

EXPERIMENT 2

Aim :- Creating Amazon EC2 Instances - Creating a LAMP Instance in the AWS CLI

A] Creating Amazon EC2 Instance

Commands for EC2 :

1) AWS Configure

```
aws  Services  Search for services, features, blogs, docs, and more  [Alt+S]  Mumbai  Pushpita05

Verifying : tzdata-2022c-1.amzn2.noarch 10/21
Verifying : chrony-4.2-5.amzn2.0.2.x86_64 11/21
Verifying : gnupg2-2.0.22-5.amzn2.0.4.x86_64 12/21
Verifying : 12:dhcp-liba-4.2.5-77.amzn2.1.6.x86_64 13/21
Verifying : 12:dhclient-4.2.5-77.amzn2.1.6.x86_64 14/21
Verifying : kernel-tools-5.10.130-118.517.amzn2.x86_64 15/21
Verifying : 12:dhcp-common-4.2.5-77.amzn2.1.6.x86_64 16/21
Verifying : tzdata-2022a-1.amzn2.noarch 17/21
Verifying : chrony-4.0-3.amzn2.0.2.x86_64 18/21
Verifying : 2:microcode_ctl-2.1-47.amzn2.0.12.x86_64 19/21
Verifying : ec2-net-utils-1.7.0-1.amzn2.noarch 20/21
Verifying : amazon-ssm-agent-3.1.1575.0-1.amzn2.x86_64 21/21

Installed:
kernel.x86_64 0:5.10.135-122.509.amzn2

Updated:
amazon-ssm-agent.x86_64 0:3.1.1732.0-1.amzn2
chrony.x86_64 0:4.2-5.amzn2.0.2
dhclient.x86_64 12:4.2.5-79.amzn2.1.1
dhcp-common.x86_64 12:4.2.5-79.amzn2.1.1
dhcp-liba.x86_64 12:4.2.5-79.amzn2.1.1
ec2-net-utils.noarch 0:1.7.1-1.amzn2
gnupg2.x86_64 0:2.0.22-5.amzn2.0.5
kernel-tools.x86_64 0:5.10.135-122.509.amzn2
microcode_ctl.x86_64 2:2.1-47.amzn2.0.13
tzdata.noarch 0:2022c-1.amzn2

Complete!
[root@ip-172-31-43-76 ec2-user]#

i-Oa287588372bf330a (pushpita)

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```

Create EC2

```

AWS [Services] Search for services, features, blogs, docs, and more [Alt+S] Mumbai Pushpit05
--> Package tzdata.noarch 0:2022c-1.amzn2 will be an update
--> Finished Dependency Resolution

Dependencies Resolved

Package Arch Version Repository Size
-----
Installing:
kernel x86_64 5.10.135-122.509.amzn2 amzn2extra-kernel-5.10 32 M
Updating:
amazon-ssm-agent x86_64 3.1.1732.0-1.amzn2 amzn2-core 24 M
chrony x86_64 4.2-5.amzn2.0.2 amzn2-core 302 k
dnsclient x86_64 12:4.2.5-79.amzn2.1.1 amzn2-core 287 k
dncp-common x86_64 12:4.2.5-79.amzn2.1.1 amzn2-core 177 k
dncp-libc x86_64 12:4.2.5-79.amzn2.1.1 amzn2-core 132 k
ec2-net-utils noarch 1.7.1-1.amzn2 amzn2-core 21 k
gnupg2 x86_64 2.0.22-5.amzn2.0.5 amzn2-core 1.5 M
kernel-tools x86_64 5.10.135-122.509.amzn2 amzn2extra-kernel-5.10 176 k
microcode_ctl x86_64 2:2.1-47.amzn2.0.13 amzn2-core 299 k
tzdata noarch 2022c-1.amzn2 amzn2-core 481 k

