Computer Hardware & Networking& Server Configurations (H7E3 04)

UNIT 09
VPS Configuration

JAVA INSTITUTE
for Advanced Technology
INNOVATIONS FOR THE KNOWLEDGE SOCIETY

Lecturer: Thilina Rajakaruna

BEng(SEng), SCQF Level 7(EQF 5)(SEng), SCQF Level 8(EQF 5)(SEng), PgDip(Edu)

Run this command in MobaXterm.

```
Building dependency tree
Reading state information... Done
The following packages were automatically installed and are no longer required:
  libatasmart4 libblockdev-fs2 libblockdev-loop2 libblockdev-part-err2
  libblockdev-part2 libblockdev-swap2 libblockdev-utils2 libblockdev2
  libmbim-glib4 libmbim-proxy libmm-glib0 libnspr4 libnss3 libnuma1
  libparted-fs-resize0 libqmi-glib5 libqmi-proxy libudisks2-0 libxmlb2
  usb-modeswitch usb-modeswitch-data
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
  libapache2-mod-php7.4 php-common php7.4-cli php7.4-common php7.4-json
  php7.4-opcache php7.4-readline
Suggested packages:
  php-pear
The following NEW packages will be installed:
  libapache2-mod-php7.4 php-common php7.4 php7.4-cli php7.4-common
  php7.4-json php7.4-opcache php7.4-readline
0 upgraded, 8 newly installed, 0 to remove and 29 not upgraded.
Need to get 4030 kB of archives.
After this operation, 18.0 MB of additional disk space will be used.
Do you want to continue? [Y/n]
