

EC2:

1. Create an instance

The screenshot shows the AWS Management Console interface for EC2 instances. The left sidebar contains navigation options like 'New EC2 Experience', 'EC2 Dashboard', 'Events', 'Tags', 'Limits', 'Instances', 'Instance Types', 'Launch Templates', 'Spot Requests', 'Savings Plans', 'Reserved Instances', 'Dedicated Hosts', 'Capacity Reservations', and 'Images'. The main content area displays the 'Instances (1/1) Info' page. A search bar at the top allows filtering by 'Instance state = running'. Below the search bar, a table lists the instance details:

Name	Instance ID	Instance state	Instance type	Status check	Alarm status
Lakshmi Bhargavi Nukala	i-050a424927fc315f3	Running	t2.micro	Initializing	No alarms

Below the table, the 'Instance: i-050a424927fc315f3 (Lakshmi Bhargavi Nukala)' details are shown, including tabs for 'Details', 'Security', 'Networking', 'Storage', 'Status checks', 'Monitoring', and 'Tags'. The 'Instance summary' section provides key information:

Instance ID	Public IPv4 address	Private IPv4 addresses
i-050a424927fc315f3 (Lakshmi Bhargavi Nukala)	13.115.222.245 open address	172.31.11.129

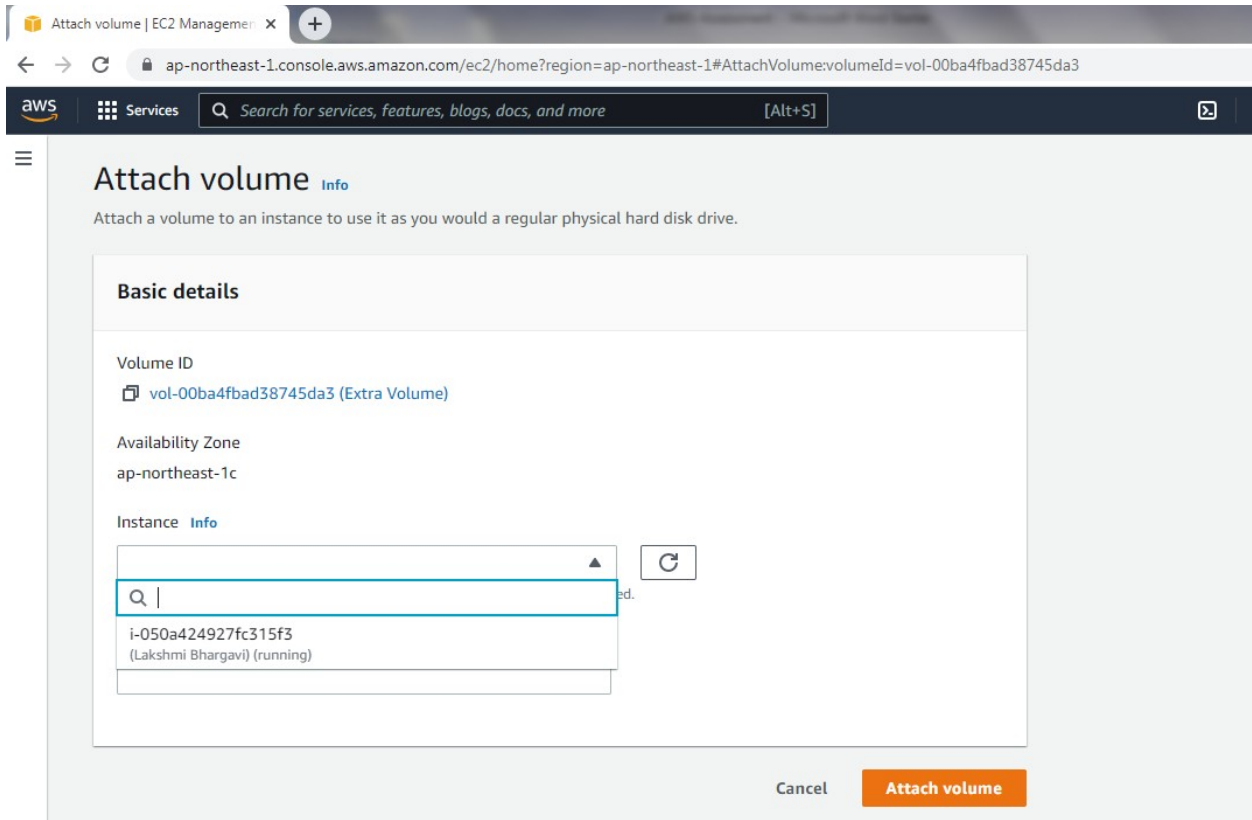
Other details include 'Instance state: Running' and 'Public IPv4 DNS'.

