Name: Priyanshu Maheshwari

Reg. No.: RA2011028010091

Batch: CSE-K2

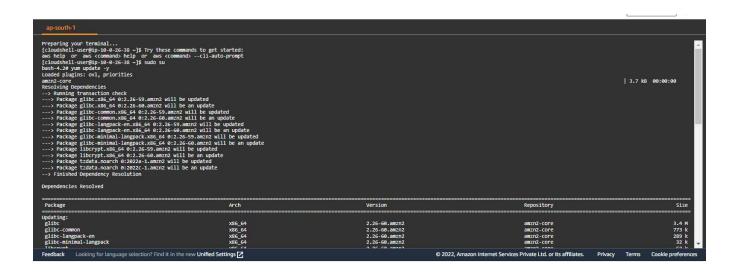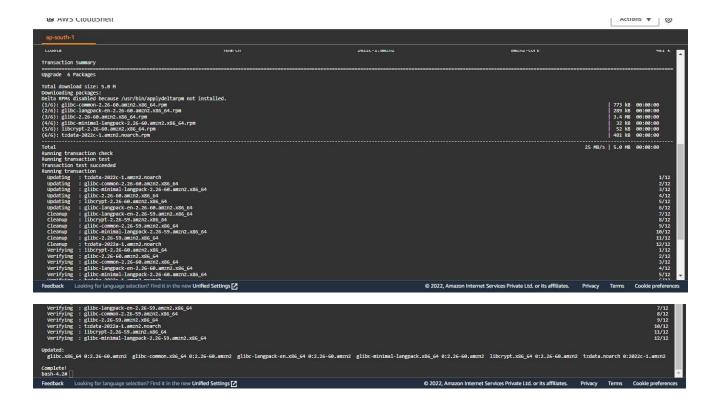--

Experiment 2 - Creating Amazon EC2 Instances - Creating a LAMP Instance in the AWS CLI

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

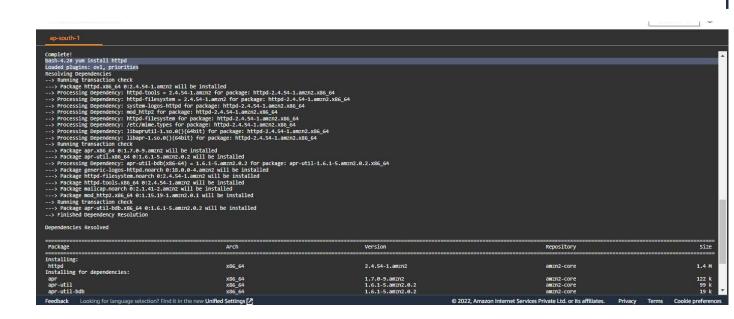**PROCEDURE:**

1. Firstly, type sudo su to become the root user.

2. To update all the packages in your instance type "yum update -y"

```
ap-south-1

tzdata                                noarch              2022c-1.amzn2              amzn2-core                  481 k

Transaction Summary
================================================================================
Upgrade  6 Packages

Total download size: 5.0 M
Downloading packages:
Delta RPMs disabled because /usr/bin/applydeltarpm not installed.
(1/6): glibc-common-2.26-60.amzn2.x86_64.rpm                          | 773 kB  00:00:00
(2/6): glibc-langpack-en-2.26-60.amzn2.x86_64.rpm                     | 289 kB  00:00:00
(3/6): glibc-2.26-60.amzn2.x86_64.rpm                                 | 3.4 MB  00:00:00
(4/6): glibc-minimal-langpack-2.26-60.amzn2.x86_64.rpm               |  32 kB  00:00:00
(5/6): libcrypt-2.26-60.amzn2.x86_64.rpm                              |  52 kB  00:00:00
(6/6): tzdata-2022c-1.amzn2.noarch.rpm                               | 481 kB  00:00:00
--------------------------------------------------------------------------------
Total                                                    25 MB/s | 5.0 MB  00:00:00
Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
  Updating   : tzdata-2022c-1.amzn2.noarch                              1/12
  Updating   : glibc-common-2.26-60.amzn2.x86_64                        2/12
  Updating   : glibc-minimal-langpack-2.26-60.amzn2.x86_64              3/12
  Updating   : glibc-2.26-60.amzn2.x86_64                               4/12
  Updating   : libcrypt-2.26-60.amzn2.x86_64                            5/12
  Updating   : glibc-langpack-en-2.26-60.amzn2.x86_64                   6/12
  Cleanup    : glibc-langpack-en-2.26-59.amzn2.x86_64                   7/12
  Cleanup    : libcrypt-2.26-59.amzn2.x86_64                            8/12
  Cleanup    : glibc-common-2.26-59.amzn2.x86_64                        9/12
  Cleanup    : glibc-minimal-langpack-2.26-59.amzn2.x86_64             10/12
  Cleanup    : glibc-2.26-59.amzn2.x86_64                              11/12
  Cleanup    : tzdata-2022a-1.amzn2.noarch                             12/12
  Verifying  : libcrypt-2.26-60.amzn2.x86_64                            1/12
  Verifying  : glibc-2.26-60.amzn2.x86_64                               2/12
  Verifying  : glibc-common-2.26-60.amzn2.x86_64                        3/12
  Verifying  : glibc-langpack-en-2.26-60.amzn2.x86_64                   4/12
  Verifying  : glibc-minimal-langpack-2.26-60.amzn2.x86_64             5/12
```

```
  Verifying  : glibc-langpack-en-2.26-59.amzn2.x86_64                   7/12
  Verifying  : glibc-common-2.26-59.amzn2.x86_64                        8/12
  Verifying  : glibc-2.26-59.amzn2.x86_64                               9/12
  Verifying  : tzdata-2022a-1.amzn2.noarch                             10/12
  Verifying  : libcrypt-2.26-59.amzn2.x86_64                           11/12
  Verifying  : glibc-minimal-langpack-2.26-59.amzn2.x86_64            12/12

Updated:
  glibc.x86_64 0:2.26-60.amzn2  glibc-common.x86_64 0:2.26-60.amzn2  glibc-langpack-en.x86_64 0:2.26-60.amzn2  glibc-minimal-langpack.x86_64 0:2.26-60.amzn2  libcrypt.x86_64 0:2.26-60.amzn2  tzdata.noarch 0:2022c-1.amzn2

Complete!
bash-4.2#
```