```

```
Reading state information... Done
The following packages were automatically installed and are no longer required:
  libatasmart4 libblockdev-fs2 libblockdev-loop2 libblockdev-part-err2
  libblockdev-part2 libblockdev-swap2 libblockdev-utils2 libblockdev2
  libmbim-glib4 libmbim-proxy libmm-glib0 libnspr4 libnss3 libnuma1
  libparted-fs-resize0 libqmi-glib5 libqmi-proxy libudisks2-0 libxmlb2
  usb-modeswitch usb-modeswitch-data
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
  libapache2-mod-php7.4 php-common php7.4-cli php7.4-common php7.4-json
  php7.4-opcache php7.4-readline
Suggested packages:
  php-pear
The following NEW packages will be installed:
  libapache2-mod-php7.4 php-common php7.4 php7.4-cli php7.4-common
  php7.4-json php7.4-opcache php7.4-readline
0 upgraded, 8 newly installed, 0 to remove and 29 not upgraded.
Need to get 4030 kB of archives.
After this operation, 18.0 MB of additional disk space will be used.
Do you want to continue? [Y/n] Y
```
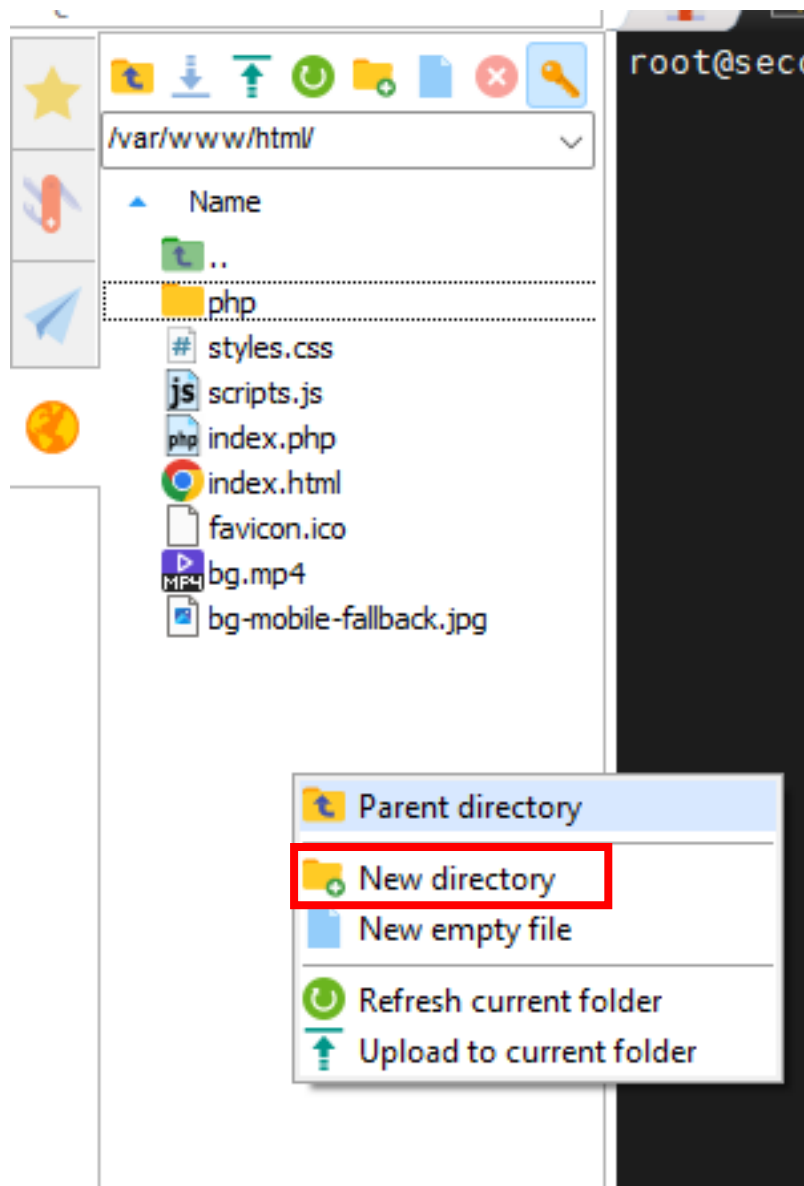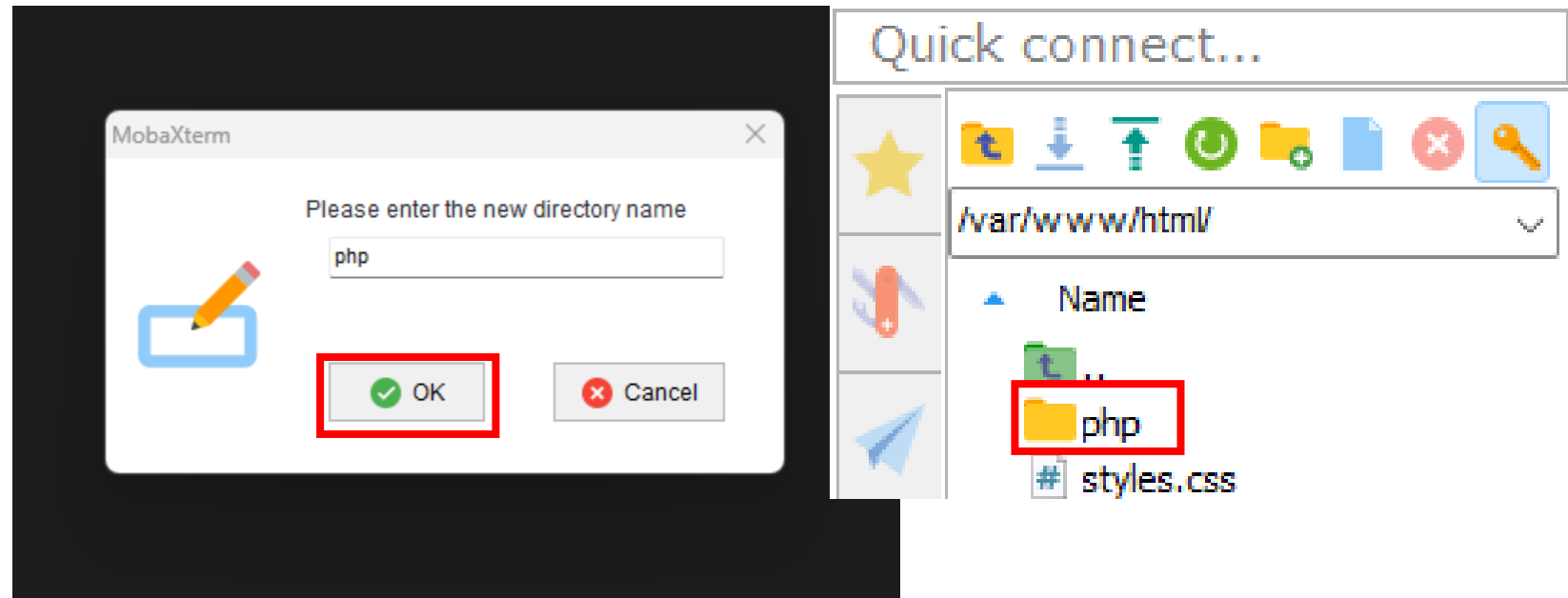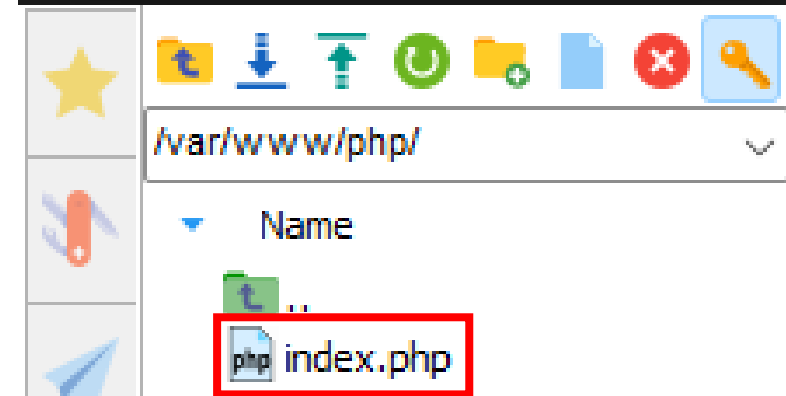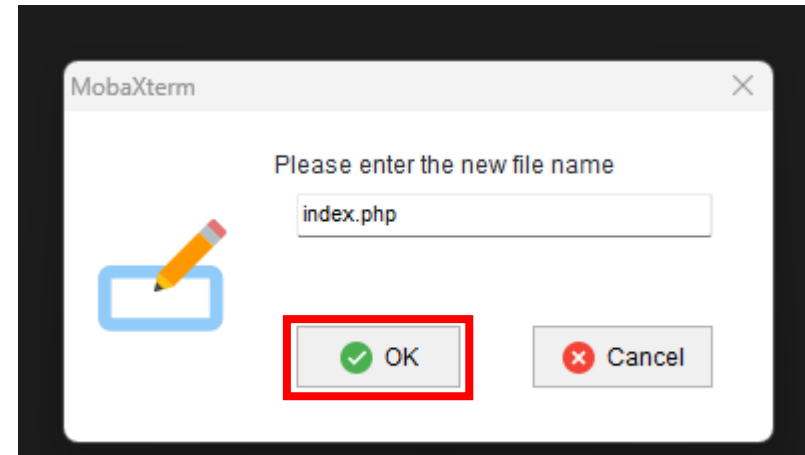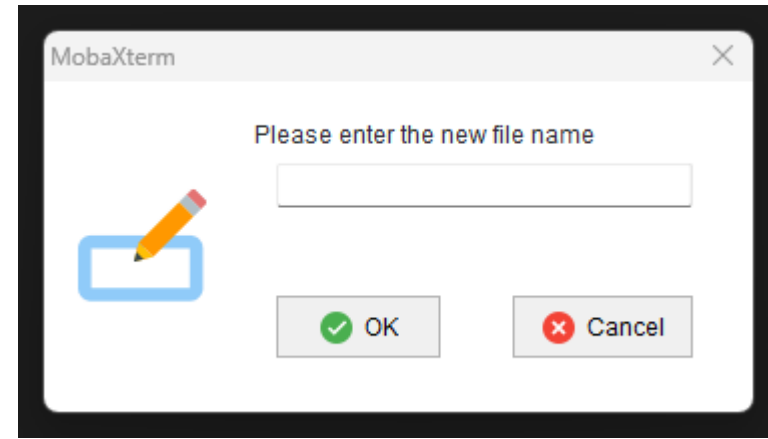
Go to the www inside the var folder and create a file called php inside the html folder inside the www folder

