45	AzeezMohammadlampapacheph	80	eu-central-1b	✔ healthy	

APLB:

Name: AzeezMohammad-ALB

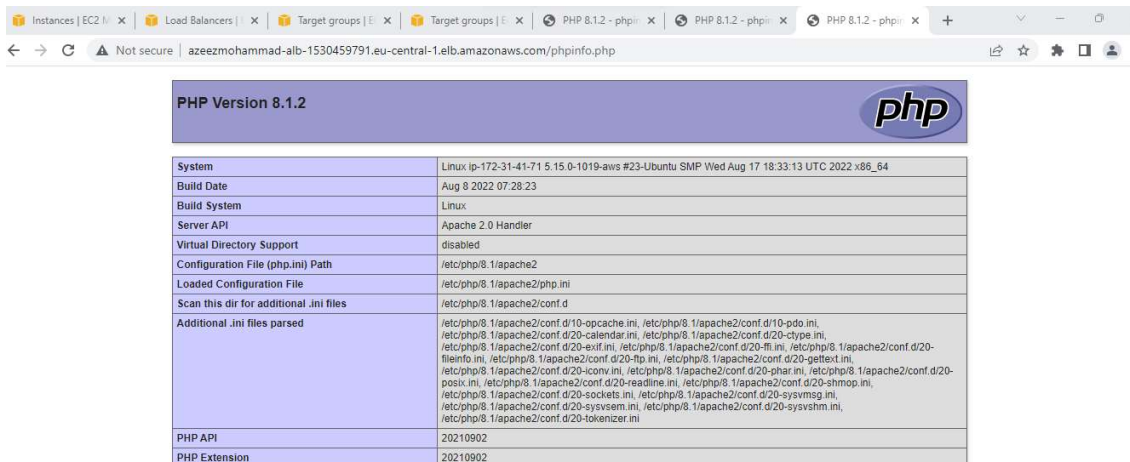


The screenshot shows the AWS Management Console interface for a Load Balancer. At the top, there are buttons for 'Create Load Balancer' and 'Actions'. Below that is a search bar containing 'AzeezMohammad-ALB'. A table lists the load balancer details:

Name	DNS name	State	VPC ID	Availability Zones	Type
AzeezMohammad-ALB	AzeezMohammad-ALB-1530...	Active	vpc-02244968	eu-central-1c, eu-centr...	application

DNS:

<http://azeezmohammad-alb-1530459791.eu-central-1.elb.amazonaws.com/phpinfo.php>



The screenshot shows a web browser displaying the PHP info page. The browser's address bar shows the URL: <http://azeezmohammad-alb-1530459791.eu-central-1.elb.amazonaws.com/phpinfo.php>. The page title is 'PHP Version 8.1.2'. Below the title is a table with system and configuration details:

System	Linux ip-172-31-41-71 5.15.0-1019-aws #23-Ubuntu SMP Wed Aug 17 18:33:13 UTC 2022 x86_64
Build Date	Aug 8 2022 07:28:23
Build System	Linux
Server API	Apache 2.0 Handler
Virtual Directory Support	disabled
Configuration File (php.ini) Path	/etc/php/8.1/apache2
Loaded Configuration File	/etc/php/8.1/apache2/php.ini
Scan this dir for additional .ini files	/etc/php/8.1/apache2/conf.d
Additional .ini files parsed	/etc/php/8.1/apache2/conf.d/10-opcache.ini, /etc/php/8.1/apache2/conf.d/10-pdo.ini, /etc/php/8.1/apache2/conf.d/20-calendar.ini, /etc/php/8.1/apache2/conf.d/20-type.ini, /etc/php/8.1/apache2/conf.d/20-exif.ini, /etc/php/8.1/apache2/conf.d/20-ffi.ini, /etc/php/8.1/apache2/conf.d/20-fileinfo.ini, /etc/php/8.1/apache2/conf.d/20-ftp.ini, /etc/php/8.1/apache2/conf.d/20-gettext.ini, /etc/php/8.1/apache2/conf.d/20-iconv.ini, /etc/php/8.1/apache2/conf.d/20-ldap.ini, /etc/php/8.1/apache2/conf.d/20-mbstring.ini, /etc/php/8.1/apache2/conf.d/20-openssl.ini, /etc/php/8.1/apache2/conf.d/20-phar.ini, /etc/php/8.1/apache2/conf.d/20-posix.ini, /etc/php/8.1/apache2/conf.d/20-readline.ini, /etc/php/8.1/apache2/conf.d/20-shmop.ini, /etc/php/8.1/apache2/conf.d/20-sockets.ini, /etc/php/8.1/apache2/conf.d/20-sysmsg.ini, /etc/php/8.1/apache2/conf.d/20-sysvsem.ini, /etc/php/8.1/apache2/conf.d/20-sysvshm.ini, /etc/php/8.1/apache2/conf.d/20-tokenizer.ini
PHP API	20210902
PHP Extension	20210902