2. Extra Volume of 1GB created

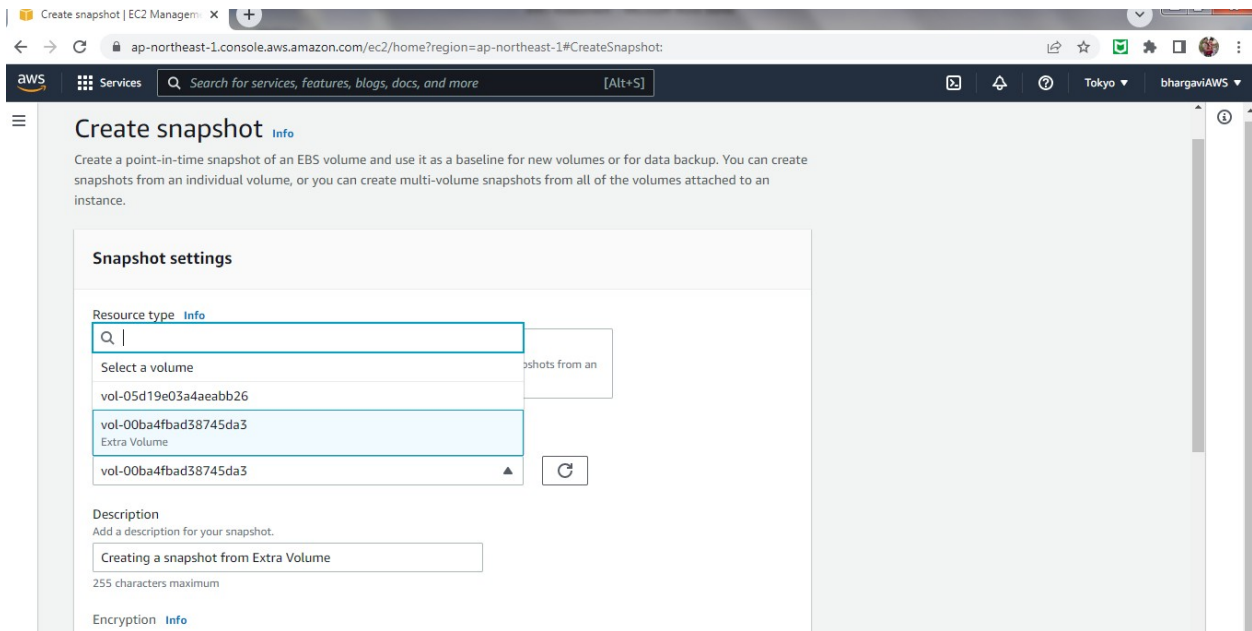
The screenshot shows the AWS Management Console interface for EC2 volumes. A green notification banner at the top states: 'Successfully created volume vol-0f77b80fbe21825c6. You can now create Amazon Data Lifecycle Manager policies to automate snapshot management directly from this screen. Select the volumes to back up, and then choose Actions, Create snapshot lifecycle policy. For more information, see the Knowledge Center article.' Below the notification, the 'Volumes (1/2)' page is displayed with a search bar and a 'Create volume' button. A table lists the volumes:

Name	Volume ID	Type	Size	IOPS	Throughput	Snapshot	Created
Extra Volume	vol-0f77b80fbe21825c6	gp2	1 GiB	100	-	-	2022/10/22
-	vol-05d19e03a4aeabb26	gp2	8 GiB	100	-	snap-03f58d3...	2022/10/22

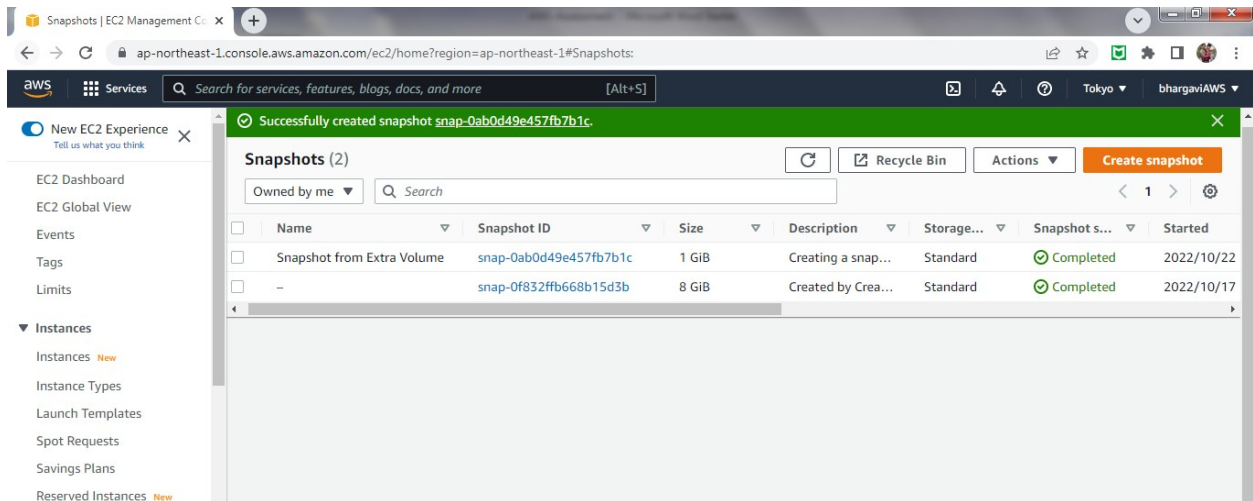
3. Attaching Volume to an instance



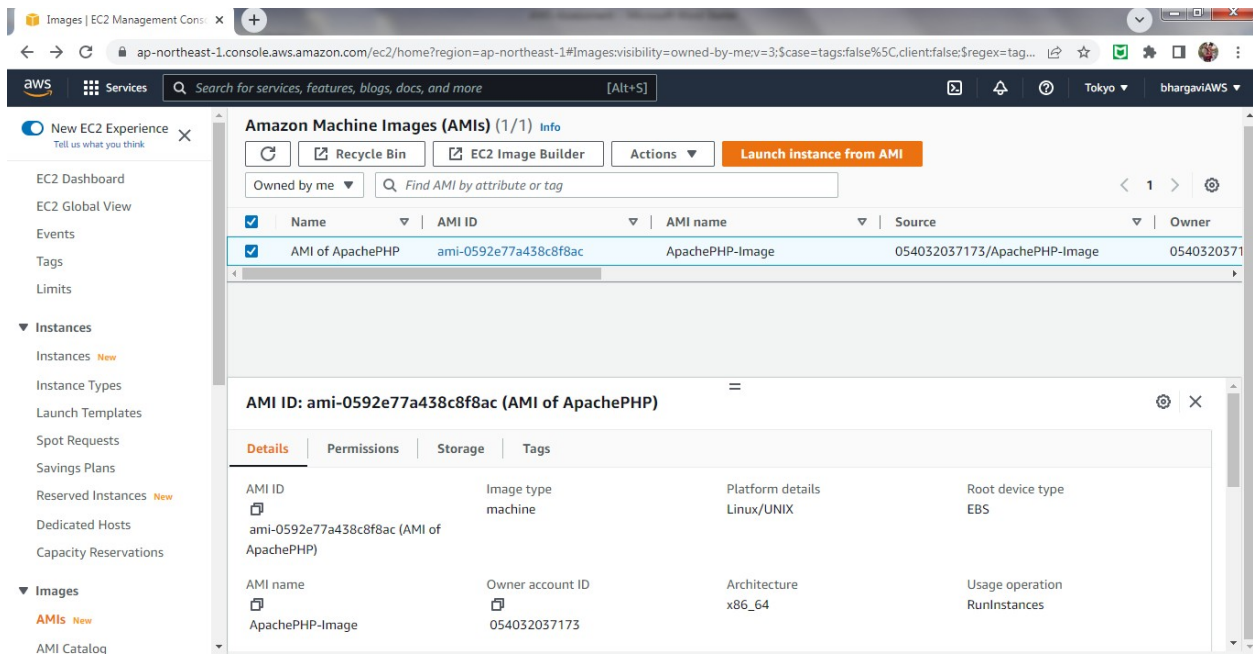
4. Creating a snapshot from the above created volume