root@sec

/var/www/html/

Name

..

php

styles.css

scripts.js

index.php

index.html

favicon.ico

bg.mp4

bg-mobile-fallback.jpg

Parent directory

New directory

New empty file

Refresh current folder

Upload to current folder

MobaXterm ×

Please enter the new directory name

php

OK   Cancel

Quick connect...

/var/www/html/

Name

..

php

styles.css

Create index.php file inside php.
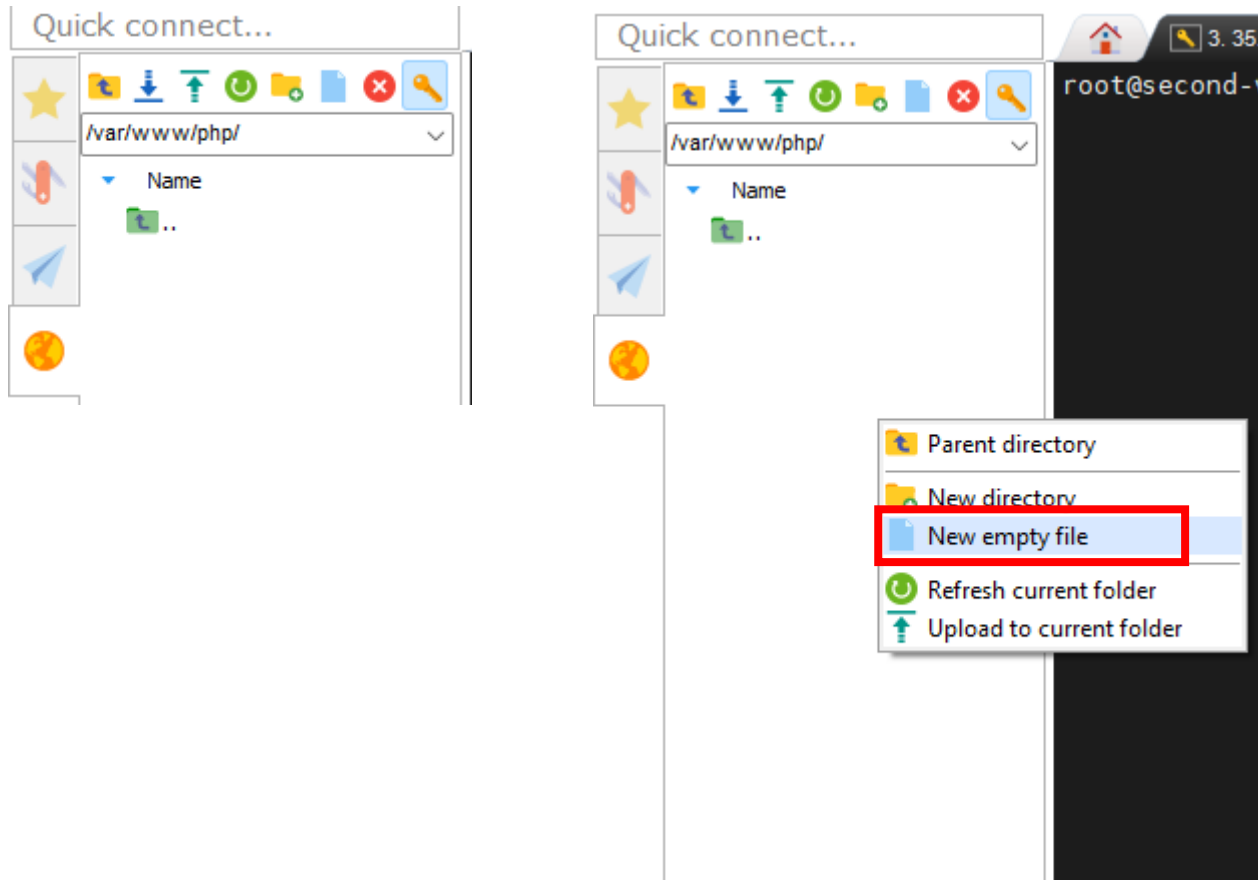
Open the index.php file with mobaTextEditor. After that type this code.

```
MobaTextEditor                                            —  □  ✕
File   Edit   Search   View   Format   Encoding   Syntax   Special Tools

  * index.php   ✕

1 <html>
2 <body>
3
4 <?php
5 echo "<h2>PHP is Fun!</h2>";
6 echo "Hello world!<br>";
7 echo "I'm about to learn PHP!<br>";
8 ?>
9
10 </body>
11 </html>
```