3. To install Apache server in linux, type "yum install httpd".


```
ap-south-1

Complete!
bash-4.2# yum install httpd
Loaded plugins: ovl, priorities
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

================================================================================
 Package              Arch          Version              Repository        Size
================================================================================
Installing:
 httpd                x86_64        2.4.54-1.amzn2       amzn2-core       1.4 M
Installing for dependencies:
 apr                  x86_64        1.7.0-9.amzn2        amzn2-core       122 k
 apr-util             x86_64        1.6.1-5.amzn2.0.2    amzn2-core        99 k
 apr-util-bdb         x86_64        1.6.1-5.amzn2.0.2    amzn2-core        19 k
```
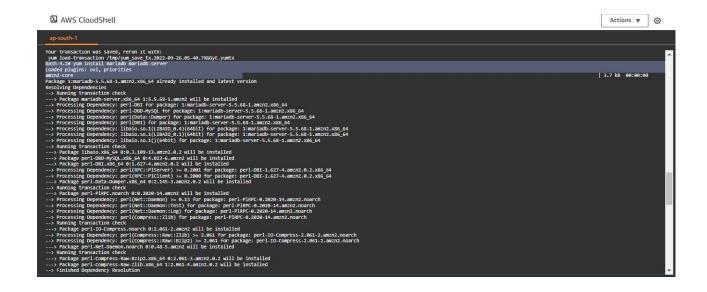
```
============================================================================================================
 Package                Arch              Version                        Repository                    Size
============================================================================================================
Installing:
 httpd                  x86_64            2.4.54-1.amzn2                 amzn2-core                   1.4 M
Installing for dependencies:
 apr                    x86_64            1.7.0-9.amzn2                  amzn2-core                   122 k
 apr-util               x86_64            1.6.1-5.amzn2.0.2              amzn2-core                    99 k
 apr-util-bdb           x86_64            1.6.1-5.amzn2.0.2              amzn2-core                    19 k
 generic-logos-httpd    noarch            18.0.0-4.amzn2                 amzn2-core                    19 k
 httpd-filesystem       noarch            2.4.54-1.amzn2                 amzn2-core                    24 k
 httpd-tools            x86_64            2.4.54-1.amzn2                 amzn2-core                    88 k
 mailcap                noarch            2.1.41-2.amzn2                 amzn2-core                    31 k
 mod_http2              x86_64            1.15.19-1.amzn2.0.1            amzn2-core                   149 k

Transaction Summary
============================================================================================================
Install  1 Package (+8 Dependent packages)

Total download size: 1.9 M
Installed size: 5.2 M
Is this ok [y/d/N]:
```
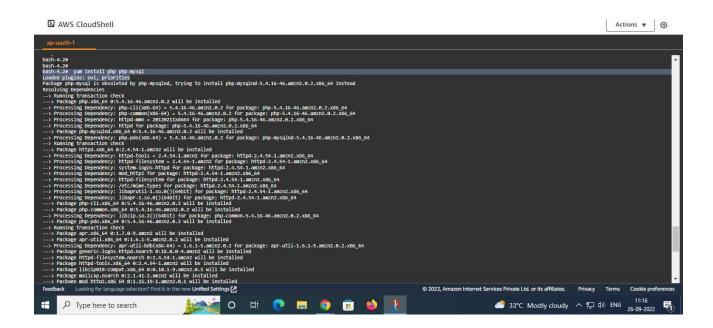
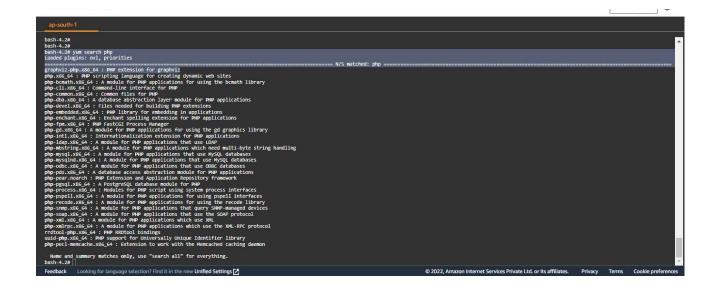## 4. To install mysql or mariadb type "yum install mariadb mariadb-server".

```
ap-south-1

Your transaction was saved, rerun it with:
 yum load-transaction /tmp/yum_save_tx.2022-09-26.05-40.7XGGyE.yumtx
bash-4.2# yum install mariadb mariadb-server
Loaded plugins: ovl, priorities
amzn2-core                                                                          | 3.7 kB  00:00:00
Package 1:mariadb-5.5.68-1.amzn2.x86_64 already installed and latest version
Resolving Dependencies
--> Running transaction check
---> 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
--> Processing Dependency: libaio.so.1(LIBAIO_0.4)(64bit) for package: 1:mariadb-server-5.5.68-1.amzn2.x86_64
--> Processing Dependency: libaio.so.1(LIBAIO_0.1)(64bit) for package: 1:mariadb-server-5.5.68-1.amzn2.x86_64
--> Processing Dependency: libaio.so.1()(64bit) for package: 1:mariadb-server-5.5.68-1.amzn2.x86_64
--> Running transaction check
---> Package libaio.x86_64 0:0.3.109-13.amzn2.0.2 will be installed
---> 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
--> Processing Dependency: perl(Compress::Raw::Bzip2) >= 2.061 for package: perl-IO-Compress-2.061-2.amzn2.noarch
---> Package perl-Net-Daemon.noarch 0:0.48-5.amzn2 will be installed
