

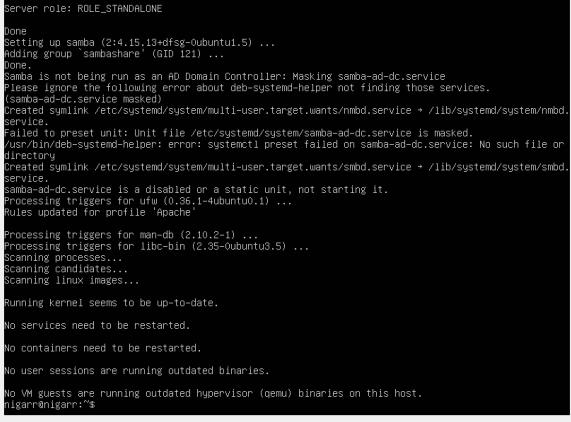
# Nigar

**The main tasks of the Practical work Nr.4 - Installation, Configuration of Linux Ubuntu Server 20.04 LTS as small office server:**

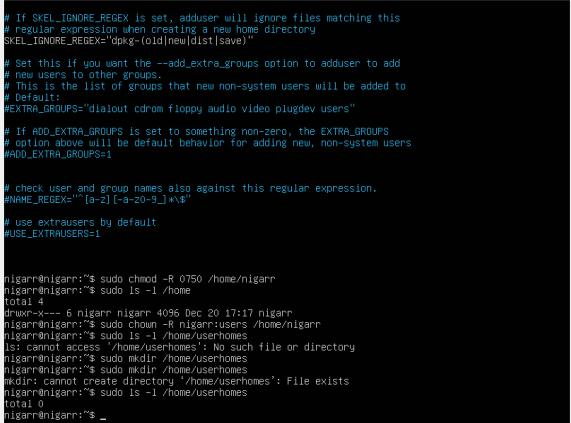
1. Ubuntu Server 22.04 LTS or LAMP (Apache, PHP, MySQL),
2. Simple HTML (or PHP) page, possible only function `phpinfo()`,
3. adding Users, Home Folders on Samba Shared Resource,
4. SSH terminal connection and Samba UNC connection, both with testing from other OS, eg. Windows,
5. phpMyAdmin (can also be Webmin) with log in,
6. do network packet capturing with commandline utility `tasksel` and analyze on workstation with Wireshark,
7. for maximal from 1.8 points learn and modify BASH script (use `passwd` or other utility to crypt passwords and `smbpasswd`) for user adding from CSV file, test script,
8. Conclusions.

## Installation and configuration

# Apache installation:



```
Server role: ROLE_STANDALONE
Done.
Setting up samba (2:4.15.10+dfsg-0ubuntu0.5) ...
Adding group 'sambashare' (GID 121) ...
Done.
Samba is not being run as an AD Domain Controller: Masking samba-ad-dc.service
Please ignore the following error about deb-systemd-helper not finding those services.
(samba-ad-dc.service masked)
Created symlink /etc/systemd/system/multi-user.target.wants/nmbd.service → /lib/systemd/system/nmbd.service.
Failed to preset unit file /etc/systemd/system/samba-ad-dc.service: Is a directory
AppArmor/deb-systemd-helper: error: systemctl preset failed on samba-ad-dc.service: No such file or
directory
Created symlink /etc/systemd/system/multi-user.target.wants/smbd.service → /lib/systemd/system/smbd.service.
samba-ad-dc.service is a disabled or a static unit, not starting it.
Processing triggers for ufw (0.36.1-4ubuntu0.1) ...
Processing triggers for man-db (2.10.2-1) ...
Processing triggers for libc-bin (2.35-0ubuntu0.5) ...
Scanning candidates...
Scanning linux images...
Running kernel seems to be up-to-date.
No services need to be restarted.
No containers need to be restarted.
No user sessions are running outdated binaries.
No VM guests are running outdated hypervisor (QEMU) binaries on this host.
nigarr@nigarr:~$
```



```
# If $SKEL_IGNORE_REGEX is set, adduser will ignore files matching this
# regular expression when creating a new home directory
$SKEL_IGNORE_REGEX="dpkg<=old|new|dist|save"
# Edit this if you want the --add_extra_groups option to adduser to add
# new users to other groups.
# This is the list of groups that new non-system users will be added to
# by default.
#EXTRA_GROUPS="dialog cdrrom floppy audio video plugdev users"

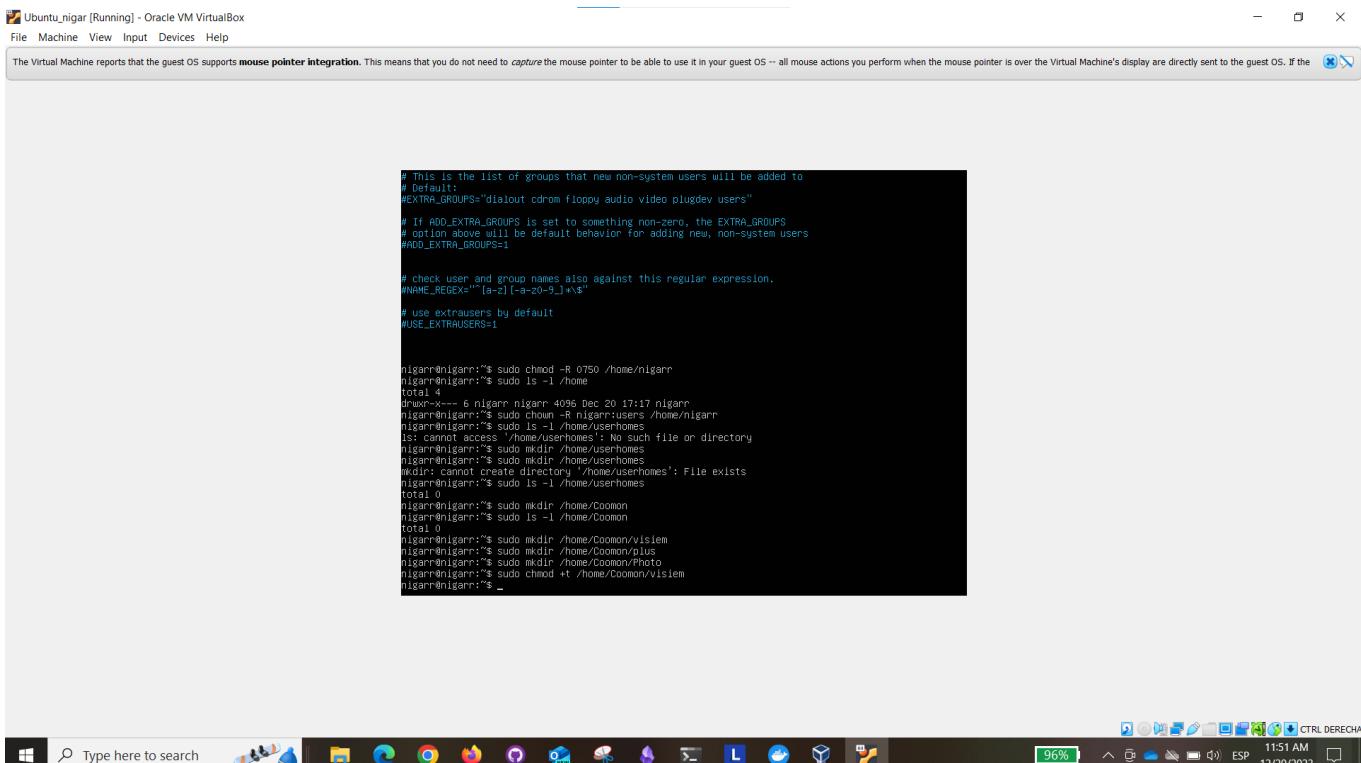
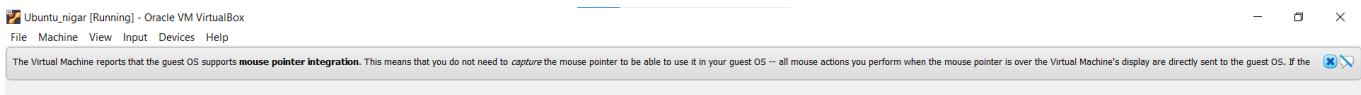
# If ADD_EXTRA_GROUPS is set to something non-zero, the EXTRA_GROUPS
# option above will be default behavior for adding new, non-system users
#ADD_EXTRA_GROUPS=1

# check user and group names also against this regular expression.
#NAME_REGEX="^([a-zA-Z][a-zA-Z0-9_]*$)"

# use extrousers by default
#USE_EXTRAUERSERS=1

nigarr@nigarr:~$ sudo chmod -R 0750 /home/nigarr
nigarr@nigarr:~$ sudo ls -l /home
total 0
drwxr-x--- 6 nigarr nigarr 4096 Dec 20 17:17 nigarr
nigarr@nigarr:~$ sudo chown -R nigarr:nigarr /home/nigarr
nigarr@nigarr:~$ sudo ls -l /home/userhomes
ls: cannot access '/home/userhomes': No such file or directory
nigarr@nigarr:~$ sudo mkdir /home/userhomes
mkdir: cannot create directory '/home/userhomes': File exists
nigarr@nigarr:~$ sudo ls -l /home/userhomes
total 0
nigarr@nigarr:~$ _
```



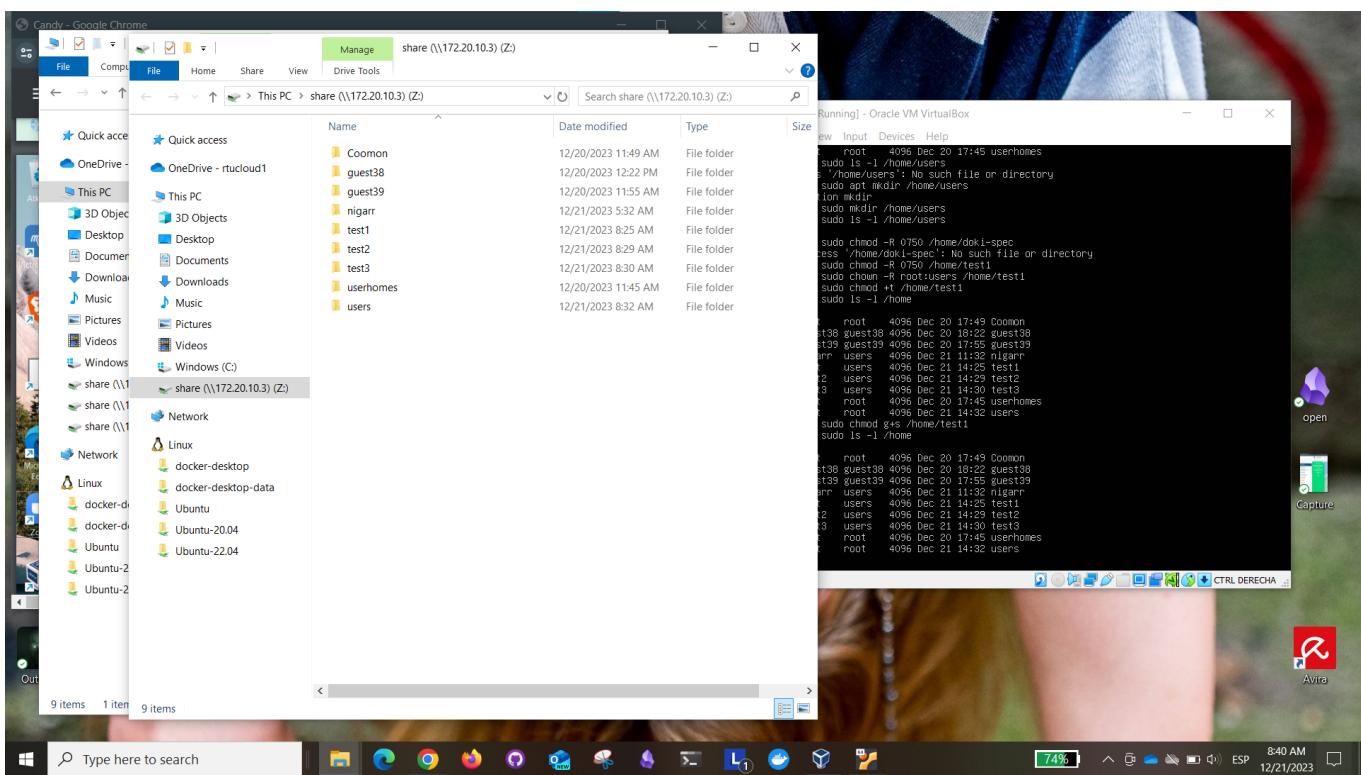
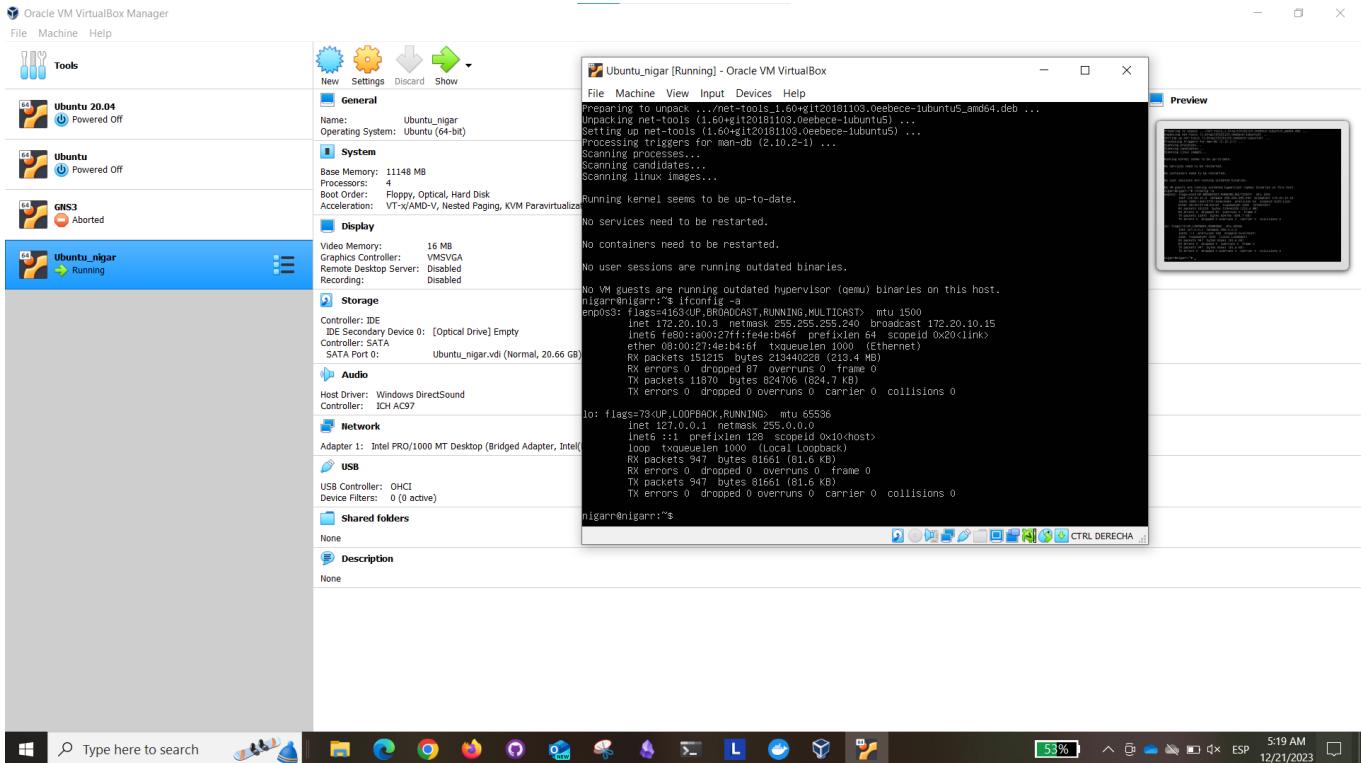


