

Template Week 5 – Operating Systems

Student number: 583168

Assignment 5.1: Unix-like

- a) Find out what the difference is between UNIX and unix-like operating systems?

UNIX is the original operating system developed at Bell Labs and today refers mainly to officially certified systems such as AIX or HP-UX.

Unix-like operating systems behave like UNIX but are not officially certified, for example Linux, BSD, and macOS.

- b) Study the image above named UNIX timeline. Find out who Ken Thompson, Dennis Ritchie, Bill Joy, Richard Stallman, and Linus Torvalds are and what they have contributed to the development of UNIX or unix-like systems and to IT in general. **TIP!** English-language sources often contain more detailed information about these individuals.

Ken Thompson helped create UNIX and developed the first version of the operating system.

Dennis Ritchie co-created UNIX and invented the C programming language.

Bill Joy was a key developer of BSD UNIX and co-founded Sun Microsystems.

Richard Stallman founded the GNU Project and the Free Software Movement.

Linus Torvalds created the Linux kernel.

- c) What is the philosophy of the GNU movement?

The GNU movement believes software should be free, meaning users can run, study, modify, and share it.

The focus is on user freedom, not price.

- d) Does Ubuntu as a Linux operating system conform to the philosophy of the GNU movement? Please explain your answer.

Ubuntu mostly follows the GNU philosophy because it uses GNU tools and Linux.

However, it also allows proprietary software, which does not fully follow GNU ideals.

- e) Find out what is the Windows Subsystem for Linux?

Windows Subsystem for Linux allows users to run Linux command-line tools and environments directly on Windows without using a virtual machine.

- f) Find out, which operating system family belongs to Android, iOS and ChromeOS?

Android belongs to the Linux family.

iOS belongs to the Unix family (BSD-based).

ChromeOS belongs to the Linux family.

Assignment 5.2: Supercomputers and gameconsoles

- a) Research on this site what supercomputers are used for and write a short summary of it:

<https://www.computerhistory.org/timeline/search/?q=Supercomputer>

Supercomputers are very powerful computers built to solve extremely large and calculation-intensive problems that ordinary computers cannot handle efficiently. They are used in scientific research, weather prediction, climate modeling, and engineering simulations. For example, they help simulate explosions, design new drugs, model complex physical systems like the atmosphere, and support national defense and intelligence work. Early supercomputers were expensive and mainly used by governments and large research institutions. Over time, supercomputing expanded to include systems based on parallel processing and today's high-performance clusters.

- b) IBM is a company that has already built a number of supercomputers. One of them is IBM's Roadrunner. The CPU developed for this supercomputer was further developed at a later stage as the CPU for the PlayStation 3 console. Find out what a **PlayStation 3 cluster** is and what it was used for?

A PlayStation 3 cluster is a group of PS3 consoles connected together to work as a single computer.

It was used for low-cost high-performance computing, such as scientific research, simulations, and image analysis, especially by universities and the military.

- c) You can build a supercomputer by putting a few computers together in a cluster. Here's what Oracle did with a collection of Raspberry Pi's, for example:

<https://blogs.oracle.com/developers/post/building-the-worlds-largest-raspberry-pi-cluster>

What specific operating system is running on this cluster?

The Oracle Raspberry Pi supercomputer cluster runs Oracle Linux for ARM (a version of Oracle Linux made for ARM processors) as its operating system. The Raspberry Pi nodes are network-booted from a central server using this OS.

- d) Does Oracle's Raspberry Pi supercomputer appear in the list of the 500 fastest supercomputers in the world? Make a logical decision for this, without going through the entire list.

<https://www.top500.org/lists/top500/list/2023/06/>

No, Oracle's Raspberry Pi supercomputer is **not on the Top500 list**. Its performance is far too low compared to the petaflop-level supercomputers on the list.

- e) What CPU architecture is used for the PlayStation 5 and Xbox Series X?
What operating systems run on these consoles?
What conclusion can you draw from the answer to the previous question?


CPU architecture: Both PlayStation 5 and Xbox Series X use AMD x86-64 (64-bit) processors.