--> Running transaction check
---> Package perl-Compress-Raw-Bzip2.x86_64 0:2.061-3.amzn2.0.2 will be installed
---> Package perl-Compress-Raw-Zlib.x86_64 1:2.061-4.amzn2.0.2 will be installed
--> Finished Dependency Resolution
```

```
ap-south-1
 .

============================================================================================================
 Package                    Arch          Version                    Repository                     Size
============================================================================================================
Installing:
 mariadb-server             x86_64        1:5.5.68-1.amzn2           amzn2-core                    11 M
Installing for dependencies:
 libaio                     x86_64        0.3.109-13.amzn2.0.2       amzn2-core                    24 k
 perl-Compress-Raw-Bzip2    x86_64        2.061-3.amzn2.0.2          amzn2-core                    32 k
 perl-Compress-Raw-Zlib     x86_64        1:2.061-4.amzn2.0.2        amzn2-core                    58 k
 perl-DBD-MySQL             x86_64        4.023-6.amzn2              amzn2-core                    141 k
 perl-DBI                   x86_64        1.627-4.amzn2.0.2          amzn2-core                    804 k
 perl-Data-Dumper           x86_64        2.145-3.amzn2.0.2          amzn2-core                    48 k
 perl-IO-Compress           noarch        2.061-2.amzn2             amzn2-core                    260 k
 perl-Net-Daemon            noarch        0.48-5.amzn2              amzn2-core                    51 k
 perl-PlRPC                 noarch        0.2020-14.amzn2           amzn2-core                    36 k

Transaction Summary
============================================================================================================
Install  1 Package (+9 Dependent packages)

Total download size: 13 M
Installed size: 61 M
Is this ok [y/d/N]: y
Downloading packages:
(1/10): libaio-0.3.109-13.amzn2.0.2.x86_64.rpm                                       |  24 kB  00:00:00
(2/10): perl-Compress-Raw-Bzip2-2.061-3.amzn2.0.2.x86_64.rpm                         |  32 kB  00:00:00
(3/10): perl-Compress-Raw-Zlib-2.061-4.amzn2.0.2.x86_64.rpm                          |  58 kB  00:00:00
(4/10): perl-DBD-MySQL-4.023-6.amzn2.x86_64.rpm                                      | 141 kB  00:00:00
(5/10): perl-DBI-1.627-4.amzn2.0.2.x86_64.rpm                                        | 804 kB  00:00:00
(6/10): perl-Data-Dumper-2.145-3.amzn2.0.2.x86_64.rpm                                |  48 kB  00:00:00
(7/10): perl-IO-Compress-2.061-2.amzn2.noarch.rpm                                    | 260 kB  00:00:00
(8/10): perl-Net-Daemon-0.48-5.amzn2.noarch.rpm                                      |  51 kB  00:00:00
(9/10): perl-PlRPC-0.2020-14.amzn2.noarch.rpm                                        |  36 kB  00:00:00
(10/10): mariadb-server-5.5.68-1.amzn2.x86_64.rpm                                    |  11 MB  00:00:00
------------------------------------------------------------------------------------------------------------
Total                                                                        36 MB/s |  13 MB  00:00:00
Running transaction check
```

```
ap-south-1
(9/10): perl-PlRPC-0.2020-14.amzn2.noarch.rpm                                                        | 36 kB  00:00:00
(10/10): mariadb-server-5.5.68-1.amzn2.x86_64.rpm                                                    | 11 MB  00:00:00
------------------------------------------------------------------------------------------------------------------
Total                                                                                     36 MB/s | 13 MB  00:00:00
Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