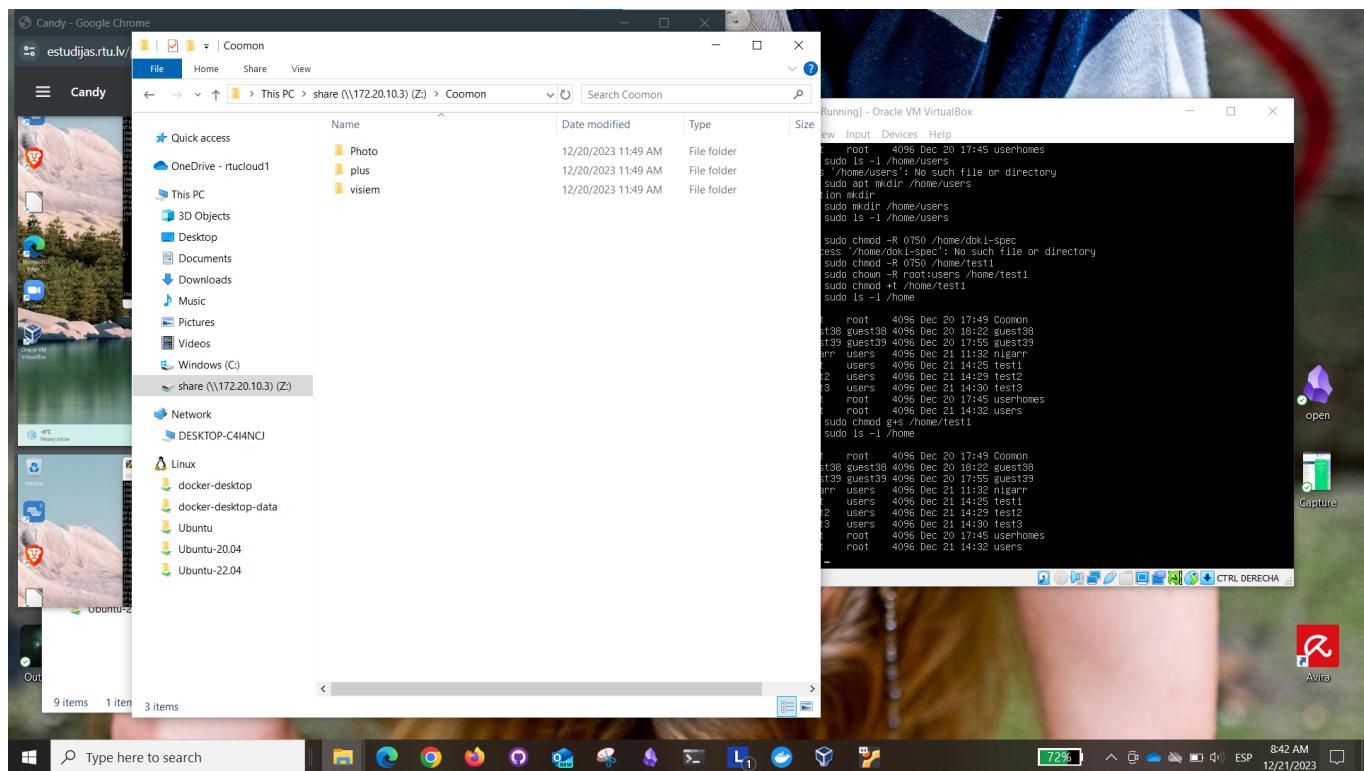
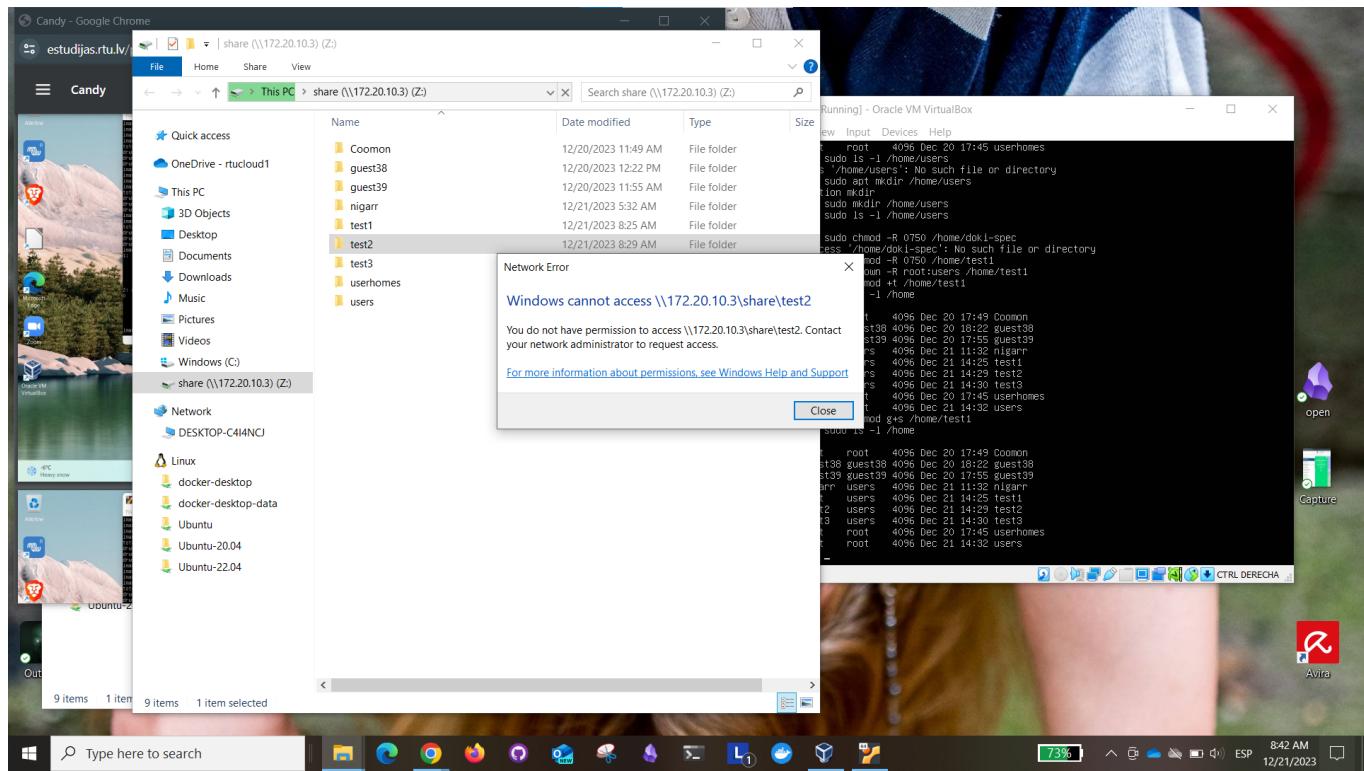
```
nigarr@nigarr:~$ sudo ls -l /home/userhomes
total 0
nigarr@nigarr:~$ sudo mkdir /home/comon
nigarr@nigarr:~$ sudo ls -l /home/comon
total 0
nigarr@nigarr:~$ sudo mkdir /home/comon/visiem
nigarr@nigarr:~$ sudo mkdir /home/comon/plus
nigarr@nigarr:~$ sudo chmod +t /home/comon/visiem
nigarr@nigarr:~$ sudo ls -l /home/comon/visiem
total 0
nigarr@nigarr:~$ sudo adduser guest39
Adding user `guest39' ...
Adding new group `guest39' (1001) ...
Adding new user `guest39' (1001) with group `guest39' ...
Creating home directory `/home/guest39' ...
Copying files from `/etc/skel' ...
nigarr@nigarr:~$
```

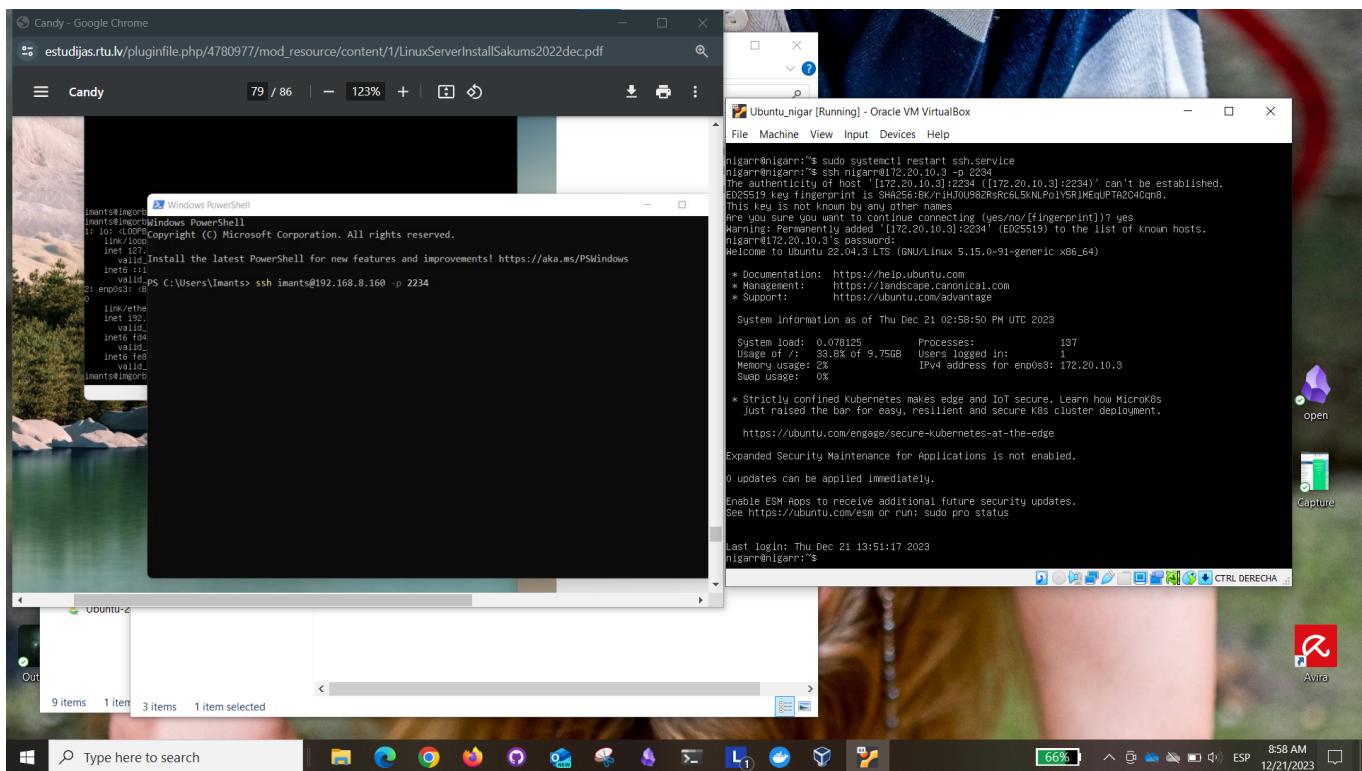
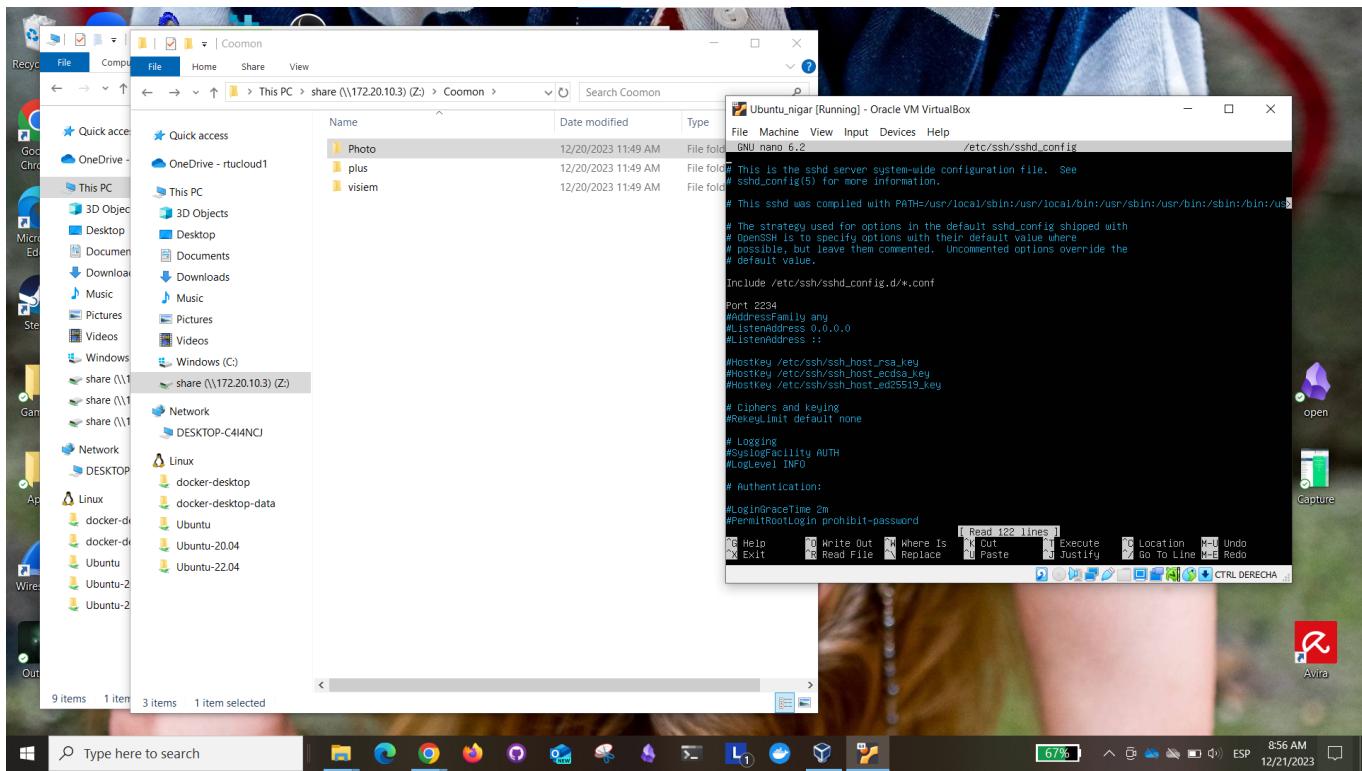


