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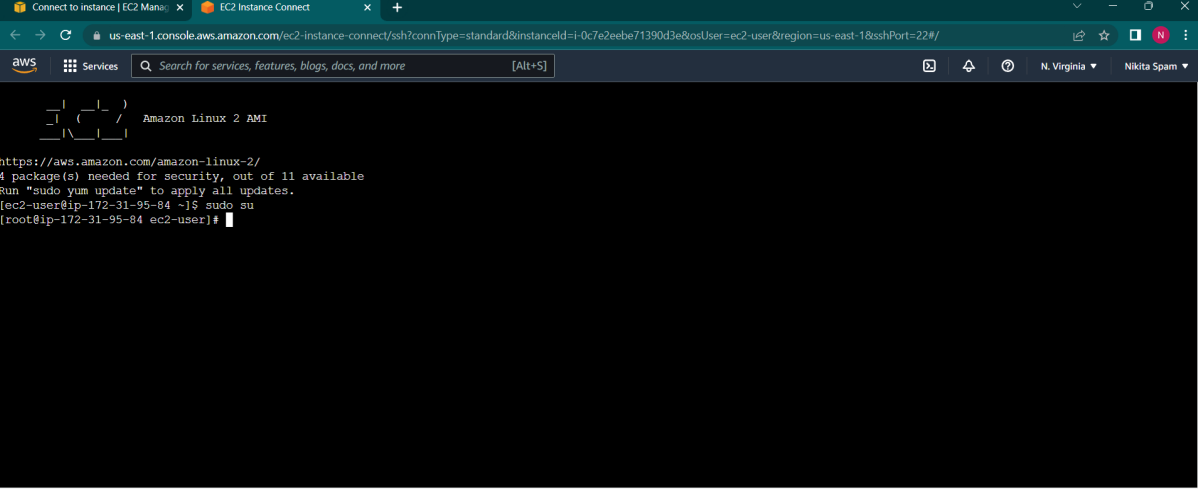
Nikita Dhona

## Experiment 2

**AIM:** To create a LAMP instance in the AWS CLI.

### PROCEDURE:

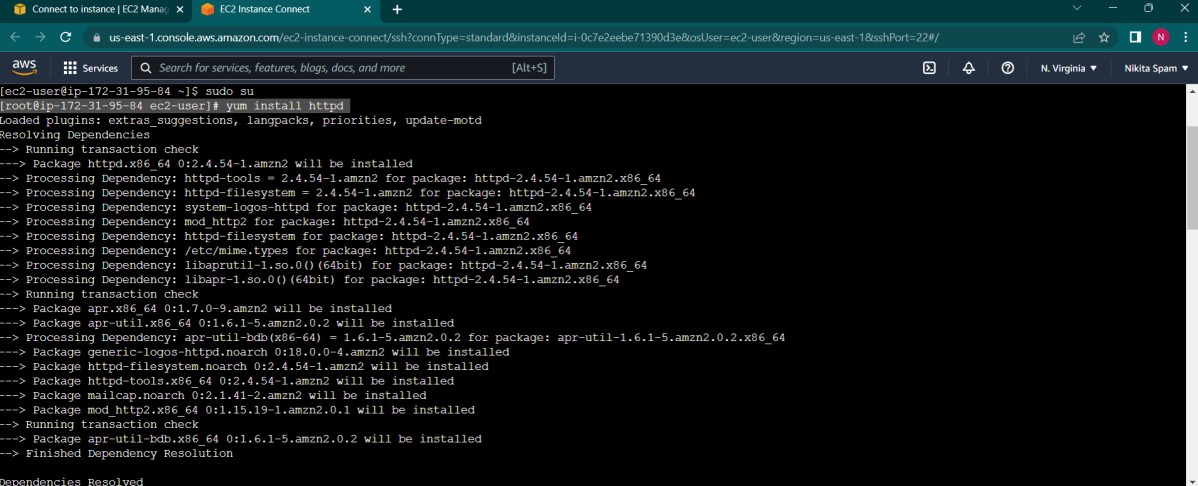
1. Firstly, type `sudo su` to become the root user.
2. To update all the packages in your instance type “`yum update -y`”.



```
Connect to instance | EC2 Manu... x EC2 Instance Connect x +
us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?connType=standard&instanceId=i-0c7e2eebe71390d3e&osUser=ec2-user&region=us-east-1&sshPort=22#/?
aws Services Search for services, features, blogs, docs, and more [Alt+S]
Amazon Linux 2 AMI
https://aws.amazon.com/amazon-linux-2/
4 package(s) needed for security, out of 11 available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-172-31-95-84 ~]$ sudo su
[root@ip-172-31-95-84 ec2-user]#
```