Operating systems: PlayStation 5 runs Orbis OS (based on FreeBSD/Unix), and Xbox Series X runs Xbox OS (based on Windows NT).

Conclusion: Modern consoles use PC-like CPU architectures and custom OSes derived from standard desktop or server systems.


Assignment 5.3: Working with Windows

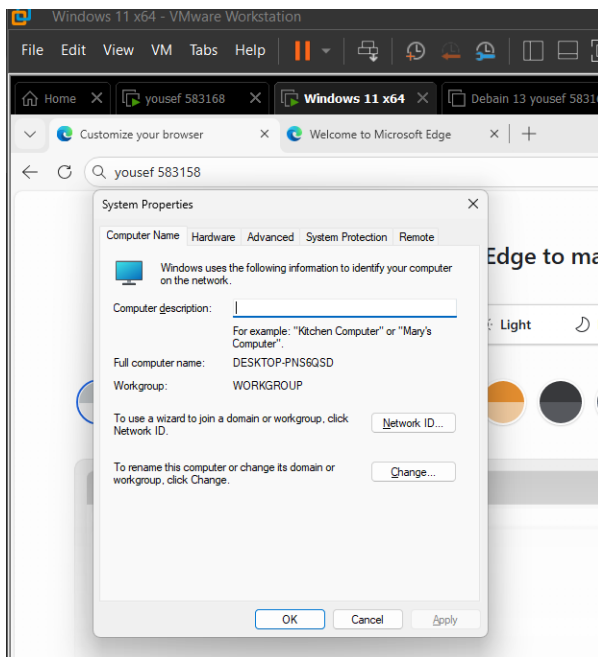
Take relevant screenshots of the assignments below

a) Practice for about 10 minutes with the  keyboard shortcuts combinations, skip the general shortcuts in this exercise. Take a look at which screens are opened.

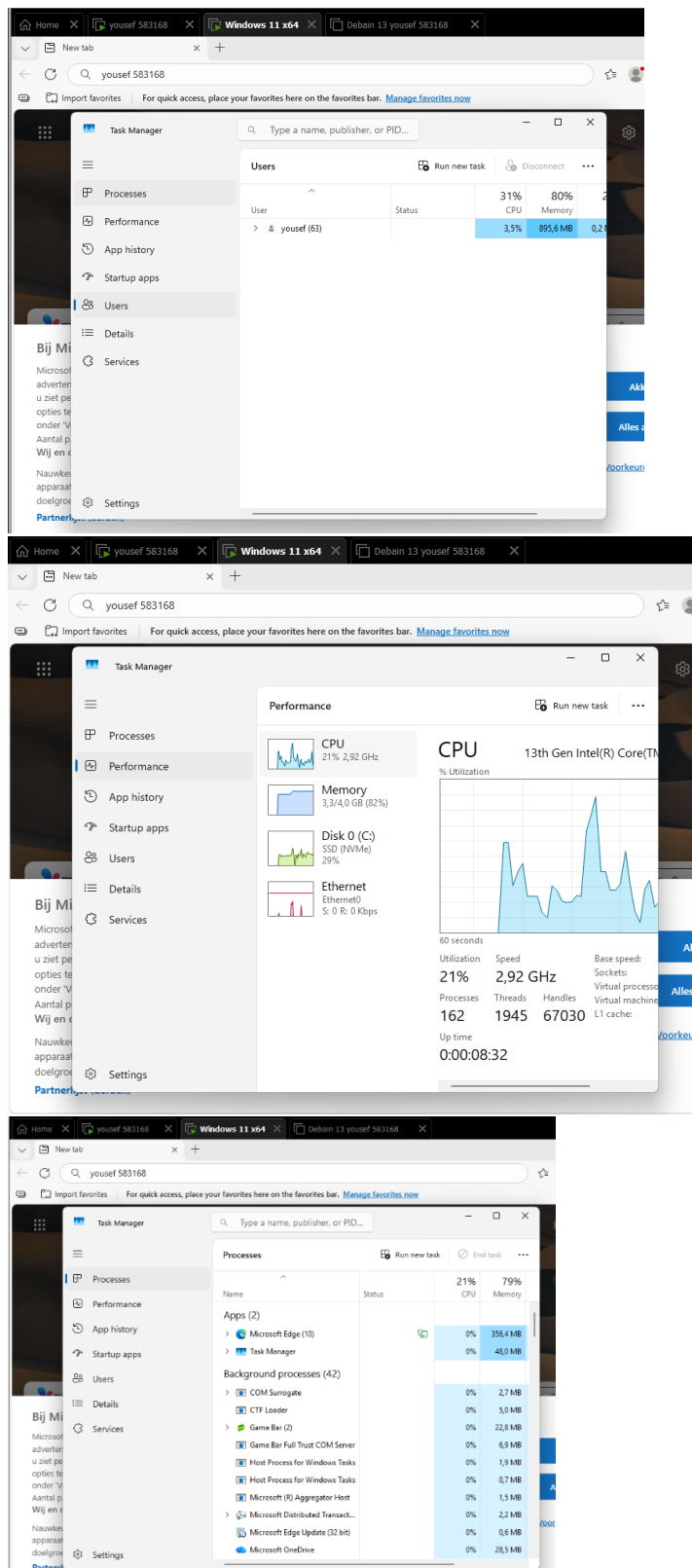
b) The file explorer can be opened with  + E, Which key combination could you also use?