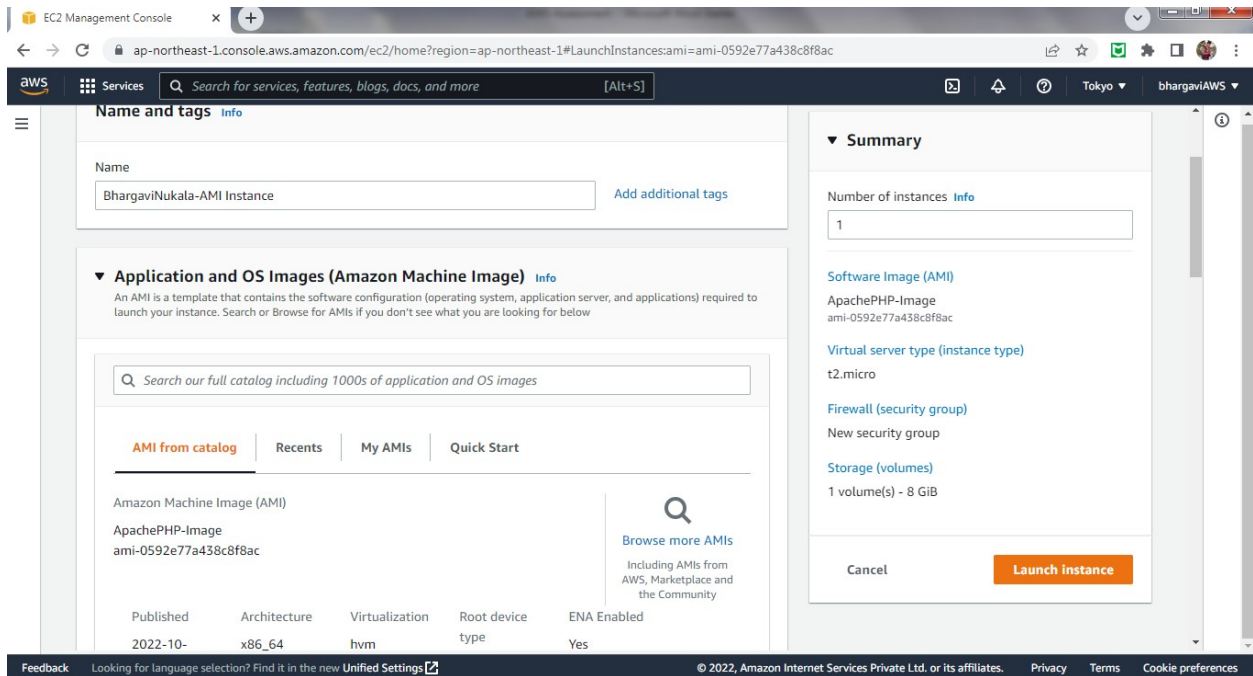
5. Created Snapshot



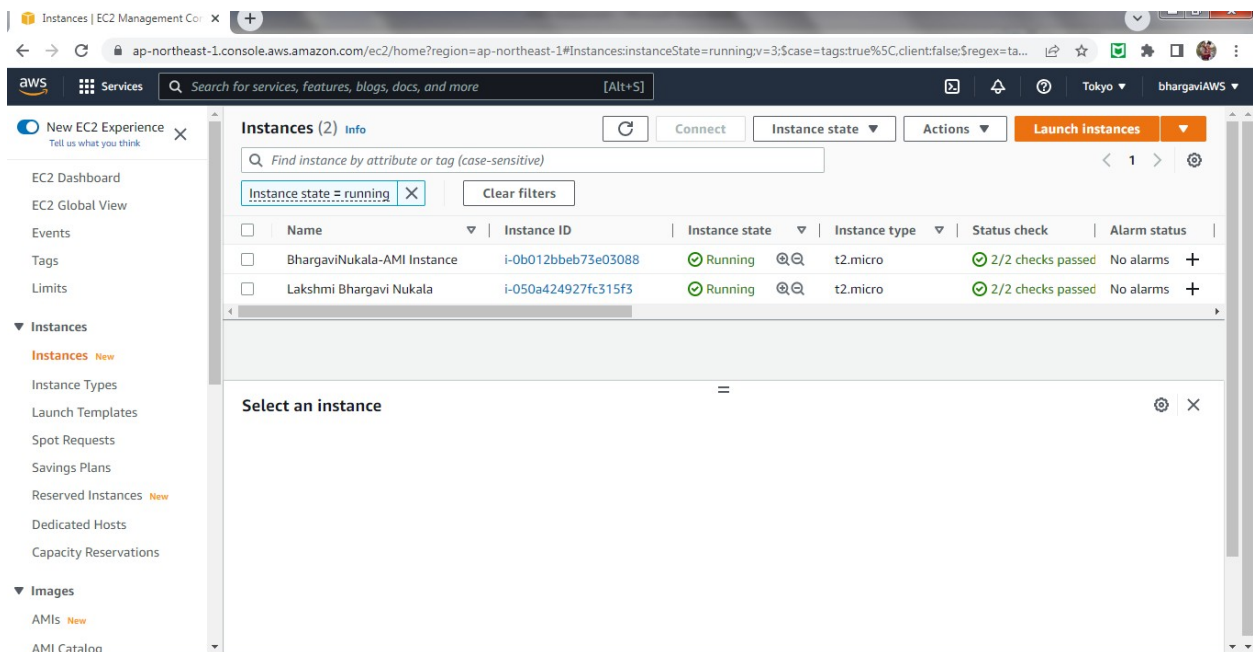
6. Created an AMI from Apache-PHP instance:



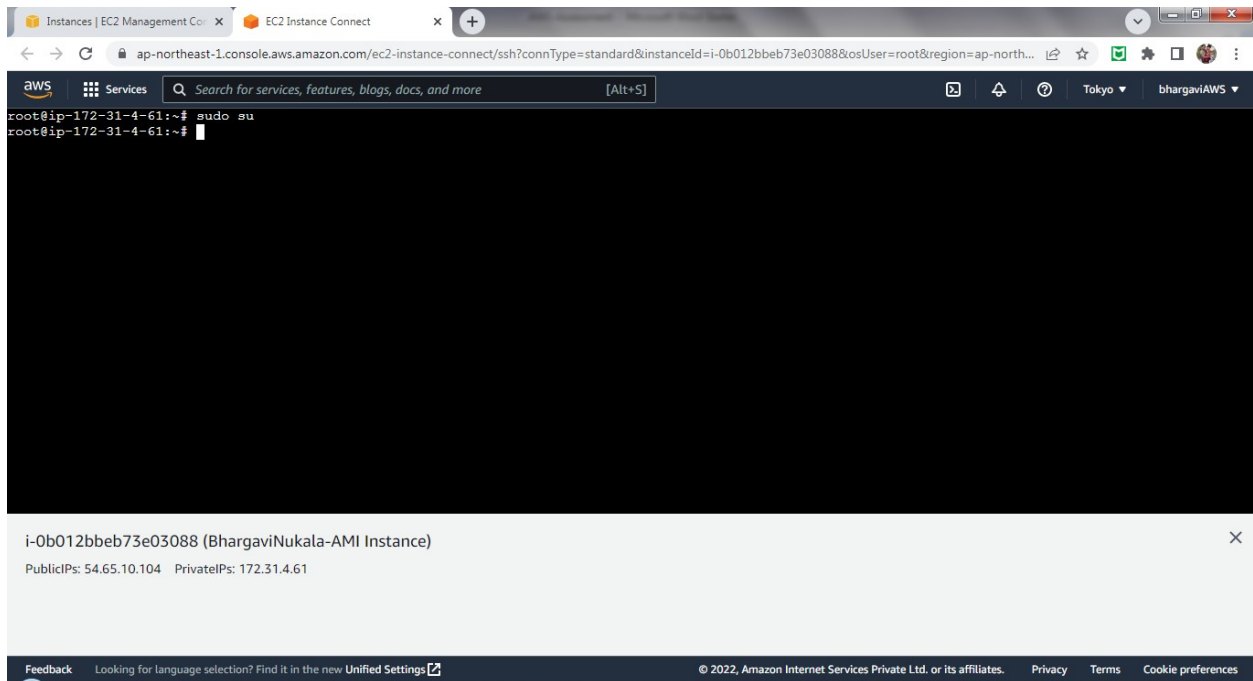
7. Launching an instance from AMI:



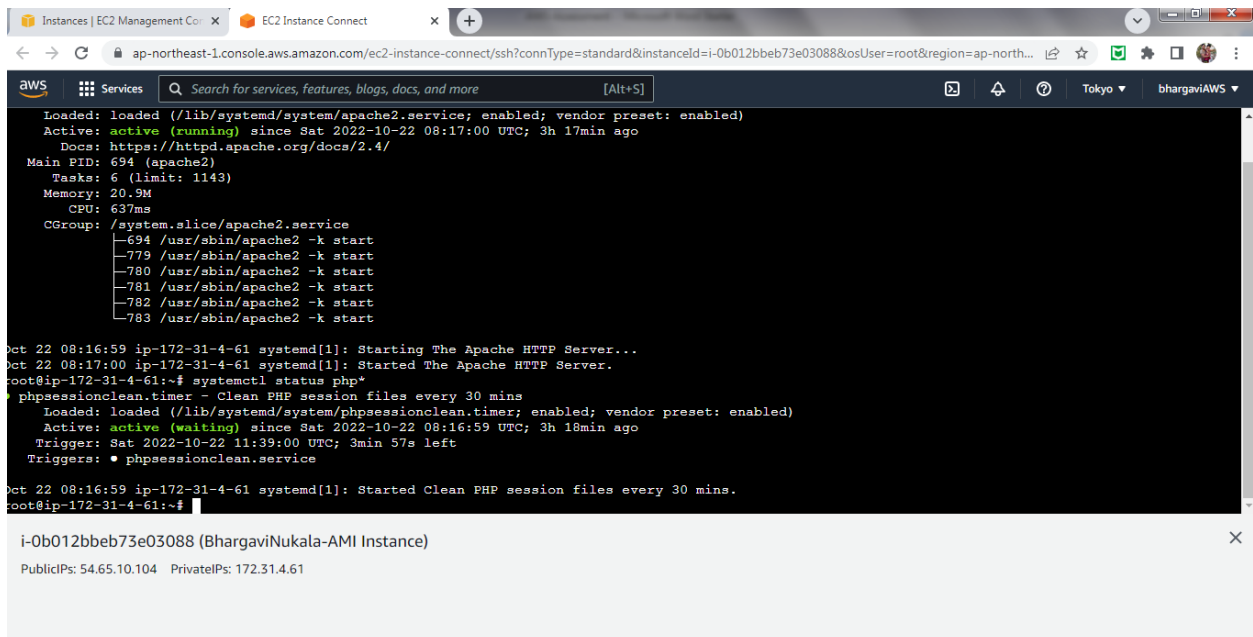
8. Instance availability



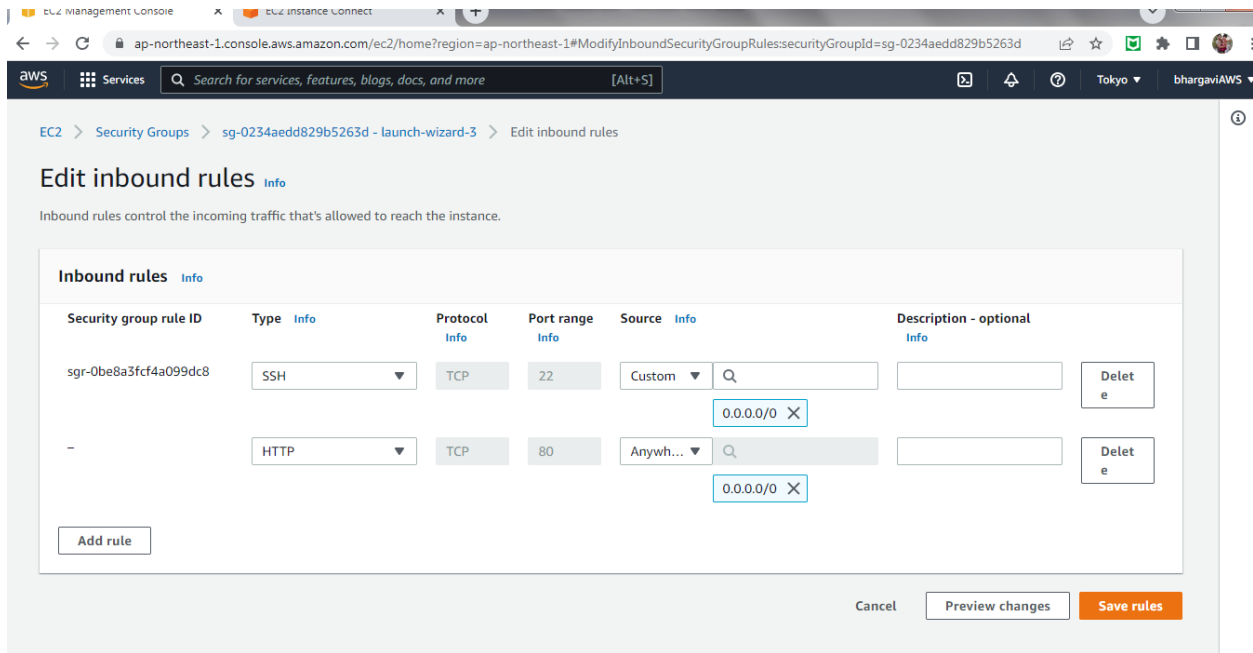
9. Connected AMI instance from Console



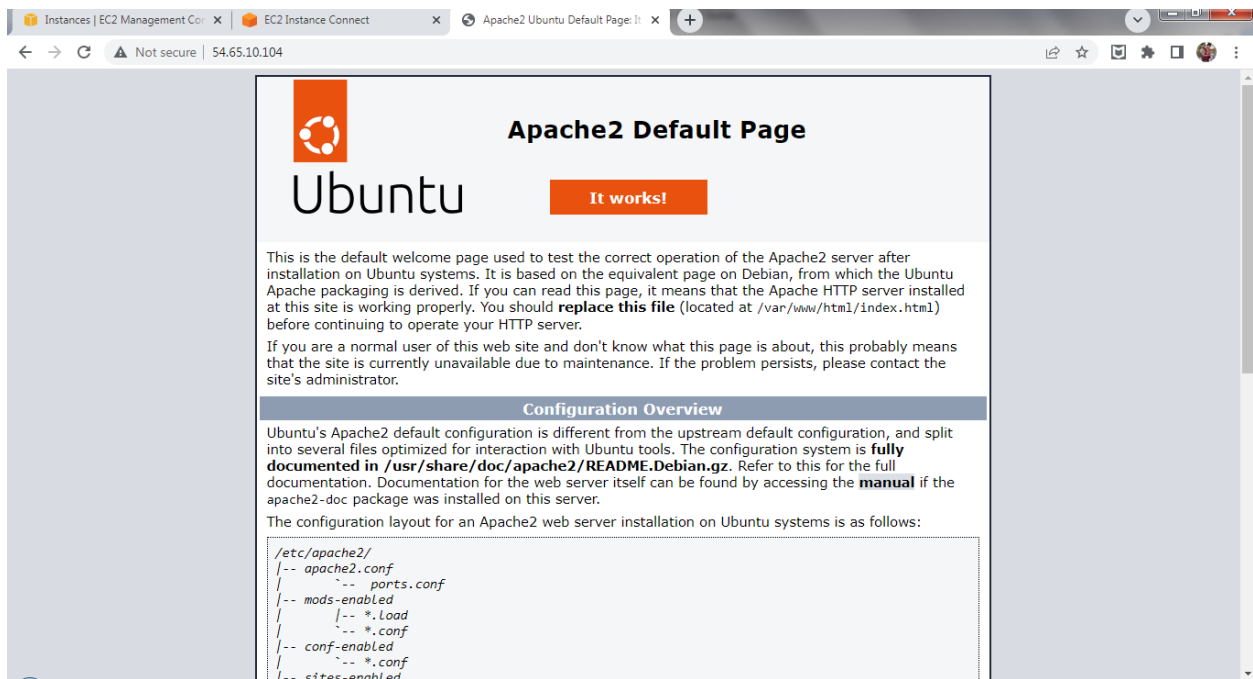
10. Apache and PHP running on AMI instance