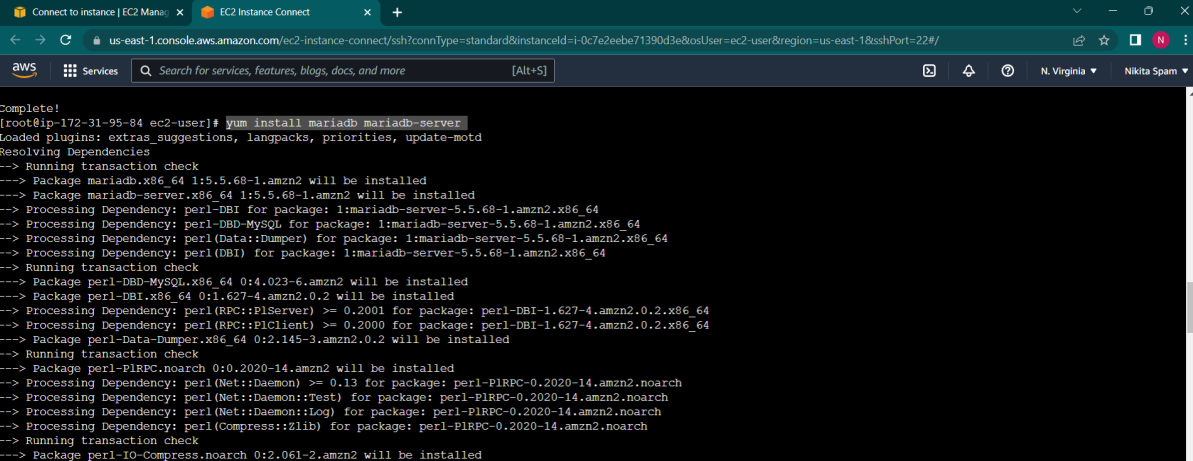
i-0c7e2eebe71390d3e (Nikita First Instance)  
PublicIPs: 52.90.34.159 PrivateIPs: 172.31.95.84