Windows + R, then type explorer and press enter

c) Open the system properties with a  key combination, take a screenshot of the open screen. Paste this screenshot into this template.



d) Open task manager with a key combination. Take screenshots of the tabs: processes (shows active processes), performance, and users. Place these three screenshots in this template.



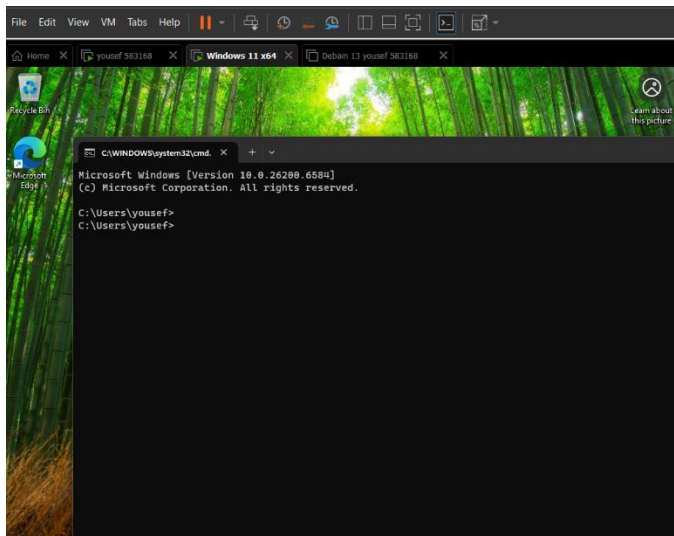
- e) If you're giving a PowerPoint presentation and you connect your laptop to a projector, Windows can use the projector as a second screen. For example, you may have Outlook open on your first screen that you don't show over the projector, while the PowerPoint presentation is displayed on the projector, or the second screen. Which key combination should you use for this?

Windows + P to switch

- f) If you leave the classroom for a while and you leave your laptop behind, it is wise to lock the screen. Your Apps will continue to run in the background. So, for example, if you're waiting for a download that takes a while, lock the screen and get a cup of coffee. Which key combination do you use for this?

Windows + L to lock

- g) Open the Run screen with a key combination. On this screen, type CMD and press <enter>. Take a screenshot of this result and paste it into this template.



Working in the File Explorer

Relevant screenshots **copy** command:

```
C:\SAXION>copy Wave.png "HBOICT\YEAR 1\QUARTER 1\IP\"
1 file(s) copied.

C:\SAXION>copy Plug.png "HBOICT\YEAR 1\QUARTER 2\INTRO TO INFRASTRUCTURE\"
The system cannot find the path specified.
0 file(s) copied.

C:\SAXION>copy Plug.png "HBOICT\YEAR 1\QUARTER 2\INTRO TO INFRASTRUCTURE\"
The system cannot find the path specified.
0 file(s) copied.

C:\SAXION>copy Plug.png "HBOICT\YEAR 1\QUARTER 1\INTRO TO INFRASTRUCTURE\"
1 file(s) copied.

C:\SAXION>copy Tumble.png "HBOICT\YEAR 1\QUARTER 2\IT FUNDAMENTALS\"
The system cannot find the path specified.
0 file(s) copied.

C:\SAXION>copy Tumble.png "HBOICT\YEAR 1\QUARTER 2\IT FUNDAMENTALS\"
1 file(s) copied.

C:\SAXION>      YOUSEF 583168
```

