

Name: Arafat Khaled

## Part 1

- Create a VPC named awsProject-vpc with a CIDR block of 20.0.0.0/20.

17e5dee85fe6a865e

You successfully created vpc-07e5dee85fe6a865e / my-vpc-project

### vpc-07e5dee85fe6a865e / my-vpc-project

Actions

**Details** Info

<b>VPC ID</b> vpc-07e5dee85fe6a865e	<b>State</b> Available	<b>Block Public Access</b> Off	<b>DNS hostnames</b> Disabled
<b>DNS resolution</b> Enabled	<b>Tenancy</b> default	<b>DHCP option set</b> dopt-05550d4cf61d21d20	<b>Main route table</b> rtb-0283d617b73c56af0
<b>Main network ACL</b> acl-04c9ba572f9387a8d	<b>Default VPC</b> No	<b>IPv4 CIDR</b> 20.0.0.0/20	<b>IPv6 pool</b> -
<b>IPv6 CIDR (Network border group)</b> -	<b>Network Address Usage metrics</b> Disabled	<b>Route 53 Resolver DNS Firewall rule groups</b> -	<b>Owner ID</b> 412381763704

Resource map | CIDRs | Flow logs | Tags | Integrations

**Resource map** Info

- Create 2 public subnets:
- web-pub-sub1 with CIDR block 20.0.1.0/24 in us-east-1a web-pub-sub2 with CIDR block 20.0.2.0/24 in us-east-1b
- Create 2 private subnets for applications:
- app-pvt-sub1 with CIDR block 20.0.3.0/24 in us-east-1a
- app-pvt-sub2 with CIDR block 20.0.4.0/24 in us-east-1b

You have successfully created 6 subnets: subnet-04b524a8b5d0e077e, subnet-0c4107a0d163444d6, subnet-022e862caac8a0230, subnet-0732b4d59d269dfa7, subnet-0a039b30213cbe9a6, subnet-081bb69b7be06b6ae

### Subnets (12)

Find subnets by attribute or tag

Name	Subnet ID	State	VPC	Block Public...	IPv4 CIDR
-	subnet-03c8e90dcf55c423d	Available	vpc-0dd58f61263522a74	Off	172.31.48.0/20
-	subnet-0cd4ccf64690989ca	Available	vpc-0dd58f61263522a74	Off	172.31.16.0/20
-	subnet-0c414c7eb5c1f9d89	Available	vpc-0dd58f61263522a74	Off	172.31.80.0/20
app-pvt-sub1	subnet-022e862caac8a0230	Available	vpc-08613a51059f997a3   my-...	Off	20.0.3.0/24
app-pvt-sub2	subnet-0732b4d59d269dfa7	Available	vpc-08613a51059f997a3   my-...	Off	20.0.4.0/24
web-pub-sub1	subnet-04b524a8b5d0e077e	Available	vpc-08613a51059f997a3   my-...	Off	20.0.1.0/24
db-pvt-sub2	subnet-081bb69b7be06b6ae	Available	vpc-08613a51059f997a3   my-...	Off	20.0.6.0/24
db-pvt-sub1	subnet-0a039b30213cbe9a6	Available	vpc-08613a51059f997a3   my-...	Off	20.0.5.0/24
web-pub-sub2	subnet-0c4107a0d163444d6	Available	vpc-08613a51059f997a3   my-...	Off	20.0.2.0/24

- Create 2 private subnets for databases:
- db-pvt-sub1 with CIDR block 20.0.5.0/24 in us-east-1a
- db-pvt-sub2 with CIDR block 20.0.6.0/24 in us-east-1b
- Create a NAT Gateway named my-nat, provide the subnet as web-pub-sub1, and allocate an Elastic IP.



Actions ▼

## NAT gatew

**State message** [Info](#)

Primary network interface ID  
...