After that save this code.

`* C:\Users\Thili\AppData\Roaming\MobaXterm\slash\RemoteFiles\ DOS     PHP         11 lines      Row #11      Col #8`

Open the web browser and type the following URL.

35.198.223.224/php/index.php ✕ +

← → C ⌂ ⚠ Not secure 35.198.223.224/php/index.php

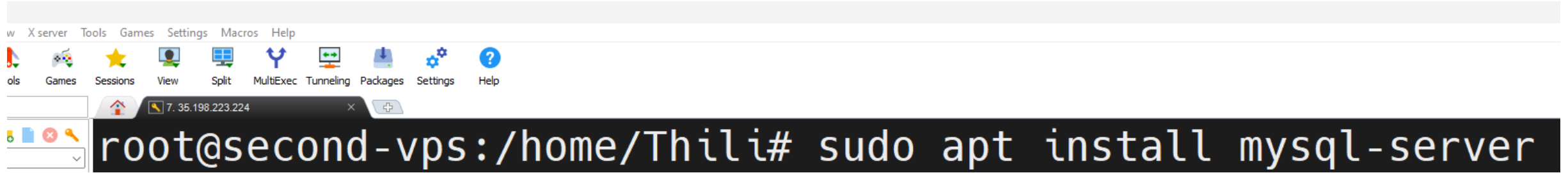🗀 Use full Links 🗀 SAD Viva 🗀 EMP Viva 🗀 Web Viva 🗀 Java Institute
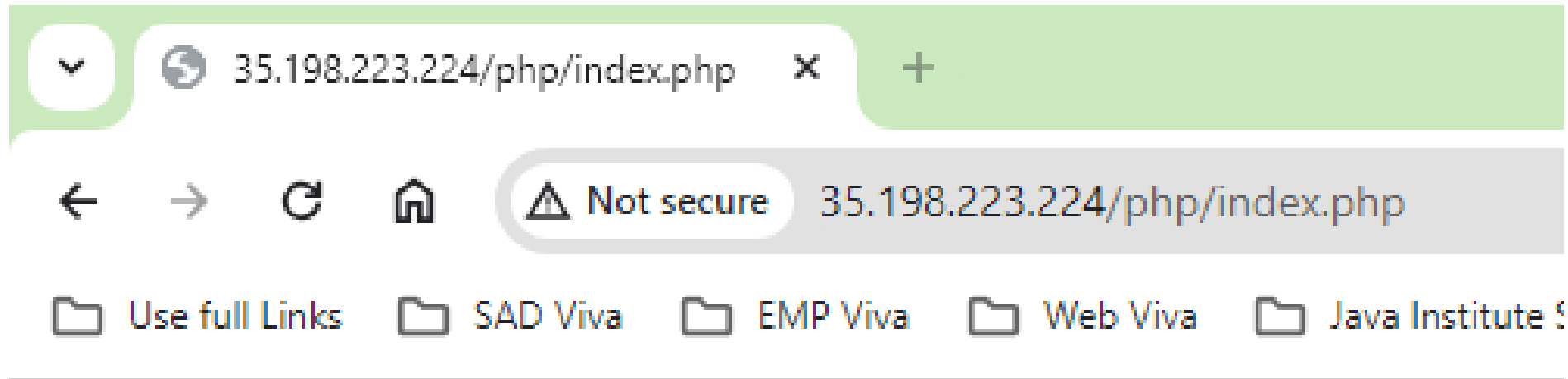
PHP is Fun!