Relevant screenshots **tree** command:

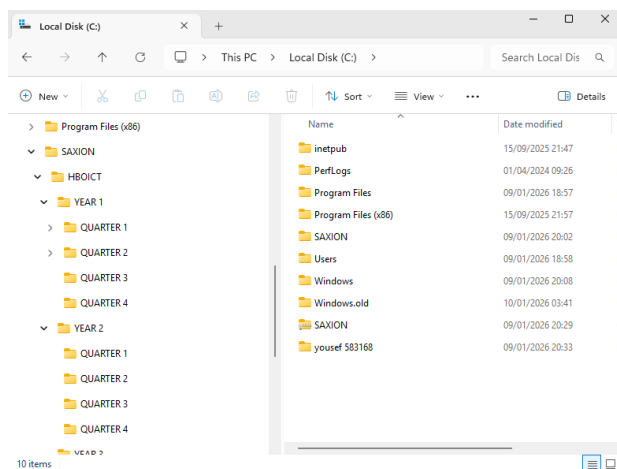
```
C:\Windows\System32\cmd.e X + v
1 file(s) copied.

C:\SAXION> tree
Folder PATH listing
Volume serial number is F001-E8BE
C:.
|_HBOICT
|   |_YEAR 1
|       |_QUARTER 1
|           |_INTRO TO INFRASTRUCTURE
|           |_IP
|           |_SYNERGY
|       |_QUARTER 2
|           |_DATA BASES
|           |_IT FUNDAMENTALS
|           |_IT ITS IN THE GAME
|       |_QUARTER 3
|       |_QUARTER 4
|   |_YEAR 2
|       |_QUARTER 1
|       |_QUARTER 2
|       |_QUARTER 3
|       |_QUARTER 4
|   |_YEAR 3
|   |_YEAR 4

C:\SAXION>echo %username%
yousef

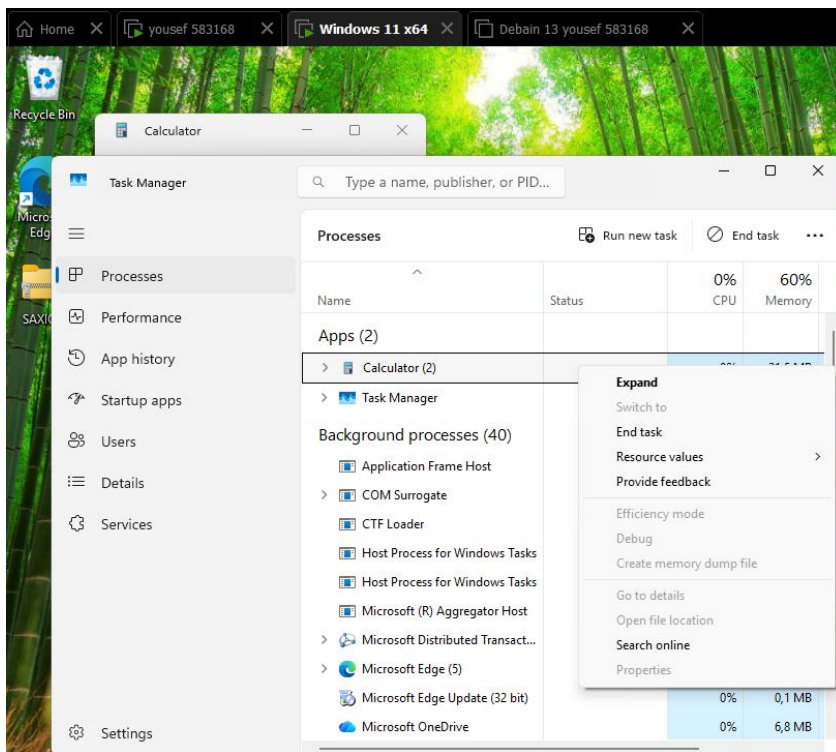
C:\SAXION>
```

Relevant screenshots in the file explorer of the folder c:\Saxion + created zip file.