Deleted

Deleted

## Tags



< 1 > 

Failure message

Secondary IPv4 addresses are not available for this nat gateway

- 

Notifications  0  0  2  0  0 

Actions ▼

## Internet gateway

Owner  
412381763704

[Manage tags](#)

< 1 > | 

Name my-igw

- Actions ▼

Actions ▼

## Route table ID

### Edge associations

Owner ID  
412381763704

## Tags

Both  [Edit routes](#)

< 1 > | ⚙

Propagated

No

- Select route-app and associate it with the subnets app-pvt-sub1 and app-pvt-sub2.

rtb-03717873694987c60 / app-RT

Actions

**Details** Info

Route table ID  
rtb-03717873694987c60

VPC  
vpc-08613a51059f997a3 | my-vpc-project

Main  
No

Owner ID  
412381763704

Explicit subnet associations  
2 subnets

Edge associations  
-

Routes Subnet associations Edge associations Route propagation Tags

**Routes (2)**
Both Edit routes

Filter routes

Destination	Target	Status	Propagated
0.0.0.0/0	nat-03f496e6ed717f352	Active	No
20.0.0.0/20	local	Active	No

- Select route-db and associate it with the subnets db-pvt-sub1 and db-pvt-sub2.

rtb-0b171d466aaecf18b / db-RT

Actions

**Details** Info

Route table ID  
rtb-0b171d466aaecf18b

VPC  
vpc-08613a51059f997a3 | my-vpc-project

Main  
No

Owner ID  
412381763704

Explicit subnet associations  
2 subnets

Edge associations  
-

Routes Subnet associations Edge associations Route propagation Tags

**Routes (2)**
Both Edit routes

Filter routes

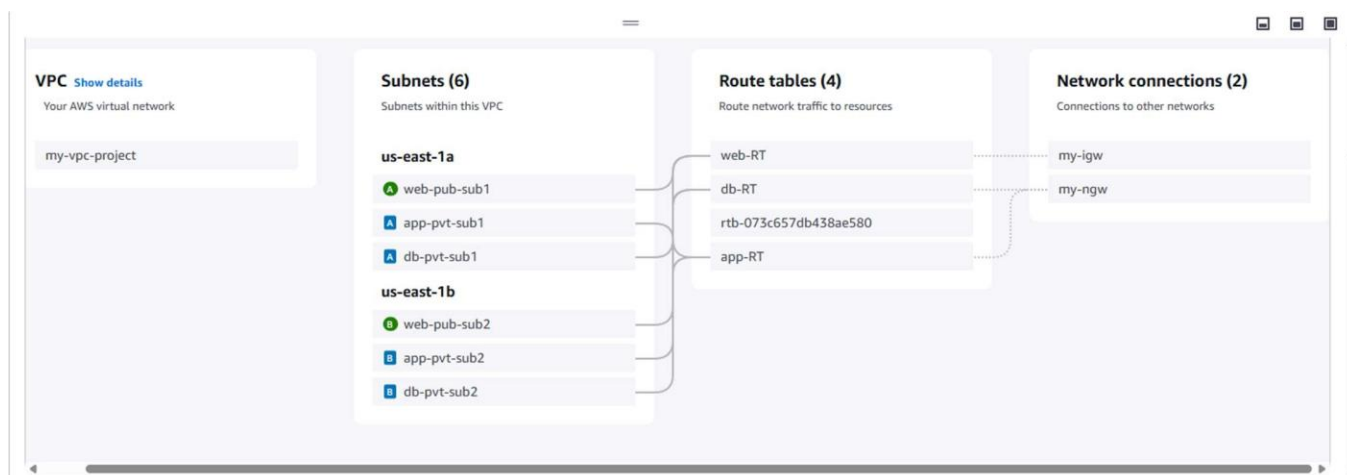
Destination	Target	Status	Propagated
0.0.0.0/0	nat-03f496e6ed717f352	Active	No
20.0.0.0/20	local	Active	No

Now add the routes

Select route-web, go to routes and click edit routes, add route select the Destination as 0.0.0.0/0, Target Internet Gateway(my-igw) and click on save changes

Select route-app, go to routes and click edit routes, add route select the Destination as 0.0.0.0/0, Target NAT Gateway(my-nat) and click on save changes

Select route-db, go to routes and click edit routes, add route select the Destination as 0.0.0.0/0, Target NAT Gateway(my-nat) and click on save changesPart 2