Hello world!
I'm about to learn PHP!

Run this command in MobaXterm.


```
libtimedate-perl liburi-perl mecab-ipadic mecab-ipadic-utf8 me
mysql-client-8.0 mysql-client-core-8.0 mysql-common mysql-serv
mysql-server-core-8.0
Suggested packages:
libdata-dump-perl libipc-sharedcache-perl libwww-perl mailx ti
The following NEW packages will be installed:
libcgi-fast-perl libcgi-pm-perl libencode-locale-perl libevent
libevent-pthreads-2.1-7 libfcgi-perl libhtml-parser-perl
libhtml-tagset-perl libhtml-template-perl libhttp-date-perl
libhttp-message-perl libio-html-perl liblwp-mediatypes-perl li
libtimedate-perl liburi-perl mecab-ipadic mecab-ipadic-utf8 me
mysql-client-8.0 mysql-client-core-8.0 mysql-common mysql-serv
mysql-server-8.0 mysql-server-core-8.0
0 upgraded, 25 newly installed, 0 to remove and 29 not upgraded.
Need to get 36.8 MB of archives.
After this operation, 318 MB of additional disk space will be us
Do you want to continue? [Y/n] Y
```

Run this command in MobaXterm.


```
7. 35.198.223.224                    ×        ＋

root@second-vps:/home/Thili# sudo systemctl status mysql.service
```

```
root@second-vps:/home/Thili# sudo systemctl status mysql.service
● mysql.service - MySQL Community Server
     Loaded: loaded (/lib/systemd/system/mysql.service; enabled; vendor preset: enabled)
     Active: active (running) since Wed 2024-04-03 16:02:12 UTC; 3min 45s ago
   Main PID: 4241 (mysqld)
     Status: "Server is operational"
      Tasks: 37 (limit: 4680)
     Memory: 364.7M
     CGroup: /system.slice/mysql.service
             └─4241 /usr/sbin/mysqld

Apr 03 16:02:11 second-vps systemd[1]: Starting MySQL Community Server...
Apr 03 16:02:12 second-vps systemd[1]: Started MySQL Community Server.
root@second-vps:/home/Thili#
```

Run this command in MobaXterm.

```
root@second-vps:/home/Thili# sudo mysql
```
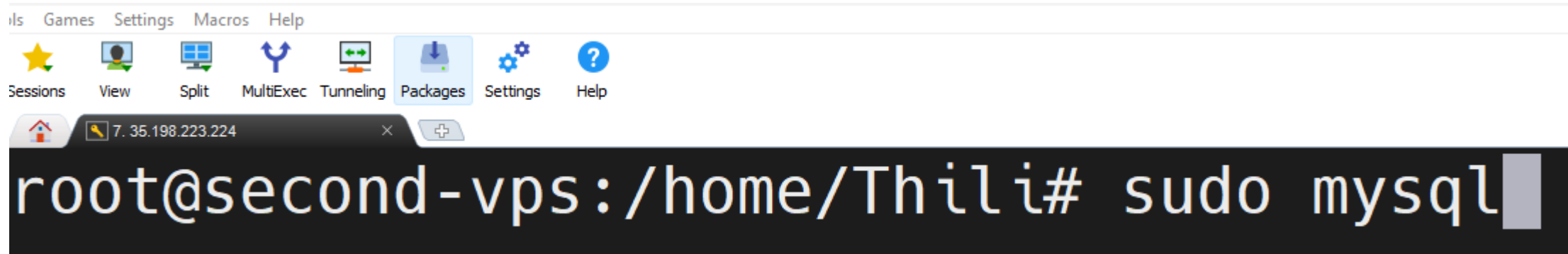
```
root@second-vps:/home/Thili# sudo mysql
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 8
Server version: 8.0.36-0ubuntu0.20.04.1 (Ubuntu)

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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql>
```

Run this command in MobaXterm.

```
mysql> ALTER USER 'root'@'localhost' IDENTIFIED WITH mysql_native_password BY 'Thilina@1234';
```

```
mysql> ALTER USER 'root'@'localhost' IDENTIFIED WITH mysql_native_password BY 'Thilina@1234';
Query OK, 0 rows affected (0.01 sec)

mysql>
```

```
mysql> exit
Bye
root@second-vps:/home/Thili#
```

Run this command in MobaXterm.

```
root@second-vps:/home/Thili# sudo mysql
```

```
root@second-vps:/home/Thili# sudo mysql
ERROR 1045 (28000): Access denied for user 'root'@'localhost' (using password: NO)
root@second-vps:/home/Thili#
```

```
root@second-vps:/home/Thili# mysql -uroot -p
```