3. To install Apache server in linux, type “`yum install httpd`”



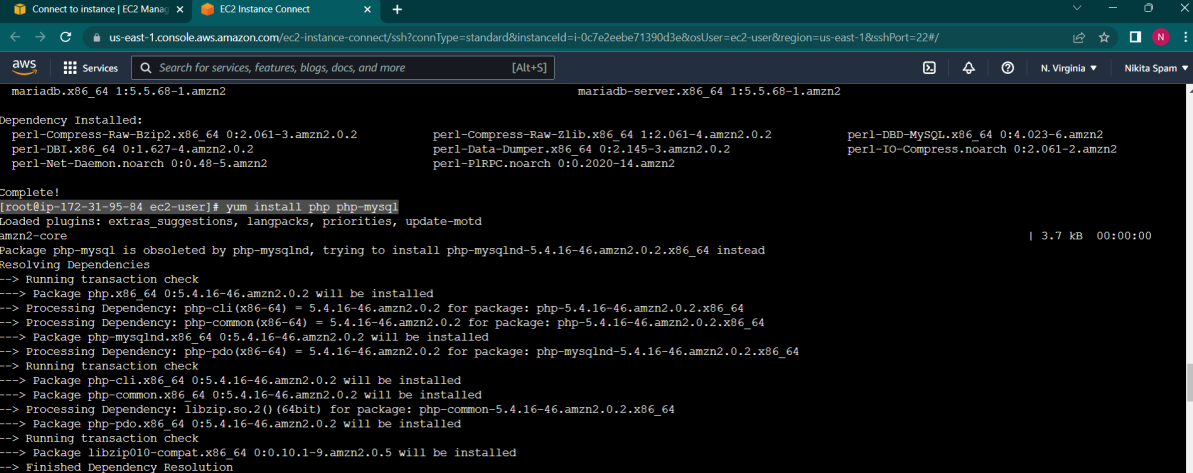
```
Connect to instance | EC2 Manu... x EC2 Instance Connect x +
us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?connType=standard&instanceId=i-0c7e2eebe71390d3e&osUser=ec2-user&region=us-east-1&sshPort=22#/?
aws Services Search for services, features, blogs, docs, and more [Alt+S]
[ec2-user@ip-172-31-95-84 ~]$ sudo su
[root@ip-172-31-95-84 ec2-user]# yum install httpd
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
Resolving Dependencies
--> Running transaction check
--> Package httpd.x86_64 0:2.4.54-1.amzn2 will be installed
--> Processing Dependency: httpd-tools = 2.4.54-1.amzn2 for package: httpd-2.4.54-1.amzn2.x86_64
--> Processing Dependency: httpd filesystem = 2.4.54-1.amzn2 for package: httpd-2.4.54-1.amzn2.x86_64
--> Processing Dependency: system-logos-httpd for package: httpd-2.4.54-1.amzn2.x86_64
--> Processing Dependency: mod_http2 for package: httpd-2.4.54-1.amzn2.x86_64
--> Processing Dependency: httpd filesystem for package: httpd-2.4.54-1.amzn2.x86_64
--> Processing Dependency: /etc/mime.types for package: httpd-2.4.54-1.amzn2.x86_64
--> Processing Dependency: libaprutil-1.so.0()(64bit) for package: httpd-2.4.54-1.amzn2.x86_64
--> Processing Dependency: libapr-1.so.0()(64bit) for package: httpd-2.4.54-1.amzn2.x86_64
--> Running transaction check
--> Package apr.x86_64 0:1.7.0-9.amzn2 will be installed
--> Package apr-util.x86_64 0:1.6.1-5.amzn2.0.2 will be installed
--> Processing Dependency: apr-util-bdb(x86-64) = 1.6.1-5.amzn2.0.2 for package: apr-util-1.6.1-5.amzn2.0.2.x86_64
--> Package generic-logos-httpd.noarch 0:18.0.0-4.amzn2 will be installed
--> Package httpd filesystem.noarch 0:2.4.54-1.amzn2 will be installed
--> Package httpd-tools.x86_64 0:2.4.54-1.amzn2 will be installed
--> Package mailcap.noarch 0:2.1.41-2.amzn2 will be installed
--> Package mod_http2.x86_64 0:1.15.19-1.amzn2.0.1 will be installed
--> Running transaction check
--> Package apr-util-bdb.x86_64 0:1.6.1-5.amzn2.0.2 will be installed
--> Finished Dependency Resolution
Dependencies Resolved
```