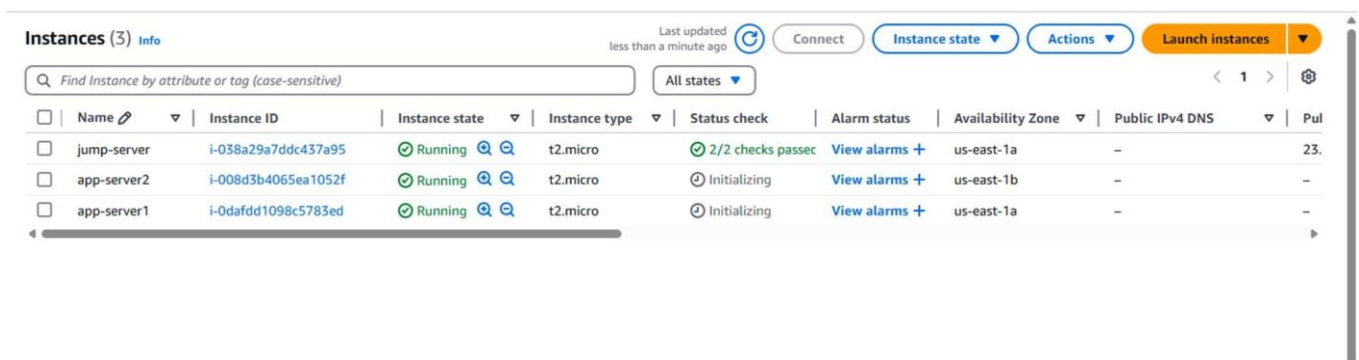
Create 3 EC2 instances in which 1 in public subnet with publicIP enable which acts as Jump server or bastion host and 2 private subnet with publicIP disable in which we will download phpMyAdmin and apache server

1) Launch an Instance with name jump-server, AMI (Amazon Linux), Instance type (t2.micro), Create a new keypair as (projectkey) , click on edit button on right side of Network settings select vpc(awsProject-vpc), Subnet (web-pub-sub1), Auto-assign IP (Enable), Create security group [Security group name (jump-sg)], allow port SSH (22) and HTTP (80) now Launch instance

Create a security group as alb-sg and allow port HTTP (80)

2) Launch an Instance with name app-server1, AMI (Amazon Linux), Instance type (t2.micro), Select the keypair as (projectkey) , click on edit button on right side of Network settings select vpc (awsProject-vpc), Subnet (app-pvt-sub1 ), Auto-assign IP (Disable), Create security group [Security group name (app-sg)], allow port SSH (22) and Click on Add security group rule select Type (All traffic , ) Source type (Custom) and Source (here select your [alb-sg] you created) now Launch instance

3) Launch an Instance with name app-server2, AMI (Amazon Linux), Instance type (t2.micro), Select the keypair as (projectkey) , click on edit button on right side of Network settings select vpc (awsProject-vpc), Subnet (app-pvt-sub2 ), Auto-assign IP (Disable), Select existing security group as (app-sg), now Launch instance Copy the private key in your jump-server instance



Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IP
jump-server	i-038a29a7ddc437a95	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1a	-	23.
app-server2	i-008d3b4065ea1052f	Running	t2.micro	0/2 checks failed	View alarms +	us-east-1b	-	-
app-server1	i-0dafdd1098c5783ed	Running	t2.micro	0/2 checks failed	View alarms +	us-east-1a	-	-

```
>> scp -i <your key> <yourkey path> ec2-user@<private ip>:~
```

```
>> chmod 400 <your key>
```