11. Editing the IN-Bound Rules of Security Group to give access to HTTP port no 80

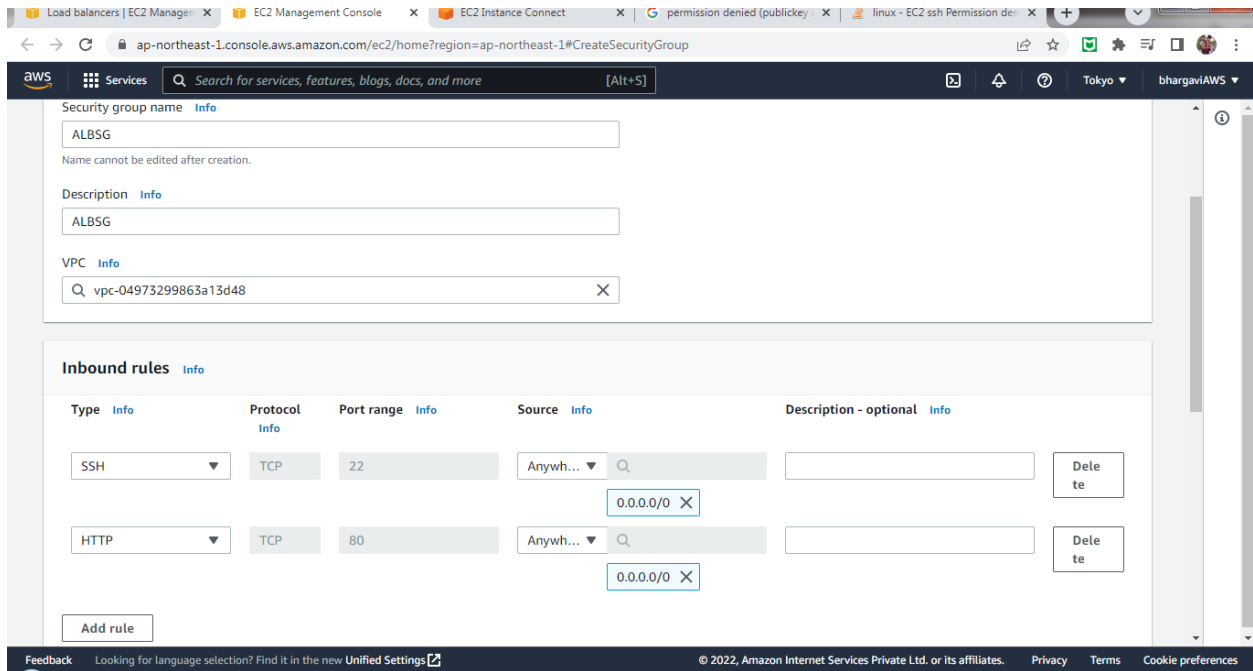


12. Accessing the new AMI instance from Browser

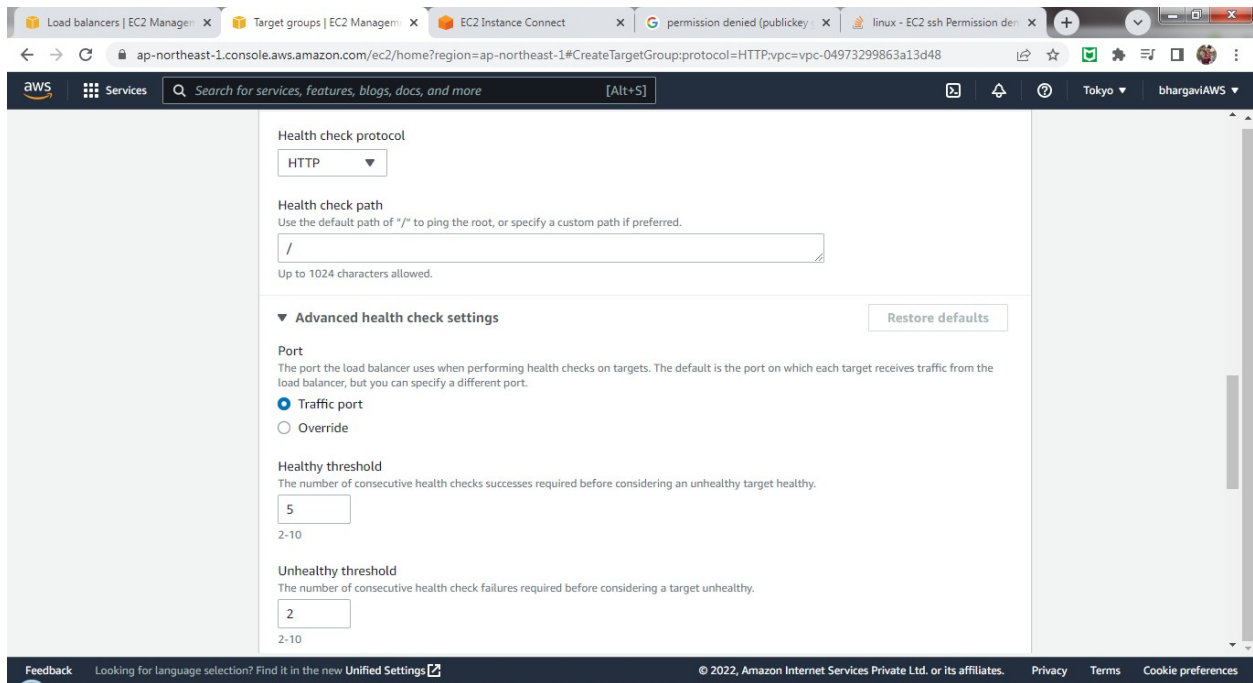


Load Balancer:

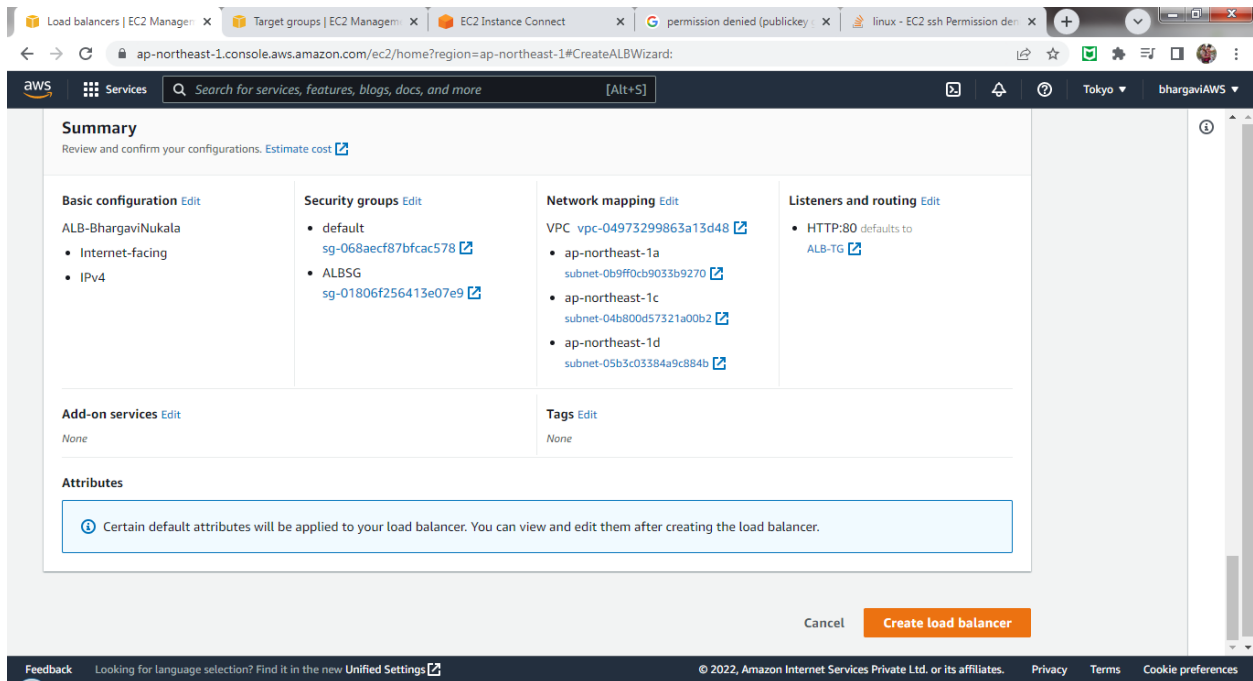
1. Create a new Security Group with ports 22 and 80 open required to create a load balancer



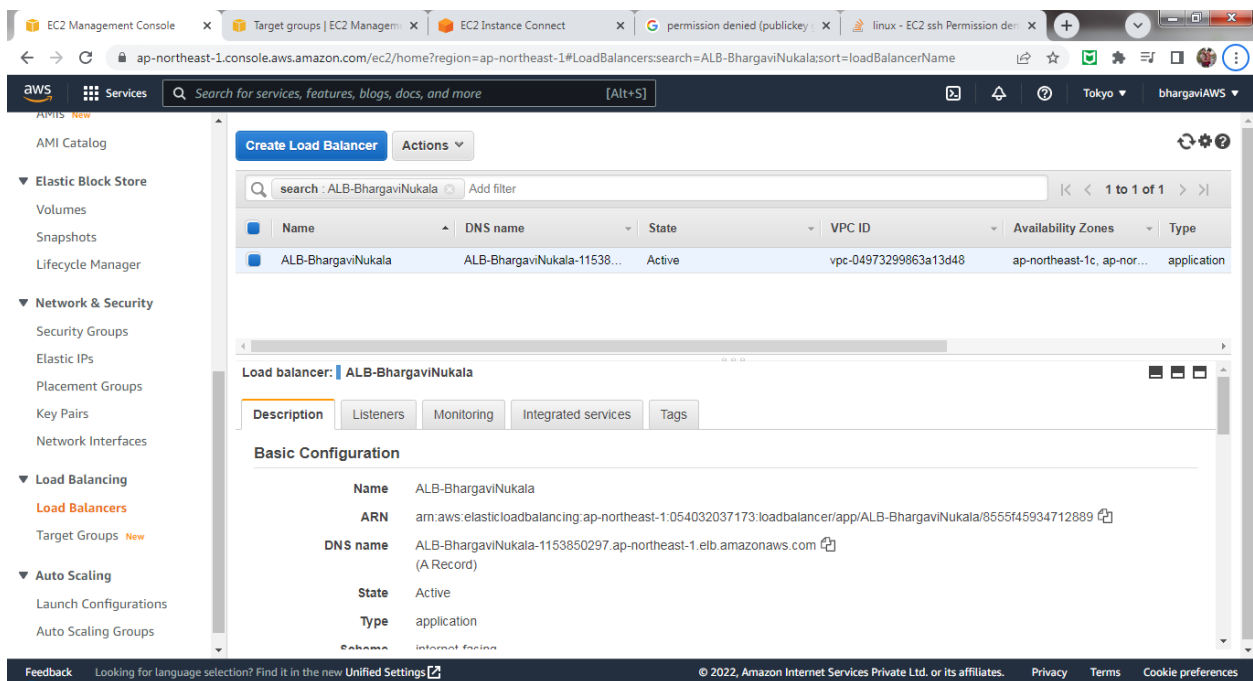
2. Create a new Target Group for the instances to be connected on load balancer. Here we specify all parameters like Healthy score, Unhealthy score, timeout etc.



