

Networking and System Administration Lab

Lab Assignment

LAMP Stack installation

Abhishek Scariya M B
Roll No: 01
RMCA-A S2

LAMP stands for:

Linux OS

Apache HTTP Server

MySQL database management system

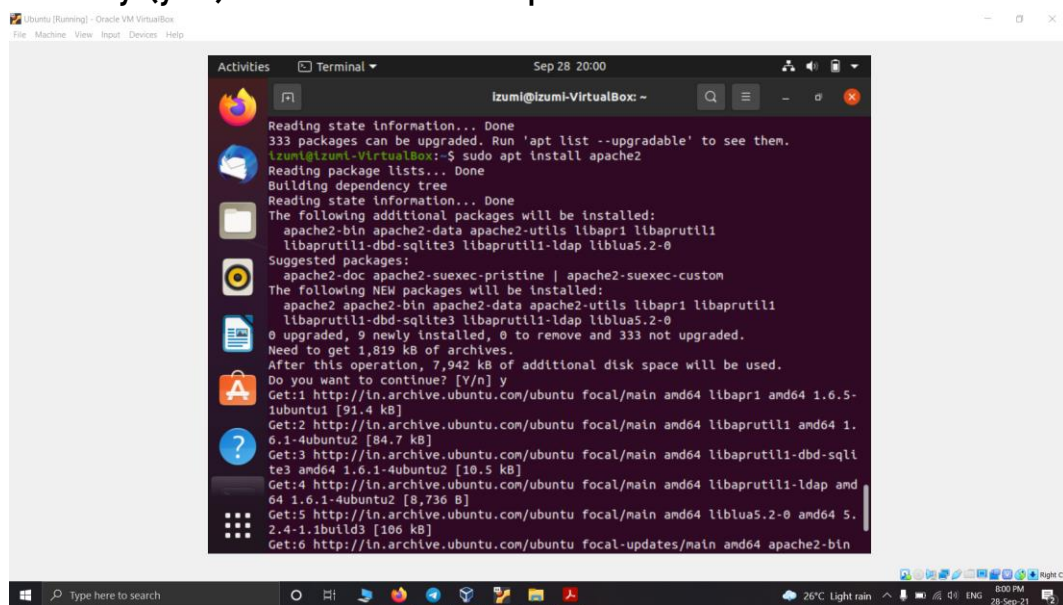
PHP programming language

1. Installation of Apache Server.

Command:

`sudo apt-get install apache2`

Press y (yes) and hit ENTER to permit the installation

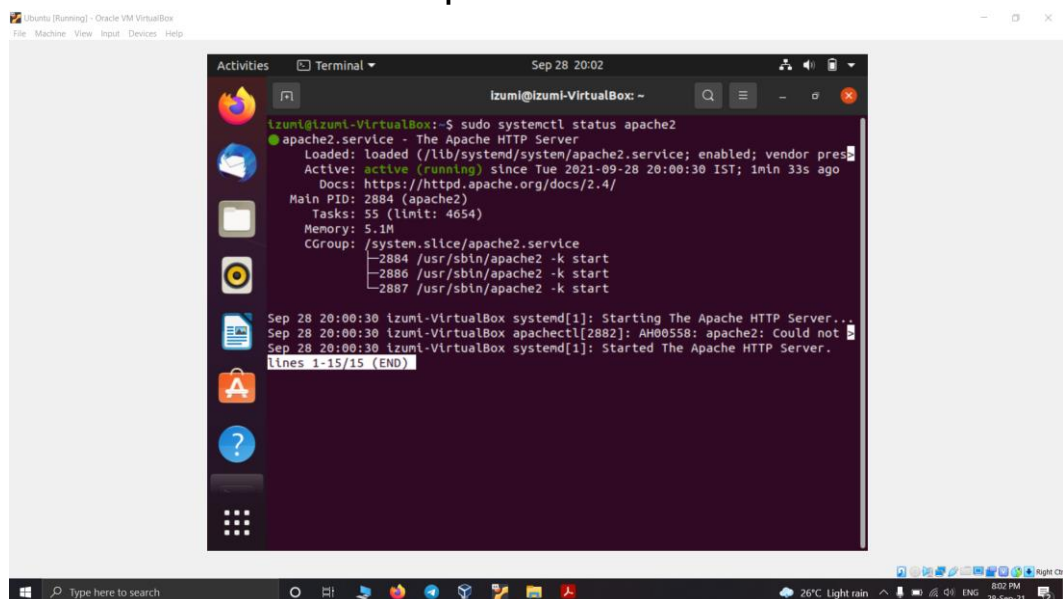


```
izumi@izumi-VirtualBox: ~  
Reading state information... Done  
333 packages can be upgraded. Run 'apt list --upgradable' to see them.  
izumi@izumi-VirtualBox:~$ sudo apt install apache2  
Reading package lists... Done  
Building dependency tree  
Reading state information... Done  
The following additional packages will be installed:  
  apache2-bin apache2-data apache2-utils libapr1 libaprutil1  
  libaprutil1-dbd-sqlite3 libaprutil1-ldap liblua5.2-0  
Suggested packages:  
  apache2-doc apache2-suexec-pristine | apache2-suexec-custom  
The following NEW packages will be installed:  
  apache2 apache2-bin apache2-data apache2-utils libapr1 libaprutil1  
  libaprutil1-dbd-sqlite3 libaprutil1-ldap liblua5.2-0  
0 upgraded, 9 newly installed, 0 to remove and 333 not upgraded.  
Need to get 1,819 kB of archives.  
After this operation, 7,942 kB of additional disk space will be used.  
Do you want to continue? [Y/n] y  
Get:1 http://in.archive.ubuntu.com/ubuntu focal/main amd64 libapr1 amd64 1.6.5-  
1ubuntu1 [91.4 kB]  
Get:2 http://in.archive.ubuntu.com/ubuntu focal/main amd64 libaprutil1 amd64 1.  
6.1-4ubuntu2 [84.7 kB]  
Get:3 http://in.archive.ubuntu.com/ubuntu focal/main amd64 libaprutil1-dbd-sqli  
te3 amd64 1.6.1-4ubuntu2 [10.5 kB]  
Get:4 http://in.archive.ubuntu.com/ubuntu focal/main amd64 libaprutil1-ldap am  
d64 1.6.1-4ubuntu2 [8,736 B]  
Get:5 http://in.archive.ubuntu.com/ubuntu focal/main amd64 liblua5.2-0 amd64 5.  
2.4-1.1build3 [106 kB]  
Get:6 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 apache2-bin
```

Check if Apache is installed correctly by running the Apache service status.

Use the following the command:

`sudo service apache2 status`



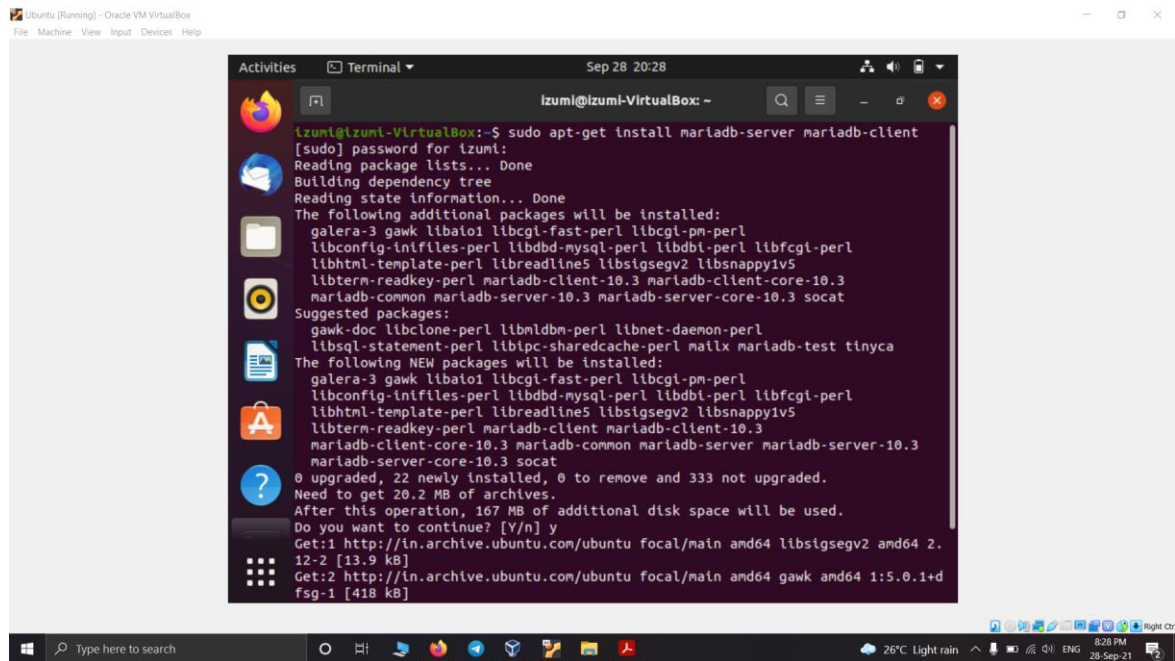
```
izumi@izumi-VirtualBox: ~  
izumi@izumi-VirtualBox:~$ sudo systemctl status apache2  
● apache2.service - The Apache HTTP Server  
   Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor pres  
   Active: active (running) since Tue 2021-09-28 20:00:30 IST; 1min 33s ago  
     Docs: https://httpd.apache.org/docs/2.4/  
    Main PID: 2884 (apache2)  
      Tasks: 55 (limit: 4654)  
     Memory: 5.1M  
    CGroup: /system.slice/apache2.service  
            └─2884 /usr/sbin/apache2 -k start  
              └─2886 /usr/sbin/apache2 -k start  
                └─2887 /usr/sbin/apache2 -k start  
  
Sep 28 20:00:30 izumi-VirtualBox systemd[1]: Starting The Apache HTTP Server...  
Sep 28 20:00:30 izumi-VirtualBox apache2ctl[2882]: AH00558: apache2: Could not  
Sep 28 20:00:30 izumi-VirtualBox systemd[1]: Started The Apache HTTP Server.  
lines 1-15/15 (END)
```

2. Installation of MariaDB

MariaDB is an open source relational database management system (RDBMS)

Command:

`sudo apt install mariadb-server mariadb-client`

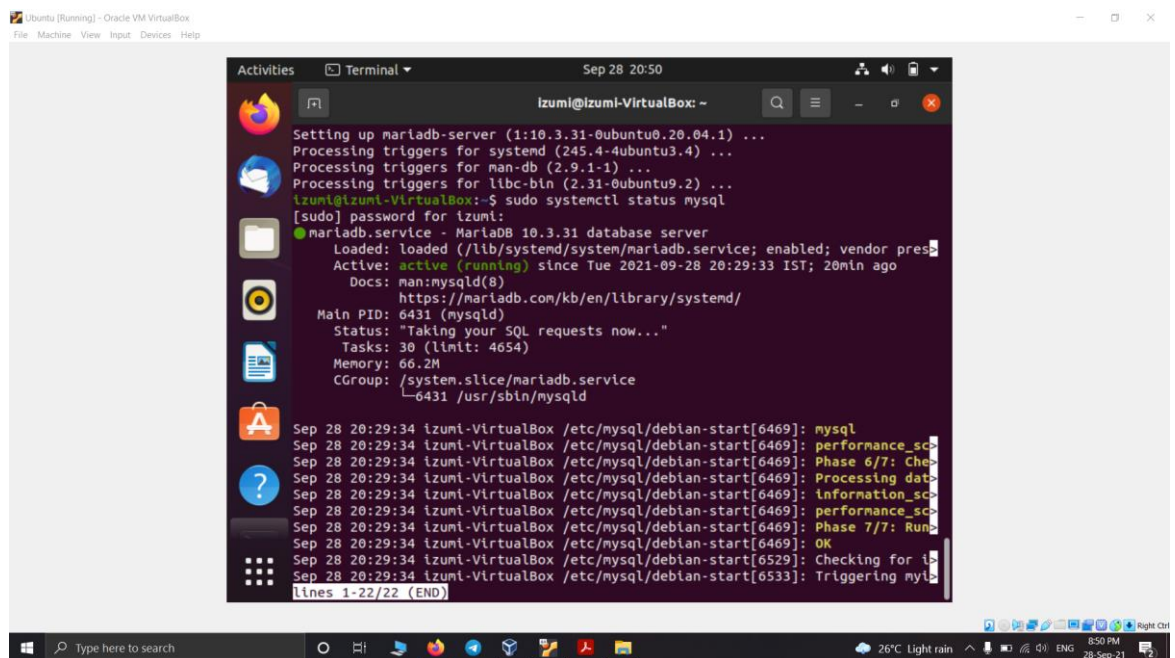


```
izumi@izumi-VirtualBox: ~  
$ sudo apt-get install mariadb-server mariadb-client  
[sudo] password for izumi:  
Reading package lists... Done  
Building dependency tree  
Reading state information... Done  
The following additional packages will be installed:  
  galera-3 gawk libatol libcgf-fast-perl libcgf-pm-perl  
  libconfig-inifiles-perl libdbd-mysql-perl libdbi-perl libfcgi-perl  
  libhtml-template-perl libreadline5 libsigsegv2 libsnappy1v5  
  libterm-readkey-perl mariadb-client-10.3 mariadb-client-core-10.3  
  mariadb-common mariadb-server-10.3 mariadb-server-core-10.3 socat  
Suggested packages:  
  gawk-doc libclone-perl libnldb-perl libnet-daemon-perl  
  libsql-statement-perl libipc-sharedcache-perl mailx mariadb-test tinyca  
The following NEW packages will be installed:  
  galera-3 gawk libatol libcgf-fast-perl libcgf-pm-perl  
  libconfig-inifiles-perl libdbd-mysql-perl libdbi-perl libfcgi-perl  
  libhtml-template-perl libreadline5 libsigsegv2 libsnappy1v5  
  libterm-readkey-perl mariadb-client mariadb-client-10.3  
  mariadb-client-core-10.3 mariadb-common mariadb-server mariadb-server-10.3  
  mariadb-server-core-10.3 socat  
0 upgraded, 22 newly installed, 0 to remove and 333 not upgraded.  
Need to get 20.2 MB of archives.  
After this operation, 167 MB of additional disk space will be used.  
Do you want to continue? [Y/n] y  
Get:1 http://in.archive.ubuntu.com/ubuntu focal/main amd64 libsigsegv2 amd64 2.  
12-2 [13.9 kB]  
Get:2 http://in.archive.ubuntu.com/ubuntu focal/main amd64 gawk amd64 1:5.0.1+d  
fsg-1 [418 kB]
```

Check MariaDB Installation:-

`sudo systemctl status mysql`

(if it is not working `sudo systemctl start mysql`)