Now you can ssh into your app-server1 and app-server2 instance

ssh into your jump-server and your private key should be present in home directory Now ssh into app-server1 and run the below commands # Update the system

```
>>> sudo yum update -y
```

```
[ec2-user@ip-20-0-1-247 ~]$ ll
total 4
-r----- 1 ec2-user ec2-user 1679 May 12 17:19 project.pem
[ec2-user@ip-20-0-1-247 ~]$ ssh -i "project.pem" ec2-user@20.0.5.51
The authenticity of host '20.0.5.51 (20.0.5.51)' can't be established.
ECDSA key fingerprint is SHA256:ovD39OKnh5w7hUVabjcHkgO2bpZlSf4xVpdgoOM5Pjs.
ECDSA key fingerprint is MD5:94:b9:bd:1b:a3:bf:70:23:8c:9c:e2:bf:b1:dd:5a:06.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '20.0.5.51' (ECDSA) to the list of known hosts.

#
~\##### Amazon Linux 2
~~\#####
~~\#####
~~\###| AL2 End of Life is 2026-06-30.
~~\#/
~~V~' '->
~~~
~~~. . / A newer version of Amazon Linux is available!
~~/ / / Amazon Linux 2023, GA and supported until 2028-03-15.
_/m/' / https://aws.amazon.com/linux/amazon-linux-2023/

No packages needed for security; 1 packages available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-20-0-5-51 ~]$ sudo yum update -y
Created symlink from /etc/systemd/system/multi-user.target.wants/httpd.service to /usr/lib/systemd/system/httpd.service.
[ec2-user@ip-20-0-5-51 ~]$ sudo systemctl is-enabled httpd
enabled
[ec2-user@ip-20-0-5-51 ~]$
```

>> sudo usermod -a -G apache ec2-user

# Change Ownership and Permissions for Web Directory>> sudo chown -R ec2-user:apache /var/www

>> sudo chmod 2775 /var/www && find /var/www -type d -exec sudo chmod 2775 {} \;

>> find /var/www -type f -exec sudo chmod 0664 {} \;

```
[ec2-user@ip-20-0-5-51 ~]$ sudo chown -R ec2-user:apache /var/www
[ec2-user@ip-20-0-5-51 ~]$ sudo chmod 2775 /var/www && find /var/www -type d -exec sudo chmod 2775 {} \;
[ec2-user@ip-20-0-5-51 ~]$ find /var/www -type f -exec sudo chmod 0664 {} \;
[ec2-user@ip-20-0-5-51 ~]$
```

>> sudo yum install php-mbstring php-xml -y

>> sudo yum install php-fpm

```
[ec2-user@ip-20-0-5-51 ~]$ sudo yum install php-fpm
Loaded plugins: extras suggestions, langpacks, priorities, update-motd
Resolving Dependencies
--> Running transaction check
--> Package php-fpm.x86_64 0:5.4.16-46.amzn2.0.6 will be installed
--> Finished Dependency Resolution

Dependencies Resolved

=====
Package Arch Version Repository Size
=====
Installing:
php-fpm x86_64 5.4.16-46.amzn2.0.6 amzn2-core 1.4 M
Transaction Summary
=====
Install 1 Package

Total download size: 1.4 M
Installed size: 4.5 M
Is this ok [y/d/N]:
```



# Restart Apache and PHP-FPM

>> sudo systemctl restart httpd

>> sudo systemctl restart php-fpm

```
[ec2-user@ip-20-0-5-51 ~]$ sudo systemctl restart httpd
[ec2-user@ip-20-0-5-51 ~]$ sudo systemctl restart php-fpm
[ec2-user@ip-20-0-5-51 ~]$
```