#### 4. To install mysql or mariadb type “yum install mariadb mariadb-server”.



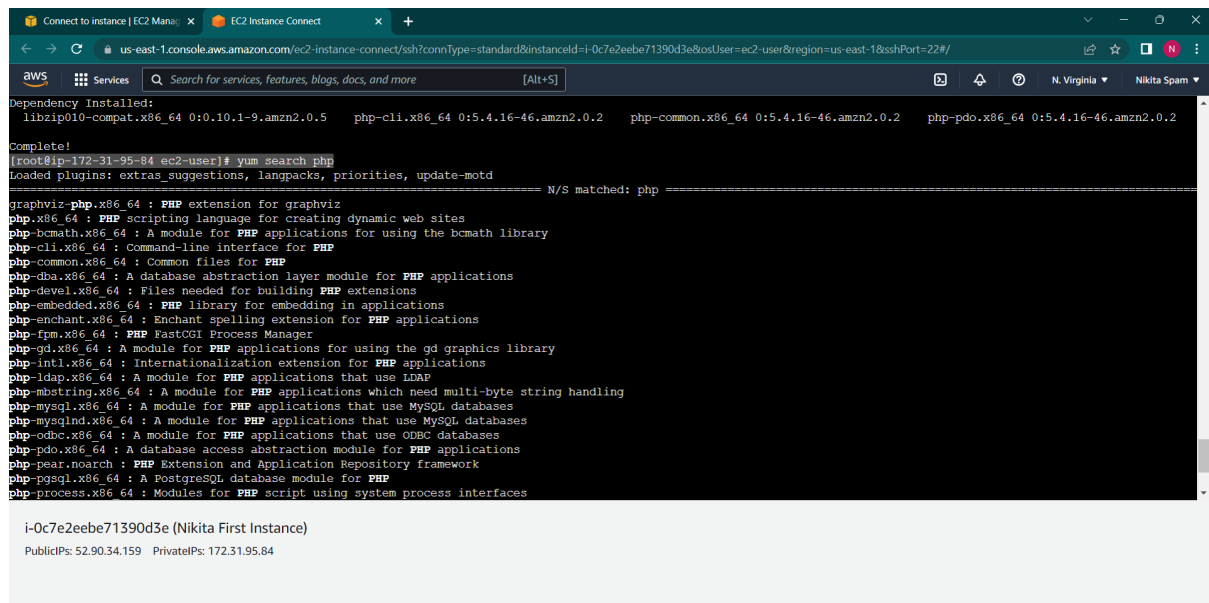
```
Complete!  
[root@ip-172-31-95-84 ec2-user]# yum install mariadb mariadb-server  
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd  
Resolving Dependencies  
--> Running transaction check  
--> Package mariadb.x86_64 1:5.5.68-1.amzn2 will be installed  
--> Package mariadb-server.x86_64 1:5.5.68-1.amzn2 will be installed  
--> Processing Dependency: perl-DBI for package: 1:mariadb-server-5.5.68-1.amzn2.x86_64  
--> Processing Dependency: perl-DBD-MySQL for package: 1:mariadb-server-5.5.68-1.amzn2.x86_64  
--> Processing Dependency: perl(Data::Dumper) for package: 1:mariadb-server-5.5.68-1.amzn2.x86_64  
--> Processing Dependency: perl(DBI) for package: 1:mariadb-server-5.5.68-1.amzn2.x86_64  
--> Running transaction check  
--> Package perl-DBD-MySQL.x86_64 0:4.023-6.amzn2 will be installed  
--> Package perl-DBI.x86_64 0:1.627-4.amzn2.0.2 will be installed  
--> Processing Dependency: perl(RPC::PlServer) >= 0.2001 for package: perl-DBI-1.627-4.amzn2.0.2.x86_64  
--> Processing Dependency: perl(RPC::PlClient) >= 0.2000 for package: perl-DBI-1.627-4.amzn2.0.2.x86_64  
--> Package perl-Data-Dumper.x86_64 0:2.145-3.amzn2.0.2 will be installed  
--> Running transaction check  
--> Package perl-PlRPC.noarch 0:0.2020-14.amzn2 will be installed  
--> Processing Dependency: perl(Net::Daemon) >= 0.13 for package: perl-PlRPC-0.2020-14.amzn2.noarch  
--> Processing Dependency: perl(Net::Daemon::Test) for package: perl-PlRPC-0.2020-14.amzn2.noarch  
--> Processing Dependency: perl(Net::Daemon::Log) for package: perl-PlRPC-0.2020-14.amzn2.noarch  
--> Processing Dependency: perl(Compress::Zlib) for package: perl-PlRPC-0.2020-14.amzn2.noarch  
--> Running transaction check  
--> Package perl-IO-Compress.noarch 0:2.061-2.amzn2 will be installed  
--> Processing Dependency: perl(Compress::Raw::Zlib) >= 2.061 for package: perl-IO-Compress-2.061-2.amzn2.noarch
```

