เข้าสู่rootแล้วสร้างuser ใหม่ขึ้นมา กำหนดรหัสและใส่ข้อมูลลงไป

```
devuser@ubuntusever:~$ sudo -i
[sudo] password for devuser:
root@ubuntusever:~# adduser ton
Adding user `ton' ...
Adding new group `ton' (1001) ...
Adding new user `ton' (1001) with group `ton' ...
Creating home directory `/home/ton' ...
Copying files from `/etc/skel' ...
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for ton
Enter the new value, or press ENTER for the default
        Full Name []:
        Room Number []:
        Work Phone []:
        Home Phone []:
        Other []:
Is the information correct? [Y/n] y
root@ubuntusever:~#
```

ตั้ง userใหม่ให้เป็น root โดยใช้ usermod

```
root@ubuntusever:~# usermod -aG sudo ton
```

Allow ssh แล้ว enable SSH จากนั้นใช้คำสั่งเช็ค Status SSH

```
devuser@server:~$ sudo ufw app list
[sudo] password for devuser:
Available applications:
  OpenSSH
devuser@server:~$ sudo ufw allow OpenSSh
Rules updated
Rules updated (v6)
devuser@server:~$ sudo ufw enable
Command may disrupt existing ssh connections. Proceed with operation (y|n)? y
Firewall is active and enabled on system startup
devuser@server:~$ ufw status
ERROR: You need to be root to run this script
devuser@server:~$ sudo ufw status
Status: active

To                         Action      From
--                         ------      ----
OpenSSH                    ALLOW       Anywhere
OpenSSH (v6)               ALLOW       Anywhere (v6)
```

อัพเดทตัว ubuntu โดยใช้คำสั่ง sudo apt update และ sudo apt upgrade

```
devuser@server:~$ sudo apt update
Hit:1 http://ports.ubuntu.com/ubuntu-ports jammy InRelease
Get:2 http://ports.ubuntu.com/ubuntu-ports jammy-updates InRelease [119 kB]
Hit:3 http://ports.ubuntu.com/ubuntu-ports jammy-backports InRelease
Get:4 http://ports.ubuntu.com/ubuntu-ports jammy-security InRelease [110 kB]
Get:5 http://ports.ubuntu.com/ubuntu-ports jammy-updates/main arm64 Packages [1,052 kB]
Get:6 http://ports.ubuntu.com/ubuntu-ports jammy-updates/main Translation-en [252 kB]
Get:7 http://ports.ubuntu.com/ubuntu-ports jammy-updates/restricted arm64 Packages [777 kB]
Get:8 http://ports.ubuntu.com/ubuntu-ports jammy-updates/restricted Translation-en [190 kB]
Get:9 http://ports.ubuntu.com/ubuntu-ports jammy-updates/universe arm64 Packages [927 kB]
Get:10 http://ports.ubuntu.com/ubuntu-ports jammy-updates/universe Translation-en [222 kB]
Get:11 http://ports.ubuntu.com/ubuntu-ports jammy-security/main arm64 Packages [847 kB]
Get:12 http://ports.ubuntu.com/ubuntu-ports jammy-security/main Translation-en [192 kB]
Get:13 http://ports.ubuntu.com/ubuntu-ports jammy-security/restricted arm64 Packages [771 kB]
Get:14 http://ports.ubuntu.com/ubuntu-ports jammy-security/restricted Translation-en [187 kB]
Get:15 http://ports.ubuntu.com/ubuntu-ports jammy-security/universe arm64 Packages [724 kB]
Get:16 http://ports.ubuntu.com/ubuntu-ports jammy-security/universe Translation-en [148 kB]
Fetched 6,519 kB in 6s (1,121 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
50 packages can be upgraded. Run 'apt list --upgradable' to see them.
```

```
devuser@server:~$ sudo apt upgrade
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Calculating upgrade... Done
The following NEW packages will be installed:
  ubuntu-pro-client-l10n
The following packages have been kept back:
  cloud-init firmware-sof-signed
The following packages will be upgraded:
  apparmor apt apt-utils bind9-dnsutils bind9-host bind9-libs distro-info-data git git-man
  initramfs-tools initramfs-tools-bin initramfs-tools-core irqbalance kpartx libapparmor1
  libapt-pkg6.0 libldap-2.5-0 libldap-common libnetplan0 libnghttp2-14 libnss-systemd
  libpam-systemd libperl5.34 libpython3.10 libpython3.10-minimal libpython3.10-stdlib
  libsgutils2-2 libsystemd0 libudev1 linux-firmware multipath-tools netplan.io perl perl-base
  perl-modules-5.34 python3-software-properties python3.10 python3.10-minimal sg3-utils
  sg3-utils-udev software-properties-common sosreport systemd systemd-sysv systemd-timesyncd
  ubuntu-advantage-tools ubuntu-drivers-common udev
48 upgraded, 1 newly installed, 0 to remove and 2 not upgraded.
10 standard LTS security updates
Need to get 294 MB of archives.
After this operation, 1,272 kB disk space will be freed.
Do you want to continue? [Y/n] y
Get:1 http://ports.ubuntu.com/ubuntu-ports jammy-updates/main arm64 libperl5.34 arm64 5.34.0-3ubuntu1.3 [4,723 kB]
Get:2 http://ports.ubuntu.com/ubuntu-ports jammy-updates/main arm64 perl arm64 5.34.0-3ubuntu1.3 [232 kB]
Get:3 http://ports.ubuntu.com/ubuntu-ports jammy-updates/main arm64 perl-base arm64 5.34.0-3ubuntu1.3 [1,709 kB]
Get:4 http://ports.ubuntu.com/ubuntu-ports jammy-updates/main arm64 perl-modules-5.34 all 5.34.0-3ubuntu1.3 [2,976 kB]
```