# Download and Set Up phpMyAdmin

>> cd /var/www/html

```
[ec2-user@ip-20-0-5-51 ~]$ sudo systemctl restart httpd
[ec2-user@ip-20-0-5-51 ~]$ sudo systemctl restart php-fpm
[ec2-user@ip-20-0-5-51 ~]$ cd /var/www/html
[ec2-user@ip-20-0-5-51 html]$ wget https://www.phpmyadmin.net/downloads/phpMyAdmin-latest-all-languages.tar.gz
--2025-05-12 17:32:01-- https://www.phpmyadmin.net/downloads/phpMyAdmin-latest-all-languages.tar.gz
Resolving www.phpmyadmin.net (www.phpmyadmin.net)... 79.127.206.208, 79.127.206.235, 2a02:6ea0:c400::53, ...
Connecting to www.phpmyadmin.net (www.phpmyadmin.net)|79.127.206.208|:443... connected.
HTTP request sent, awaiting response... 302 Found
Location: https://files.phpmyadmin.net/phpMyAdmin/5.2.2/phpMyAdmin-5.2.2-all-languages.tar.gz [following]
--2025-05-12 17:32:02-- https://files.phpmyadmin.net/phpMyAdmin/5.2.2/phpMyAdmin-5.2.2-all-languages.tar.gz
Resolving files.phpmyadmin.net (files.phpmyadmin.net)... 109.61.91.230, 109.61.91.198, 109.61.91.195, ...
Connecting to files.phpmyadmin.net (files.phpmyadmin.net)|109.61.91.230|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 13764534 (13M) [application/octet-stream]
Saving to: 'phpMyAdmin-latest-all-languages.tar.gz'

100%[=====]

2025-05-12 17:32:02 (77.7 MB/s) - 'phpMyAdmin-latest-all-languages.tar.gz' saved [13764534/13764534]

[ec2-user@ip-20-0-5-51 html]$
```

>> wget https://www.phpmyadmin.net/downloads/phpMyAdmin-latest-all-languages.tar.gz

```
[ec2-user@ip-20-0-5-51 html]$ mkdir phpMyAdmin && tar -xvzf phpMyAdmin-latest-all-languages.tar.gz -C phpMyAdmin --stripcomponents
tar: unrecognized option '--stripcomponents'
Try 'tar --help' or 'tar --usage' for more information.
[ec2-user@ip-20-0-5-51 html]$ mkdir phpMyAdmin && tar -xvzf phpMyAdmin-latest-all-languages.tar.gz -C phpMyAdmin --stripcomponents 1
mkdir: cannot create directory 'phpMyAdmin': File exists
[ec2-user@ip-20-0-5-51 html]$ rm phpMyAdmin-latest-all-languages.tar.gz
[ec2-user@ip-20-0-5-51 html]$
```

>> mkdir phpMyAdmin && tar -xvzf phpMyAdmin-latest-all-languages.tar.gz -C phpMyAdmin --strip-components 1

>> rm phpMyAdmin-latest-all-languages.tar.gz

# Create a Test Page and Test the Server

>> echo "PHP server 1" > /var/www/html/index.html

>> curl <http://localhost>

```
[ec2-user@ip-20-0-5-51 html]$ mkdir phpMyAdmin && tar -xvzf phpMyAdmin-latest-all-languages.tar.gz -C phpMyAdmin --stripcomponents
tar: unrecognized option '--stripcomponents'
Try 'tar --help' or 'tar --usage' for more information.
[ec2-user@ip-20-0-5-51 html]$ mkdir phpMyAdmin && tar -xvzf phpMyAdmin-latest-all-languages.tar.gz -C phpMyAdmin --stripcomponents 1
mkdir: cannot create directory 'phpMyAdmin': File exists
[ec2-user@ip-20-0-5-51 html]$ rm phpMyAdmin-latest-all-languages.tar.gz
[ec2-user@ip-20-0-5-51 html]$ echo "PHP server 1" > /var/www/html/index.html
[ec2-user@ip-20-0-5-51 html]$ curl http://localhost
PHP server 1
[ec2-user@ip-20-0-5-51 html]$
```