#### 5. To install php, type “yum install php php-mysql”.



```
mariadb.x86_64 1:5.5.68-1.amzn2 mariadb-server.x86_64 1:5.5.68-1.amzn2  
Dependency Installed:  
perl-Compress-Raw-Bzip2.x86_64 0:2.061-3.amzn2.0.2 perl-Compress-Raw-Zlib.x86_64 1:2.061-4.amzn2.0.2 perl-DBD-MySQL.x86_64 0:4.023-6.amzn2  
perl-DBI.x86_64 0:1.627-4.amzn2.0.2 perl-Data-Dumper.x86_64 0:2.145-3.amzn2.0.2 perl-IO-Compress.noarch 0:2.061-2.amzn2  
perl-Net-Daemon.noarch 0:0.48-5.amzn2 perl-PlRPC.noarch 0:0.2020-14.amzn2  
Complete!  
[root@ip-172-31-95-84 ec2-user]# yum install php php-mysql  
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd  
amzn2-core | 3.7 kB 00:00:00  
Package php-mysql is obsoleted by php-mysqld, trying to install php-mysqld-5.4.16-46.amzn2.0.2.x86_64 instead  
Resolving Dependencies  
--> Running transaction check  
--> Package php.x86_64 0:5.4.16-46.amzn2.0.2 will be installed  
--> Processing Dependency: php-cli(x86-64) = 5.4.16-46.amzn2.0.2 for package: php-5.4.16-46.amzn2.0.2.x86_64  
--> Processing Dependency: php-common(x86-64) = 5.4.16-46.amzn2.0.2 for package: php-5.4.16-46.amzn2.0.2.x86_64  
--> Package php-mysqld.x86_64 0:5.4.16-46.amzn2.0.2 will be installed  
--> Processing Dependency: php-pdo(x86-64) = 5.4.16-46.amzn2.0.2 for package: php-mysqld-5.4.16-46.amzn2.0.2.x86_64  
--> Running transaction check  
--> Package php-cli.x86_64 0:5.4.16-46.amzn2.0.2 will be installed  
--> Package php-common.x86_64 0:5.4.16-46.amzn2.0.2 will be installed  
--> Processing Dependency: libzip.so.2() (64bit) for package: php-common-5.4.16-46.amzn2.0.2.x86_64  
--> Package php-pdo.x86_64 0:5.4.16-46.amzn2.0.2 will be installed  
--> Running transaction check  
--> Package libzip010-compat.x86_64 0:0.10.1-9.amzn2.0.5 will be installed  
--> Finished Dependency Resolution
```