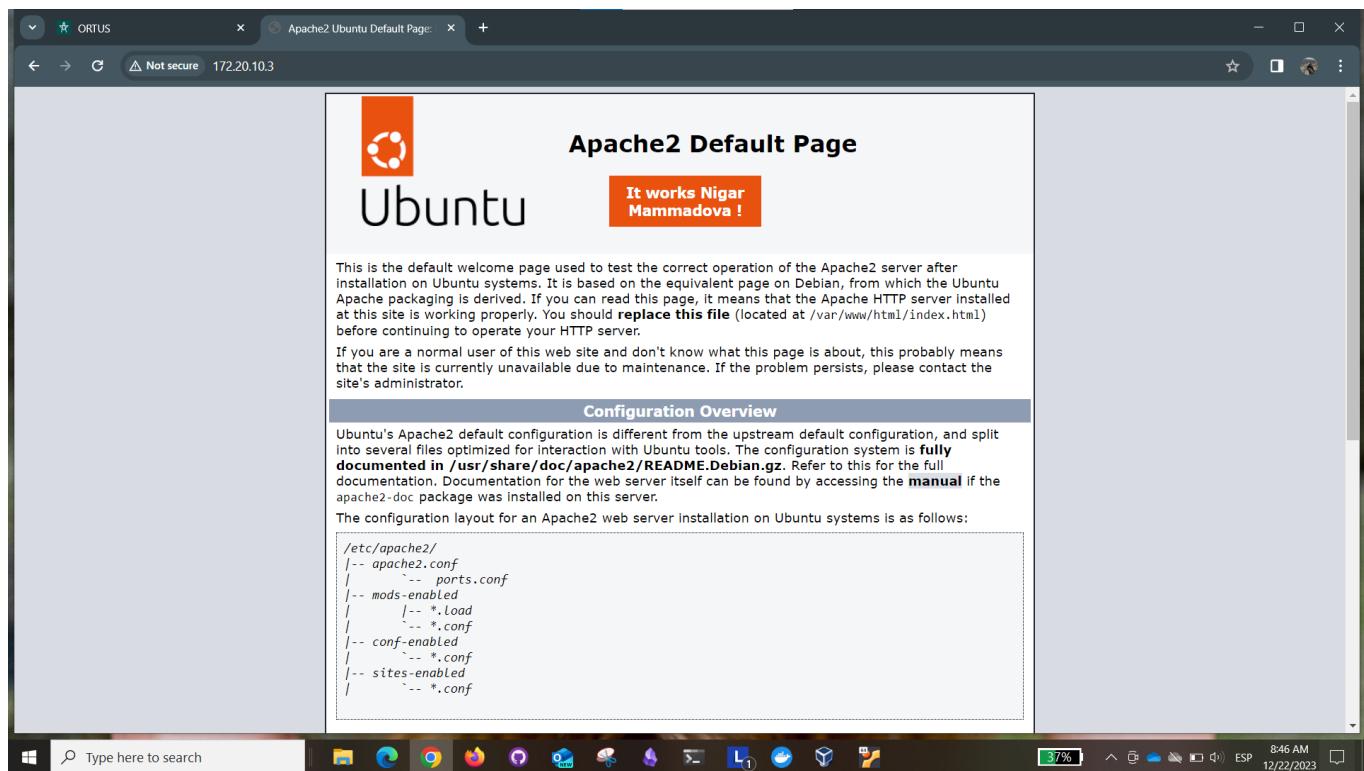
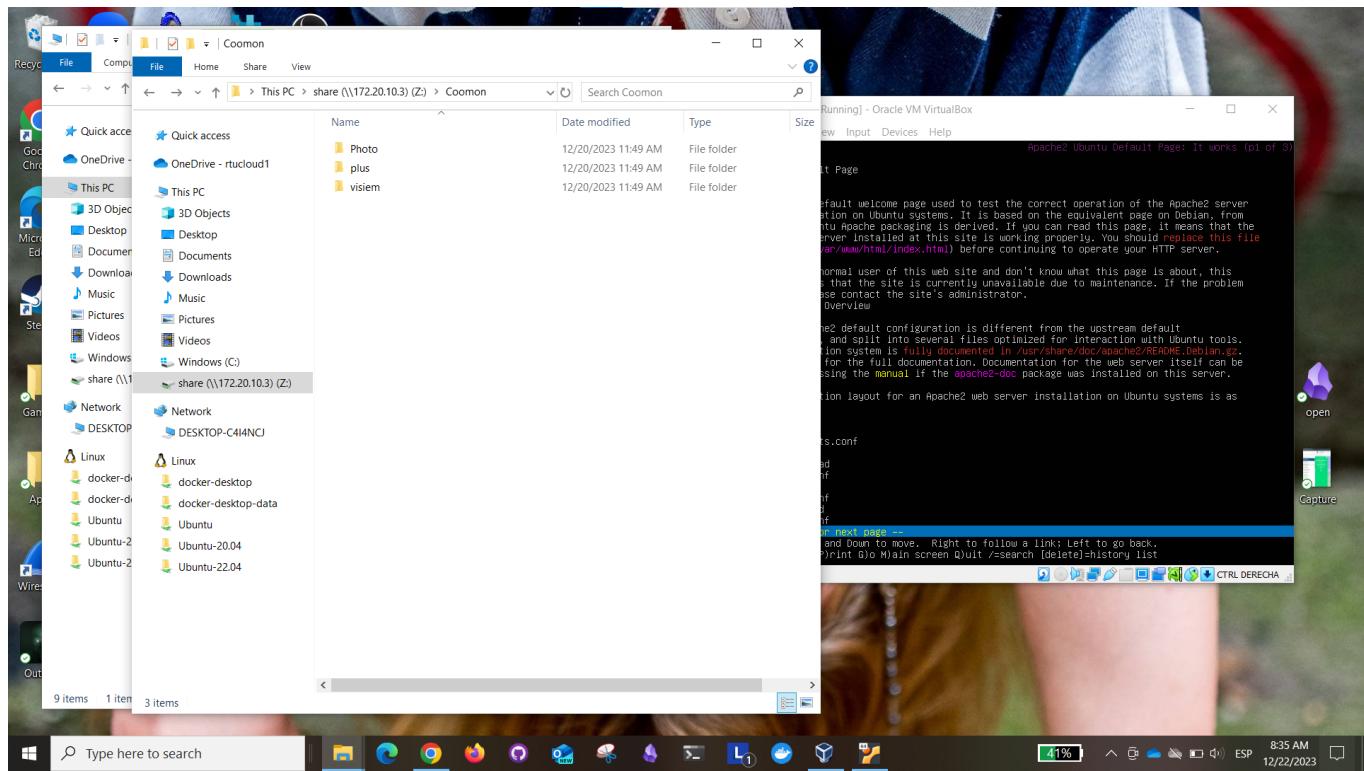
```
total 0
nigar@nigar:~$ sudo mkdir /home/Coomon/vision
nigar@nigar:~$ sudo mkdir /home/Coomon/plus
nigar@nigar:~$ sudo mkdir /home/Coomon/Photo
nigar@nigar:~$ sudo chmod +t /home/Coomon/vision
nigar@nigar:~$ sudo ls -l /home/Coomon/vision
total 0
nigar@nigar:~$ sudo ls -l /home/Coomon/plus
total 0
nigar@nigar:~$ sudo adduser guest39
Adding user `guest39' ...
Adding new group `guest39' (1001) ...
Adding new user `guest39' (1001) with group `guest39' ...
Creating home directory `/home/guest39' ...
Copying files from `/etc/skel' ...
New password:
Retype new password:
password updated successfully
Changing the user information for guest39
Enter the new value, or press ENTER for the default
  Full Name []: cienkins 39
  Room Number []:
  Work Phone []:
  Home Phone []:
  Other []:
Is the information correct? [Y/n] y
nigar@nigar:~$ ls -l /home
total 16
drwxr-xr-x 5 root  root  4096 Dec 20 17:49 Coomon
drwxr-xr-x 2 guest39 guest39 4096 Dec 20 17:55 guest39
drwxr-xr-x  6 nigar  users  4096 Dec 20 17:47 nigar
drwxr-xr-x 2 root  root  4096 Dec 20 17:45 userhomes
nigar@nigar:~$ sudo smpasswd -a guest39
New SSM password:
Retype new SSM password:
added user guest39
nigar@nigar:~$
```

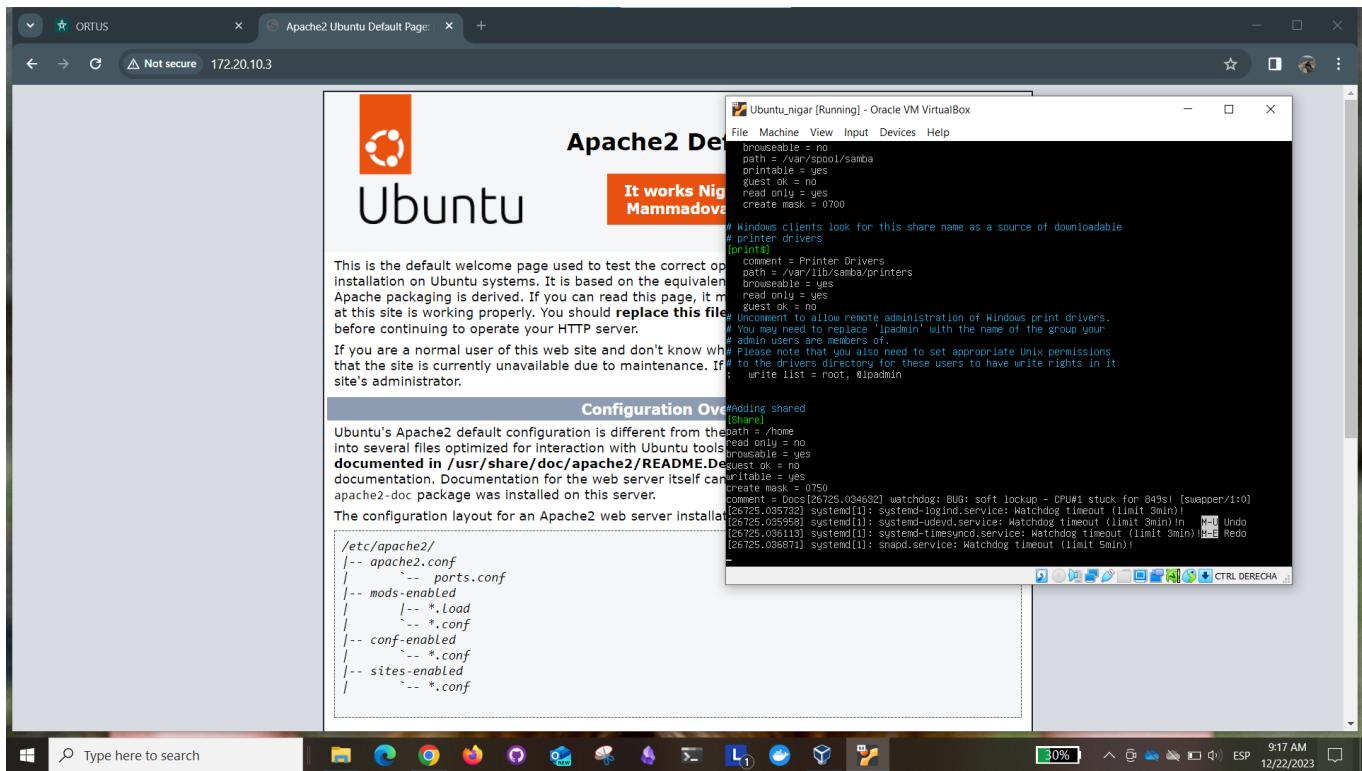
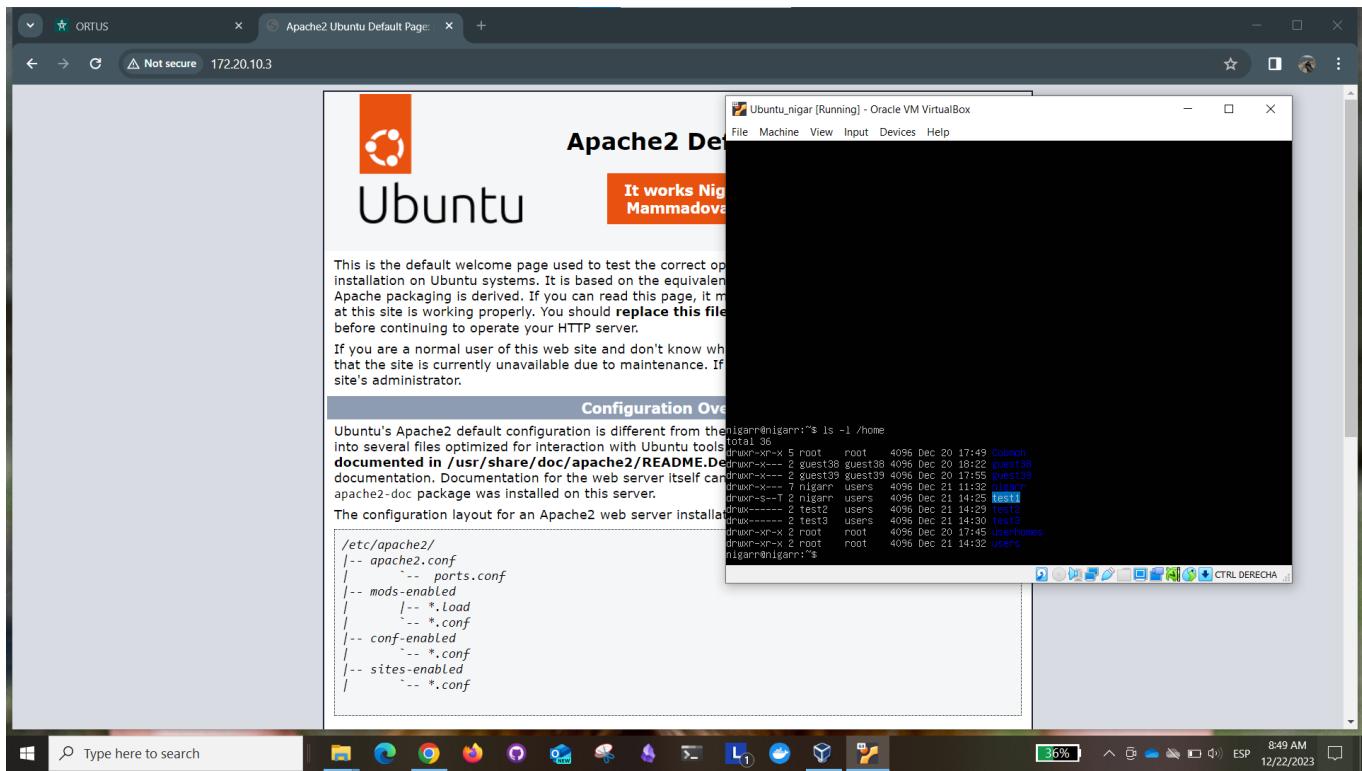