Now ssh into app-server2 and run the below commands

```
ec2-user ~
[ec2-user@ip-20-0-5-51 ~]$ uname
Linux
[ec2-user@ip-20-0-5-51 ~]$ nano project.pem
[ec2-user@ip-20-0-5-51 ~]$ ls
bin boot dev etc home lib lib64 local media mnt opt proc root
[ec2-user@ip-20-0-5-51 ~]$ sudo su
[root@ip-20-0-5-51 ~]# exit
exit
[ec2-user@ip-20-0-5-51 ~]$ touch project.pem
touch: cannot touch 'project.pem': Permission denied
[ec2-user@ip-20-0-5-51 ~]$ sudo touch project.pem
[ec2-user@ip-20-0-5-51 ~]$ sudo nano project.pem
[ec2-user@ip-20-0-5-51 ~]$ ssh -i "project.pem" ec2-user@20.0.6.172

      #_
     ~\  #####
    ~~ \_  #####\
    ~~  \###|
    ~~   \#/
    ~~    V~'  _->
    ~~~
    ~~-._.
    _/_/_/_/_/
    _/m/'_/_/_/_/

Amazon Linux 2

AL2 End of Life is 2026-06-30.

A newer version of Amazon Linux is available!

Amazon Linux 2023, GA and supported until 2028-03-15.
https://aws.amazon.com/linux/amazon-linux-2023/

No packages needed for security; 1 packages available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-20-0-6-172 ~]$
```

```
# Update the system
```

```
>> sudo yum update -y
```

```
[ec2-user@ip-20-0-6-172 ~]$ sudo yum update -y
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
amzn2-core
No Match for argument: -y
No packages marked for update
[ec2-user@ip-20-0-6-172 ~]$
```

## # Install PHP 8.2

```
>> sudo dnf install php8.2
```

```
>> sudo yum install php8.2-mysqlnd
```

```
[ec2-user@ip-20-0-6-172 ~]$ sudo yum install php8.2-mysqldb
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
No package php8.2-mysqldb available.
Error: Nothing to do
[ec2-user@ip-20-0-6-172 ~]$
```

```
>> sudo yum install -y httpd
```

```
>> sudo systemctl enable httpd
```

```
Complete!
[ec2-user@ip-20-0-6-172 ~]$ sudo systemctl start httpd
[ec2-user@ip-20-0-6-172 ~]$ sudo systemctl enable httpd
Created symlink from /etc/systemd/system/multi-user.target.wants/httpd.service to /usr/lib/systemd/system/httpd.service.
[ec2-user@ip-20-0-6-172 ~]$ sudo systemctl is-enabled httpd
enabled
[ec2-user@ip-20-0-6-172 ~]$
```

```
>> sudo usermod -a -G apache ec2-user
```

## # Change Ownership and Permissions for Web Directory

```
>> sudo chmod 2775 /var/www && find /var/www -type d -exec sudo chmod 2775 {} \;
```

```
[ec2-user@ip-20-0-6-172 ~]$ sudo usermod -a -G apache ec2-user
[ec2-user@ip-20-0-6-172 ~]$ sudo chown -R ec2-user:apache /var/www
[ec2-user@ip-20-0-6-172 ~]$ sudo chmod 2775 /var/www && find /var/www -type d -exec sudo chmod 2775 {} \;
[ec2-user@ip-20-0-6-172 ~]$ find /var/www -type f -exec sudo chmod 0664 {} \;
[ec2-user@ip-20-0-6-172 ~]$
```

```
>> sudo yum install php-mbstring php-xml -y
```

```
[ec2-user@ip-20-0-6-172 ~]$ sudo yum install php-mbstring php-xml -y
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
amzn2-core
Resolving Dependencies
--> Running transaction check
--> Package php-mbstring.x86_64 0:5.4.16-46.amzn2.0.6 will be installed
--> Processing Dependency: php-common(x86-64) = 5.4.16-46.amzn2.0.6 for package: php-mbstring-5.4.16-46.amzn2.0.6.x86_64
--> Package php-xml.x86_64 0:5.4.16-46.amzn2.0.6 will be installed
--> Processing Dependency: libxslt.so.1(LIBXML2 1.0.11) (64bit) for package: php-xml-5.4.16-46.amzn2.0.6.x86_64
--> Processing Dependency: libxslt.so.1(LIBXML2 1.0.13) (64bit) for package: php-xml-5.4.16-46.amzn2.0.6.x86_64
--> Processing Dependency: libxslt.so.1(LIBXML2 1.0.13) (64bit) for package: php-xml-5.4.16-46.amzn2.0.6.x86_64
```



```
[ec2-user@ip-20-0-6-172 ~]$ sudo yum install php-fpm
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
Resolving Dependencies
--> Running transaction check
---> Package php-fpm.x86_64 0:5.4.16-46.amzn2.0.6 will be installed
--> Finished Dependency Resolution

Dependencies Resolved

=====
Package                                Arch                                Version
=====
Installing:
php-fpm                                x86_64                              5.4.16-46.amzn2.0.6
=====
Transaction Summary
=====
Install 1 Package

Total download size: 1.4 M
Installed size: 4.5 M
Is this ok [y/d/N]:
```