Terminating Processes

Relevant Screenshots Task Manager Window:



Install Software

Relevant screenshots that the following software is installed with winget:

- WinSCP
- Notepad++
- 7zip

```
C:\Windows\System32>winget install --id Mozilla.Firefox -e --source winget
Found Mozilla Firefox (en-US) [Mozilla.Firefox] Version 146.0.1
This application is licensed to you by its owner.
Microsoft is not responsible for, nor does it grant any licenses to, third-party packages.
Downloading https://download-installer.cdn.mozilla.net/pub/firefox/releases/146.0.1/win64/en-US/Firefox%20Setup%20
146.0.1.exe
82.3 MB / 82.3 MB
Successfully verified installer hash
Starting package install...
Successfully installed
C:\Windows\System32> yousef 583168
```

B) explanation

winget install ---- tells Windows to install a program.

--id Mozilla.Firefox --- installs the exact Firefox package.

-e -- exact match, ensures no similar package is chosen.

--source winget --- uses only the winget repository, avoids Microsoft Store errors.

(I added something because I had an error)

- WinSCP

```
C:\Windows\System32>winget install --id WinSCP.WinSCP -e --source winget
Found WinSCP [WinSCP.WinSCP] Version 6.5.5
This application is licensed to you by its owner.
Microsoft is not responsible for, nor does it grant any licenses to, third-party packages.
Downloading https://sourceforge.net/projects/winscp/files/WinSCP/6.5.5/WinSCP-6.5.5-Setup.exe/download
11.6 MB / 11.6 MB
Successfully verified installer hash
Starting package install...
Successfully installed
C:\Windows\System32>yousef 583168_
```

- Notepad++

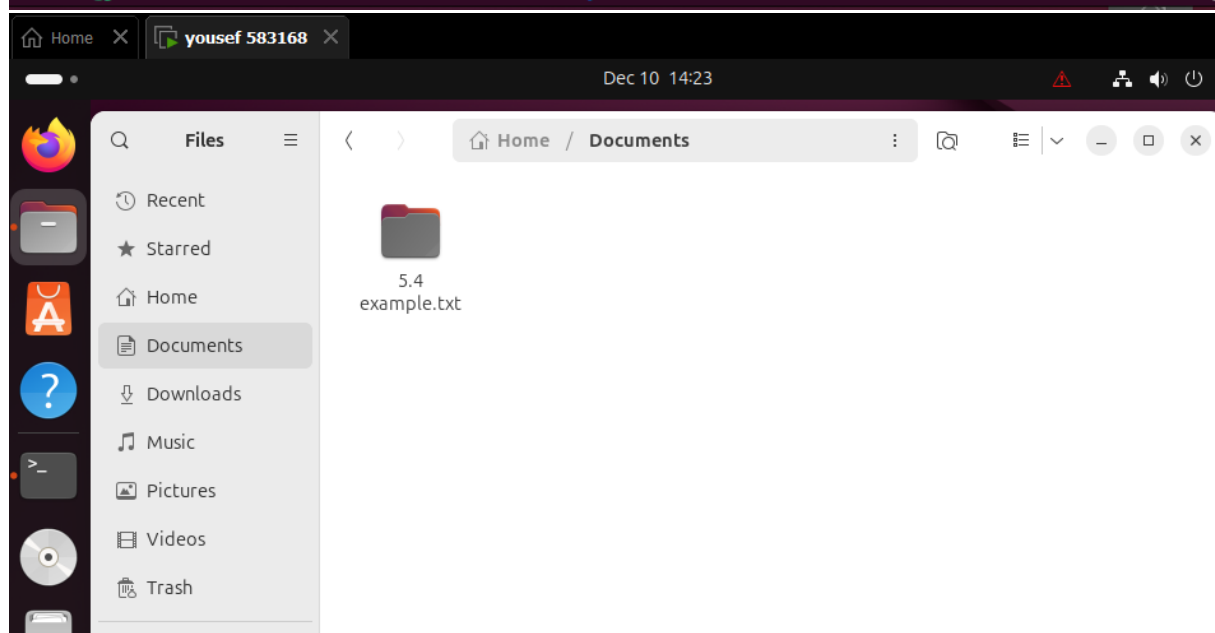
```
C:\Windows\System32>winget install --id Notepad++.Notepad++ -e --source winget
Found Notepad++ [Notepad++.Notepad++] Version 8.9
This application is licensed to you by its owner.
Microsoft is not responsible for, nor does it grant any licenses to, third-party packages.
Downloading https://github.com/notepad-plus-plus/notepad-plus-plus/releases/download/v8.9/npp.8.9.Installer.x64.exe
6.54 MB / 6.54 MB
Successfully verified installer hash
Starting package install...
Successfully installed
C:\Windows\System32>
C:\Windows\System32>yousef 583168_
```