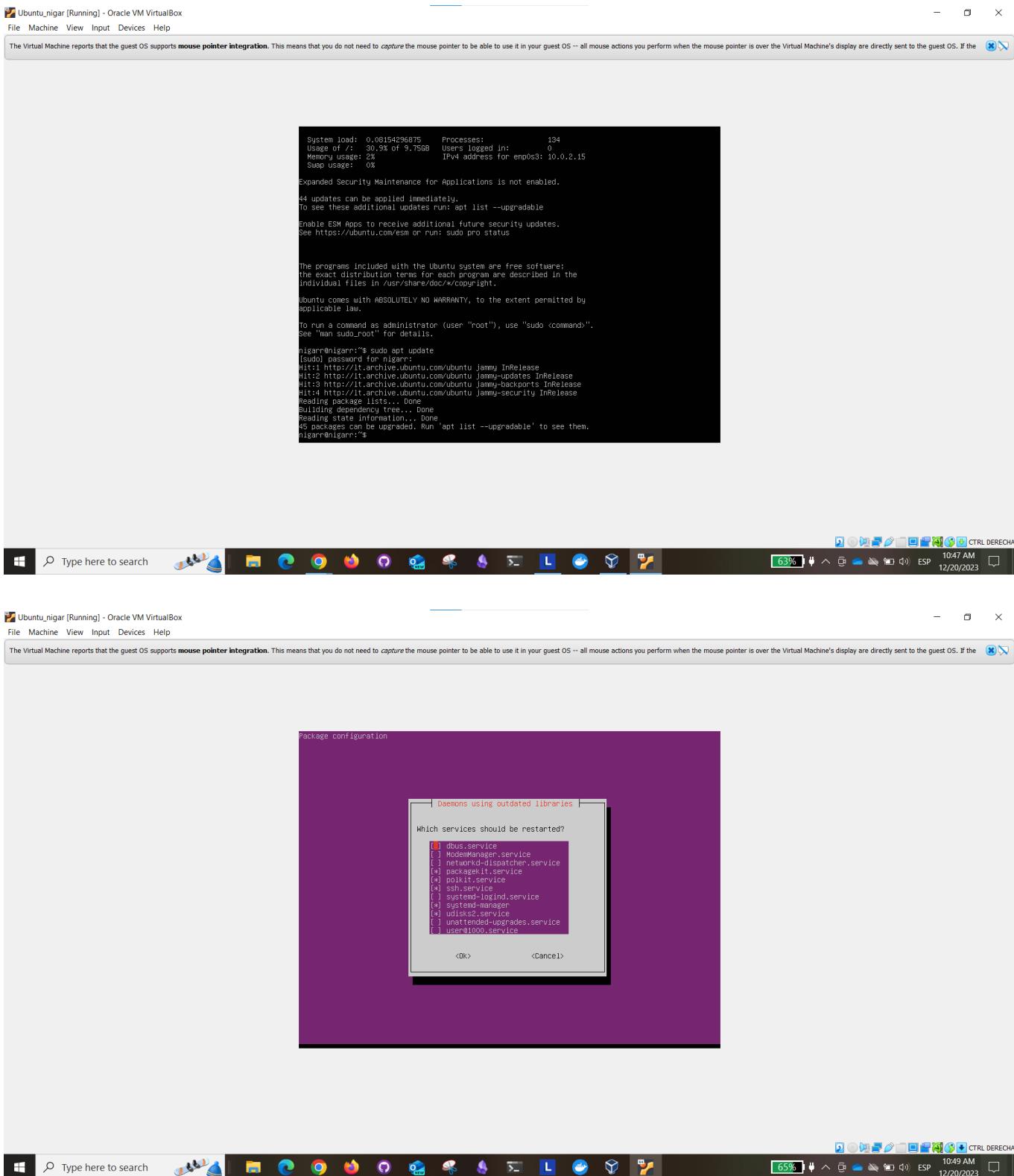


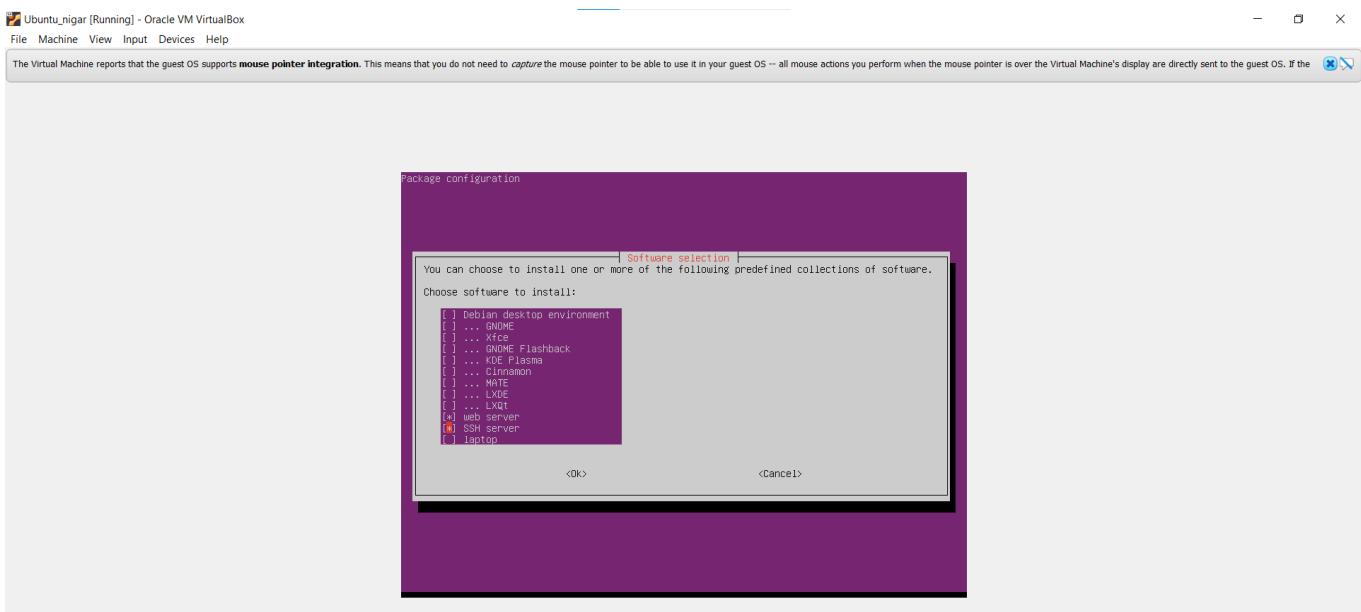
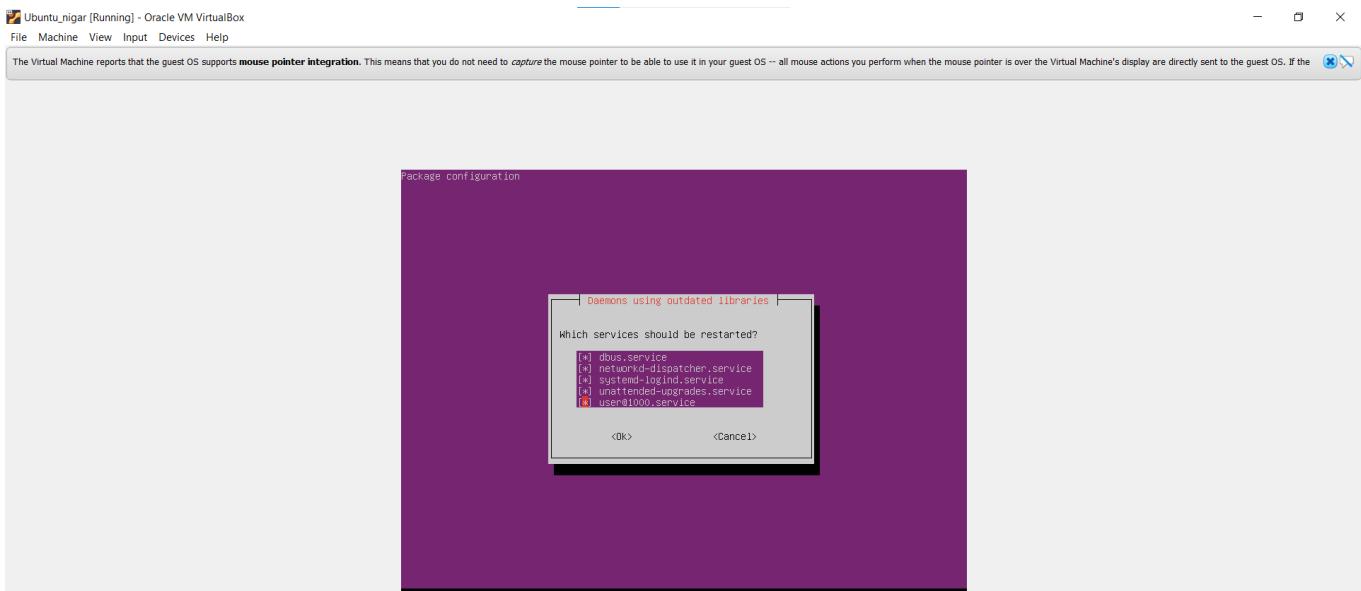


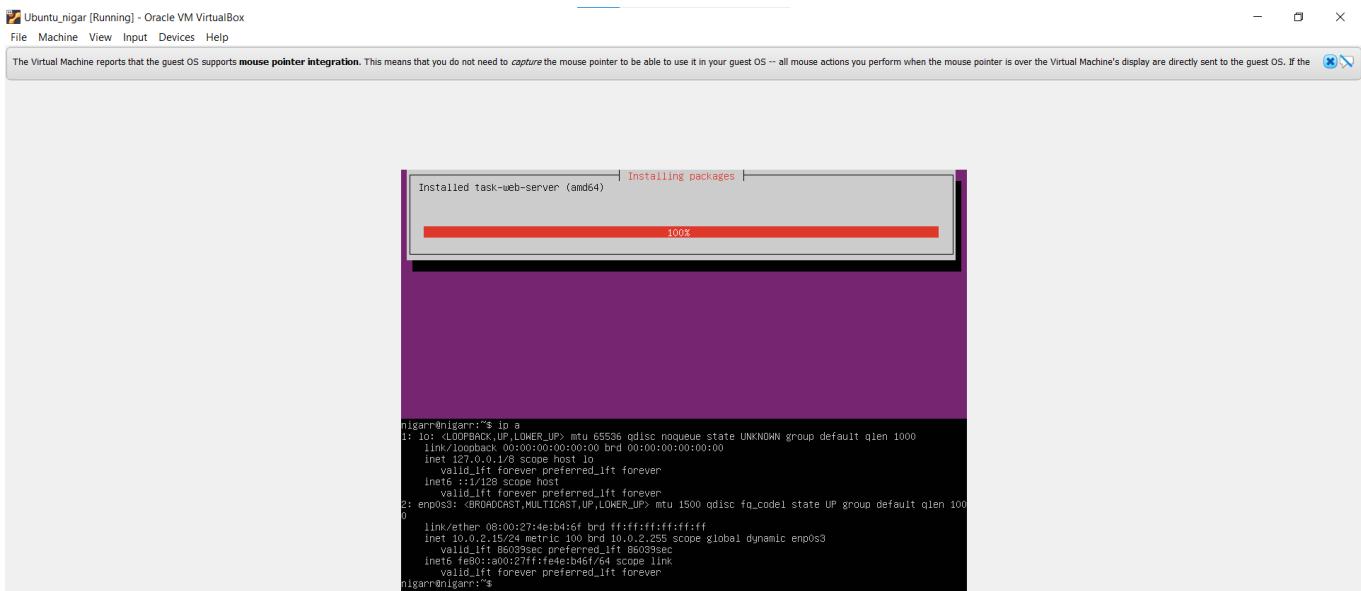












After this part my laptop got broken, so I used my friend's laptop. That will be the reason of the difference in photos.

## MySQL installation:

```
danoch@DESKTOP-C4I4NCJ:~$ sudo apt install mysql-server
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  libcgifast-perl libcgipm-perl libencode-locale-perl libevent-core-2.1-7 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 libmecab2
  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 libwww-perl mailx tinyca
The following NEW packages will be installed:
  libcgifast-perl libcgipm-perl libencode-locale-perl libevent-core-2.1-7 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 libmecab2
  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-8.0 mysql-server-core-8.0
0 upgraded, 25 newly installed, 0 to remove and 0 not upgraded.
Need to get 36.8 MB of archives.
After this operation, 318 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://archive.ubuntu.com/ubuntu focal/main amd64 mysql-common all 5.8+1.0.5ubuntu2 [7496 B]
Get:2 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 mysql-client-core-8.0 amd64 8.0.35-0ubuntu0.20.04.1 [5079 kB]
Get:3 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 mysql-client-8.0 amd64 8.0.35-0ubuntu0.20.04.1 [22.0 kB]
Get:4 http://archive.ubuntu.com/ubuntu focal/main amd64 libevent-core-2.1-7 amd64 2.1.11-stable-1 [89.1 kB]
Get:5 http://archive.ubuntu.com/ubuntu focal/main amd64 libevent-pthreads-2.1-7 amd64 2.1.11-stable-1 [7372 B]
Get:6 http://archive.ubuntu.com/ubuntu focal/main amd64 libmecab2 amd64 0.996-10build1 [233 kB]
Get:7 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 mysql-server-core-8.0 amd64 8.0.35-0ubuntu0.20.04.1 [22.6 kB]
Get:8 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 mysql-server-8.0 amd64 8.0.35-0ubuntu0.20.04.1 [1326 kB]
Get:9 http://archive.ubuntu.com/ubuntu focal/main amd64 libhtml-tagset-perl all 3.20-4 [12.5 kB]
Get:10 http://archive.ubuntu.com/ubuntu focal/main amd64 liburi-perl all 1.76-2 [77.5 kB]
Get:11 http://archive.ubuntu.com/ubuntu focal/main amd64 libhtml-parser-perl amd64 3.72-5 [86.3 kB]
Get:12 http://archive.ubuntu.com/ubuntu focal/main amd64 libcgipm-perl all 4.46-1 [186 kB]
Get:13 http://archive.ubuntu.com/ubuntu focal/main amd64 libfcgi-perl amd64 0.79-1 [33.1 kB]
Get:14 http://archive.ubuntu.com/ubuntu focal/main amd64 libcgifast-perl all 1:2.15-1 [10.5 kB]
Get:15 http://archive.ubuntu.com/ubuntu focal/main amd64 libencode-locale-perl all 1.05-1 [12.3 kB]
Get:16 http://archive.ubuntu.com/ubuntu focal/main amd64 libhtml-template-perl all 2.97-1 [59.0 kB]
Get:17 http://archive.ubuntu.com/ubuntu focal/main amd64 libtimedate-perl all 2.3200-1 [34.0 kB]
Get:18 http://archive.ubuntu.com/ubuntu focal/main amd64 libhttp-date-perl all 6.05-1 [9920 B]
Get:19 http://archive.ubuntu.com/ubuntu focal/main amd64 libio-html-perl all 1.001-1 [14.9 kB]
Get:20 http://archive.ubuntu.com/ubuntu focal/main amd64 liblwp-mediatypes-perl all 6.04-1 [19.5 kB]
Get:21 http://archive.ubuntu.com/ubuntu focal/main amd64 libhttp-message-perl all 6.22-1 [76.1 kB]
Get:22 http://archive.ubuntu.com/ubuntu focal/main amd64 mecab-utils amd64 0.996-10build1 [4912 B]
```

## Secure MySQL installation and config

```
danoch@DESKTOP-C4I4NCJ:~$ sudo mysql_secure_installation
Securing the MySQL server deployment.

Connecting to MySQL using a blank password.

VALIDATE PASSWORD COMPONENT can be used to test passwords
and improve security. It checks the strength of password
and allows the users to set only those passwords which are
secure enough. Would you like to setup VALIDATE PASSWORD component?

Press y|Y for Yes, any other key for No: y

There are three levels of password validation policy:

LOW   Length ≥ 8
MEDIUM Length ≥ 8, numeric, mixed case, and special characters
STRONG Length ≥ 8, numeric, mixed case, special characters and dictionary           file

Please enter 0 = LOW, 1 = MEDIUM and 2 = STRONG: 0

Skipping password set for root as authentication with auth_socket is used by default.
If you would like to use password authentication instead, this can be done with the "ALTER_USER" command.
See https://dev.mysql.com/doc/refman/8.0/en/alter-user.html#alter-user-password-management for more information.

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.
```

```
danoch@DESKTOP-C4I4NCJ:~$ + ~
If you would like to use password authentication instead, this can be done with the "ALTER_USER" command.
See https://dev.mysql.com/doc/refman/8.0/en/alter-user.html#alter-user-password-management for more information.

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,
and should be removed before moving into a production
environment.

Remove test database and access to it? (Press y|Y for Yes, any other key for No) : y
- Dropping test database ...
Success.

- Removing privileges on test database ...
Success.

Reloading the privilege tables will ensure that all changes
made so far will take effect immediately.

Reload privilege tables now? (Press y|Y for Yes, any other key for No) : y
Success.

All done!
danoch@DESKTOP-C4I4NCJ:~$ |
```

## PHP installation

```
danoch@DESKTOP-C4I4NCJ:~$ sudo apt install php libapache2-mod-php php-mysql
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  libapache2-mod-php7.4 php-common php7.4-cli php7.4-common 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-common php-mysql php7.4 php7.4-cli php7.4-common php7.4-json php7.4-mysql php7.4-opcache
  php7.4-readline
0 upgraded, 12 newly installed, 0 to remove and 0 not upgraded.
Need to get 4157 kB of archives.
After this operation, 18.5 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://archive.ubuntu.com/ubuntu focal/main amd64 php-common all 2:75 [11.9 kB]
Get:2 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 php7.4-common amd64 7.4.3-4ubuntu2.19 [983 kB]
Get:3 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 php7.4-json amd64 7.4.3-4ubuntu2.19 [19.2 kB]
Get:4 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 php7.4-opcache amd64 7.4.3-4ubuntu2.19 [198 kB]
Get:5 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 php7.4-readline amd64 7.4.3-4ubuntu2.19 [12.6 kB]
Get:6 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 php7.4-cli amd64 7.4.3-4ubuntu2.19 [1426 kB]
Get:7 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 libapache2-mod-php7.4 amd64 7.4.3-4ubuntu2.19 [1369 kB]
Get:8 http://archive.ubuntu.com/ubuntu focal/main amd64 libapache2-mod-php all 2:7.4+75 [2836 B]
Get:9 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 php7.4 all 7.4.3-4ubuntu2.19 [9236 B]
Get:10 http://archive.ubuntu.com/ubuntu focal/main amd64 php all 2:7.4+75 [2712 B]
Get:11 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 php7.4-mysql amd64 7.4.3-4ubuntu2.19 [121 kB]
Get:12 http://archive.ubuntu.com/ubuntu focal/main amd64 php-mysql all 2:7.4+75 [2000 B]
Fetched 4157 kB in 2s (2145 kB/s)
Selecting previously unselected package php-common.
(Reading database ... 45497 files and directories currently installed.)
Preparing to unpack .../00-php-common_2%3a75_all.deb ...
Unpacking php-common (2:75) ...
Selecting previously unselected package php7.4-common.
Preparing to unpack .../01-php7.4-common_7.4.3-4ubuntu2.19_amd64.deb ...
Unpacking php7.4-common (7.4.3-4ubuntu2.19) ...
Selecting previously unselected package php7.4-json.
Preparing to unpack .../02-php7.4-json_7.4.3-4ubuntu2.19_amd64.deb ...
Unpacking php7.4-json (7.4.3-4ubuntu2.19) ...
Selecting previously unselected package php7.4-opcache.
Preparing to unpack .../03-php7.4-opcache_7.4.3-4ubuntu2.19_amd64.deb ...
Unpacking php7.4-opcache (7.4.3-4ubuntu2.19) ...
Selecting previously unselected package php7.4-readline.
```

## Testing PHP

```
danoch@DESKTOP-C4I4NCJ:/var/www/html$ ls
index.html info.php
danoch@DESKTOP-C4I4NCJ:/var/www/html$ cat info.php
<?php phpinfo(); ?>
danoch@DESKTOP-C4I4NCJ:/var/www/html$ |
```

## Navigating yo http://localhost/info.php

The screenshot shows a web browser window displaying the PHP info page. The title bar reads "PHP 7.4.3-4ubuntu2.19 - phpinfo()". The page itself is titled "PHP Version 7.4.3-4ubuntu2.19" and contains a large amount of technical information. At the top, it lists basic system and server details. Below this, under "Additional .ini files parsed", there is a long list of configuration files. The "PHP API" section shows the build date as 20190902. The "Zend Extension" section shows the build date as 320190902. The "Configuration" section is specifically labeled "apache2handler". The Zend Engine section at the bottom states: "This program makes use of the Zend Engine, Copyright (c) Zend Technologies with Zend OPcache v7.4.3-4ubuntu2.19, Copyright (c), by Zend Technologies".