ติดตั้ง Apache2

```
devuser@server:~$ sudo apt install apache2
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  apache2-bin apache2-data apache2-utils bzip2 libapr1 libaprutil1 libaprutil1-dbd-sqlite3
  libaprutil1-ldap liblua5.3-0 mailcap mime-support ssl-cert
Suggested packages:
  apache2-doc apache2-suexec-pristine | apache2-suexec-custom www-browser bzip2-doc
The following NEW packages will be installed:
  apache2 apache2-bin apache2-data apache2-utils bzip2 libapr1 libaprutil1
  libaprutil1-dbd-sqlite3 libaprutil1-ldap liblua5.3-0 mailcap mime-support ssl-cert
0 upgraded, 13 newly installed, 0 to remove and 2 not upgraded.
Need to get 2,085 kB of archives.
After this operation, 7,827 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://ports.ubuntu.com/ubuntu-ports jammy-updates/main arm64 libapr1 arm64 1.7.0-8ubuntu0.22.04.1 [106 kB]
Get:2 http://ports.ubuntu.com/ubuntu-ports jammy-updates/main arm64 libaprutil1 arm64 1.6.1-5ubuntu4.22.04.2 [93.6 kB]
Get:3 http://ports.ubuntu.com/ubuntu-ports jammy-updates/main arm64 libaprutil1-dbd-sqlite3 arm64 1.6.1-5ubuntu4.22.04.2 [11.2 kB]
Get:4 http://ports.ubuntu.com/ubuntu-ports jammy-updates/main arm64 libaprutil1-ldap arm64 1.6.1-5ubuntu4.22.04.2 [9,048 B]
Get:5 http://ports.ubuntu.com/ubuntu-ports jammy/main arm64 liblua5.3-0 arm64 5.3.6-1build1 [135 kB]
Get:6 http://ports.ubuntu.com/ubuntu-ports jammy-updates/main arm64 apache2-bin arm64 2.4.52-1ubuntu4.7 [1,300 kB]
Get:7 http://ports.ubuntu.com/ubuntu-ports jammy-updates/main arm64 apache2-data all 2.4.52-1ubuntu4.7 [165 kB]
Get:8 http://ports.ubuntu.com/ubuntu-ports jammy-updates/main arm64 apache2-utils arm64 2.4.52-1ubuntu4.7 [87.5 kB]
Get:9 http://ports.ubuntu.com/ubuntu-ports jammy/main arm64 mailcap all 3.70+nmu1ubuntu1 [23.8 kB]
Get:10 http://ports.ubuntu.com/ubuntu-ports jammy/main arm64 mime-support all 3.66 [3,696 B]
Get:11 http://ports.ubuntu.com/ubuntu-ports jammy-updates/main arm64 apache2 arm64 2.4.52-1ubuntu4.7 [97.8 kB]
Get:12 http://ports.ubuntu.com/ubuntu-ports jammy/main arm64 bzip2 arm64 1.0.8-5build1 [34.6 kB]
Get:13 http://ports.ubuntu.com/ubuntu-ports jammy/main arm64 ssl-cert all 1.1.2 [17.4 kB]
Fetched 2,085 kB in 4s (518 kB/s)
Preconfiguring packages ...
Selecting previously unselected package libapr1:arm64.
(Reading database ... 77135 files and directories currently installed.)
```

ตรวจสอบการติดตั้งและ allow apache

```
devuser@server:~$ sudo ufw app list
Available applications:
  Apache
  Apache Full
  Apache Secure
  OpenSSH
devuser@server:~$ sudo ufw allow in "Apache"
Rule added
Rule added (v6)
devuser@server:~$ sudo ufw status
Status: active

To                         Action      From
--                         ------      ----
OpenSSH                    ALLOW       Anywhere
Apache                     ALLOW       Anywhere
OpenSSH (v6)               ALLOW       Anywhere (v6)
Apache (v6)                ALLOW       Anywhere (v6)
```

ติดตั้ง MySQL

```
devuser@server:~$ sudo apt install mysql-server
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  libcgi-fast-perl libcgi-pm-perl libclone-perl libencode-locale-perl libevent-pthreads-2.1-7
  libfcgi-bin libfcgi-perl libfcgi0ldbl libhtml-parser-perl libhtml-tagset-perl
  libhtml-template-perl libhttp-date-perl libhttp-message-perl libio-html-perl
  liblwp-mediatypes-perl libmecab2 libprotobuf-lite23 libtimedate-perl liburi-perl mecab-ipadic
  mecab-ipadic-utf8 mecab-utils mysql-client-8.0 mysql-client-core-8.0 mysql-common
  mysql-server-8.0 mysql-server-core-8.0
Suggested packages:
  libdata-dump-perl libipc-sharedcache-perl libbusiness-isbn-perl libwww-perl mailx tinyca
The following NEW packages will be installed:
  libcgi-fast-perl libcgi-pm-perl libclone-perl libencode-locale-perl libevent-pthreads-2.1-7
  libfcgi-bin libfcgi-perl libfcgi0ldbl libhtml-parser-perl libhtml-tagset-perl
  libhtml-template-perl libhttp-date-perl libhttp-message-perl libio-html-perl
  liblwp-mediatypes-perl libmecab2 libprotobuf-lite23 libtimedate-perl liburi-perl mecab-ipadic
  mecab-ipadic-utf8 mecab-utils mysql-client-8.0 mysql-client-core-8.0 mysql-common
  mysql-server mysql-server-8.0 mysql-server-core-8.0
0 upgraded, 28 newly installed, 0 to remove and 2 not upgraded.
Need to get 28.9 MB of archives.
After this operation, 238 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://ports.ubuntu.com/ubuntu-ports jammy/main arm64 mysql-common all 5.8+1.0.8 [7,212 B]
Get:2 http://ports.ubuntu.com/ubuntu-ports jammy-updates/main arm64 mysql-client-core-8.0 arm64 8.0.35-0ubuntu0.22.04.1 [2,900 kB]
Get:3 http://ports.ubuntu.com/ubuntu-ports jammy-updates/main arm64 mysql-client-8.0 arm64 8.0.35-0ubuntu0.22.04.1 [22.7 kB]
Get:4 http://ports.ubuntu.com/ubuntu-ports jammy/main arm64 libevent-pthreads-2.1-7 arm64 2.1.12-stable-1build3 [7,588 B]
Get:5 http://ports.ubuntu.com/ubuntu-ports jammy/main arm64 libmecab2 arm64 0.996-14build9 [188 kB]
Get:6 http://ports.ubuntu.com/ubuntu-ports jammy-updates/main arm64 libprotobuf-lite23 arm64 3.12.4-1ubuntu7.22.04.1 [192 kB]
Get:7 http://ports.ubuntu.com/ubuntu-ports jammy-updates/main arm64 mysql-server-core-8.0 arm64 8.0.35-0ubuntu0.22.04.1 [16.9 MB]
Get:8 http://ports.ubuntu.com/ubuntu-ports jammy-updates/main arm64 mysql-server-8.0 arm64 8.0.35-0ubuntu0.22.04.1 [1,238 kB]
Get:9 http://ports.ubuntu.com/ubuntu-ports jammy/main arm64 libhtml-tagset-perl all 3.20-4 [12.5 kB]
```