6. Type “yum search php” to see all the packages installed in the server.

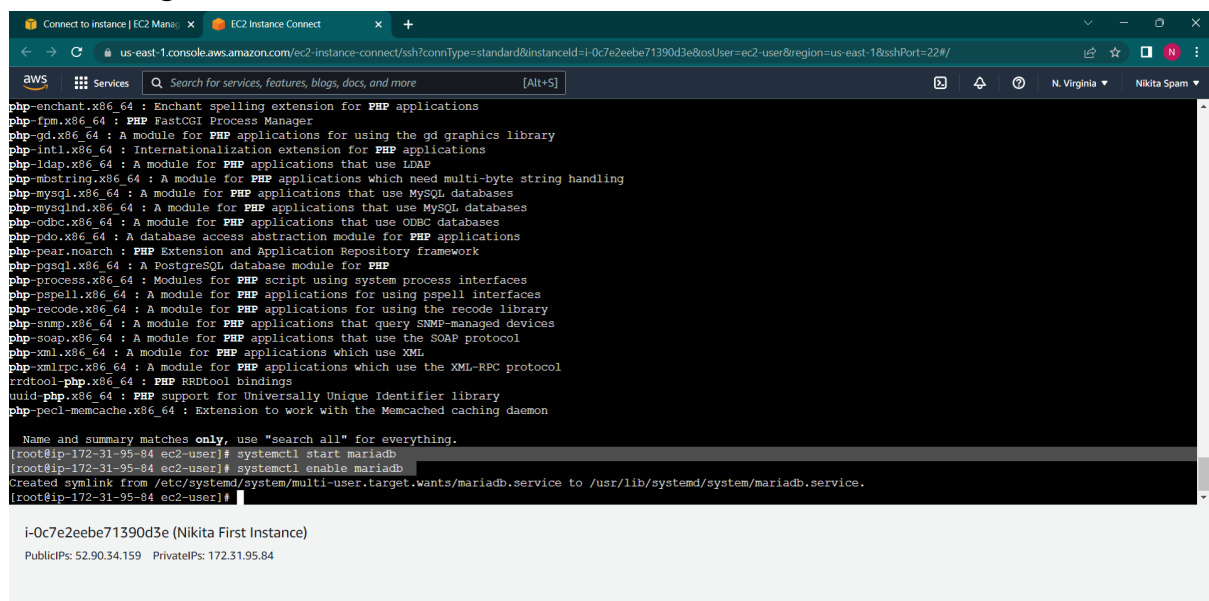


```
Dependency Installed:
  libzip010-compat.x86_64 0:0.10.1-9.amzn2.0.5      php-cli.x86_64 0:5.4.16-46.amzn2.0.2      php-common.x86_64 0:5.4.16-46.amzn2.0.2      php-pdo.x86_64 0:5.4.16-46.amzn2.0.2

Complete!
[root@ip-172-31-95-84 ec2-user]# yum search php
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
===== N/S matched: php =====
graphviz-php.x86_64 : PHP extension for graphviz
php.x86_64 : PHP scripting language for creating dynamic web sites
php-bcmath.x86_64 : A module for PHP applications for using the bcmath library
php-cli.x86_64 : Command-line interface for PHP
php-common.x86_64 : Common files for PHP
php-dba.x86_64 : A database abstraction layer module for PHP applications
php-devel.x86_64 : Files needed for building PHP extensions
php-embedded.x86_64 : PHP library for embedding in applications
php-enchant.x86_64 : Enchant spelling extension for PHP applications
php-fpm.x86_64 : PHP FastCGI Process Manager
php-gd.x86_64 : A module for PHP applications for using the gd graphics library
php-intl.x86_64 : Internationalization extension for PHP applications
php-ldap.x86_64 : A module for PHP applications that use LDAP
php-mbstring.x86_64 : A module for PHP applications which need multi-byte string handling
php-mysql.x86_64 : A module for PHP applications that use MySQL databases
php-mysqli.x86_64 : A module for PHP applications that use MySQL databases
php-odbc.x86_64 : A module for PHP applications that use ODBC databases
php-pdo.x86_64 : A database access abstraction module for PHP applications
php-pear.noarch : PHP Extension and Application Repository framework
php-pgsql.x86_64 : A PostgreSQL database module for PHP
php-process.x86_64 : Modules for PHP script using system process interfaces

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```

7. Enabling the mariadb server.



```
php-enchant.x86_64 : Enchant spelling extension for PHP applications
php-fpm.x86_64 : PHP FastCGI Process Manager
php-gd.x86_64 : A module for PHP applications for using the gd graphics library
php-intl.x86_64 : Internationalization extension for PHP applications
php-ldap.x86_64 : A module for PHP applications that use LDAP
php-mbstring.x86_64 : A module for PHP applications which need multi-byte string handling
php-mysql.x86_64 : A module for PHP applications that use MySQL databases
php-mysqli.x86_64 : A module for PHP applications that use MySQL databases
php-odbc.x86_64 : A module for PHP applications that use ODBC databases
php-pdo.x86_64 : A database access abstraction module for PHP applications
php-pear.noarch : PHP Extension and Application Repository framework
php-pgsql.x86_64 : A PostgreSQL database module for PHP
php-process.x86_64 : Modules for PHP script using system process interfaces
php-pspell.x86_64 : A module for PHP applications for using pspell interfaces
php-recode.x86_64 : A module for PHP applications for using the recode library
php-snmp.x86_64 : A module for PHP applications that query SNMP-managed devices
php-soap.x86_64 : A module for PHP applications that use the SOAP protocol
php-xml.x86_64 : A module for PHP applications which use XML
php-xmlrpc.x86_64 : A module for PHP applications which use the XML-RPC protocol
rdbtool-php.x86_64 : PHP RDBtool bindings
uid-php.x86_64 : PHP support for Universally Unique Identifier library
php-pecl-memcache.x86_64 : Extension to work with the Memcached caching daemon

Name and summary matches only, use "search all" for everything.
[root@ip-172-31-95-84 ec2-user]# systemctl start mariadb
[root@ip-172-31-95-84 ec2-user]# systemctl enable mariadb
Created symlink from /etc/systemd/system/multi-user.target.wants/mariadb.service to /usr/lib/systemd/system/mariadb.service.
[root@ip-172-31-95-84 ec2-user]#