Transaction Summary

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```

```
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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-172-31-43-76 ~]$ sudo su
[root@ip-172-31-43-76 ec2-user]# yum update -y
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
Resolving Dependencies
--> Running transaction check
--> Package amazon-ssm-agent.x86_64 0:3.1.1575.0-1.amzn2 will be updated
--> Package amazon-ssm-agent.x86_64 0:3.1.1732.0-1.amzn2 will be an update
--> Package chrony.x86_64 0:4.0-3.amzn2.0.2 will be updated
--> Package chrony.x86_64 0:4.2-5.amzn2.0.2 will be an update
--> Package dhclient.x86_64 12:4.2.5-77.amzn2.1.6 will be updated
--> Package dhclient.x86_64 12:4.2.5-79.amzn2.1.1 will be an update
--> Package dhcp-common.x86_64 12:4.2.5-77.amzn2.1.6 will be updated
--> Package dhcp-common.x86_64 12:4.2.5-79.amzn2.1.1 will be an update
--> Package dhcp-lib.x86_64 12:4.2.5-77.amzn2.1.6 will be updated
--> Package dhcp-lib.x86_64 12:4.2.5-79.amzn2.1.1 will be an update
--> Package ec2-net-utils.noarch 0:1.7.0-1.amzn2 will be updated
--> Package ec2-net-utils.noarch 0:1.7.1-1.amzn2 will be an update
--> Package gnupg2.x86_64 0:2.0.22-5.amzn2.0.4 will be updated
--> Package gnupg2.x86_64 0:2.0.22-5.amzn2.0.5 will be an update
--> Package kernel.x86_64 0:5.10.135-122.509.amzn2 will be installed

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```
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Complete!
[root@ip-172-31-43-76 ec2-user]# yum install httpd
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
amzn2-core | 3.7 kB 00:00:00
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

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- To install Apache server in linux, type “yum install httpd”

```
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Verifying : generic-logos-httpd-18.0.0-4.amzn2.noarch 7/9
Verifying : httpd filesystem-2.4.54-1.amzn2.noarch 8/9
Verifying : apr-1.7.0-9.amzn2.x86_64 9/9

Installed:
httpd.x86_64 0:2.4.54-1.amzn2

Dependency Installed:
apr.x86_64 0:1.7.0-9.amzn2 apr-util.x86_64 0:1.6.1-5.amzn2.0.2 apr-util-bdb.x86_64 0:1.6.1-5.amzn2.0.2
generic-logos-httpd.noarch 0:18.0.0-4.amzn2 httpd filesystem.noarch 0:2.4.54-1.amzn2 httpd-tools.x86_64 0:2.4.54-1.amzn2
mailcap.noarch 0:2.1.41-2.amzn2 mod_http2.x86_64 0:1.15.19-1.amzn2.0.1

Complete!
[root@ip-172-31-43-76 ec2-user]#

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

```
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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.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-172-31-43-76 ec2-user]#
```

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- To install php, type “yum install phpphp-mysql”.

```
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Verifying : php-5.4.16-46.amzn2.0.2.x86_64 3/6
Verifying : php-pdo-5.4.16-46.amzn2.0.2.x86_64 4/6
Verifying : php-mysqlnd-5.4.16-46.amzn2.0.2.x86_64 5/6
Verifying : php-common-5.4.16-46.amzn2.0.2.x86_64 6/6

Installed:
php.x86_64 0:5.4.16-46.amzn2.0.2 php-mysqlnd.x86_64 0:5.4.16-46.amzn2.0.2

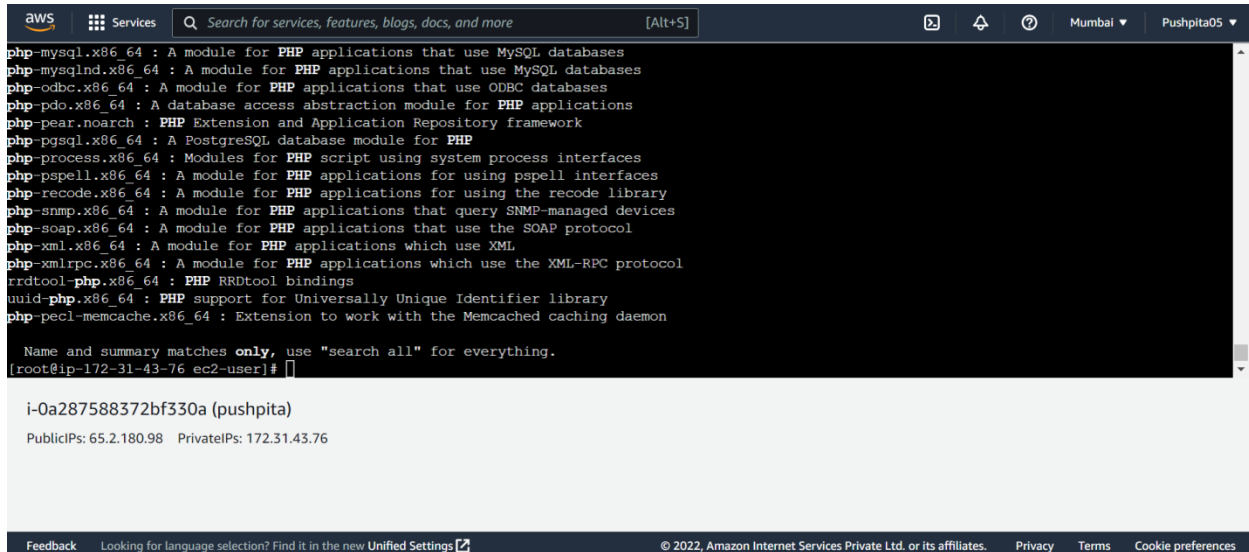
Dependency Installed:
libzip010-compat.x86_64 0:0.10.1-9.amzn2.0.5 php-cli.x86_64 0:5.4.16-46.amzn2.0.2 php-common.x86_64 0:5.4.16-46.amzn2.0.2
php-pdo.x86_64 0:5.4.16-46.amzn2.0.2

Complete!
[root@ip-172-31-43-76 ec2-user]#
```