ติดตั้ง mysql secure

```
devuser@server:~$ sudo mysql_secure_installation
[sudo] password for devuser:

Securing the MySQL server deployment.

Enter password for user root:
The 'validate_password' component is installed on the server.
The subsequent steps will run with the existing configuration
of the component.
Using existing password for root.

Estimated strength of the password: 100
Change the password for root ? ((Press y|Y for Yes, any other key for No) :

 ... skipping.
By default, a MySQL installation has an anonymous user,
allowing anyone to log into MySQL without having to have
a user account created for them. This is intended only for
testing, and to make the installation go a bit smoother.
You should remove them before moving into a production
environment.

Remove anonymous users? (Press y|Y for Yes, any other key for No) : y
Success.


Normally, root should only be allowed to connect from
'localhost'. This ensures that someone cannot guess at
the root password from the network.

Disallow root login remotely? (Press y|Y for Yes, any other key for No) : y
Success.

By default, MySQL comes with a database named 'test' that
anyone can access. This is also intended only for testing,
```

exit แล้วเข้า Mysql อีกรอบโดยการ พิมพ์ sudo mysql -u root -p

```
root@server:~# sudo mysql -u root -p
Enter password:
ERROR 1045 (28000): Access denied for user 'root'@'localhost' (using password: YES)
root@server:~# sudo apt install php libapache2-mod-php php-mysql
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  libapache2-mod-php8.1 php-common php8.1 php8.1-cli php8.1-common php8.1-mysql php8.1-opcache
  php8.1-readline
Suggested packages:
  php-pear
The following NEW packages will be installed:
  libapache2-mod-php libapache2-mod-php8.1 php php-common php-mysql php8.1 php8.1-cli
  php8.1-common php8.1-mysql php8.1-opcache php8.1-readline
0 upgraded, 11 newly installed, 0 to remove and 2 not upgraded.
Need to get 5,338 kB of archives.
After this operation, 22.4 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
```

ติดตั้ง PHP

```
devuser@ubuntusever:~$ sudo apt install php libapache2-mod-php php-mysql
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done

The following additional packages will be installed:
  libapache2-mod-php8.1 php-common php8.1 php8.1-cli php8.1-common
  php8.1-mysql php8.1-opcache php8.1-readline
Suggested packages:
  php-pear
The following NEW packages will be installed:
  libapache2-mod-php libapache2-mod-php8.1 php php-common php-mysql
  php8.1 php8.1-cli php8.1-common php8.1-mysql php8.1-opcache
  php8.1-readline
0 upgraded, 11 newly installed, 0 to remove and 0 not upgraded.
Need to get 5,265 kB of archives.
After this operation, 21.8 MB of additional disk space will be used.
Get:1 http://th.archive.ubuntu.com/ubuntu jammy/main amd64 php-common all 2:92ub
untu1 [12.4 kB]
Get:2 http://th.archive.ubuntu.com/ubuntu jammy-updates/main amd64 php8.1-common
 amd64 8.1.2-1ubuntu2.14 [1,127 kB]
Get:3 http://th.archive.ubuntu.com/ubuntu jammy-updates/main amd64 php8.1-opcach
e amd64 8.1.2-1ubuntu2.14 [365 kB]
```

ตรวจ Version php

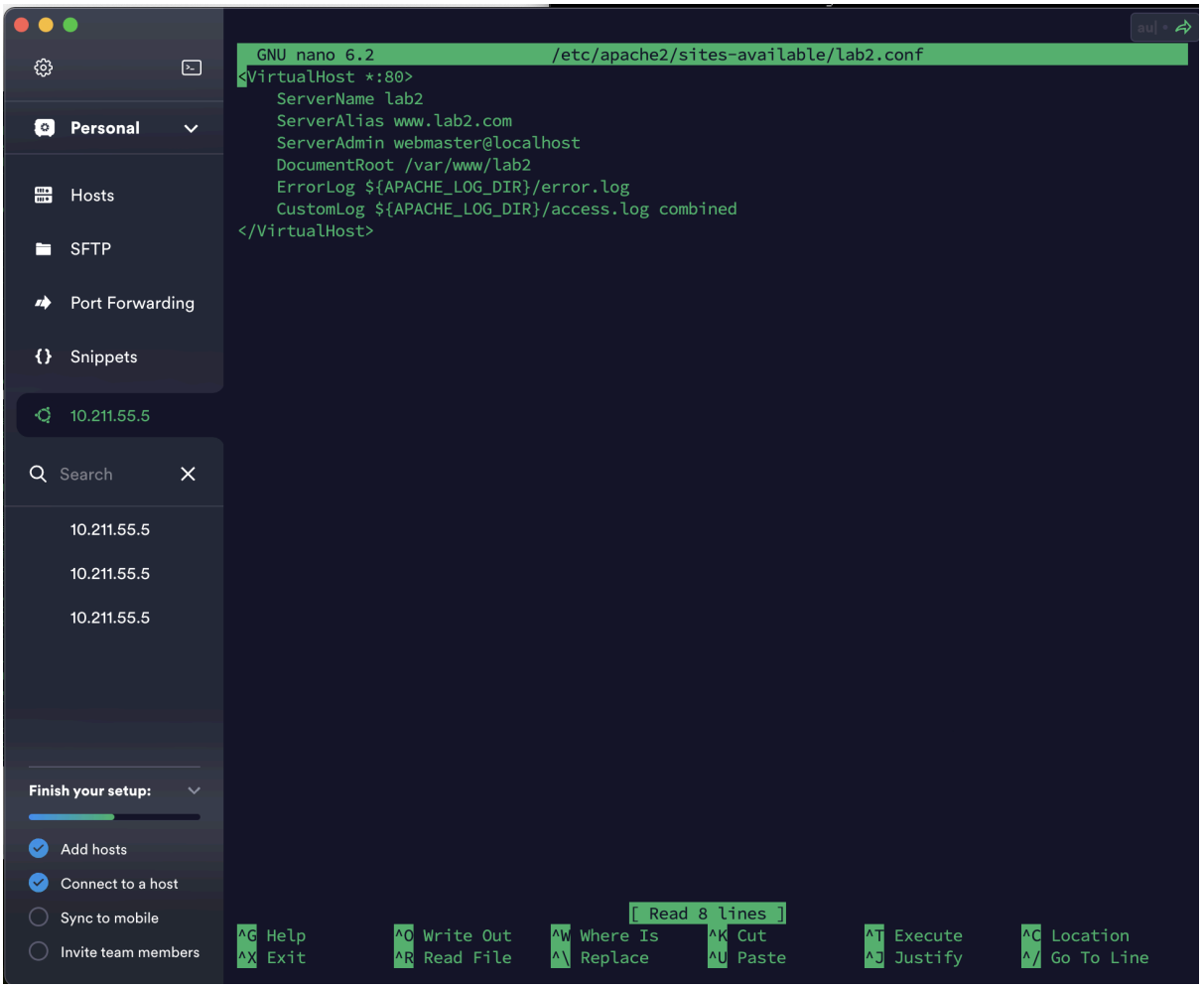
```
devuser@ubuntusever:~$ php -v
PHP 8.1.2-1ubuntu2.14 (cli) (built: Aug 18 2023 11:41:11) (NTS)
Copyright (c) The PHP Group
Zend Engine v4.1.2, Copyright (c) Zend Technologies
    with Zend OPcache v8.1.2-1ubuntu2.14, Copyright (c), by Zend Technologies
```

