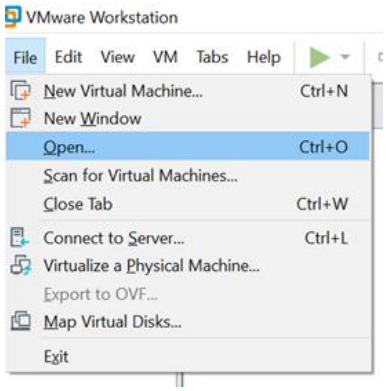
Practical 09
Linux Quick Tour

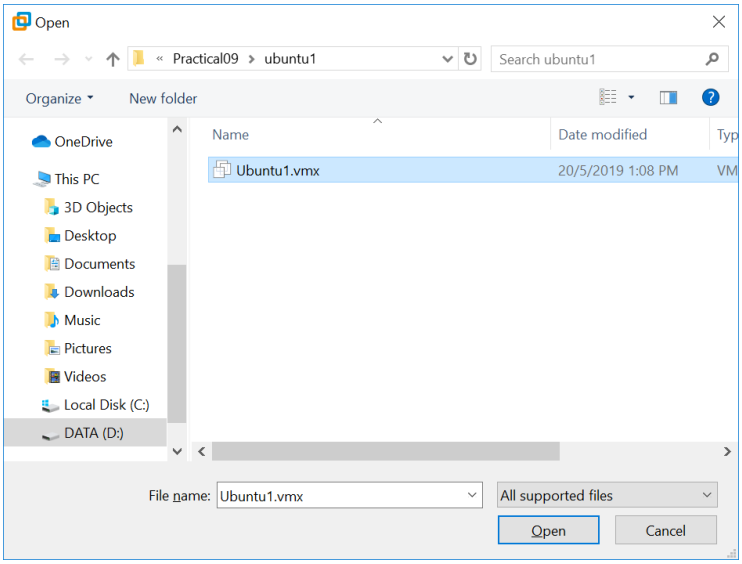
I. Logging in, switching user (su), remote login (ssh with GUI)
II. Managing Terminals
III. Getting Help

A. Open the Ubuntu image (in WMware Workstation Pro)

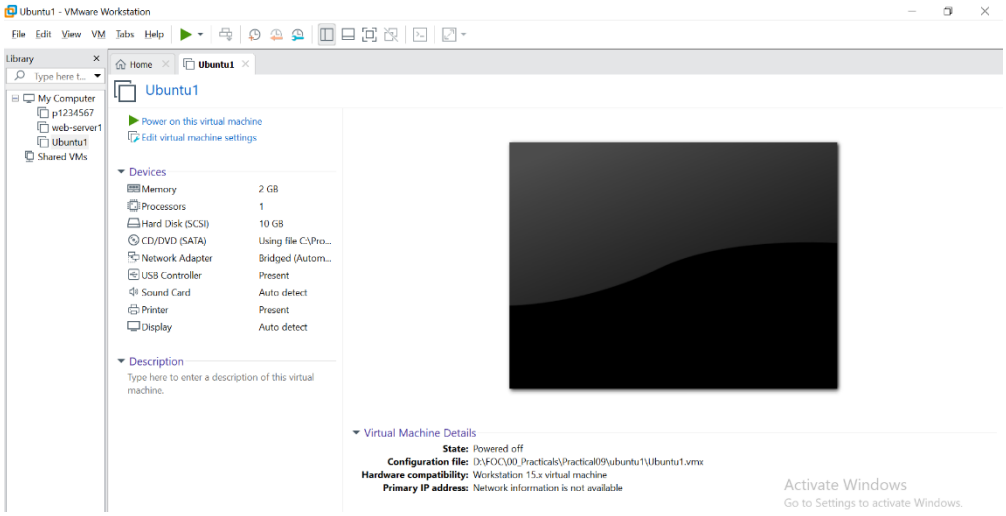
1. Download the Ubuntu image from BB (Learning Resources -> Topic 6: Overview of the Linux Operating System -> Practical 09 Linux Quick Tour -> **ubuntu1.7z**)
2. Unzip the file (ubuntu1.7z) to a working folder (e.g. “ubuntu-image”) in your laptop.
3. Start VMWare Workstation Pro.
4. Select File > Open...