## Adding users, home folders on samba shared resource

Samba installation (it was installed already)

```
danoch@DESKTOP-C4I4NCJ:~$ sudo apt install samba
Reading package lists... Done
Building dependency tree
Reading state information... Done
samba is already the newest version (2:4.15.13+dfsg-0ubuntu0.20.04.7).
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
danoch@DESKTOP-C4I4NCJ:~$ |
```

## Samba configuration:

```
danoch@DESKTOP-C4I4NCJ:/ ~ + - 
danoch@DESKTOP-C4I4NCJ:~$ sudo apt install samba
Reading package lists ... Done
Building dependency tree
Reading state information ... Done
samba is already the newest version (2:4.15.13+dfsg-0ubuntu0.20.04.7).
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
danoch@DESKTOP-C4I4NCJ:~$ cd /etc/samba
-bash: cd: /etc/samba: No such file or directory
danoch@DESKTOP-C4I4NCJ:~$ cd ..
danoch@DESKTOP-C4I4NCJ:/home$ cd ..
danoch@DESKTOP-C4I4NCJ:/~$ ls
Docker      bin  dev  home  lib   lib64  lost+found  mnt  proc  run  snap  sys  usr
Python-3.11.5.tgz  boot  etc  init  lib32  libx32  media       opt  root  sbin  srv  tmp  var
danoch@DESKTOP-C4I4NCJ:/~$ cd etc/samba/
danoch@DESKTOP-C4I4NCJ:/etc/samba$ ls
gdbcommands  smb.conf  tls
danoch@DESKTOP-C4I4NCJ:/etc/samba$ sudo nano smb.conf
```

```
danoch@DESKTOP-C4I4NCJ:/ ~ danoch@DESKTOP-C4I4NCJ:~ + - 
GNU nano 4.8                                     smb.conf                                         Modified
; comment = Users profiles
; path = /home/samba/profiles
; guest ok = no
; browsable = no
; create mask = 0600
; directory mask = 0700

[printers]
comment = All Printers
browseable = no
path = /var/spool/samba
printable = yes
guest ok = no
read only = yes
create mask = 0700

# Windows clients look for this share name as a source of downloadable
# printer drivers
[print$]
comment = Printer Drivers
path = /var/lib/samba/printers
browseable = yes
read only = yes
guest ok = no

# Uncomment to allow remote administration of Windows print drivers.
# You may need to replace 'lpadmin' with the name of the group your
# admin users are members of.
# Please note that you also need to set appropriate Unix permissions
# to the drivers directory for these users to have write rights in it
; write list = root, @lpadmin

# We are adding this section as part of the task: Nigar Configuration
[Share]
path = /home/danoch/Nigar|
read only = no
browsable = yes

^G Get Help    ^O Write Out    ^W Where Is    ^K Cut Text    ^J Justify    ^C Cur Pos    M-U Undo
^X Exit        ^R Read File    ^A Replace     ^U Paste Text  ^T To Spell   ^_ Go To Line  M-E Redo
                                         M-A Mark Text  M-6 Copy Text  ^Q Where Was
```

= /home/nigar

```
# We are adding this section as part of the task: Nigar Configuration
[Share]
path = /home/danoch/Nigar|
read only = no
browsable = yes
```

## Adding Samba users

(It should be an existing user)

```
danoch@DESKTOP-C4I4NCJ:~/Nigar$ sudo smbpasswd -a danoch
New SMB password:
Retype new SMB password:
Added user danoch.
danoch@DESKTOP-C4I4NCJ:~/Nigar$ |
```

passwd: nigar

Enable the user

```
danoch@DESKTOP-C4I4NCJ:~/Nigar$ sudo smbpasswd -e danoch
Enabled user danoch.
danoch@DESKTOP-C4I4NCJ:~/Nigar$ |
```

Restarting samba services

```
danoch@DESKTOP-C4I4NCJ:~/Nigar$ sudo service smbd restart
danoch@DESKTOP-C4I4NCJ:~/Nigar$ sudo service nmbd restart
danoch@DESKTOP-C4I4NCJ:~/Nigar$ |
```

Testing Samba Share

Getting ip address:

```
danoch@DESKTOP-C4I4NCJ:~/Nigar$ ip address
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc mq state UP group default qlen 1000
    link/ether 00:15:5d:30:eb:aa brd ff:ff:ff:ff:ff:ff
    inet 172.30.246.75/20 brd 172.30.255.255 scope global eth0
        valid_lft forever preferred_lft forever
    inet6 fe80::215:5dff:fe30:ebaa/64 scope link
        valid_lft forever preferred_lft forever
danoch@DESKTOP-C4I4NCJ:~/Nigar$ |
```

Getting access to shared folder:

## \172.30.246.75\Share

The screenshot shows a Windows File Explorer interface. The address bar indicates the path: Network > 172.30.246.75 > Share. The left sidebar shows 'Quick access' and 'Network' sections. The main area displays a file named 'nigar' with the following details:

Name	Date modified	Type	Size
nigar	12/17/2023 11:31 AM	Text Document	0 KB

The 'Network' section under 'Quick access' lists 'Linux' and 'docker-desktop'.

The screenshot shows a terminal window with two tabs. Both tabs show the command line for the user 'danoch' on the host machine 'DESKTOP-C4I4NCJ'. The terminal output is as follows:

```
danoch@DESKTOP-C4I4NCJ:~$ cd Nigar/
danoch@DESKTOP-C4I4NCJ:~/Nigar$ touch nigar.txt
danoch@DESKTOP-C4I4NCJ:~/Nigar$ ls
nigar.txt
danoch@DESKTOP-C4I4NCJ:~/Nigar$ pwd
/home/danoch/Nigar
danoch@DESKTOP-C4I4NCJ:~/Nigar$ |
```

Finally lets check the samba services status:

```
danoch@DESKTOP-C4I4NCJ:~/.Nigar$ sudo service smbd status
● smbd.service - Samba SMB Daemon
   Loaded: loaded (/lib/systemd/system/smbd.service; enabled; vendor preset: enabled)
   Active: active (running) since Sun 2023-12-17 11:35:27 CST; 18min ago
     Docs: man:smbd(8)
           man:samba(7)
           man:smb.conf(5)
  Process: 12793 ExecStartPre=/usr/share/samba/update-apparmor-samba-profile (code=exited, status=0/SUCCESS)
 Main PID: 12794 (smbd)
    Status: "smbd: ready to serve connections ..."
     Tasks: 5 (limit: 9347)
    Memory: 10.5M
    CGroup: /system.slice/smbd.service
            └─12794 /usr/sbin/smbd --foreground --no-process-group

Dec 17 11:35:27 DESKTOP-C4I4NCJ systemd[1]: Starting Samba SMB Daemon ...
Dec 17 11:35:27 DESKTOP-C4I4NCJ systemd[1]: Started Samba SMB Daemon.
Dec 17 11:35:40 DESKTOP-C4I4NCJ smbd[12807]: pam_unix(samba:session): session opened for user danoch by (uid=0)
danoch@DESKTOP-C4I4NCJ:~/.Nigar$ sudo service nmbd status
● nmbd.service - Samba NMB Daemon
   Loaded: loaded (/lib/systemd/system/nmbd.service; enabled; vendor preset: enabled)
   Active: active (running) since Sun 2023-12-17 11:35:33 CST; 18min ago
     Docs: man:nmbd(8)
           man:samba(7)
           man:smb.conf(5)
  Main PID: 12806 (nmbd)
    Status: "nmbd: ready to serve connections ..."
     Tasks: 1 (limit: 9347)
    Memory: 2.7M
    CGroup: /system.slice/nmbd.service
            └─12806 /usr/sbin/nmbd --foreground --no-process-group

Dec 17 11:35:33 DESKTOP-C4I4NCJ systemd[1]: Starting Samba NMB Daemon ...
Dec 17 11:35:33 DESKTOP-C4I4NCJ systemd[1]: Started Samba NMB Daemon.
danoch@DESKTOP-C4I4NCJ:~/.Nigar$ |
```

## SSH Terminal Connection and Samba UNC Connection

### Installing SSH server

```
danoch@DESKTOP-C4I4NCJ:~/.Nigar$ sudo apt install openssh-server
[sudo] password for danoch:
Reading package lists ... Done
Building dependency tree
Reading state information ... Done
openssh-server is already the newest version (1:8.2p1-4ubuntu0.9).
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
danoch@DESKTOP-C4I4NCJ:~/.Nigar$ sudo service ssh start
danoch@DESKTOP-C4I4NCJ:~/.Nigar$ |
```

### Testing SSH connection

We are having some issues because the ssh server only accepts connections only with ssh keys and not with passwords.

```

danoch@DESKTOP-C4I4NCJ:~/Nigar$ ip addr
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
        inet 127.0.0.1/8 scope host lo
            valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc mq state UP group default qlen 1000
    link/ether 00:15:5d:30:eb:aa brd ff:ff:ff:ff:ff:ff
        inet 172.30.246.75/20 brd 172.30.255.255 scope global eth0
            valid_lft forever preferred_lft forever
        inet6 fe80::215:5dff:fe30:eba/64 scope link
            valid_lft forever preferred_lft forever
danoch@DESKTOP-C4I4NCJ:~/Nigar$ ssh danoch@172.30.246.75
The authenticity of host '172.30.246.75 (172.30.246.75)' can't be established.
ECDSA key fingerprint is SHA256: [REDACTED]
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '172.30.246.75' (ECDSA) to the list of known hosts.
danoch@172.30.246.75: Permission denied (publickey).
danoch@DESKTOP-C4I4NCJ:~/Nigar$ 

```

Let's edit ssh config:

we need to configure the sshd\_config file on /etc/ssh

We have to change PasswordAuthentucation no -> yes

```

GNU nano 4.8                               sshd_config                                Modified
#PubkeyAuthentication yes

# Expect .ssh/authorized_keys2 to be disregarded by default in future.
#AuthorizedKeysFile      .ssh/authorized_keys .ssh/authorized_keys2

#AuthorizedPrincipalsFile none

#AuthorizedKeysCommand none
#AuthorizedKeysCommandUser nobody

# For this to work you will also need host keys in /etc/ssh/ssh_known_hosts
#HostbasedAuthentication no
# Change to yes if you don't trust ~/.ssh/known_hosts for
# HostbasedAuthentication
#IgnoreUserKnownHosts no
# Don't read the user's ~/.rhosts and ~/.shosts files
#IgnoreRhosts yes

# To disable tunneled clear text passwords, change to no here!
PasswordAuthentication yes
#PermitEmptyPasswords no

# Change to yes to enable challenge-response passwords (beware issues with
# some PAM modules and threads)
ChallengeResponseAuthentication no

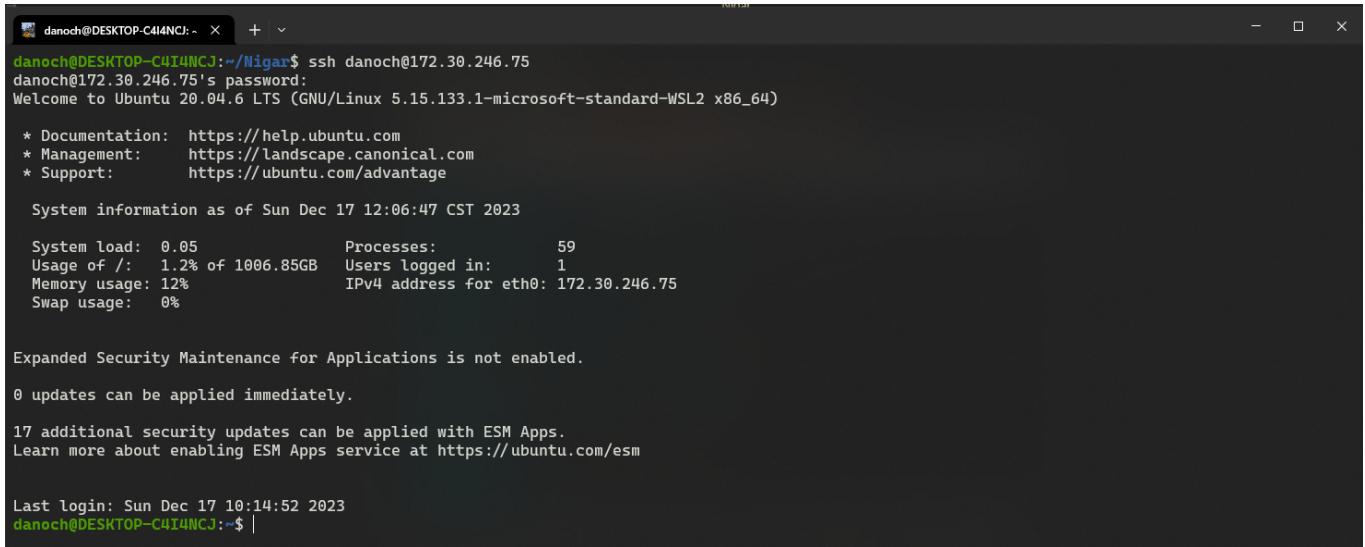
# Kerberos options
#KerberosAuthentication no
#KerberosOrLocalPasswd yes
#KerberosTicketCleanup yes
#KerberosGetAFSToken no

# GSSAPI options
#GSSAPIAuthentication no
#GSSAPICleanupCredentials yes
#GSSAPIStrictAcceptorCheck yes
#GSSAPIKeyExchange no

AG Get Help   O Write Out   W Where Is   KCut Text   JJustify   CCur Pos   UM-U Undo   AM-A Mark Text   ]N-] To Bracket
X Exit   R Read File   \Replace   UPaste Text   TTo Spell   ^Go To Line   EM-E Redo   6M-6 Copy Text   QWhere Was

```

Now we can have access:



```
danoch@DESKTOP-C4I4NCJ:~ x + v
danoch@DESKTOP-C4I4NCJ:~/Nigar$ ssh danoch@172.30.246.75
danoch@172.30.246.75's password:
Welcome to Ubuntu 20.04.6 LTS (GNU/Linux 5.15.133.1-microsoft-standard-WSL2 x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

 System information as of Sun Dec 17 12:06:47 CST 2023

System load:  0.05      Processes:           59
Usage of /:   1.2% of 1006.85GB  Users logged in:   1
Memory usage: 12%          IPv4 address for eth0: 172.30.246.75
Swap usage:   0%

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

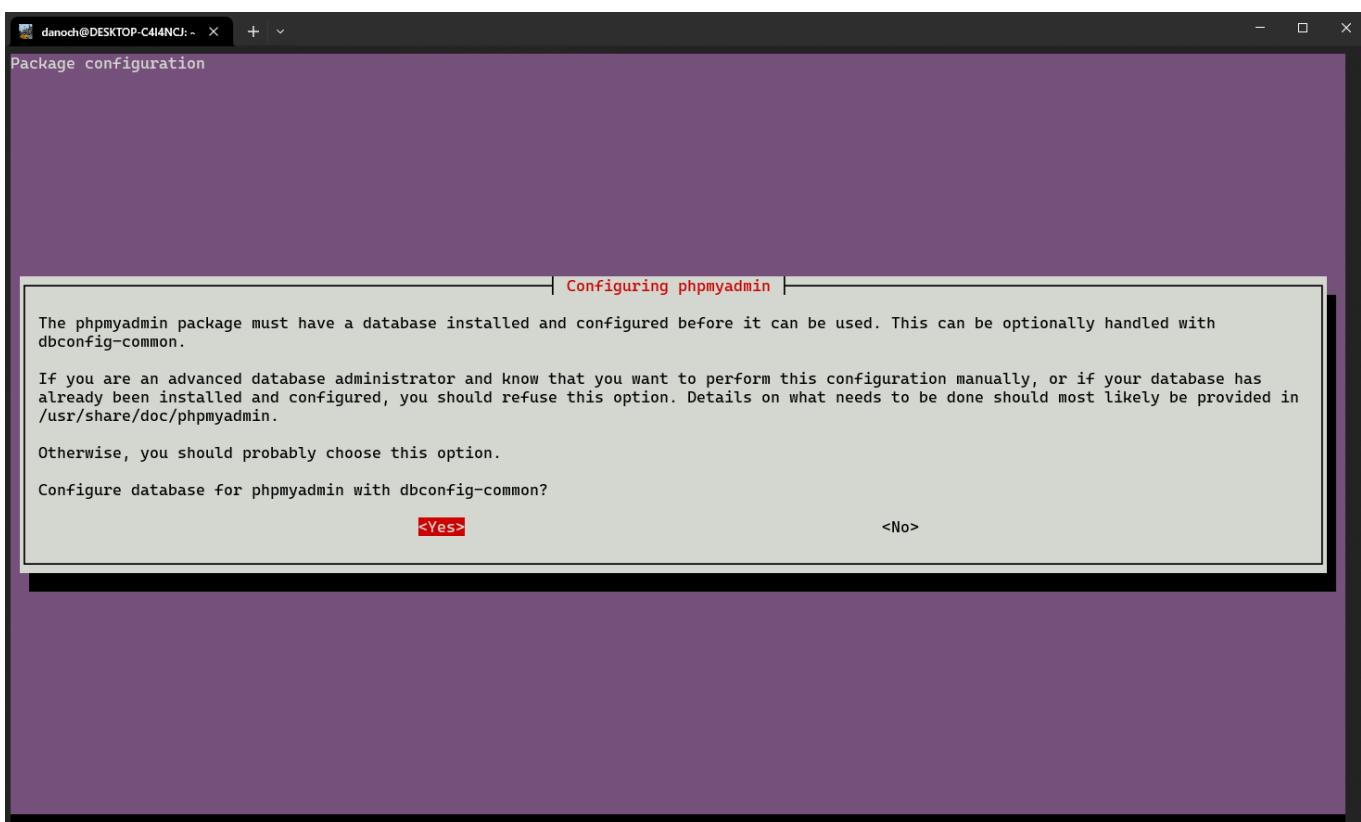
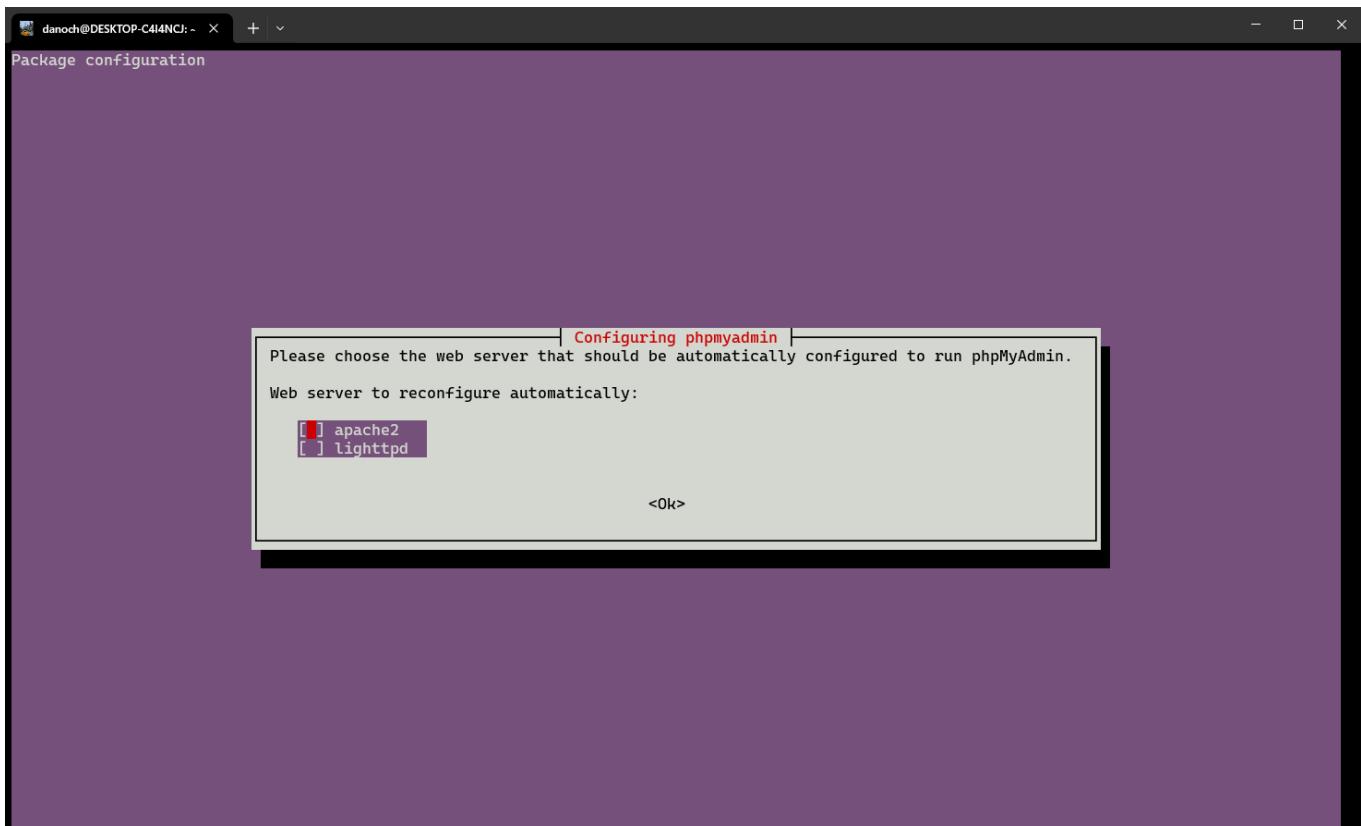
17 additional security updates can be applied with ESM Apps.
Learn more about enabling ESM Apps service at https://ubuntu.com/esm

Last login: Sun Dec 17 10:14:52 2023
danoch@DESKTOP-C4I4NCJ:~$ |
```