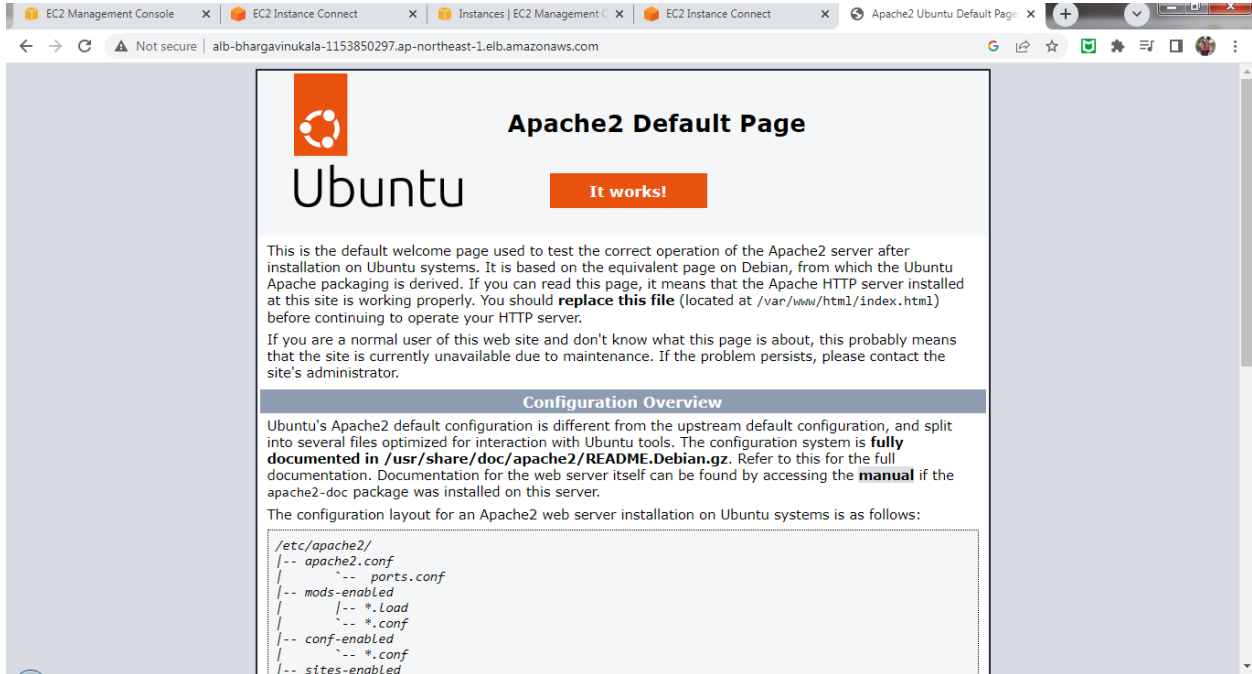
3. Create a load balancer with above created security group ALBSG and target group ALB-TG



4. Created a load balancer that is in Active Status



5. Connect to Load Balancer from WebPage



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.

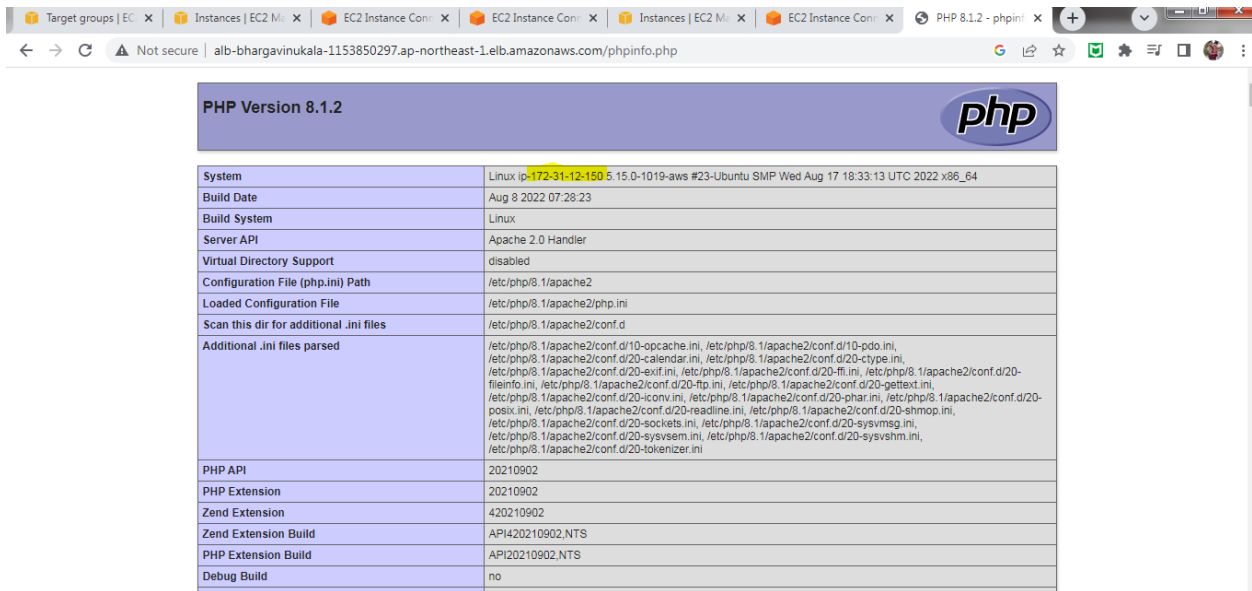
Configuration Overview

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  
    |-- sites-enabled
```

6. Try to access phpinfo.php page from the web and we can see that two IP addresses 172.31.4.61 and 172.31.12.150 are appearing alternatively



PHP Version 8.1.2

System	Linux ip:172-31-12-150 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-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-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
Zend Extension	420210902
Zend Extension Build	API420210902.NTS
PHP Extension Build	API20210902.NTS
Debug Build	no

Target groups | EC2 Instance Con... | EC2 Instance Con... | EC2 Instance Con... | EC2 Instance Con... | EC2 Instance Con... | PHP 8.1.2 - phpinfo

Not secure | alb-bhargavinukala-1153850297.ap-northeast-1.elb.amazonaws.com/phpinfo.php

PHP Version 8.1.2

System	Linux ip-172-31-4-61-5.15.0-1022-aws #26-Ubuntu SMP Thu Oct 13 12:59:25 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-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-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
Zend Signal Handling	enabled
Zend Memory Manager	enabled
Zend Multibyte Support	disabled
IPv6 Support	enabled

This shows the load balancer is working between the instances.