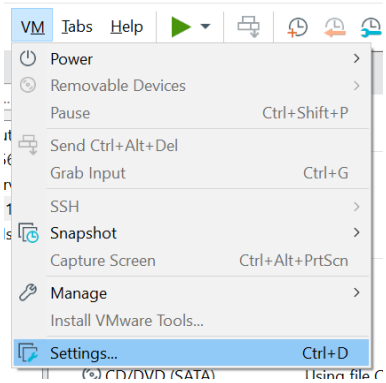
5. Select *Ubuntu1.vmx* (pre-built image in the working folder in step 2) and click “Open”.



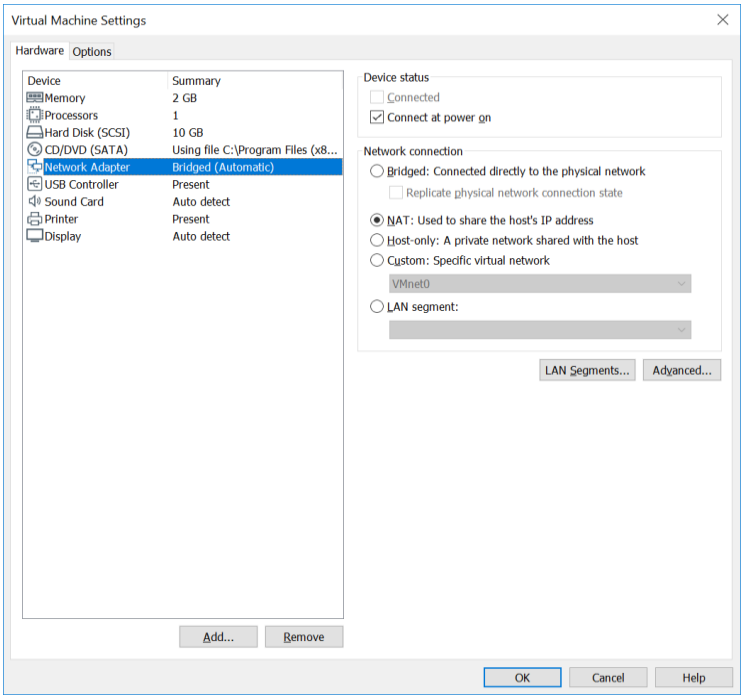
6. Now you have a virtual machine named Ubuntu1.



7. Select VM > Settings...

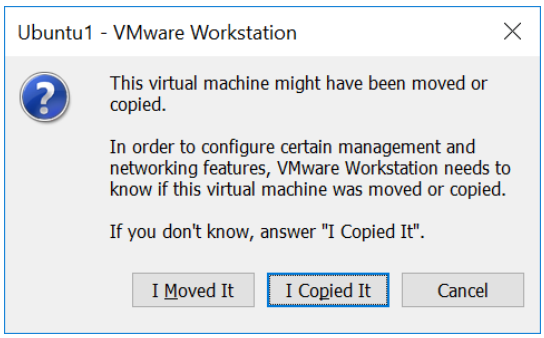


8. Select Network Adapter. Check on “NAT: Used to share the host’s IP address” and click “OK”.

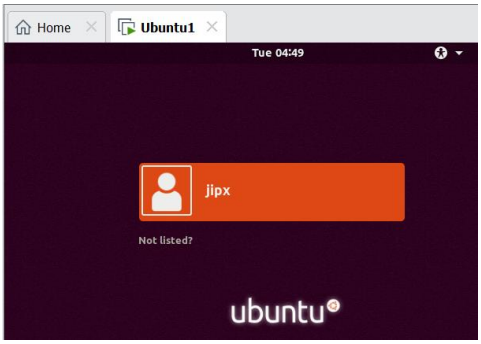


B. Logging in

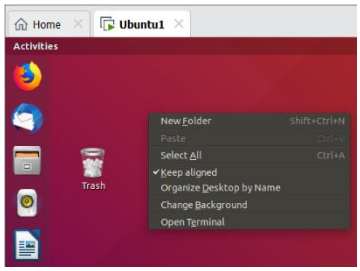
1. Click ▶ ▾ to start your virtual machine (Ubuntu1) and click “I Copied It”.