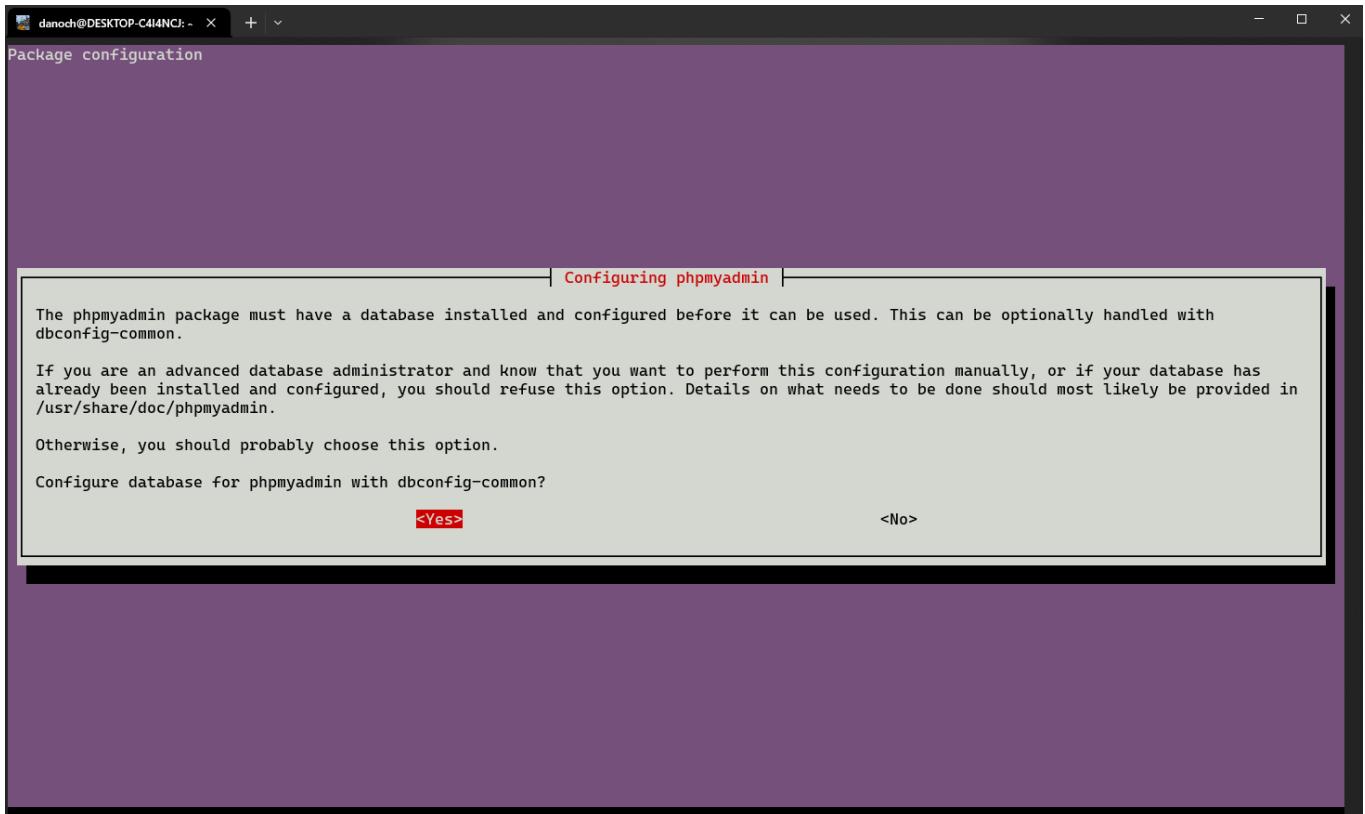
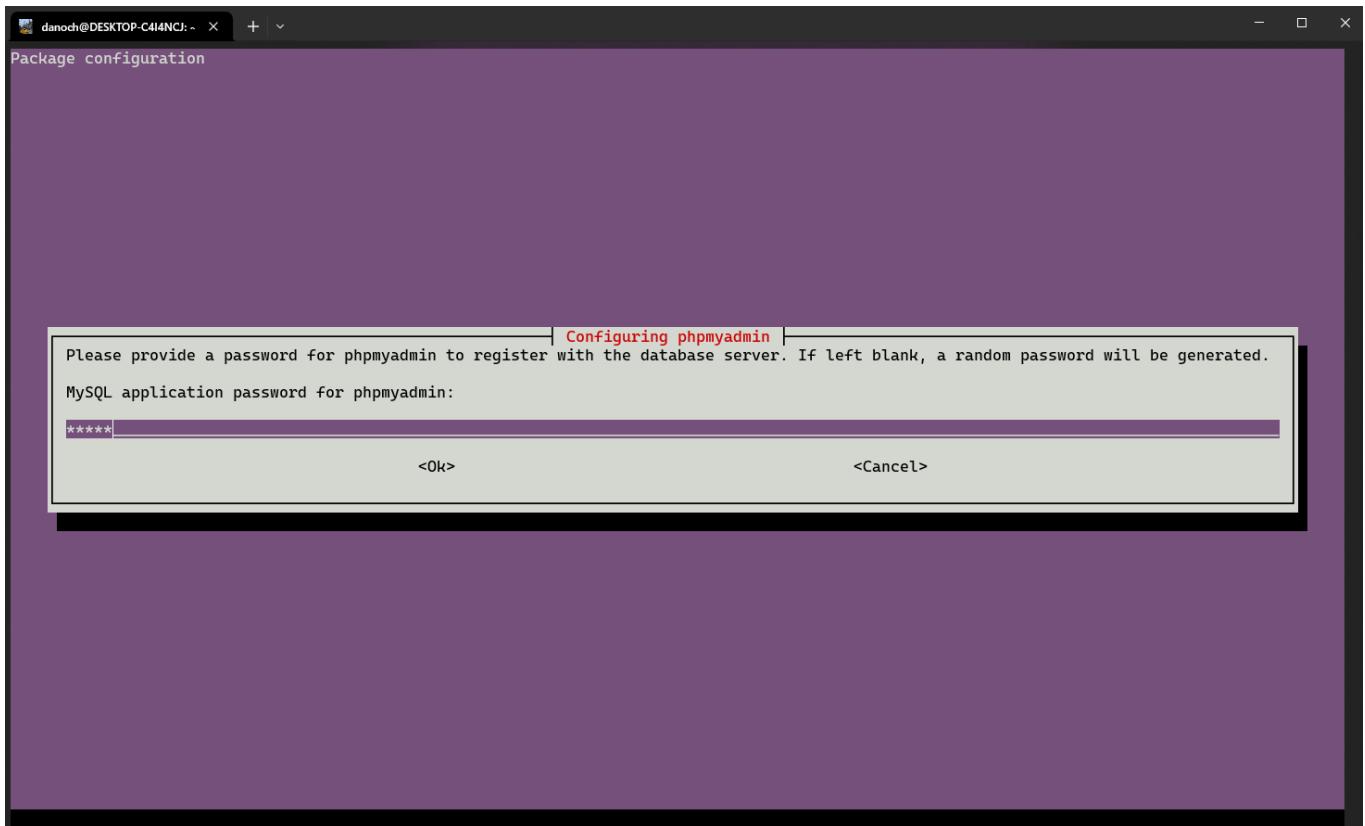
## Installing phpMyAdmin or Webmin

Let's run the command `sudo apt install phpmyadmin`

We are choosing apache2



Password: nigar



## We are choosing Unix socket because we are using WSL2

**Configuring phpmyadmin**

By default, phpmyadmin will be configured to use a MySQL server through a local Unix socket (this provides the best performance). To connect with a different method, or to a different server entirely, select the appropriate option from the choices here.

Connection method for MySQL database of phpmyadmin:

**Unix socket**  
TCP/IP

<Ok> <Cancel>

**Configuring phpmyadmin**

Database user accounts can be configured to use a variety of plugins for authentication with MySQL. If the server default won't work with this application, it is necessary to specify one that will. Please select one from the list of available plugins. Leaving the selection set to its original value should work unless a remote server is using unpredictable defaults, but other options may not be supported by phpmyadmin. If problems arise, the package's documentation should give hints; see /usr/share/doc/phpmyadmin/.

Your options are:

- \* default - use the default determined by the server.
- \* mysql\_native\_password - no MySQL authentication plugin is used.
- \* sha256\_password - a more secure password encryption algorithm.
- \* caching\_sha2\_password - SHA2 plus an in-memory authentication cache.

Authentication plugin for MySQL database:

**default**  
mysql\_native\_password  
sha256\_password  
caching\_sha2\_password

<Ok> <Cancel>

**Configuring phpmyadmin**

Please provide a MySQL username for phpmyadmin to register with the database server. A MySQL user is not necessarily the same as a system login, especially if the database is on a remote server.

This is the user which will own the database, tables, and other objects to be created by this installation. This user will have complete freedom to insert, change, or delete data in the database.

If your username contains an @, you need to specify the domain as well (see below).

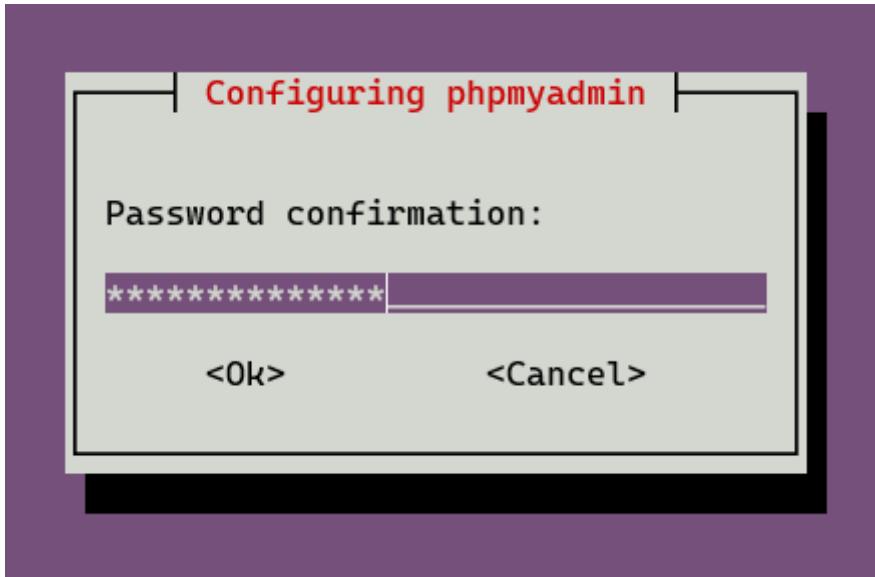
Advanced usage: if you need to define the domain that the user will log in from, you can write "username@domain".

MySQL username for phpmyadmin:

**danoch@localhost**

<Ok> <Cancel>

password: 313231115nigar



## Configure apache to serve phpMyAdmin

```
danoch@DESKTOP-C4I4NCJ:~$ sudo ln -s /usr/share/phpmyadmin /var/www/html/phpmyadmin
[sudo] password for danoch:
danoch@DESKTOP-C4I4NCJ:~$ sudo systemctl restart apache2
danoch@DESKTOP-C4I4NCJ:~$ |
```

We are having some issues with users and passw:

Let's configure phpMyAdmin manually:

## Let's create a database

```
danoch@DESKTOP-C4I4NCJ:~$ sudo mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 21
Server version: 8.0.35-Ubuntu0.20.04.1 (Ubuntu)

Copyright (c) 2000, 2023, Oracle and/or its affiliates.

Oracle is a registered trademark of Oracle Corporation and/or its
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> CREATE DATABASE phpmyadmin DEFAULT CHARACTER SET utf8mb4 COLLATE utf8mb4_unicode_ci;
Query OK, 1 row affected (0.05 sec)
```

Now lets create a user and we grant permissions with the command **FLUSH PRIVILEGES;**

```
mysql> CREATE USER 'phpmyadmin'@'localhost' IDENTIFIED BY '313231115Nigar!';
Query OK, 0 rows affected (0.02 sec)

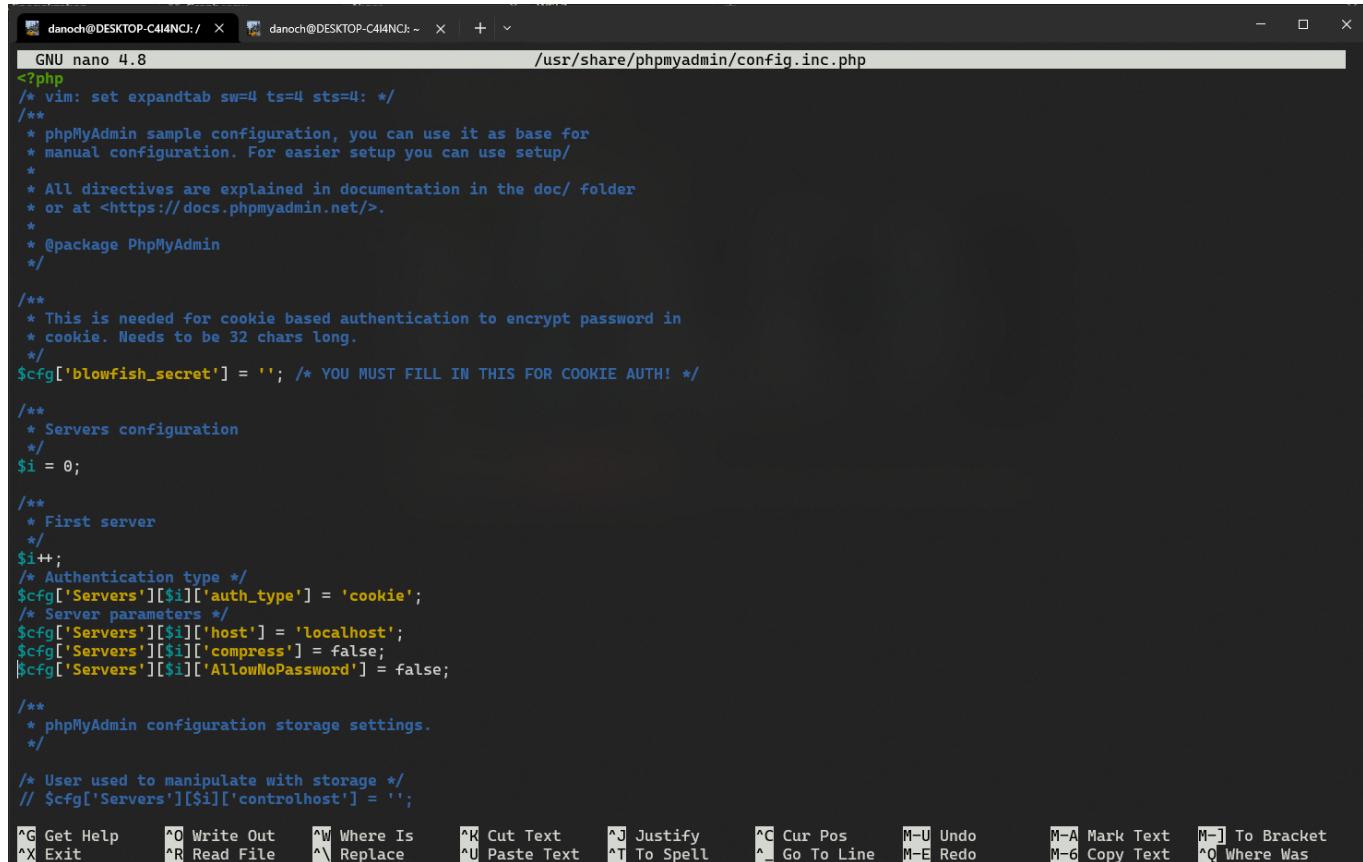
mysql> |
```

passwd: 313231115Nigar!