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```

8. After enabling httpd (apache server) , go to the directory where cd /var/www/html/

9. Go to vim and type “vim index.php”.

```
aws
Services
Search for services, features, blogs, docs, and more [Alt+S]
N. Virginia Nikita Spam

php-mbstring.x86_64 : A module for PHP applications which need multi-byte string handling
php-mysql.x86_64 : A module for PHP applications that use MySQL databases
php-mysqli.x86_64 : A module for PHP applications that use MySQL databases
php-odbc.x86_64 : A module for PHP applications that use ODBC databases
php-pdo.x86_64 : A database access abstraction module for PHP applications
php-pear.noarch : PHP Extension and Application Repository framework
php-pgsql.x86_64 : A PostgreSQL database module for PHP
php-process.x86_64 : Modules for PHP script using system process interfaces
php-pspell.x86_64 : A module for PHP applications for using pspell interfaces
php-recode.x86_64 : A module for PHP applications for using the recode library
php-snmp.x86_64 : A module for PHP applications that query SNMP-managed devices
php-soap.x86_64 : A module for PHP applications that use the SOAP protocol
php-xml.x86_64 : A module for PHP applications which use XML
php-xmlrpc.x86_64 : A module for PHP applications which use the XML-RPC protocol
rrdtool-php.x86_64 : PHP RRDtool bindings
uuid-php.x86_64 : PHP support for Universally Unique Identifier library
php-pecl-memcache.x86_64 : Extension to work with the Memcached caching daemon

Name and summary matches only, use "search all" for everything.
[root@ip-172-31-95-84 ec2-user]# systemctl start mariadb
[root@ip-172-31-95-84 ec2-user]# systemctl enable mariadb
Created symlink from /etc/systemd/system/multi-user.target.wants/mariadb.service to /usr/lib/systemd/system/mariadb.service.
[root@ip-172-31-95-84 ec2-user]# cd /var/www/html
[root@ip-172-31-95-84 html]# ls
[root@ip-172-31-95-84 html]# pwd
/var/www/html
[root@ip-172-31-95-84 html]# vim index.php
[root@ip-172-31-95-84 html]#
```

i-Oc7e2eebe71390d3e (Nikita First Instance)  
PublicIPs: 52.90.34.159 PrivateIPs: 172.31.95.84

## Output:

PHP Version 5.4.16	
System	Linux ip-172-31-32-239 ap-south-1 compute internal 5.10.130-118.517.amzn2.x86_64 #1 SMP Wed Jul 13 18:51:52 UTC 2022 x86_64
Build Date	Oct 31 2018 18:35:17
Server API	Apache 2.0 Handler
Virtual Directory Support	disabled
Configuration File (php.ini) Path	/etc
Loaded Configuration File	/etc/php.ini
Scan this dir for additional .ini files	/etc/php.d
Additional .ini files parsed	/etc/php.d/curl.ini, /etc/php.d/fileinfo.ini, /etc/php.d/gd.ini, /etc/php.d/gettext.ini, /etc/php.d/iconv.ini, /etc/php.d/imap.ini, /etc/php.d/intl.ini, /etc/php.d/json.ini, /etc/php.d/libxml.ini, /etc/php.d/mcrypt.ini, /etc/php.d/mysqli.ini, /etc/php.d/mysqlnd.ini, /etc/php.d/openssl.ini, /etc/php.d/pdo.ini, /etc/php.d/pdo_mysql.ini, /etc/php.d/pdo_sqlite.ini, /etc/php.d/soap.ini, /etc/php.d/tokenizer.ini, /etc/php.d/xml.ini, /etc/php.d/xmlrpc.ini, /etc/php.d/xsl.ini
PHP API	20100412
PHP Extension	20100525
Zend Extension	220100525
Zend Extension Build	API220100525.NTS
PHP Extension Build	API20100525.NTS
Debug Build	no
Thread Safety	disabled
Zend Signal Handling	disabled
Zend Memory Manager	enabled
Zend Multibyte	disabled

**RESULT:** LAMP instance was successfully created and executed in AWS CLI.