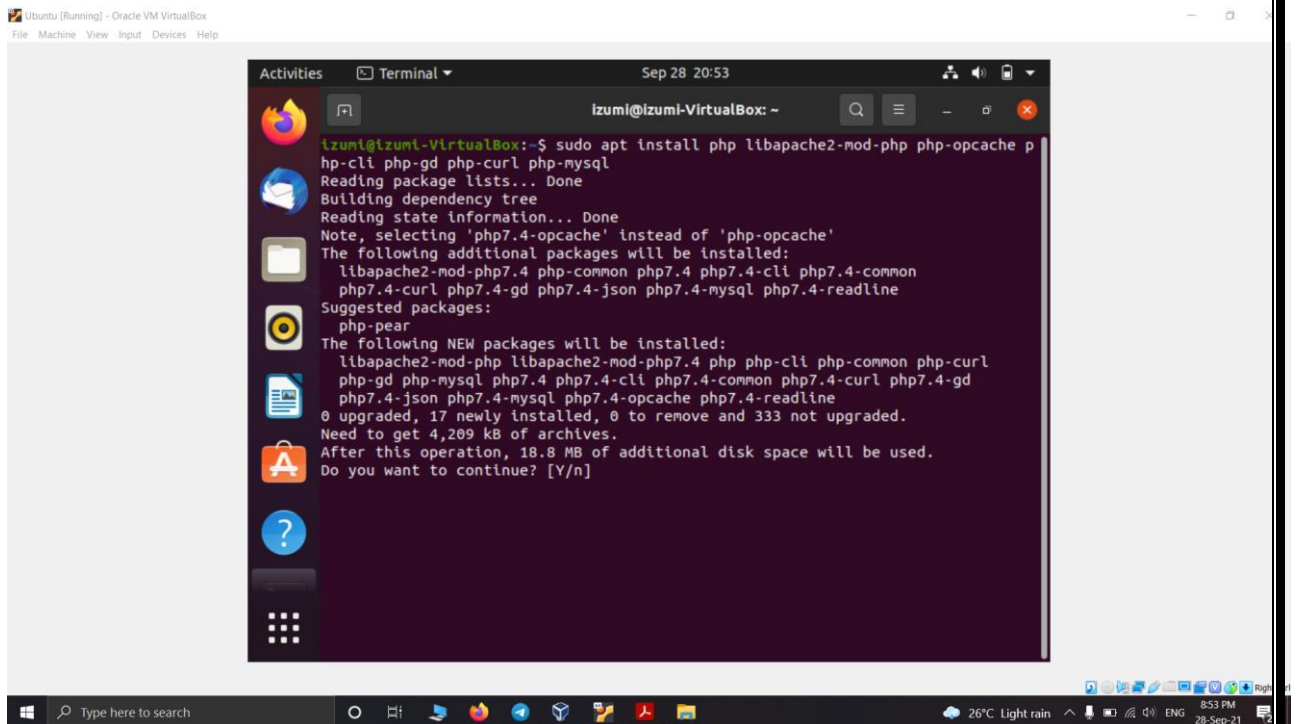


```
izumi@izumi-VirtualBox: ~  
$ sudo systemctl status mysql  
[sudo] password for izumi:  
● mariadb.service - MariaDB 10.3.31 database server  
   Loaded: loaded (/lib/systemd/system/mariadb.service; enabled; vendor prese  
   Active: active (running) since Tue 2021-09-28 20:29:33 IST; 20min ago  
     Docs: man:mysqld(8)  
           https://mariadb.com/kb/en/library/systemd/  
   Main PID: 6431 (mysqld)  
    Status: "Taking your SQL requests now..."  
   Tasks: 30 (limit: 4654)  
  Memory: 66.2M  
    CGroup: /system.slice/mariadb.service  
           └─6431 /usr/sbin/mysqld  
  
Sep 28 20:29:34 izumi-VirtualBox /etc/mysql/debian-start[6469]: mysql  
Sep 28 20:29:34 izumi-VirtualBox /etc/mysql/debian-start[6469]: performance_s  
Sep 28 20:29:34 izumi-VirtualBox /etc/mysql/debian-start[6469]: Phase 6/7: Che  
Sep 28 20:29:34 izumi-VirtualBox /etc/mysql/debian-start[6469]: Processing dat  
Sep 28 20:29:34 izumi-VirtualBox /etc/mysql/debian-start[6469]: information_sc  
Sep 28 20:29:34 izumi-VirtualBox /etc/mysql/debian-start[6469]: performance_sc  
Sep 28 20:29:34 izumi-VirtualBox /etc/mysql/debian-start[6469]: Phase 7/7: Run  
Sep 28 20:29:34 izumi-VirtualBox /etc/mysql/debian-start[6469]: OK  
Sep 28 20:29:34 izumi-VirtualBox /etc/mysql/debian-start[6529]: Checking for i  
Sep 28 20:29:34 izumi-VirtualBox /etc/mysql/debian-start[6533]: Triggering myt  
lines 1-22/22 (END)
```

3. Install PHP

Command:

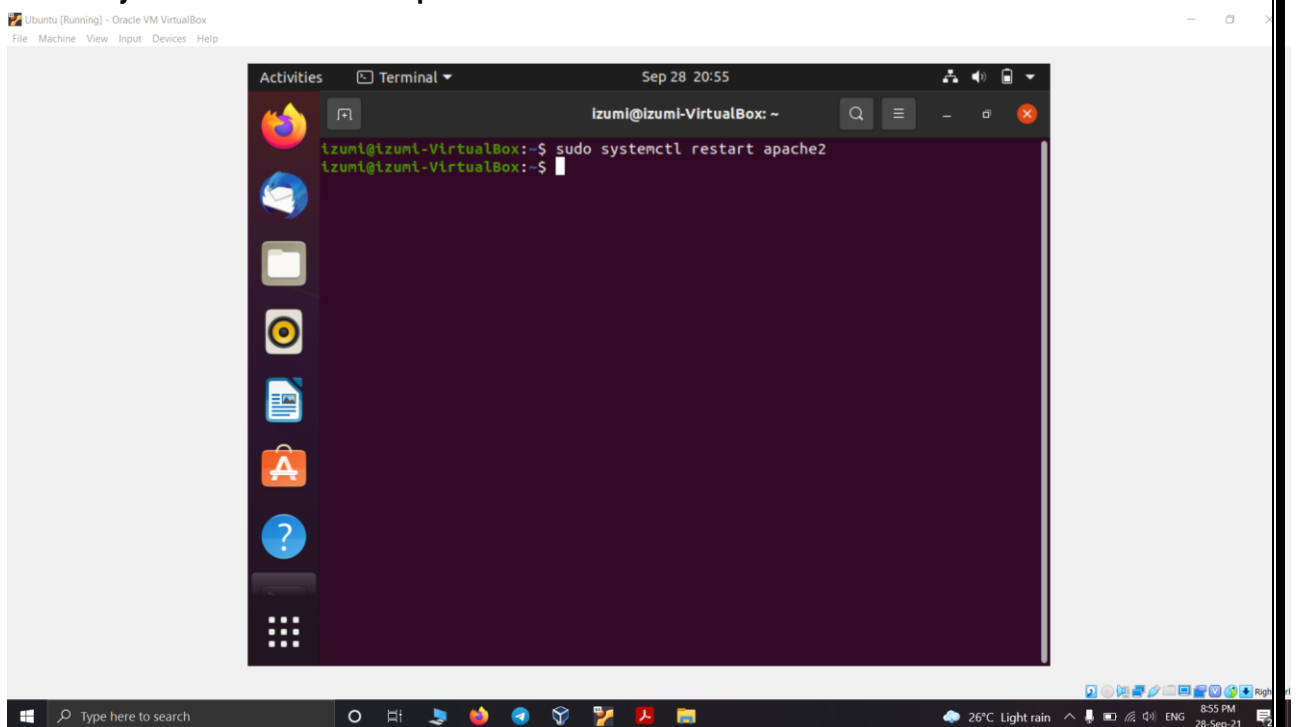
```
sudo apt install php libapache2-mod-php php-opcache php-cli php-gd  
php-curl php-mysql
```



The screenshot shows a terminal window titled 'Terminal' with the prompt 'izumi@izumi-VirtualBox: ~'. The user has entered the command 'sudo apt install php libapache2-mod-php php-opcache php-cli php-gd php-curl php-mysql'. The terminal output shows the package lists being read, the dependency tree being built, and the state information being read. A note indicates that 'php7.4-opcache' is selected instead of 'php-opcache'. The following additional packages will be installed: libapache2-mod-php7.4, php-common, php7.4, php7.4-cli, php7.4-common, php7.4-curl, php7.4-gd, php7.4-json, php7.4-mysql, php7.4-opcache, php7.4-readline. Suggested packages: php-pear. The following NEW packages will be installed: libapache2-mod-php, libapache2-mod-php7.4, php, php-cli, php-common, php-curl, php-gd, php-mysql, php7.4, php7.4-cli, php7.4-common, php7.4-curl, php7.4-gd, php7.4-json, php7.4-mysql, php7.4-opcache, php7.4-readline. 0 upgraded, 17 newly installed, 0 to remove and 333 not upgraded. Need to get 4,209 kB of archives. After this operation, 18.8 MB of additional disk space will be used. Do you want to continue? [Y/n]

Restart apache2

```
sudo systemctl restart apache2
```



The screenshot shows a terminal window titled 'Terminal' with the prompt 'izumi@izumi-VirtualBox: ~'. The user has entered the command 'sudo systemctl restart apache2'. The terminal output shows the command being executed successfully.