## Let's import phpMyAdmin Tables

```
danoch@DESKTOP-C4I4NCJ:/usr/share/phpmyadmin$ ls
ajax.php db_structure.php phpmyadmin.css.php server_status_queries.php tbl_replace.php
autoload.php db_tracking.php prefs_forms.php server_status_variables.php tbl_row_action.php
browse_foreigners.php db_triggers.php prefs_manage.php server_user_groups.php tbl_select.php
changelog.php doc error_report.php print.css server_variables.php tbl_sql.php
chk_rel.php export.php schema_export.php show_config_errors.php tbl_structure.php
config.sample.inc.php favicon.ico server_binlog.php sql.php tbl_tracking.php
db_central_columns.php db_data_editor.php server_collations.php tbl_addfield.php tbl_triggers.php
db_datadict.php import.php server_databases.php tbl_change.php tbl_zoom_select.php
db_designer.php import_status.php server_engines.php tbl_chart.php templates
db_events.php index.php server_export.php tbl_create.php themes
db_export.php js libraries server_import.php tbl_export.php transformation_overview.php
db_import.php license.php server_plugins.php tbl_find_replace.php transformation_wrapper.php
db_multi_table_query.php lint.php server_privileges.php tbl_get_field.php url.php
db_operations.php locale normalization.php server_replication.php tbl_gis_visualization.php user_password.php
db_qbe.php logout.php server_sql.php tbl_import.php version_check.php
db_routines.php navigation.php server_status.php tbl_indexes.php view_create.php
db_search.php normalization.php server_status_advisor.php tbl_operations.php view_operations.php
db_sql.php phpsession.php server_status_monitor.php tbl_recent_favorite.php
db_sql_autocomplete.php phpmem.php server_status_processes.php tbl_relation.php
danoch@DESKTOP-C4I4NCJ:/usr/share/phpmyadmin$ sudo mysql -u root -p phpmyadmin < /usr/share/phpmyadmin/sql/create_tables.sql
Enter password:
```

Let's edit the config.inc.php file:



```
GNU nano 4.8 /usr/share/phpmyadmin/config.inc.php
<?php
/* vim: set expandtab sw=4 ts=4 sts=4: */
/**
 * phpMyAdmin sample configuration, you can use it as base for
 * manual configuration. For easier setup you can use setup/
 *
 * All directives are explained in documentation in the doc/ folder
 * or at <https://docs.phpmyadmin.net/>.
 *
 * @package PhpMyAdmin
 */

/**
 * This is needed for cookie based authentication to encrypt password in
 * cookie. Needs to be 32 chars long.
 */
$cfg['blowfish_secret'] = ''; /* YOU MUST FILL IN THIS FOR COOKIE AUTH! */

/**
 * Servers configuration
 */
$i = 0;

/**
 * First server
 */
$i++;
/* Authentication type */
$cfg['Servers'][$i]['auth_type'] = 'cookie';
/* Server parameters */
$cfg['Servers'][$i]['host'] = 'localhost';
$cfg['Servers'][$i]['compress'] = false;
$cfg['Servers'][$i]['AllowNoPassword'] = false;

/**
 * phpMyAdmin configuration storage settings.
 */

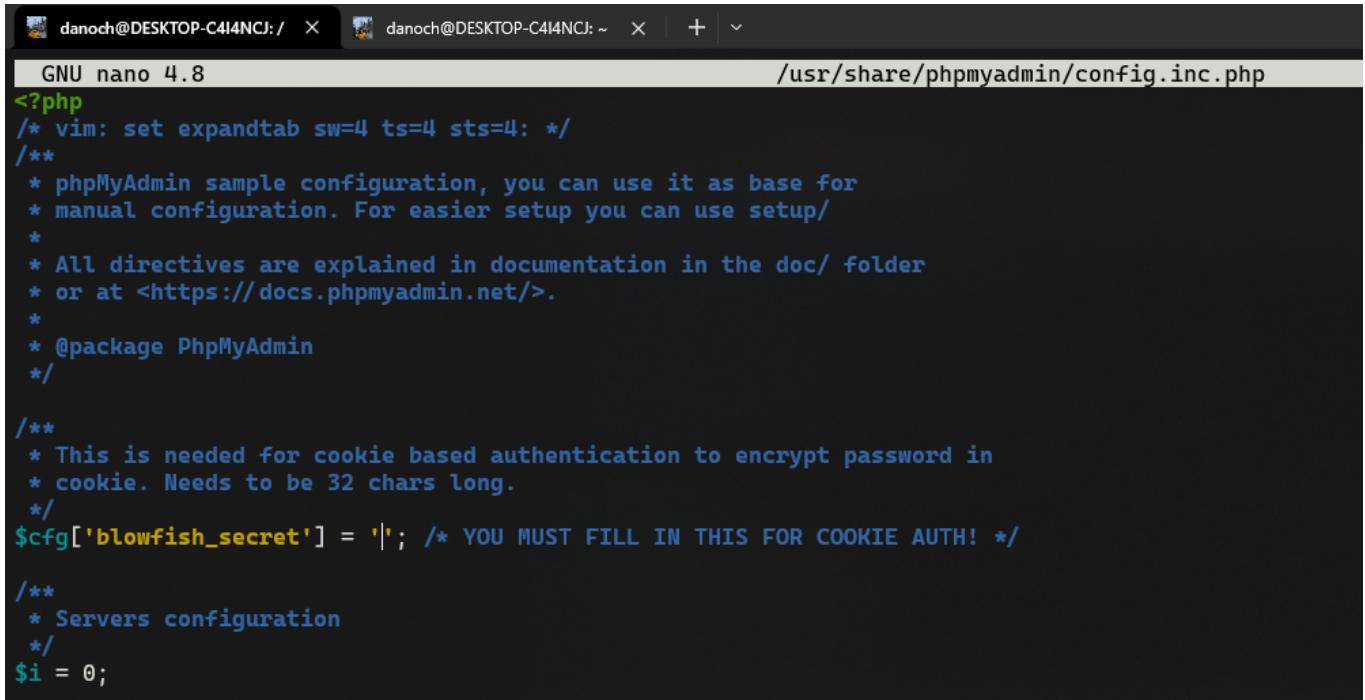
/* User used to manipulate with storage */
// $cfg['Servers'][$i]['controlhost'] = '';
// $cfg['Servers'][$i]['controlport'] = '';
// $cfg['Servers'][$i]['controlsocket'] = '';
// $cfg['Servers'][$i]['controlpassword'] = '';

^G Get Help      ^O Write Out    ^W Where Is      ^K Cut Text     ^J Justify      ^C Cur Pos      M-U Undo
^X Exit          ^R Read File   ^\ Replace       ^U Paste Text   ^T To Spell     ^_ Go To Line   M-E Redo
                                         ^_ Go To Line   M-E Redo
M-A Mark Text   M-] To Bracket
M-6 Copy Text   ^Q Where Was
```

Setting the control user and password:

```
$cfg['Servers'][$i]['controluser'] = 'phpmyadmin';
$cfg['Servers'][$i]['controlpass'] = '313231115Nigar!';
```

We have to generate a blowfish\_secret key:

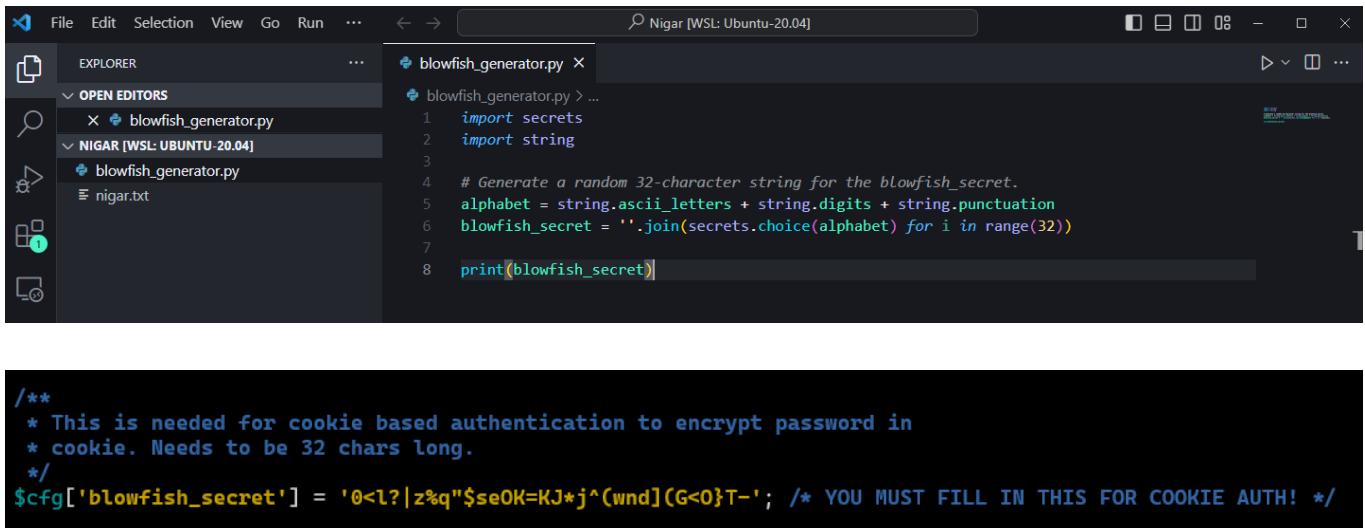


```
GNU nano 4.8 /usr/share/phpmyadmin/config.inc.php
<?php
/* vim: set expandtab sw=4 ts=4 sts=4: */
/**
 * phpMyAdmin sample configuration, you can use it as base for
 * manual configuration. For easier setup you can use setup/
 *
 * All directives are explained in documentation in the doc/ folder
 * or at <https://docs.phpmyadmin.net/>.
 *
 * @package PhpMyAdmin
 */

/**
 * This is needed for cookie based authentication to encrypt password in
 * cookie. Needs to be 32 chars long.
 */
$cfg['blowfish_secret'] = '|'; /* YOU MUST FILL IN THIS FOR COOKIE AUTH! */

/**
 * Servers configuration
 */
$i = 0;
```

Let's code a blowfish generator:



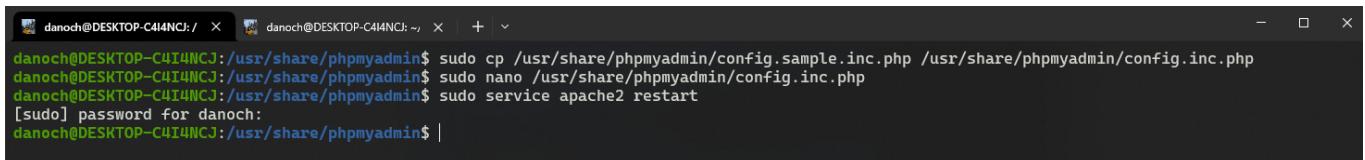
```
blowfish_generator.py
import secrets
import string

# Generate a random 32-character string for the blowfish_secret.
alphabet = string.ascii_letters + string.digits + string.punctuation
blowfish_secret = ''.join(secrets.choice(alphabet) for i in range(32))

print(blowfish_secret)
```

```
/** This is needed for cookie based authentication to encrypt password in
 * cookie. Needs to be 32 chars long.
 */
$cfg['blowfish_secret'] = '0<l?|z%q"$seOK=KJ*j^(wnd](G<0}T-'; /* YOU MUST FILL IN THIS FOR COOKIE AUTH! */
```

Then let's restart apache



```
danoch@DESKTOP-C4I4NCJ:/usr/share/phpmyadmin$ sudo cp /usr/share/phpmyadmin/config.sample.inc.php /usr/share/phpmyadmin/config.inc.php
danoch@DESKTOP-C4I4NCJ:/usr/share/phpmyadmin$ sudo nano /usr/share/phpmyadmin/config.inc.php
danoch@DESKTOP-C4I4NCJ:/usr/share/phpmyadmin$ sudo service apache2 restart
[sudo] password for danoch:
danoch@DESKTOP-C4I4NCJ:/usr/share/phpmyadmin$ |
```

Now we can access to <http://localhost/phpmyadmin> and login using the user and password

The screenshot shows the phpMyAdmin configuration page. It includes sections for General settings, Appearance settings, Database server, Web server, and phpMyAdmin version information. There are also several error messages at the bottom regarding configuration storage and connection attempts.

## Network packet capturing with tasksel and wireshark

### installing tasksel

```
danoch@DESKTOP-C4I4NCJ:~/.Nigar$ sudo apt install tasksel
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
laptop-detect tasksel-data
The following NEW packages will be installed:
laptop-detect tasksel tasksel-data
0 upgraded, 3 newly installed, 0 to remove and 0 not upgraded.
Need to get 40.0 kB of archives.
After this operation, 309 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://archive.ubuntu.com/ubuntu focal/main amd64 tasksel-data all 3.34ubuntu16 [5340 B]
Get:2 http://archive.ubuntu.com/ubuntu focal/main amd64 tasksel all 3.34ubuntu16 [28.6 kB]
Get:3 http://archive.ubuntu.com/ubuntu focal/main amd64 laptop-detect all 0.16 [6016 B]
Fetched 40.0 kB in 0s (84.4 kB/s)
Preconfiguring packages ...
Selecting previously unselected package tasksel-data.
(Reading database ... 49112 files and directories currently installed.)
Preparing to unpack .../tasksel-data_3.34ubuntu16_all.deb ...
Unpacking tasksel-data (3.34ubuntu16) ...
Selecting previously unselected package tasksel.
Preparing to unpack .../tasksel_3.34ubuntu16_all.deb ...
Unpacking tasksel (3.34ubuntu16) ...
Selecting previously unselected package laptop-detect.
Preparing to unpack .../laptop-detect_0.16_all.deb ...
Unpacking laptop-detect (0.16) ...
Setting up laptop-detect (0.16) ...
Setting up tasksel (3.34ubuntu16) ...
Setting up tasksel-data (3.34ubuntu16) ...
Processing triggers for man-db (2.9.1-1) ...
danoch@DESKTOP-C4I4NCJ:~/.Nigar$ |
```

In order to continue with the packet capturing task we will install tcpdump:

```
danoch@DESKTOP-C4I4NCJ:~/.Nigar$ sudo apt install tcpdump
Reading package lists... Done
Building dependency tree
Reading state information... Done
tcpdump is already the newest version (4.9.3-4ubuntu0.2).
tcpdump set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
danoch@DESKTOP-C4I4NCJ:~/.Nigar$ |
```

## Network interface:

```
danoch@DESKTOP-C4I4NCJ:~/Nigar$ sudo apt install tcpdump
Reading package lists... Done
Building dependency tree...
Reading state information... Done
tcpdump is already the newest version (4.9.3-4ubuntu0.2).
tcpdump set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
danoch@DESKTOP-C4I4NCJ:~/Nigar$ ip link
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN mode DEFAULT group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc mq state UP mode DEFAULT group default qlen 1000
    link/ether 00:15:5d:30:eb:aa brd ff:ff:ff:ff:ff:ff
danoch@DESKTOP-C4I4NCJ:~/Nigar$ |
```