สร้าไฟล์พร้อมเปลี่ยน Owner ของ ไดเร็กทอรี่ ให้เป็นของ User

```
devuser@ubuntusever:~$ sudo mkdir /var/www/lab2
devuser@ubuntusever:~$ sudo chow -R &USER:&USER /var/www/lab2
```

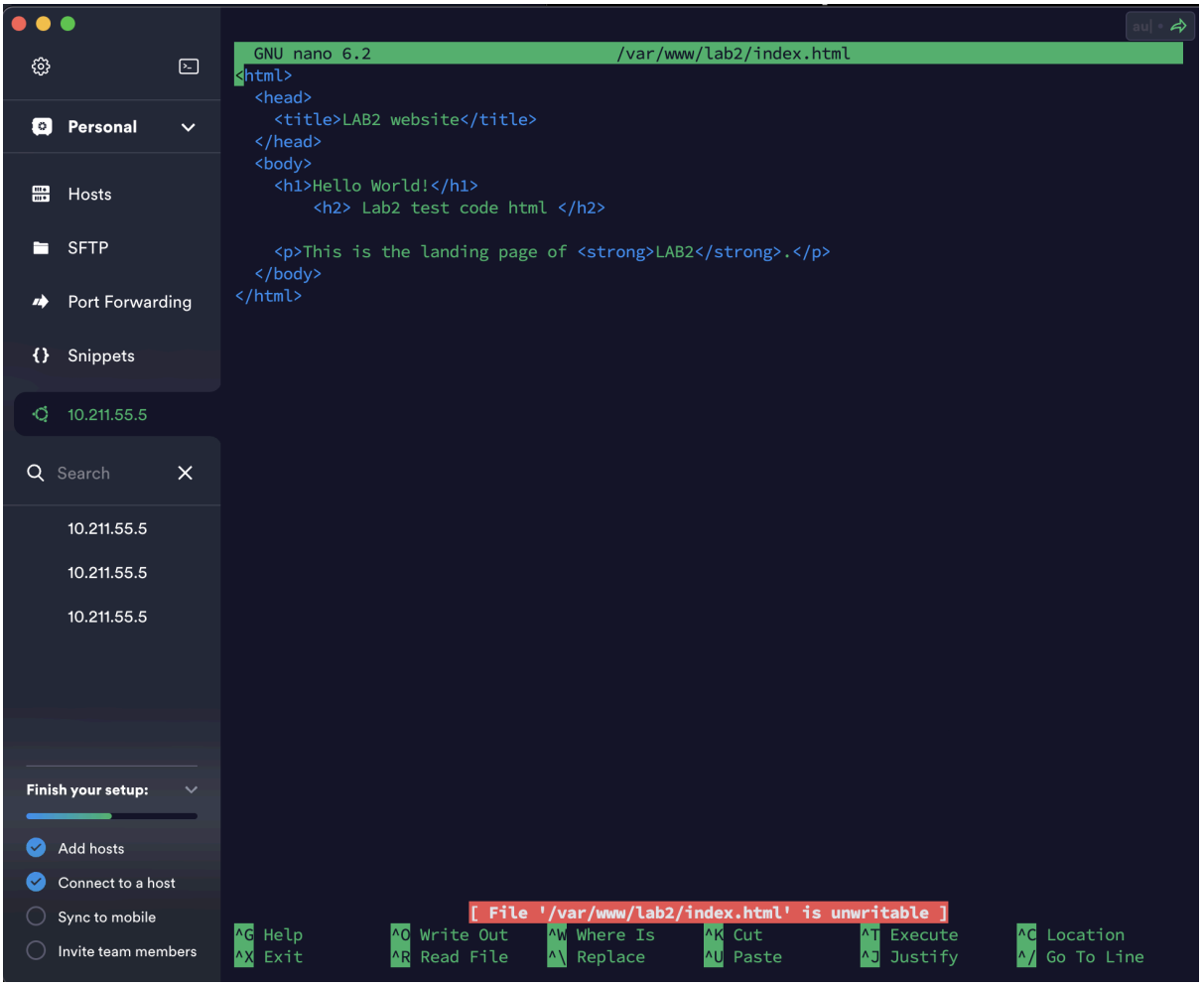
Config ไดเร็กทอรี่ lab2 พร้องทั้ง เปิด ปิด Domain ทดสอบ config

```
root@server://var/www# sudo nano /etc/apache2/sites-available/000-default.conf
root@server://var/www# sudo a2dissite 000-default
Site 000-default disabled.
To activate the new configuration, you need to run:
  systemctl reload apache2
root@server://var/www# sudo apache2ctl configtest
AH00558: apache2: Could not reliably determine the server's fully qualified domain name, using 127.0.1.1.
e globally to suppress this message
Syntax OK
root@server://var/www# sudo systemctl reload apache2
```