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



The screenshot shows the AWS CloudShell interface. The terminal window displays the output of the command 'yum search php'. The output lists various PHP-related packages and their descriptions, such as 'php-mysql.x86_64 : A module for PHP applications that use MySQL databases'. Below the terminal output, the instance details are shown: 'i-0a287588372bf330a (pushpita)' with PublicIPs: 65.2.180.98 and PrivateIPs: 172.31.43.76. The bottom of the interface includes a feedback link, a language selection prompt, and copyright information for Amazon Internet Services Private Ltd.

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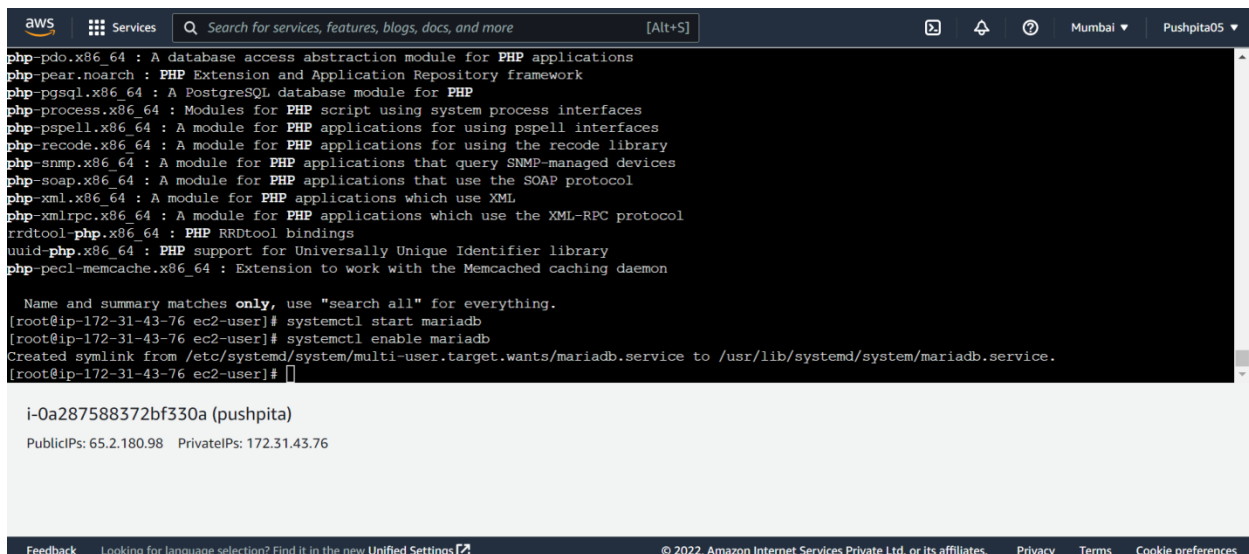
php-mysql.x86_64 : A module for PHP applications that use MySQL databases
php-mysqld.x86_64 : A module for PHP applications that use MySQL databases
php-odbc.x86_64 : A module for PHP applications that use ODBC databases
php-pdo.x86_64 : A database access abstraction module for PHP applications
php-pear.noarch : 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
rrdttool-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-172-31-43-76 ec2-user]#
```

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- Enabling the mariadb server.



The screenshot shows the AWS CloudShell interface. The terminal window displays the output of the commands 'systemctl start mariadb' and 'systemctl enable mariadb'. The output shows that the service was successfully started and enabled. Below the terminal output, the instance details are shown: 'i-0a287588372bf330a (pushpita)' with PublicIPs: 65.2.180.98 and PrivateIPs: 172.31.43.76. The bottom of the interface includes a feedback link, a language selection prompt, and copyright information for Amazon Internet Services Private Ltd.

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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
rrdttool-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-172-31-43-76 ec2-user]# systemctl start mariadb
[root@ip-172-31-43-76 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-172-31-43-76 ec2-user]#
```

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



Result:

LAMP server is successfully created using AWS CLI