  Installing : perl-Data-Dumper-2.145-3.amzn2.0.2.x86_64                                                       1/10
  Installing : perl-Compress-Raw-Bzip2-2.061-3.amzn2.0.2.x86_64                                                2/10
  Installing : libaio-0.3.109-13.amzn2.0.2.x86_64                                                              3/10
  Installing : perl-Net-Daemon-0.48-5.amzn2.noarch                                                             4/10
  Installing : 1:perl-Compress-Raw-Zlib-2.061-4.amzn2.0.2.x86_64                                               5/10
  Installing : perl-IO-Compress-2.061-2.amzn2.noarch                                                           6/10
  Installing : perl-PlRPC-0.2020-14.amzn2.noarch                                                               7/10
  Installing : perl-DBI-1.627-4.amzn2.0.2.x86_64                                                               8/10
  Installing : perl-DBD-MySQL-4.023-6.amzn2.x86_64                                                             9/10
  Installing : 1:mariadb-server-5.5.68-1.amzn2.x86_64                                                         10/10
  Verifying  : 1:perl-Compress-Raw-Zlib-2.061-4.amzn2.0.2.x86_64                                               1/10
  Verifying  : perl-IO-Compress-2.061-2.amzn2.noarch                                                           2/10
  Verifying  : perl-Net-Daemon-0.48-5.amzn2.noarch                                                             3/10
  Verifying  : libaio-0.3.109-13.amzn2.0.2.x86_64                                                              4/10
  Verifying  : perl-Data-Dumper-2.145-3.amzn2.0.2.x86_64                                                       5/10
  Verifying  : perl-DBD-MySQL-4.023-6.amzn2.x86_64                                                             6/10
  Verifying  : 1:mariadb-server-5.5.68-1.amzn2.x86_64                                                          7/10
  Verifying  : perl-Compress-Raw-Bzip2-2.061-3.amzn2.0.2.x86_64                                                8/10
  Verifying  : perl-DBI-1.627-4.amzn2.0.2.x86_64                                                               9/10
  Verifying  : perl-PlRPC-0.2020-14.amzn2.noarch                                                              10/10

Installed:
  mariadb-server.x86_64 1:5.5.68-1.amzn2

Dependency Installed:
  libaio.x86_64 0:0.3.109-13.amzn2.0.2       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!
bash-4.2#
```

5. To install php, type "yum install php php-mysql".

```
ap-south-1
bash-4.2#
bash-4.2#
bash-4.2#  yum install php php-mysql
Loaded plugins: ovl, priorities
Package php-mysql is obsoleted by php-mysqlnd, trying to install php-mysqlnd-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
--> Processing Dependency: httpd-mmn = 20120211x8664 for package: php-5.4.16-46.amzn2.0.2.x86_64
--> Processing Dependency: httpd for package: php-5.4.16-46.amzn2.0.2.x86_64
---> Package php-mysqlnd.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-mysqlnd-5.4.16-46.amzn2.0.2.x86_64
--> 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
---> 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 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 libzip010-compat.x86_64 0:0.10.1-9.amzn2.0.5 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
```

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

```
bash-4.2#
bash-4.2#
bash-4.2# yum search php
Loaded plugins: ovl, priorities
========================================================= 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-mysqlnd.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.
bash-4.2#
```

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