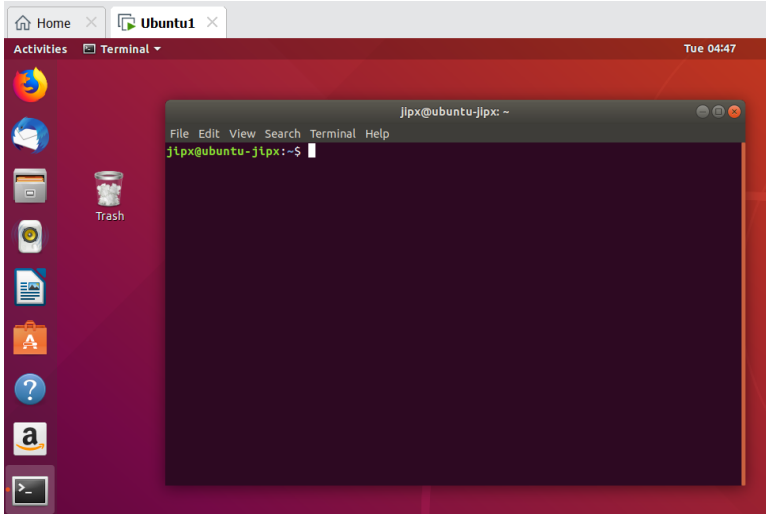


2. Login to your virtual machine (Ubuntu1).
   user name: **jipx**
   pwd: **ubuntu**



3. Open terminal by right clicking the desktop and select Open Terminal or by using [Control]-[Alt]-[T].





4. type `$ lsb_release -a` to show the version of Ubuntu installed.

`Release version`	

> If you get a “permission denied” error or any other similar error, then you are probably using a non-root user. You should either use the root user or use sudo to run the commands. So just append “sudo” to each command and enter your sudo password when prompt:
>
> `sudo lsb-release -a`

5. Type the command `who` and hit the enter key to show who is/are logged on.

`who is/are logged on`	

6. Find out your home directory: /home/<your-username>/
   Type `echo $HOME`

`home directory`	`/home/`

7. Type `pwd` command to check your working directory. Make sure you are at your home directory.

```
jipx@ubuntu-jipx:~$ cd $HOME
jipx@ubuntu-jipx:~$ pwd
/home/jipx
jipx@ubuntu-jipx:~$
```

8. List files in your home directory. Use the `-l` and `-a` options to display a long format listing of all files.

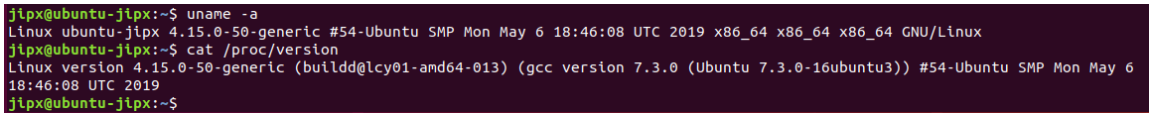
   Type `ls -al`

   You should see something similar to the following:

```
jipx@ubuntu-jipx:~$ ls -al
total 92
drwxr-xr-x 16 jipx jipx 4096 Jun  9 04:51 .
drwxr-xr-x  3 root root 4096 May 18  2019 ..
-rw-------  1 jipx jipx 1538 Jun  9 04:48 .bash_history
-rw-r--r--  1 jipx jipx  220 Apr  4  2018 .bash_logout
-rw-r--r--  1 jipx jipx 3771 Apr  4  2018 .bashrc
drwx------ 16 jipx jipx 4096 May 20  2019 .cache
drwx------ 13 jipx jipx 4096 May 20  2019 .config
drwxr-xr-x  2 jipx jipx 4096 May 20  2019 Desktop
drwxr-xr-x  2 jipx jipx 4096 May 20  2019 Documents
drwxr-xr-x  2 jipx jipx 4096 May 20  2019 Downloads
drwx------  3 jipx jipx 4096 May 18  2019 .gnupg
-rw-------  1 jipx jipx 2366 Jun  9 04:51 .ICEauthority
drwx------  3 jipx jipx 4096 May 20  2019 .local
drwx------  5 jipx jipx 4096 May 20  2019 .mozilla
drwxr-xr-x  2 jipx jipx 4096 May 20  2019 Music
drwxr-xr-x  2 jipx jipx 4096 Jun  9 04:47 Pictures
-rw-r--r--  1 jipx jipx  807 Apr  4  2018 .profile
drwxr-xr-x  2 jipx jipx 4096 May 20  2019 Public
-rw-rw-r--  1 jipx jipx   81 May 19  2019 resultSmtp.txt
-rw-r--r--  1 jipx jipx    0 May 18  2019 .sudo_as_admin_successful
drwxr-xr-x  2 jipx jipx 4096 May 20  2019 Templates
drwx------  5 jipx jipx 4096 May 20  2019 .thunderbird
drwxr-xr-x  2 jipx jipx 4096 May 20  2019 Videos
-rw-------  1 root root 2429 May 19  2019 .viminfo
jipx@ubuntu-jipx:~$
```