Type this command and press Enter key.

```
root@second-vps:/home/Thili# mysql -uroot -p
Enter password:
```

Type the password given by MySQL root user and press Enter key.

```
root@second-vps:/home/Thili# mysql -uroot -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 10
Server version: 8.0.36-0ubuntu0.20.04.1 (Ubuntu)

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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql>
```

Run this command in MobaXterm.

```
mysql> CREATE USER 'thilina'@'localhost' IDENTIFIED BY '12345678';
```

```
mysql> CREATE USER 'thilina'@'localhost' IDENTIFIED BY '12345678';
Query OK, 0 rows affected (0.02 sec)

mysql>
```

```
mysql> exit
Bye
root@second-vps:/home/Thili#
```

```
root@second-vps:/home/Thili# mysql -u thilina -p
```

```
root@second-vps:/home/Thili# mysql -u thilina -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 11
Server version: 8.0.36-0ubuntu0.20.04.1 (Ubuntu)

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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input stateme
nt.

mysql> █
```

Run this command in MobaXterm.

```
mysql> show databases;
```

```
mysql> show databases;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| performance_schema |
+--------------------+
2 rows in set (0.00 sec)
```

Run this command in MobaXterm.

```
root@second-vps:/home/Thili# mysql -uroot -p
```

```
root@second-vps:/home/Thili# mysql -uroot -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 13
Server version: 8.0.36-0ubuntu0.20.04.1 (Ubuntu)

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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> GRANT ALL PRIVILEGES ON *.* TO 'thilina'@'localhost' WITH GRANT OPTION;
```

```
mysql> GRANT ALL PRIVILEGES ON *.* TO 'thilina'@'localhost' WITH GRANT OPTION;
Query OK, 0 rows affected (0.01 sec)

mysql>
```

Run this command in MobaXterm.

7. 35.198.223.224

```
root@second-vps:/home/Thili# mysql -u thilina -p
```

```
mysql> show databases;
```

```
mysql> show databases;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| mysql              |
| performance_schema |
| sys                |
+--------------------+
4 rows in set (0.00 sec)
```

```
mysql> Create Database TestDB;
Query OK, 1 row affected (0.00 sec)
```

```
mysql> show databases;
+--------------------+
| Database           |
+--------------------+
| TestDB             |
| information_schema |
| mysql              |
| performance_schema |
| sys                |
+--------------------+
5 rows in set (0.00 sec)
```

Run this command in MobaXterm.

```
mysql> Drop Database TestDB;
```

```
mysql> Drop Database TestDB;
Query OK, 0 rows affected (0.01 sec)
```

```
mysql> show databases;
```
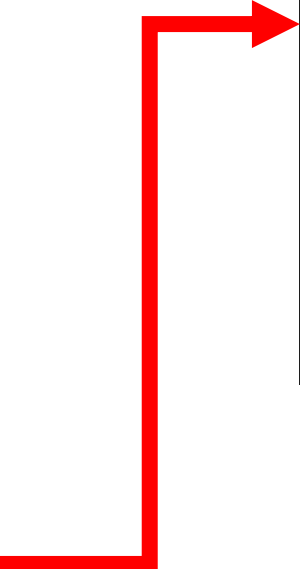
Run this command in MobaXterm.

```
mysql> show databases;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| mysql              |
| performance_schema |
| sys                |
+--------------------+
4 rows in set (0.00 sec)
```

```
mysql> Create Database Test_Database;
```

```
mysql> Create Database Test_Database;
Query OK, 1 row affected (0.02 sec)

mysql>
```

```
mysql> show databases;
+--------------------+
| Database           |
+--------------------+
| Test_Database      |
| information_schema |
| mysql              |
| performance_schema |
| sys                |
+--------------------+
5 rows in set (0.00 sec)
```

Open the index.php file with mobaTextEditor. After that type this code.

```php
<?php

error_reporting(E_ALL);
ini_set('display_errors', 'On');

$servername = "localhost";
$username = "thilina";
$password = "12345678";

// Create connection
$conn = new mysqli($servername, $username,
$password);

// Check connection
if ($conn->connect_error) {
  die("Connection failed: " . $conn->connect_error);
}
echo "Connected successfully";
?>
```
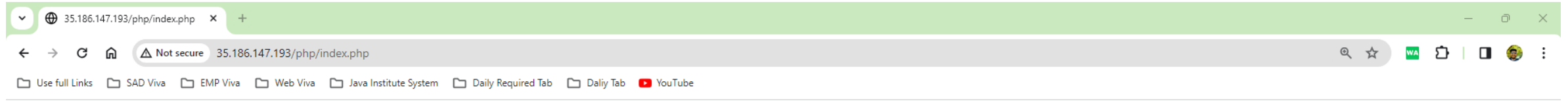
After that save this code.

Open the web browser and type the following URL.