# Restart Apache and PHP-FPM

>> sudo systemctl restart httpd

```
Is this ok [y/d/N]: sudo systemctl restart httpd
Is this ok [y/d/N]: y
Downloading packages:
php-fpm-5.4.16-46.amzn2.0.6.x86_64.rpm
Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
  Installing : php-fpm-5.4.16-46.amzn2.0.6.x86_64
  Verifying  : php-fpm-5.4.16-46.amzn2.0.6.x86_64

Installed:
php-fpm.x86_64 0:5.4.16-46.amzn2.0.6
```

>> sudo systemctl restart php-fpm

```
[ec2-user@ip-20-0-6-172 ~]$ sudo systemctl restart php-fpm
[ec2-user@ip-20-0-6-172 ~]$
```

# Download and Set Up phpMyAdmin

>> cd /var/www/html

>> wget https://www.phpmyadmin.net/downloads/phpMyAdmin-latest-all-languages.tar.gz>> mkdir phpMyAdmin &&  
tar -xvzf phpMyAdmin-latest-all-languages.tar.gz -C phpMyAdmin --strip-components 1

>> rm phpMyAdmin-latest-all-languages.tar.gz

```
[ec2-user@ip-20-0-6-172 ~]$ sudo systemctl restart php-fpm
[ec2-user@ip-20-0-6-172 ~]$ cd /var/www/html
[ec2-user@ip-20-0-6-172 html]$ wget https://www.phpmyadmin.net/downloads/phpMyAdmin-latest-all-languages.tar.gz
--2025-05-12 18:04:50-- https://www.phpmyadmin.net/downloads/phpMyAdmin-latest-all-languages.tar.gz
Resolving www.phpmyadmin.net (www.phpmyadmin.net)... 79.127.206.207, 79.127.206.234, 2a02:6ea0:c400::54, ...
Connecting to www.phpmyadmin.net (www.phpmyadmin.net)|79.127.206.207|:443... connected.
HTTP request sent, awaiting response... 302 Found
Location: https://files.phpmyadmin.net/phpMyAdmin/5.2.2/phpMyAdmin-5.2.2-all-languages.tar.gz [following]
--2025-05-12 18:04:50-- https://files.phpmyadmin.net/phpMyAdmin/5.2.2/phpMyAdmin-5.2.2-all-languages.tar.gz
Resolving files.phpmyadmin.net (files.phpmyadmin.net)... 109.61.91.230, 109.61.91.194, 109.61.91.198, ...
Connecting to files.phpmyadmin.net (files.phpmyadmin.net)|109.61.91.230|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 13764534 (13M) [application/octet-stream]
Saving to: 'phpMyAdmin-latest-all-languages.tar.gz'

100%[=====
2025-05-12 18:04:51 (70.6 MB/s) - 'phpMyAdmin-latest-all-languages.tar.gz' saved [13764534/13764534]

[ec2-user@ip-20-0-6-172 html]$
```

```
[ec2-user@ip-20-0-6-172 html]$ mkdir phpMyAdmin && tar -xvzf phpMyAdmin-latest-all-languages.tar.gz -C phpMyAdmin --stripcomponents 1
tar: unrecognized option '--stripcomponents'
Try 'tar --help' or 'tar --usage' for more information.
[ec2-user@ip-20-0-6-172 html]$ rm phpMyAdmin-latest-all-languages.tar.gz
[ec2-user@ip-20-0-6-172 html]$
```

# Create a Test Page and Test the Server

```
>> echo "PHP server 2" > /var/www/html/index.html
```

```
>> curl http://localhost
```

As you have downloaded Apache and phpMyAdmin to access them, you now need to:

Create the Target groups:

Go to target groups, create a target group with target type (Instance), name (app-tg), Port HTTP 80, IP address type IPv4, VPC (awsProject-vpc), Protocol version HTTP1, Health checks as HTTP, Health check path / and click on next, now select the app-server1 and app-server2 in Available instances, ports 80 click Include as pending below and click on Create target group.