The first field (**d**rwx------ or -rw------- in this case) tells us whether the file is a directory (**d**) or a regular file (-)	
Number of directories	
Number of files	

9. Find the information and fill in the table below.
   Type `uname -a`



Kernel Name	Hostname	Kernel release	Machine Architecture	Processor Architecture	Operating System Architecture

C. Trying more commands

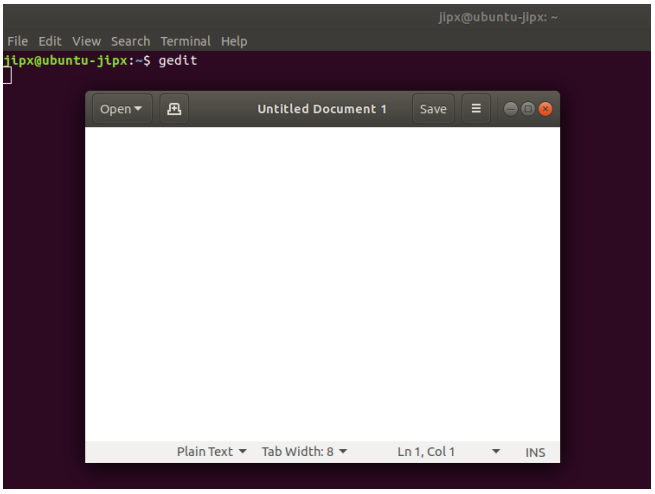
1. In a terminal, type `ifconfig` or `ip addr` to view the IP address of your system. [The command will only work if you are the root user.]
   - You should see at least 2 devices namely lo (loopback) & eth0/ens33 (first NIC card)

   What is the IP address of your system? _____

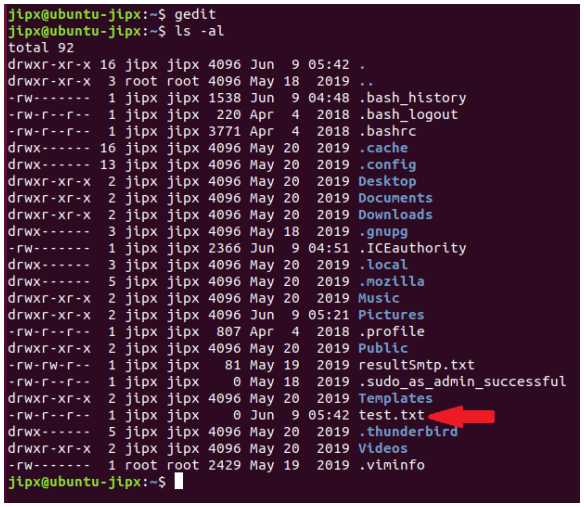
2. Type the command `who -a` to find out the following:

1. Time of last system boot	
2. Current run level of the system	
3. List of logged in users	

3. Use the command `gedit`



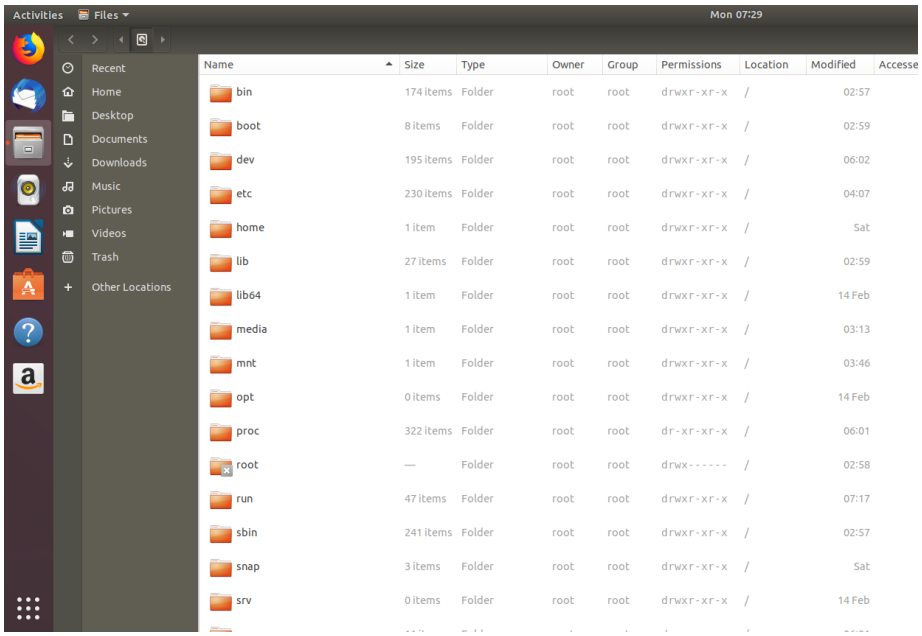
4. Save the file as *test.txt* and go to your terminal to check your new file.
   Type `ls -al`