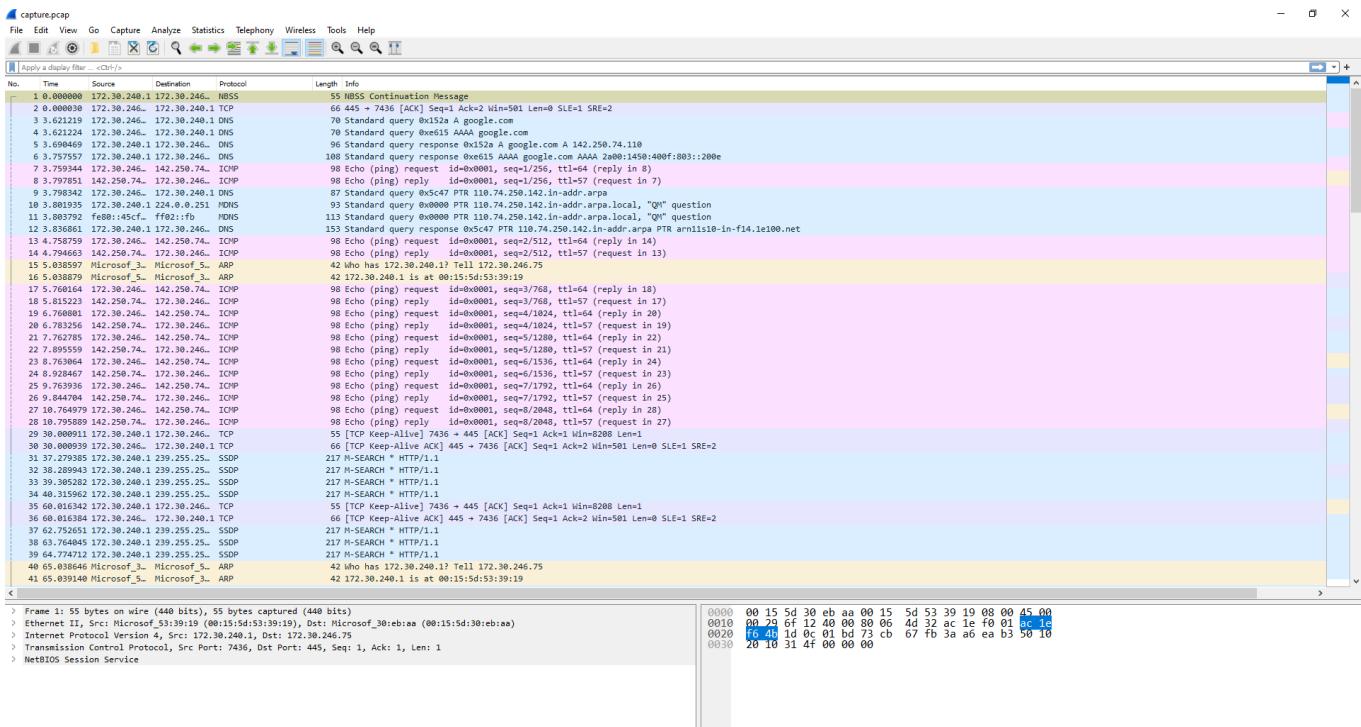
Start capturing packets:

```
danoch@DESKTOP-C4I4NCJ:~/Nigar$ ip link
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN mode DEFAULT group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc mq state UP mode DEFAULT group default qlen 1000
    link/ether 00:15:5d:30:eb:aa brd ff:ff:ff:ff:ff:ff
danoch@DESKTOP-C4I4NCJ:~/Nigar$ sudo tcpdump -i eth0 -w /mnt/c/Users/52558/Documents/NIGAR/capture.pcap
tcpdump: listening on eth0, link-type EN10MB (Ethernet), capture size 262144 bytes
^C70 packets captured
70 packets received by filter
0 packets dropped by kernel
danoch@DESKTOP-C4I4NCJ:~/Nigar$ |
```

In the meantime I was running ping google.com command and navigating using browser:

```
danoch@DESKTOP-C4I4NCJ:~/Nigar$ ping google.com
PING google.com (142.250.74.110) 56(84) bytes of data.
64 bytes from arn11s10-in-f14.1e100.net (142.250.74.110): icmp_seq=1 ttl=57 time=39.1 ms
64 bytes from arn11s10-in-f14.1e100.net (142.250.74.110): icmp_seq=2 ttl=57 time=35.9 ms
64 bytes from arn11s10-in-f14.1e100.net (142.250.74.110): icmp_seq=3 ttl=57 time=55.1 ms
64 bytes from arn11s10-in-f14.1e100.net (142.250.74.110): icmp_seq=4 ttl=57 time=22.6 ms
64 bytes from arn11s10-in-f14.1e100.net (142.250.74.110): icmp_seq=5 ttl=57 time=133 ms
64 bytes from arn11s10-in-f14.1e100.net (142.250.74.110): icmp_seq=6 ttl=57 time=165 ms
64 bytes from arn11s10-in-f14.1e100.net (142.250.74.110): icmp_seq=7 ttl=57 time=80.8 ms
64 bytes from arn11s10-in-f14.1e100.net (142.250.74.110): icmp_seq=8 ttl=57 time=30.9 ms
^C
--- google.com ping statistics ---
8 packets transmitted, 8 received, 0% packet loss, time 7006ms
rtt min/avg/max/mdev = 22.560/70.337/165.435/49.099 ms
danoch@DESKTOP-C4I4NCJ:~/Nigar$ |
```

Analyzing the packet capture file capture.pcap using wireshark:



## Bash script for user adding from CSV file

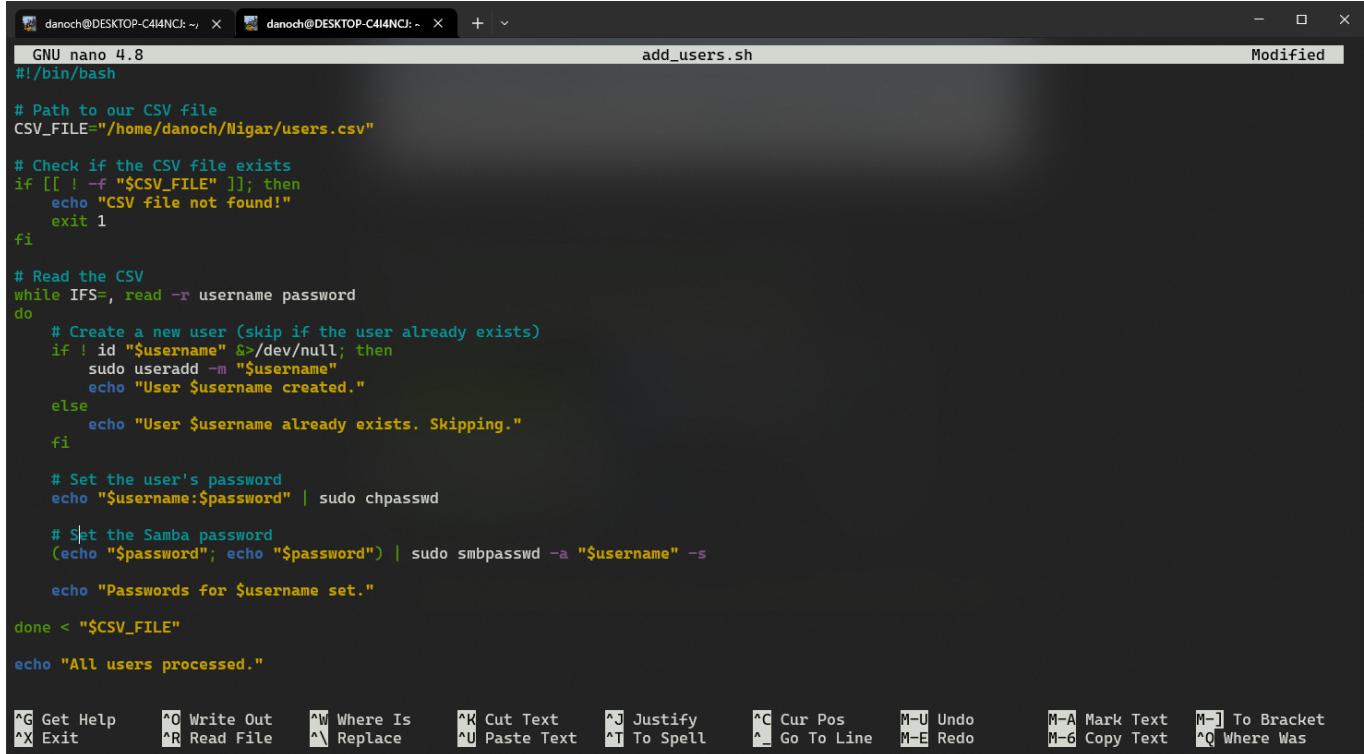
Let's create a csv file and add the users and passwd:

```

danoch@DESKTOP-C4I4NCJ:~/Nigar$ touch users.csv
danoch@DESKTOP-C4I4NCJ:~/Nigar$ nano users.csv
danoch@DESKTOP-C4I4NCJ:~/Nigar$ cat users.csv
danoch,313231115Nigar
myers,313231115Halloween
spongebob,313231115sandy
soko,313231115tortilla
danoch@DESKTOP-C4I4NCJ:~/Nigar$ |

```

## Creating the script:



```
GNU nano 4.8                               add_users.sh                                Modified
#!/bin/bash

# Path to our CSV file
CSV_FILE="/home/danoch/Nigar/users.csv"

# Check if the CSV file exists
if [[ ! -f "$CSV_FILE" ]]; then
    echo "CSV file not found!"
    exit 1
fi

# Read the CSV
while IFS=, read -r username password
do
    # Create a new user (skip if the user already exists)
    if ! id "$username" &>/dev/null; then
        sudo useradd -m "$username"
        echo "User $username created."
    else
        echo "User $username already exists. Skipping."
    fi

    # Set the user's password
    echo "$username:$password" | sudo chpasswd

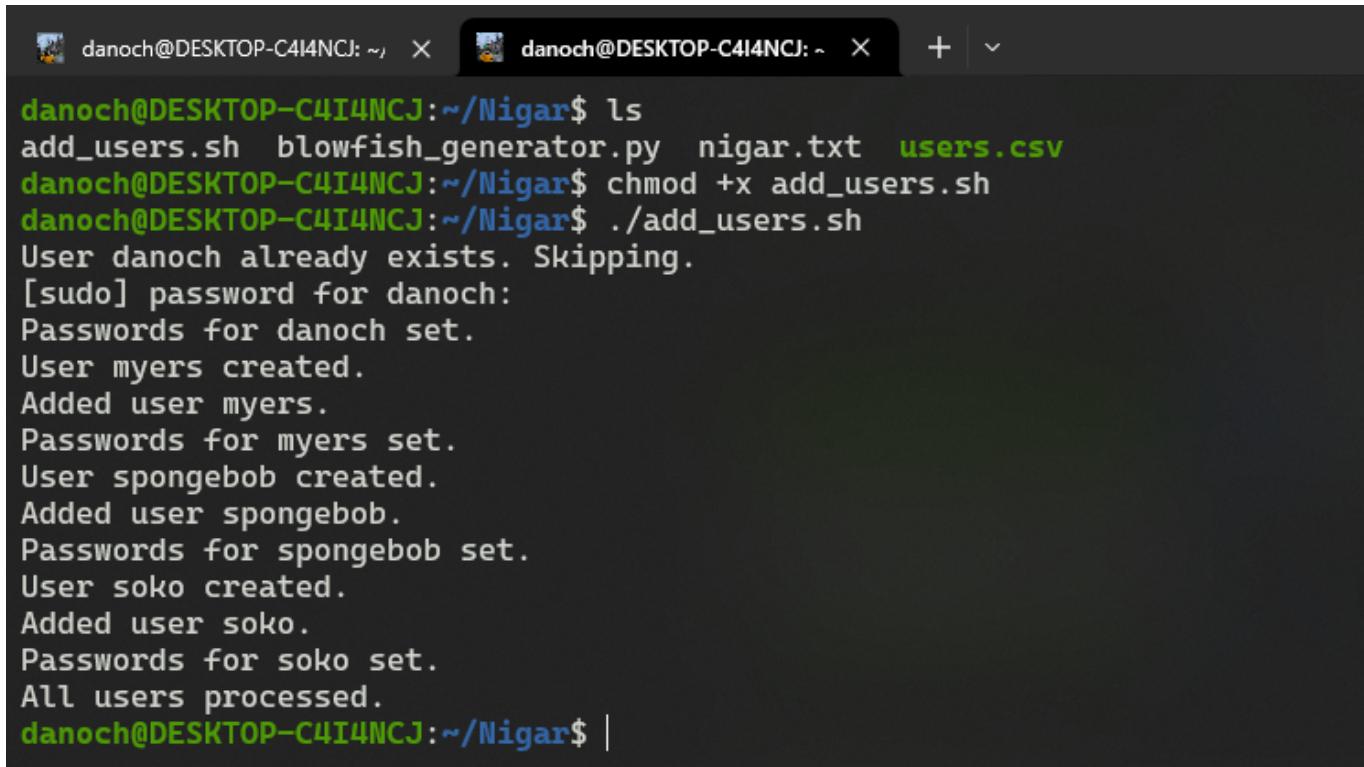
    # Set the Samba password
    (echo "$password"; echo "$password") | sudo smbpasswd -a "$username" -s

    echo "Passwords for $username set."
done < "$CSV_FILE"

echo "All users processed."
```

^G Get Help ^O Write Out ^W Where Is ^K Cut Text ^J Justify ^C Cur Pos M-U Undo  
^X Exit ^R Read File ^\ Replace ^U Paste Text ^T To Spell ^\_ Go To Line M-E Redo  
M-A Mark Text M-] To Bracket M-6 Copy Text ^Q Where Was

## Running the script:



```
danoch@DESKTOP-C4I4NCJ:~/Nigar$ ls
add_users.sh  blowfish_generator.py  nigar.txt  users.csv
danoch@DESKTOP-C4I4NCJ:~/Nigar$ chmod +x add_users.sh
danoch@DESKTOP-C4I4NCJ:~/Nigar$ ./add_users.sh
User danoch already exists. Skipping.
[sudo] password for danoch:
Passwords for danoch set.
User myers created.
Added user myers.
Passwords for myers set.
User spongebob created.
Added user spongebob.
Passwords for spongebob set.
User soko created.
Added user soko.
Passwords for soko set.
All users processed.
```

## Verify the creation:

## List of all users:

```
danoch@DESKTOP-C4I4NCJ:~/Nigar$ getent passwd
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/usr/sbin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
games:x:5:60:games:/usr/games:/usr/sbin:/usr/sbin/nologin
man:x:6:12:man:/var/cache/man:/usr/sbin:/usr/sbin/nologin
lp:x:7:7:lp:/var/spool/lpd:/usr/sbin:/usr/sbin/nologin
mail:x:8:8:mail:/var/mail:/usr/sbin:/usr/sbin/nologin
news:x:9:9:news:/var/spool/news:/usr/sbin:/usr/sbin/nologin
uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin:/usr/sbin/nologin
proxy:x:13:13:proxy:/bin:/usr/sbin:/usr/sbin/nologin
www-data:x:33:33:www-data:/var/www:/usr/sbin:/usr/sbin/nologin
backup:x:34:34:backup:/var/backups:/usr/sbin:/usr/sbin/nologin
list:x:38:38:Mailing List Manager:/var/list:/usr/sbin:/nologin
irc:x:39:39:ircd:/var/run/ircd:/usr/sbin:/nologin
gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/sbin:/nologin
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin:/nologin
systemd-networkd:x:100:102:systemd Network Management,,,:/run/systemd:/usr/sbin:/nologin
systemd-resolve,x:101:103:systemd Resolver,,,:/run/systemd:/usr/sbin:/nologin
systemd-timesync,x:102:104:systemd Time Synchronization,,,:/run/systemd:/usr/sbin:/nologin
messagebus,x:103:106::/nonexistent:/usr/sbin:/nologin
syslog,x:104:110::/home/syslog:/usr/sbin:/nologin
_apt,x:105:65534::/nonexistent:/usr/sbin:/nologin
tss,x:106:111:TPM software stack,,,:/var/lib/tppm:/bin/false
uuidd,x:107:112::/run/uuidd:/usr/sbin:/nologin
tcpdump,x:108:113::/nonexistent:/usr/sbin:/nologin
sshd,x:109:65534::/run/sshd:/usr/sbin:/nologin
landscape,x:110:115::/var/lib/landscape:/usr/sbin:/nologin
pollinate,x:111:1::/var/cache/pollinate:/bin/false
fwupd-refresh,x:112:116:fwupd-refresh user,,,:/run/systemd:/usr/sbin:/nologin
danoch:x:1000:1000:,,,:/home/danoch:/bin/bash
systemd-coredump,x:999:999:system Core Dumper://:/usr/sbin:/nologin
lxd,x:998:100::/var/snap/lxd/common/lxd:/bin/false
mysql,x:113:123:MySQL Server,,,:/nonexistent:/bin/false
myers,x:1001:1002::/home/myers:/bin/sh
spongebob,x:1002:1003::/home/spongebob:/bin/sh
soko,x:1003:1004::/home/soko:/bin/sh
danoch@DESKTOP-C4I4NCJ:~/Nigar$ |
```

## List Samba users and verify if they were added:

```
danoch@DESKTOP-C4I4NCJ:~/Nigar$ sudo pdbedit -L
danoch:1000:
spongebob:1002:
myers:1001:
soko:1003:
danoch@DESKTOP-C4I4NCJ:~/Nigar$ |
```

## Conclusion

This project successfully demonstrated the feasibility of using Linux Ubuntu 20.04.6 to set up and manage a small office server environment. Key tasks included installing and configuring a LAMP stack, setting up Samba for file sharing, enabling SSH for remote access, and managing database interfaces with phpMyAdmin. Additionally, we developed a custom Bash script for efficient user management from a CSV file.

In summary, this mini-project provided practical insights into server management using WSL2, affirming its utility for specific server

administration tasks while also recognizing its constraints in a professional server setting.