สร้างไฟล์ HTML และ ปรับแต่งไฟล์

```
root@server://var/www# sudo nano /etc/apache2/mods-enabled/dir.conf
root@server://var/www# sudo systemctl reload apache2
```

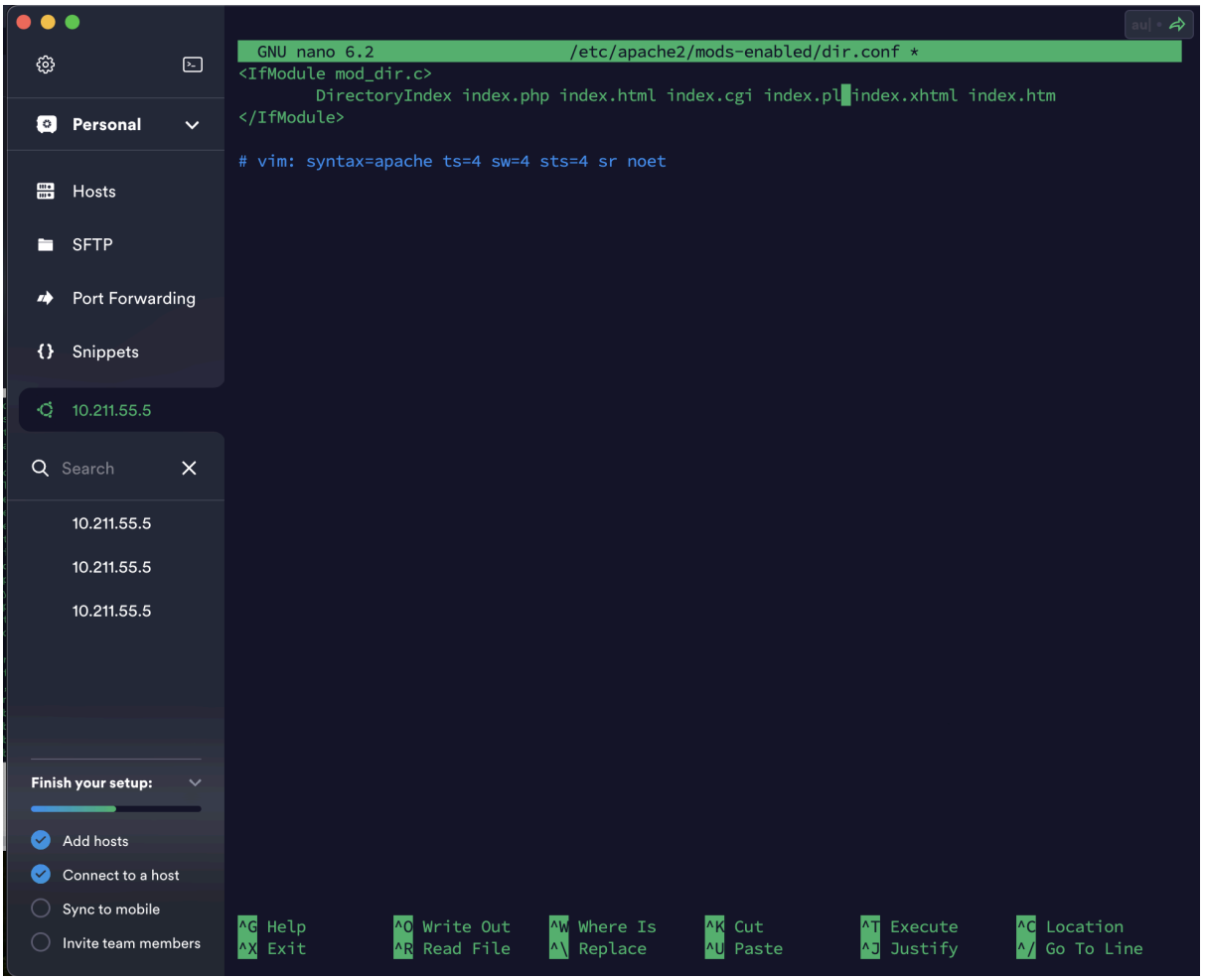


Hello World!

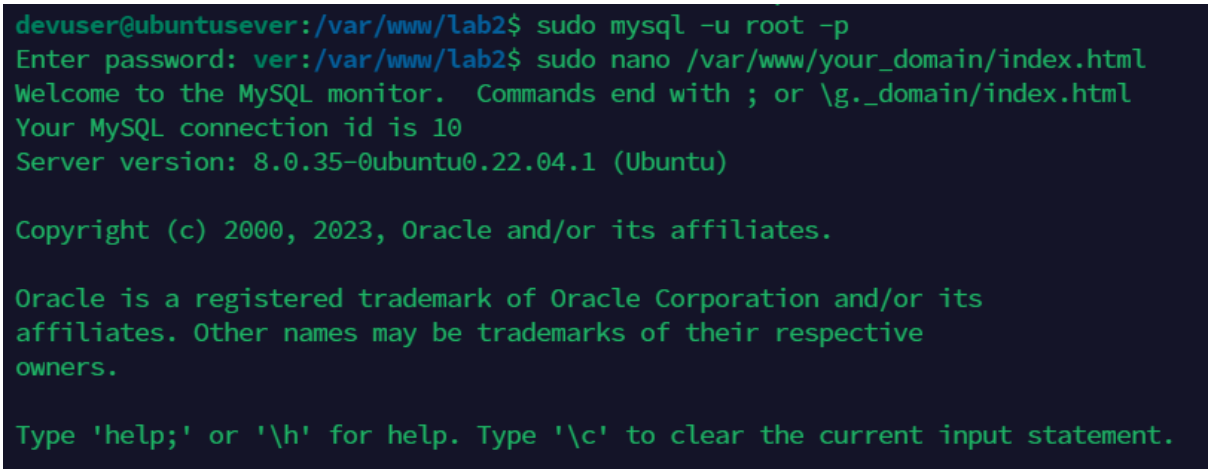
Lab2 test code html

This is the landing page of **LAB2**.