The screenshot shows the AWS Management Console interface for Target Groups. At the top, there's a header 'Target groups (1/1)' with a search bar and a 'Create target group' button. Below this is a table listing target groups. The table has columns: Name, ARN, Port, Protocol, Target type, Load balancer, and VPC ID. One target group is listed: 'app-tg' with ARN 'arn:aws:elasticloadbalancing:us-east-1:495599772819:targetgroup/app-tg/3bdb07d4355bd956', Port 80, Protocol HTTP, Target type Instance, Load balancer 'None associated', and VPC ID 'vpc-0eb02a34f234a4fe8'.

Below the table, the details for the 'app-tg' target group are shown. It includes the ARN, Target type (Instance), IP address type (IPv4), Protocol : Port (HTTP: 80), Protocol version (HTTP1), and VPC (vpc-0eb02a34f234a4fe8). A summary bar shows: 2 Total targets, 0 Healthy, 0 Unhealthy, 2 Unused, 0 Initial, and 0 Draining. At the bottom, there's a section for 'Distribution of targets by Availability Zone (AZ)'.

Now take the load balancer DNS and past it on chrome browser you should see

PHP Server 1 and when you refresh the page it should show PHP Server 2 that means your load balancing is working as expected

Refract the page:And when you write phpMyAdmin after your domain name it should navigate to

**Successfully created load balancer: project-ALB**

It might take a few minutes for your load balancer to fully set up and route traffic. Targets will also take a few minutes to complete the registration process and pass initial health checks.

**Application Load Balancers now support public IPv4 IP Address Management (IPAM)**

You can get started with this feature by configuring **IP pools** in the **Network mapping** section.

Edit IP pools

project-ALB

Actions

▼ Details

<b>Load balancer type</b> Application	<b>Status</b> ⌚ Provisioning	<b>VPC</b> <a href="#">vpc-08613a51059f997a3</a>	<b>Load balancer IP address type</b> IPv4
<b>Scheme</b> Internet-facing	<b>Hosted zone</b> Z3SSXDOTRQ7X7K	<b>Availability Zones</b> <a href="#">subnet-022e862caac8a0230</a> (use1-az6) us-east-1a <a href="#">subnet-0732b4d59d269dfa7</a> (use1-az1) us-east-1b	<b>Date created</b> May 13, 2025, 22:16 (UTC+05:30)

**Load balancer ARN**  
[arn:aws:elasticloadbalancing:us-east-1:412381763704:loadbalancer/app/project-ALB/035104a377f0875a](#)

**DNS name Info**  
[project-ALB-936547313.us-east-1.elb.amazonaws.com](#) (A Record)

Listeners and rules

Network mapping

Resource map

Security

Monitoring

Integrations

Attributes

Capacity

Tags

**Listeners and rules (1)**

Info

Manage rules

Manage listener

Add listener

A listener checks for connection requests on its configured protocol and port. Traffic received by the listener is routed according to the default action and any additional rules.

Filter listeners

1

## Part 3

### Go to RDS

Select Subnet groups, Create a Subnet group and name it as db-subnetgroup, give description as db- subnetgroup, VPC (awsProject-vpc), Select the subnets that were created for db as (db-pvt-sub1 and db-pvt-sub2) and click on create

Now go to Databases, Click on Create database, select Stancerd create,

Engine options

(MySQL), Templates (

Free tier

), Settings

DB instance identifier (mydb- project), Master username (admin),

Credentials management (Self managed),

Master password (admin), Confirm password (admin),

Instance configuration

DB instance class (db.t3.micro),

Storage Click on Storage autoscaling



and uncheck the (Enable storage

autoscaling)

Connectivity

Compute resource (

Don't

	<u>Name</u>	<u>Last modified</u>	<u>Size</u>	<u>Description</u>
	<a href="#">Parent Directory</a>		-	
	<a href="#">config.inc.php</a>	2025-05-12 18:38	126	