- 7zip

```
C:\Windows\System32>
C:\Windows\System32>winget install --id 7zip.7zip -e --source winget
Found 7-Zip [7zip.7zip] Version 25.01
This application is licensed to you by its owner.
Microsoft is not responsible for, nor does it grant any licenses to, third-party packages.
Downloading https://7-zip.org/a/7z2501-x64.exe
1.56 MB / 1.56 MB
Successfully verified installer hash
Starting package install...
Successfully installed
C:\Windows\System32>yousef 583168_
```

Assignment 5.4: Working with Linux

```
yousef@yousef-VMware-Virtual-Platform: ~/Documents
yousef@yousef-VMware-Virtual-Platform:~$ pwd
/home/yousef
yousef@yousef-VMware-Virtual-Platform:~$ pwd
/home/yousef
yousef@yousef-VMware-Virtual-Platform:~$ cd 5.4example.txt
yousef@yousef-VMware-Virtual-Platform:~/5.4example.txt$ nano file.txt
yousef@yousef-VMware-Virtual-Platform:~/5.4example.txt$ cp file.txt ~/Documents/
file2.txt
yousef@yousef-VMware-Virtual-Platform:~/5.4example.txt$ pwd
/home/yousef/5.4example.txt
yousef@yousef-VMware-Virtual-Platform:~/5.4example.txt$ cd Documents
bash: cd: Documents: No such file or directory
yousef@yousef-VMware-Virtual-Platform:~/5.4example.txt$ cd ..
yousef@yousef-VMware-Virtual-Platform:~$ cd /Documents
bash: cd: /Documents: No such file or directory
yousef@yousef-VMware-Virtual-Platform:~$ pwd
/home/yousef
yousef@yousef-VMware-Virtual-Platform:~$ cd ~
yousef@yousef-VMware-Virtual-Platform:~$ cd Documents
yousef@yousef-VMware-Virtual-Platform:~/Documents$ pwd
/home/yousef/Documents
yousef@yousef-VMware-Virtual-Platform:~/Documents$ ls -F
5.4 example.txt' /   file2.txt
yousef@yousef-VMware-Virtual-Platform:~/Documents$
```



```
yousef@yousef-VMware-Virtual-Platform:~$ cd /etc
yousef@yousef-VMware-Virtual-Platform:/etc$ pwd
/etc
yousef@yousef-VMware-Virtual-Platform:/etc$ cd ~
yousef@yousef-VMware-Virtual-Platform:~$
```

One significant difference between Linux and Windows file structure

Linux has a single root directory "/", while Windows uses multiple drive letters (C:, D:).