แก้ไขไฟล์ dir.conf กำหนดลำดับการอ่านไฟล์ให้อ่านไฟล์ php ก่อน



เข้าสู่ Mysql โดยคำสั่ง sudo mysql -u root -p แล้ว กรอกรหัสผ่าน



สร้าง Database
สร้าง userใหม่ใน Database
กำหนดให้ user ใหม่สามารถทำทุกอย่างใน database นี้

```
mysql> CREATE DATABASE example_database;
Query OK, 1 row affected (0.01 sec)

mysql> CREATE USER 'example_user'@'%' IDENTIFIED BY 'P@ssw0rd@2023';
Query OK, 0 rows affected (0.03 sec)

mysql> ALTER USER 'root'@'localhost' IDENTIFIED WITH mysql_native_password BY 'P
@ssw0rd@2023';
Query OK, 0 rows affected (0.01 sec)

mysql> GRANT ALL ON example_database.* TO 'example_user'@'%';
Query OK, 0 rows affected (0.01 sec)

mysql> FLUSH PRIVILEGES;
Query OK, 0 rows affected (0.01 sec)
```

เช็ค Databse
สร้างตาราง Database
ใส่ค่าลงไปใน Database

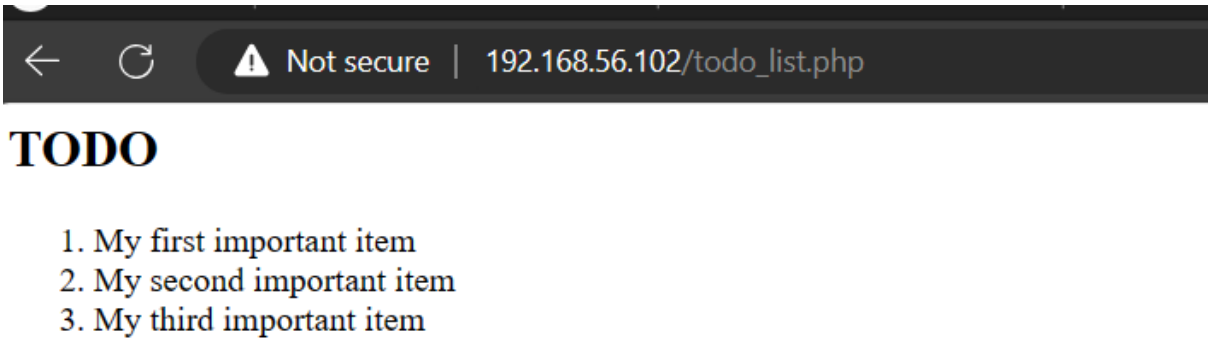
```
mysql> SHOW DATABASES;
+--------------------+
| Database           |
+--------------------+
| example_database   |
| information_schema |
| performance_schema |
+--------------------+
3 rows in set (0.01 sec)

mysql> CREATE TABLE example_database.todo_list (
    -> item_id INT AUTO_INCREMENT,
    -> content VARCHAR(255),
    -> PRIMARY KEY(item_id)
    -> );
Query OK, 0 rows affected (0.05 sec)

mysql> INSERT INTO example_database.todo_list (content) VALUES ("My first import
ant item");
mpuery OK, 1 row affected (0.03 sec)                                    d ip
Query OK, 1 row affected (0.00 sec)                                   thir imo
ortasql> SELECT * FROM example_database o_list;                          tt
```

Nano เพื่อสร้างไฟล์ todo_list.php

```
devuser@ubuntusever:/var/www/lab2$ sudo nano /etc/apache2/mods-enabled/dir.conf
devuser@ubuntusever:/var/www/lab2$ sudo systemctl reload apache2
```

```php
<?php
$user = " example_user ";
$password = " password ";
$database = " example_database ";
$table = " todo_list ";

try {
  $db = new PDO("mysql:host=localhost;dbname=$database", $user, $password);
  echo "<h2>TODO</h2><ol>";
  foreach($db->query("SELECT content FROM $table") as $row) {
    echo "<li>" . $row['content'] . "</li>";
  }
  echo "</ol>";
} catch (PDOException $e) {
    print "Error!: " . $e->getMessage() . "<br/>";
    die();
}
```

ผลลัพธ์



สร้างไฟล์ Lab2-1_xxx และ Lab2-2_xxx และตรวจเช็ค

```
devuser@ubuntusever:~$ sudo mkdir -p /var/www/lab2-1_008/public_html
[sudo] password for devuser:
devuser@ubuntusever:~$ sudo mkdir -p /var/www/lab2-2_008/public_html
devuser@ubuntusever:~$ ls /var/www
html  lab2  lab2-1_008  lab2-2_008
devuser@ubuntusever:~$
```

เปลี่ยน Owner ของ Domainที่สร้างให้เป็น user

```
devuser@ubuntusever:~$ sudo mkdir -p /var/www/lab2-1_008/public_html
[sudo] password for devuser:
devuser@ubuntusever:~$ sudo mkdir -p /var/www/lab2-2_008/public_html
devuser@ubuntusever:~$ ls /var/www
html  lab2  lab2-1_008  lab2-2_008
devuser@ubuntusever:~$ sudo chown -R $USER:$USER /var/www/lab2-1_008/public_
html
devuser@ubuntusever:~$ sudo chown -R $USER:$USER /var/www/lab2-2_008/public_
html
devuser@ubuntusever:~$ sudo chmod -R 755 /var/www
```

```
  GNU nano 6.2     /var/www/lab2-2_008/public_html/index.html
<html>
  <head>
    <title>Welcome to lab2-1!</title>
  </head>
  <body>
    <h1>Success! The lab2-1 virtual host is working!</h1>
  </body>
</html>
```

สร้างไฟล์ Nano ชื่อ index.html แล้วก๊อปปี้ไป Lab2-2

```
devuser@ubuntusever:~$ nano /var/www/lab2-1_008/public_html/index.html
devuser@ubuntusever:~$ cp /var/www/lab2-1_008/public_html/index.html /var/ww
w/lab2-2_008/public_html/index.html
```

Nano index.html ในไฟล์ lab2-2

```
<html>
  <head>
    <title>Welcome to lab2-2!</title>
  </head>
  <body>
    <h1>Success! The lab2-2 virtual host is working!</h1>
  </body>
</html>
```