Fatal error: Uncaught Error: Class 'mysqli' not found in /var/www/html/php/index.php:10 Stack trace: #0 {main} thrown in **/var/www/html/php/index.php** on line **10**

Run this command in MobaXterm.

```
root@second-vps:/home/Thili# php --modules
```

```
root@second-vps:/home/Thili# php --modules
[PHP Modules]
calendar
Core
ctype
date
exif
FFI
fileinfo
filter
ftp
gettext
hash
iconv
json
libxml
openssl
pcntl
pcre
PDO
Phar
posix
readline
Reflection
session
shmop
sockets
sodium
SPL
standard
sysvmsg
sysvsem
sysvshm
tokenizer
Zend OPcache
zlib

[Zend Modules]
Zend OPcache

root@second-vps:/home/Thili#
```

Run this command in MobaXterm.

```
root@second-vps:/home/Thili# sudo apt-get install php7.4-mysql;
```

```
root@second-vps:/home/Thili# php --modules
[PHP Modules]
calendar
Core
ctype
date
exif
FFI
fileinfo
filter
ftp
gettext
hash
iconv
json
libxml
mysqli
mysqlnd
openssl
pcntl
pcre
PDO
pdo_mysql
Phar
posix
readline
Reflection
session
shmop
sockets
sodium
SPL
standard
sysvmsg
sysvsem
sysvshm
tokenizer
Zend OPcache
zlib

[Zend Modules]
Zend OPcache

root@second-vps:/home/Thili#
```

Run this command in MobaXterm.

Restart the apache2 server and refresh the web browser again.

```
root@second-vps:/home/Thili# systemctl restart apache2;
```

← → C ⌂ ⚠ Not secure 35.186.147.193/php/index.php

🗀 Use full Links 🗀 SAD Viva 🗀 EMP Viva 🗀 Web Viva 🗀 Java Institute System 🗀 Daily Required Tab 🗀 Daliy Tab ▶ YouTube

Connected successfully

Run this command in MobaXterm.

```
root@second-vps:/home/Thili# sudo apt install phpmyadmin
```

```
root@second-vps:/home/Thili# sudo apt install phpmyadmin
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following packages were automatically installed and are no longer required:
  libatasmart4 libblockdev-fs2 libblockdev-loop2 libblockdev-part-err2
  libblockdev-part2 libblockdev-swap2 libblockdev-utils2 libblockdev2 libmbim-glib4
  libmbim-proxy libmm-glib0 libnspr4 libnss3 libparted-fs-resize0 libqmi-glib5
  libqmi-proxy libudisks2-0 libxmlb2 usb-modeswitch usb-modeswitch-data
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
  dbconfig-common dbconfig-mysql fontconfig-config fonts-dejavu-core
  icc-profiles-free javascript-common libfontconfig1 libgd3 libjbig0 libjpeg-turbo8
  libjpeg8 libjs-jquery libjs-openlayers libjs-sphinxdoc libjs-underscore libonig5
  libtiff5 libwebp6 libxpm4 libzip5 php-bz2 php-curl php-gd php-google-recaptcha
  php-mbstring php-mysql 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 php-zip php7.4-bz2 php7.4-curl php7.4-gd
  php7.4-mbstring php7.4-xml php7.4-zip
Suggested packages:
  libgd-tools php-dbase php-libsodium php-mcrypt php-gmp
  php-symfony-service-implementation php-imagick php-twig-doc php-symfony-translation
  www-browser 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 fontconfig-config fonts-dejavu-core
  icc-profiles-free javascript-common libfontconfig1 libgd3 libjbig0 libjpeg-turbo8
  libjpeg8 libjs-jquery libjs-openlayers libjs-sphinxdoc libjs-underscore libonig5
  libtiff5 libwebp6 libxpm4 libzip5 php-bz2 php-curl php-gd php-google-recaptcha
  php-mbstring php-mysql 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 php-zip php7.4-bz2 php7.4-curl php7.4-gd
  php7.4-mbstring php7.4-xml php7.4-zip phpmyadmin
0 upgraded, 50 newly installed, 0 to remove and 29 not upgraded.
Need to get 17.7 MB of archives.
After this operation, 77.1 MB of additional disk space will be used.
Do you want to continue? [Y/n] Y
```

```
┤ Configuring phpmyadmin ├
Please choose the web server that should be automatically configured to run phpMyAdmin.

Web server to reconfigure automatically:

    [ ] apache2
    [ ] lighttpd


                              <Ok>
```

Configuring phpmyadmin

The phpmyadmin package must have a database installed and configured before it can be used. This can be optionally handled with dbconfig-common.

If you are an advanced database administrator and know that you want to perform this configuration manually, or if your database has already been installed and configured, you should refuse this option. Details on what needs to be done should most likely be provided in /usr/share/doc/phpmyadmin.

Otherwise, you should probably choose this option.

Configure database for phpmyadmin with dbconfig-common?