   To delete the file, type `rm test.txt`

D. Exploring file structure

Files > Other Locations > Computer



Referring to the Ubuntu help to fill up the table below.

Directory name	Functions
	the root directory for the whole structure.
	All the user home directories are held under this directory with the exception of the root home directory which is kept under /root directory. This directory holds users files, personal settings like .profile etc.
	Contains the essential binaries for users and those utilities that are required in single user mode. Examples, include cat, ls, cp etc.
	This contains the Kernel, Firmware and system related files.
	The directory contain essential System configuration files including /etc/hosts, /etc/resolv.conf, nsswitch.conf, defaults and network configuration files. These are mostly host specific system and application configuration files.
	A temporary file system which hold temporary files which are cleared at system reboot. There is also a /var/tmp directory which holds temporary files too. the only difference between the two is that /var/tmp directory holds files that are protected at system reboot. In other words, /var/tmp files are not flushed upon a reboot.
	the **superuser's** home directory, not in /home/ to allow for booting the system even if /home/ is not available.

E. Getting Help

man pages

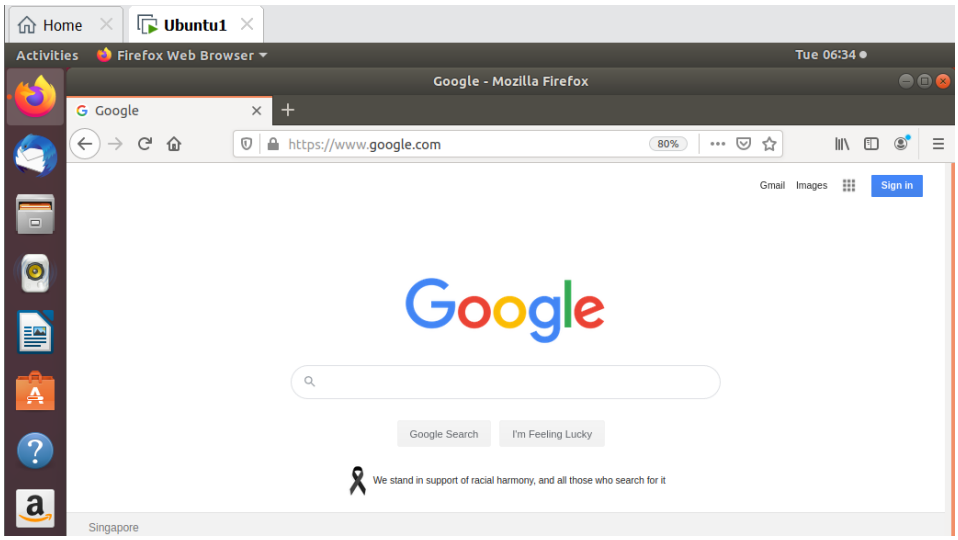
1. Type `man ls` to view the man pages for the ls command.
2. Use the `spacebar` and the `b` key to move forwards and backwards. (You can also use the PageUp and PageDown keys.)
3. Type `/date` to search for the word **date** in the man page.
4. Type `n` and `p` to go to the next and previous occurrences of the word **date**.
5. Type `q` to quit the man page.
6. Type `man passwd` to view the man pages for the passwd command. The chapter number is displayed at the top right corner.
   Question: What is the chapter no?
7. Type `man 5 passwd` to view the man pages for the "/etc/passwd" file in Chapter 5 (File Formats).
8. To search for man pages use `man -k query_word`. Hence "**man -k passwd**"[1] generate a list of commands associated with the word "passwd".

info pages

1. Type `info tar` to view the info page of the command tar.
2. Press the `tab` key to get to the next "hyperlink". Press the Enter key to jump to the link.
3. Type `n` and `p` to get the next or previous node.
4. Type `/append` to search for the word append.
5. Type `q` to quit info page.