เข้าไปที่ lab2-1 แล้วเข้าไปแก้ไข lab2-1.conf

```
devuser@ubuntusever:~$ sudo cp /etc/apache2/sites-available/000-default.conf
 /etc/apache2/sites-available/lab2-1_008.conf
devuser@ubuntusever:~$ sudo nano /etc/apache2/sites-available/lab2-1_008.con
f
```

```
  GNU nano 6.2     /etc/apache2/sites-available/lab2-1_008.conf *
<VirtualHost *:80>
        # The ServerName directive sets the request scheme, hostname and po>
        # the server uses to identify itself. This is used when creating
        # redirection URLs. In the context of virtual hosts, the ServerName
        # specifies what hostname must appear in the request's Host: header>
        # match this virtual host. For the default virtual host (this file)>
        # value is not decisive as it is used as a last resort host regardl>
        # However, you must set it for any further virtual host explicitly.
        #ServerName www.example.com

        ServerAdmin admin@lab2-1_008
         ServerName lab2-1_008
         ServerAlias www.lab2-1_008
        DocumentRoot /var/www/lab2-1_008/public_html

        # Available loglevels: trace8, ..., trace1, debug, info, notice, wa>
        # error, crit, alert, emerg.
        # It is also possible to configure the loglevel for particular
        # modules, e.g.
        #LogLevel info ssl:warn

        ErrorLog ${APACHE_LOG_DIR}/error.log
        CustomLog ${APACHE_LOG_DIR}/access.log combined

        # For most configuration files from conf-available/, which are
        # enabled or disabled at a global level, it is possible to
        # include a line for only one particular virtual host. For example >
        # following line enables the CGI configuration for this host only
        # after it has been globally disabled with "a2disconf".
        #Include conf-available/serve-cgi-bin.conf
</VirtualHost>
```

ก๊อปปี้ ไฟล์จาก config lab2-1 ไป lab2-2 แล้วแก้ไขเป็น

```
devuser@ubuntusever:~$ sudo cp /etc/apache2/sites-available/lab2-1_008.conf
/etc/apache2/sites-available/lab2-2_008.conf
[sudo] password for devuser:
devuser@ubuntusever:~$ sudo nano /etc/apache2/sites-available/lab2-2_008.con
f
```

```
  GNU nano 6.2     /etc/apache2/sites-available/lab2-2_008.conf *
<VirtualHost *:80>
        # The ServerName directive sets the request scheme, hostname and po>
        # the server uses to identify itself. This is used when creating
        # redirection URLs. In the context of virtual hosts, the ServerName
        # specifies what hostname must appear in the request's Host: header>
        # match this virtual host. For the default virtual host (this file)>
        # value is not decisive as it is used as a last resort host regardl>
        # However, you must set it for any further virtual host explicitly.
        #ServerName www.example.com

        ServerAdmin admin@lab2-2_008
         ServerName lab2-2_008
         ServerAlias www.lab2-2_008
        DocumentRoot /var/www/lab2-2_008/public_html

        # Available loglevels: trace8, ..., trace1, debug, info, notice, wa>
        # error, crit, alert, emerg.
        # It is also possible to configure the loglevel for particular
        # modules, e.g.
        #LogLevel info ssl:warn

        ErrorLog ${APACHE_LOG_DIR}/error.log
        CustomLog ${APACHE_LOG_DIR}/access.log combined

        # For most configuration files from conf-available/, which are
        # enabled or disabled at a global level, it is possible to
        # include a line for only one particular virtual host. For example >
        # following line enables the CGI configuration for this host only
        # after it has been globally disabled with "a2disconf".
        #Include conf-available/serve-cgi-bin.conf
</VirtualHost>
```

เปิดใช้งาน Visaulhost files

```
devuser@ubuntusever:~$ sudo a2ensite lab2-1_008.conf
Enabling site lab2-1_008.
To activate the new configuration, you need to run:
  systemctl reload apache2
devuser@ubuntusever:~$ sudo a2ensite lab2-2_008.conf
Enabling site lab2-2_008.
To activate the new configuration, you need to run:
  systemctl reload apache2
devuser@ubuntusever:~$
```

ตรวจสอบ testconfig

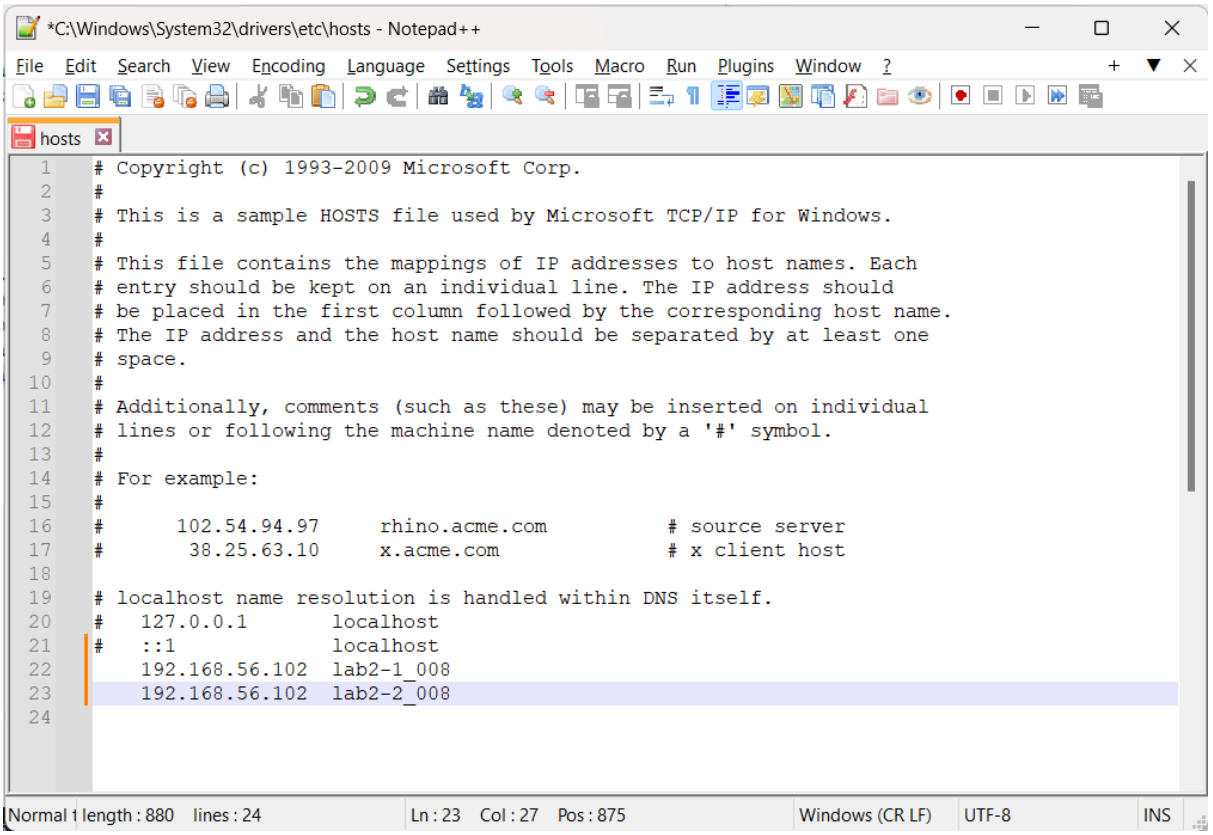
```
devuser@ubuntusever:~$ sudo a2dissite 000-default.conf
Site 000-default already disabled
devuser@ubuntusever:~$ sudo apache2ctl configtest
AH00558: apache2: Could not reliably determine the server's fully qualified
domain name, using 127.0.1.1. Set the 'ServerName' directive globally to sup
press this message
Syntax OK
```