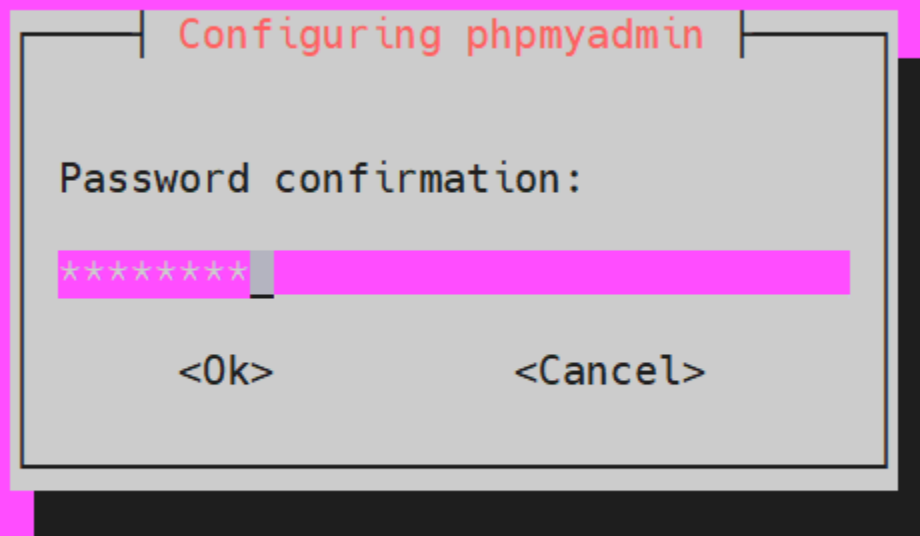   <Yes>   <No>

Configuring phpmyadmin

Please provide a password for phpmyadmin to register with the database server. If left blank, a random password will be generated.

MySQL application password for phpmyadmin:

****

<Ok>   <Cancel>

```
Configuring phpmyadmin

Password confirmation:

********

    <Ok>              <Cancel>
```

```
root@second-vps:/home/Thili# systemctl restart apache2;
```

Not Found

The requested URL was not found on this server.

Apache/2.4.41 (Ubuntu) Server at 35.186.147.193 Port 80

Name
var
usr
tmp
sys
srv
snap
run
root
proc
opt
mnt
media
lost+found
home
etc
dev
boot
sbin
libx32
lib64
lib32
lib
bin

Name
init
gss
grub.d
groff
fonts
dpkg
dhcp
depmod.d
default
dconf
dbus-1
dbconfig-common
cryptsetup-initramfs
cron.weekly
cron.monthly
cron.hourly
cron.daily
cron.d
console-setup
cloud
chrony
calendar
ca-certificates
byobu
binfmt.d
bash_completion.d
apt
apport
apparmor.d
apparmor
apache2
alternatives
zsh_command_not_found
xattr.conf
wgetrc
vtrgb
usb_modeswitch.conf
ucf.conf
timezone
sysctl.conf
sudoers
subuid-
subuid

Remote monitoring
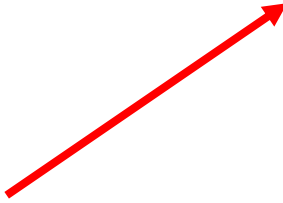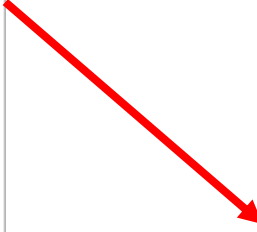☐ Follow terminal folder

Quick connect...

/etc/apache2/

Name
..
sites-enabled
sites-available
mods-enabled
mods-available
conf-enabled
conf-available
ports.conf
magic
envvars
apache2.conf

```
# This is the main Apache server configuration file.  It contains the
# configuration directives that give the server its instructions.
# See http://httpd.apache.org/docs/2.4/ for detailed information about
# the directives and /usr/share/doc/apache2/README.Debian about Debian specific
# hints.
#
#
# Summary of how the Apache 2 configuration works in Debian:
# The Apache 2 web server configuration in Debian is quite different to
# upstream's suggested way to configure the web server. This is because 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.

# 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
```

```
# Note that the use of %{X-Forwarded-For}i instead of %h is not recommended.
# Use mod_remoteip instead.
#
LogFormat "%v:%p %h %l %u %t \"%r\" %>s %O \"%{Referer}i\" \"%{User-Agent}i\""
 vhost_combined
LogFormat "%h %l %u %t \"%r\" %>s %O \"%{Referer}i\" \"%{User-Agent}i\"" combined
LogFormat "%h %l %u %t \"%r\" %>s %O" common
LogFormat "%{Referer}i -> %U" referer
LogFormat "%{User-agent}i" agent


# Include of directories ignores editors' and dpkg's backup files,
# see README.Debian for details.


# Include generic snippets of statements
IncludeOptional conf-enabled/*.conf


# Include the virtual host configurations:
IncludeOptional sites-enabled/*.conf


# vim: syntax=apache ts=4 sw=4 sts=4 sr noet
Include /etc/phpmyadmin/apache.conf
```

⚠ Not secure   35.186.147.193/phpmyadmin/

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phpMyAdmin

Welcome to phpMyAdmin

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