check installation

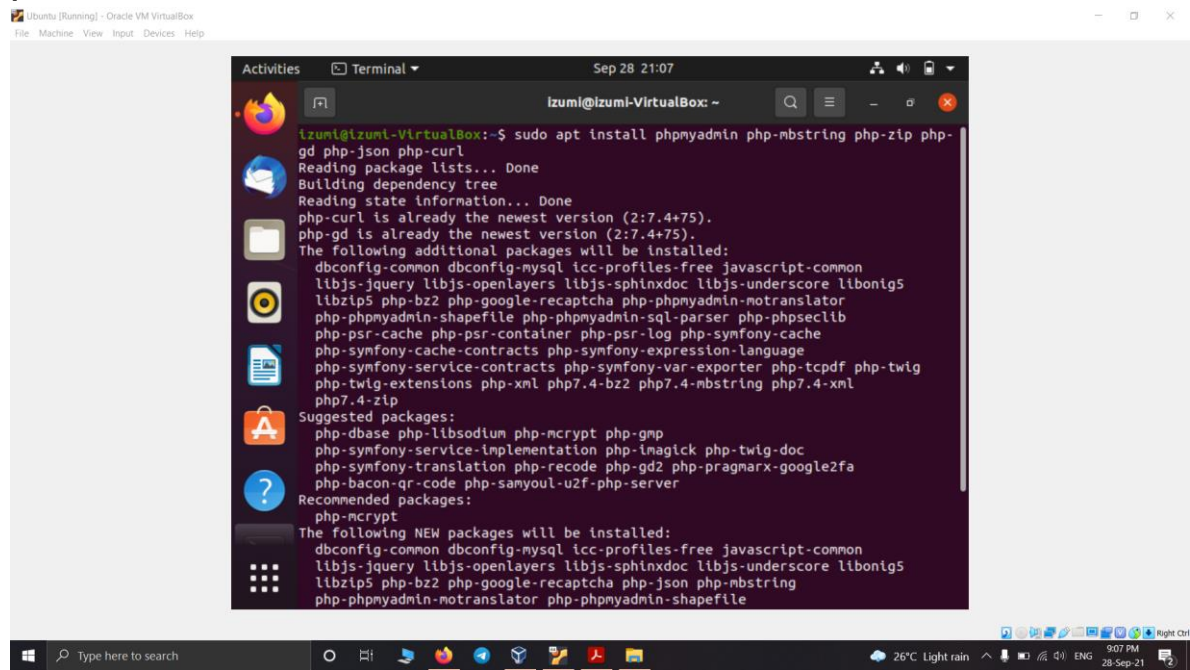
open <http://127.0.0.1/phpinfo.php> in any browser

4. Install phpmyadmin

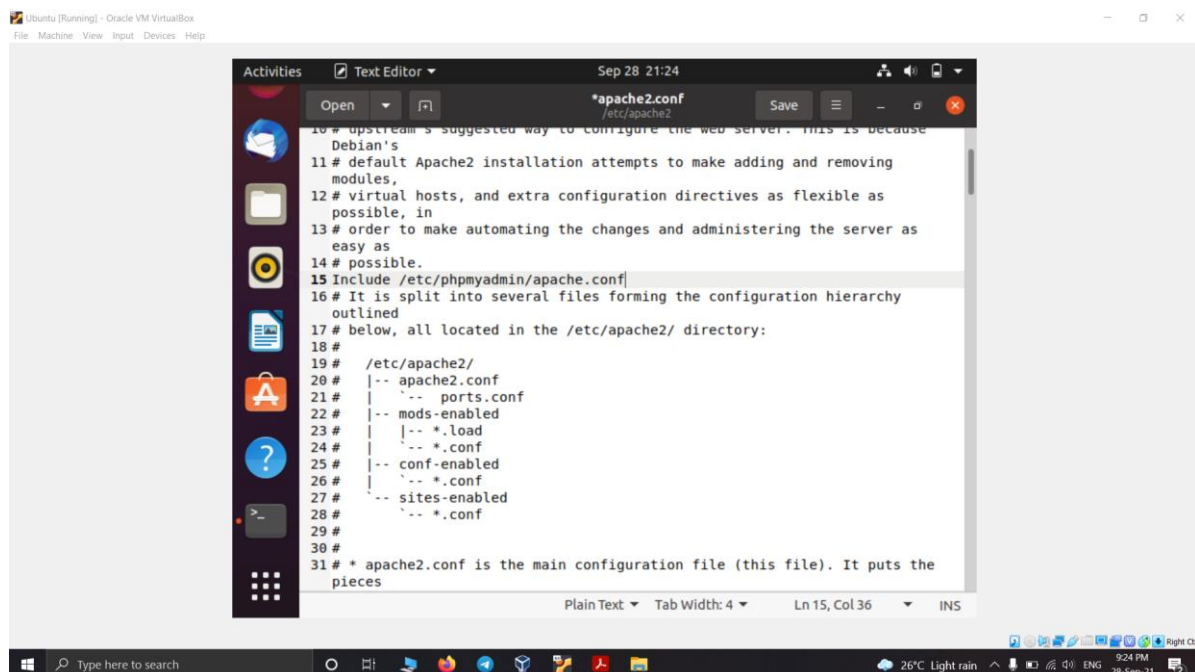
Command:

`sudo apt install phpmyadmin php-mbstring php-zip php-gd php-json php-curl`

(It asks for webserver select apache2, select db-configuration and set password)



```
izumi@izumi-VirtualBox:~$ sudo apt install phpmyadmin php-mbstring php-zip php-gd php-json php-curl
Reading package lists... Done
Building dependency tree
Reading state information... Done
php-curl is already the newest version (2:7.4+75).
php-gd is already the newest version (2:7.4+75).
The following additional packages will be installed:
  dbconfig-common dbconfig-mysql icc-profiles-free javascript-common
  libjs-jquery libjs-openlayers libjs-sphinxdoc libjs-underscore libonig5
  libzip5 php-bz2 php-google-recaptcha php-phpmyadmin-motranslator
  php-phpmyadmin-shapefile php-phpmyadmin-sql-parser php-phpseclib
  php-psr-cache php-psr-container php-psr-log php-symfony-cache
  php-symfony-cache-contracts php-symfony-expression-language
  php-symfony-service-contracts php-symfony-var-exporter php-tcpdf php-twig
  php-twig-extensions php-xml php7.4-bz2 php7.4-mbstring php7.4-xml
  php7.4-zip
Suggested packages:
  php-dbase php-libsodium php-mcrypt php-gmp
  php-symfony-service-implementation php-inagick php-twig-doc
  php-symfony-translation php-recode php-gd2 php-pragmarx-google2fa
  php-bacon-qr-code php-samyoul-u2f-php-server
Recommended packages:
  php-mcrypt
The following NEW packages will be installed:
  dbconfig-common dbconfig-mysql icc-profiles-free javascript-common
  libjs-jquery libjs-openlayers libjs-sphinxdoc libjs-underscore libonig5
  libzip5 php-bz2 php-google-recaptcha php-json php-mbstring
  php-phpmyadmin-motranslator php-phpmyadmin-shapefile
```



```
*apache2.conf
/etc/apache2/
#
# This is the main configuration file for the Apache2 web server. This is because
# of the way the Debian's default Apache2 installation attempts to make adding and removing
# modules, virtual hosts, and extra configuration directives as flexible as
# possible, in order to make automating the changes and administering the server as
# easy as possible.
#
# Include /etc/phpmyadmin/apache.conf
#
# It is split into several files forming the configuration hierarchy
# outlined below, all located in the /etc/apache2/ directory:
#
#   /etc/apache2/
#   |-- apache2.conf
#   |-- ports.conf
#   |-- mods-enabled
#   |-- *.load
#   |-- *.conf
#   |-- conf-enabled
#   |-- *.conf
#   |-- sites-enabled
#   |-- *.conf
#
# * apache2.conf is the main configuration file (this file). It puts the
# pieces
```


Restart apache2

`sudo systemctl restart apache2`

Check phpmyadmin

Open a browser

`http://localhost/phpmyadmin`

username : root

password : yourpassword