Restart apache และเช็ค status

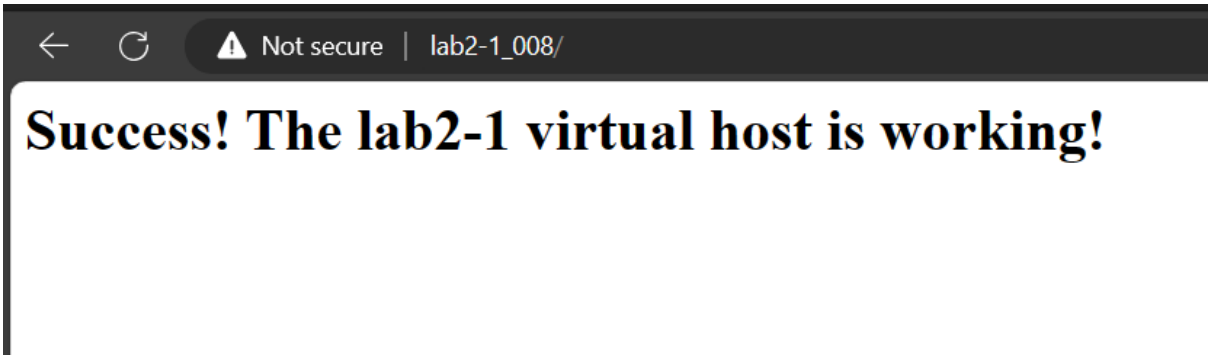
```
devuser@ubuntusever:~$ sudo systemctl restart apache2
devuser@ubuntusever:~$ sudo systemctl status apache2
● apache2.service - The Apache HTTP Server
     Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor p>
     Active: active (running) since Wed 2023-12-06 12:55:53 UTC; 10s ago
       Docs: https://httpd.apache.org/docs/2.4/
    Process: 1854 ExecStart=/usr/sbin/apachectl start (code=exited, status=>
   Main PID: 1859 (apache2)
      Tasks: 6 (limit: 4558)
     Memory: 10.2M
        CPU: 40ms
     CGroup: /system.slice/apache2.service
             ├─1859 /usr/sbin/apache2 -k start
             ├─1860 /usr/sbin/apache2 -k start
             ├─1861 /usr/sbin/apache2 -k start
             ├─1862 /usr/sbin/apache2 -k start
             ├─1863 /usr/sbin/apache2 -k start
             └─1864 /usr/sbin/apache2 -k start

Dec 06 12:55:53 ubuntusever systemd[1]: Starting The Apache HTTP Server...
Dec 06 12:55:53 ubuntusever apachectl[1857]: AH00558: apache2: Could not re>
Dec 06 12:55:53 ubuntusever systemd[1]: Started The Apache HTTP Server.
lines 1-20/20 (END)
```

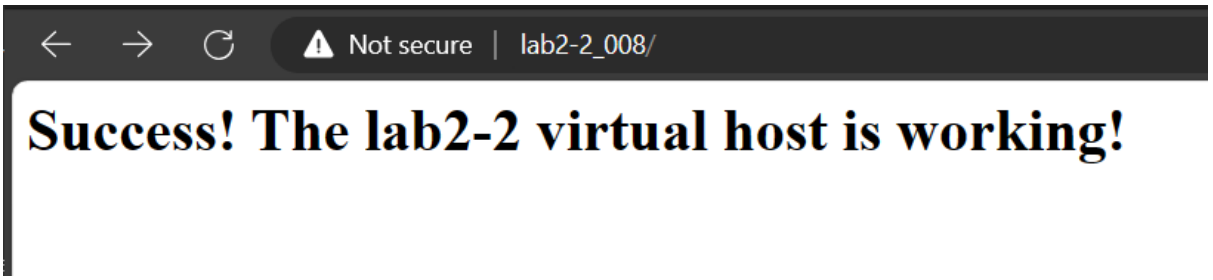
sudo nano /etc/hosts

```
  GNU nano 6.2                        /etc/hosts~ *
127.0.0.1   localhost
127.0.1.1   ubuntusever
192.168.56.102 lab2-1_008
192.168.56.102 lab2-2_008
```


*C:\Windows\System32\drivers\etc\hosts - Notepad++
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?
hosts
Copyright (c) 1993-2009 Microsoft Corp.
#
This is a sample HOSTS file used by Microsoft TCP/IP for Windows.
#
This file contains the mappings of IP addresses to host names. Each
entry should be kept on an individual line. The IP address should
be placed in the first column followed by the corresponding host name.
The IP address and the host name should be separated by at least one
space.
#
Additionally, comments (such as these) may be inserted on individual
lines or following the machine name denoted by a '#' symbol.
#
For example:
#
102.54.94.97 rhino.acme.com # source server
38.25.63.10 x.acme.com # x client host
localhost name resolution is handled within DNS itself.
127.0.0.1 localhost
::1 localhost
192.168.56.102 lab2-1_008
192.168.56.102 lab2-2_008
Normal length : 880 lines : 24
Ln : 23 Col : 27 Pos : 875
Windows (CR LF)
UTF-8
INS

test


Not secure | lab2-1_008/
Success! The lab2-1 virtual host is working!


Not secure | lab2-2_008/
Success! The lab2-2 virtual host is working!