[1] In the event if you do not see a list but simply "passwd: Nothing appropriate", use the command "**makewhatis -v"** to regenerate the man database.

F. Surfing the Internet



G. Copy/paste and drag&drop not working in vmware machine with Ubuntu

1) `sudo apt-get remove open-vm-tools`

2) `sudo apt-get install open-vm-tools-desktop`

3) restart the guest operating system

source: https://askubuntu.com/questions/691585/copy-paste-and-dragdrop-not-working-in-vmware-machine-with-ubuntu

H. Create a root account/SUDO account using your student admin number p*******

(You can then use this user account to execute administrative commands without a need to logging in to your Ubuntu server as a root user.)

Create a new user account using the adduser command. Don't forget to replace username with the user name that you want to create:

```
adduser p*******
```

Once you set the password the command will create a home directory for the user, copy several configuration files in the home directory and prompts you to set the new user's information. If you want to leave all of this information blank just press ENTER to accept the defaults.

Add the new user to the sudo group

By default, on Ubuntu systems, members of the group sudo are granted with sudo access. To add the user you created to the sudo group use the usermod command:

```
usermod -aG sudo username
```

if you got permission deny error, use sudo

```
sudo usermod -aG sudo username
```

Test the sudo ac

Switch to the newly created user:

```
su - username
```

Use the sudo command to run the whoami command:

```
sudo whoami
```

If the user has sudo access, then the output of the above sudo whoami command will be root:

```
root
```

```
jipx@ubuntu-jipx:~$ sudo su - p1234567
[sudo] password for jipx:
p1234567@ubuntu-jipx:~$ sudo whoami
[sudo] password for p1234567:
root
p1234567@ubuntu-jipx:~$
```

How to use sudo

To use sudo, simply prefix the command with sudo and space:

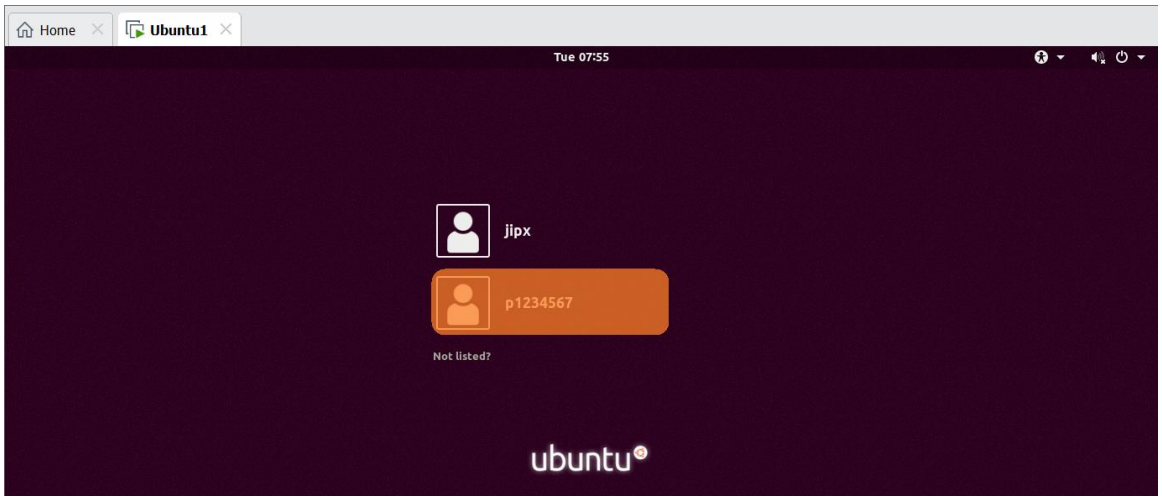
```
sudo ls -l /root
```

The first time you use sudo in a session, you will be prompted to enter the user password:

```
[sudo] password for username:
```

Congratulations

You have learned how to create a user with sudo privileges. You can now log in to your Ubuntu server with this user account and use sudo to run administrative commands.



End of Practical