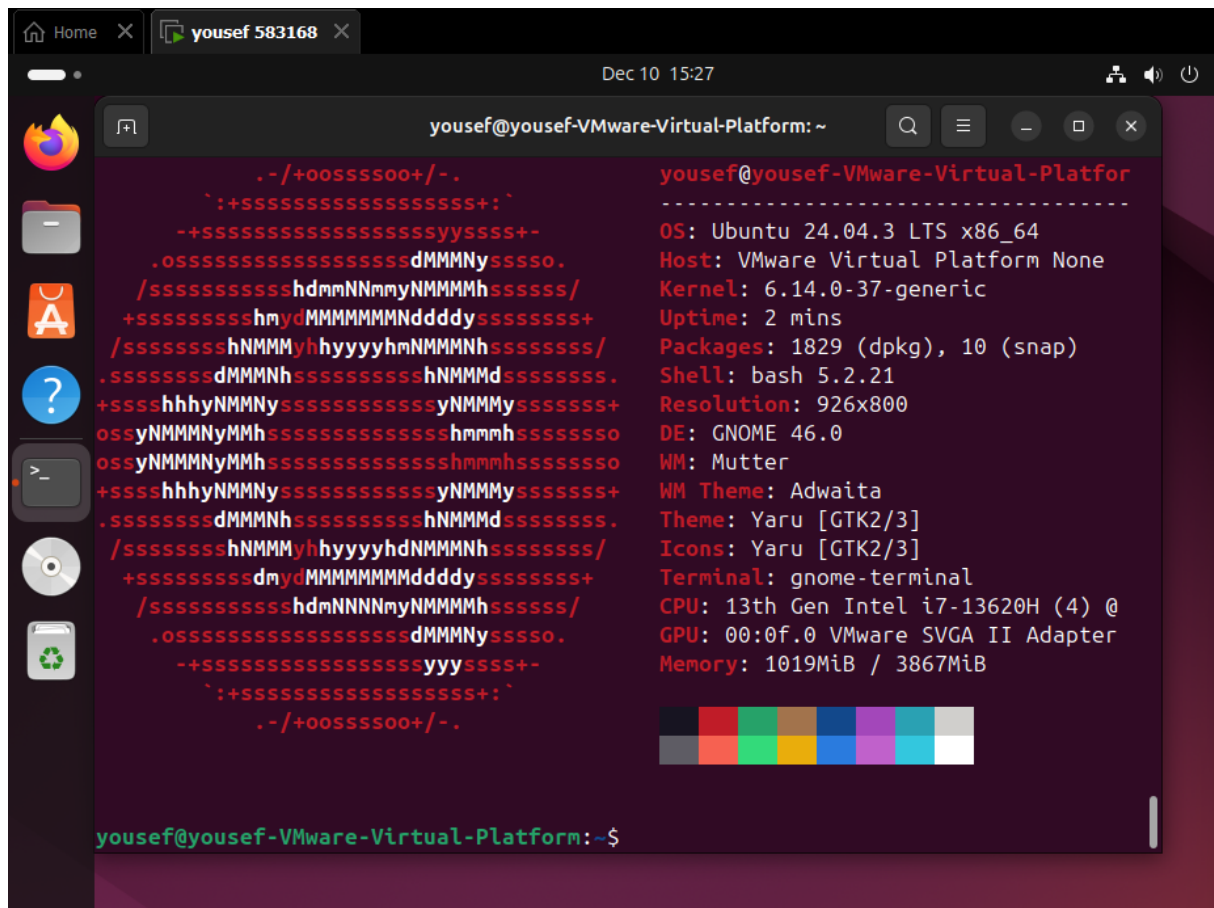
What is the /etc directory usually used for?

/etc stores system-wide configuration files for the operating system and installed services.

```
yousef@yousef-VMware-Virtual-Platform:/etc$ cd ~
yousef@yousef-VMware-Virtual-Platform:~$ tar -cvf archive.tar filename.txt
tar: filename.txt: Cannot stat: No such file or directory
tar: Exiting with failure status due to previous errors
yousef@yousef-VMware-Virtual-Platform:~$ tar -cvf archive.tar ~/file.txt
tar: Removing leading `/' from member names
/home/yousef/file.txt
yousef@yousef-VMware-Virtual-Platform:~$ tar -xvf archive.tar
/home/yousef/file.txt
yousef@yousef-VMware-Virtual-Platform:~$ tar -cvzf archive.tar.gz ~/file.txt
tar: Removing leading `/' from member names
/home/yousef/file.txt
yousef@yousef-VMware-Virtual-Platform:~$
```

```
yousef@yousef-VMware-Virtual-Platform: ~
0[          0.0%] Tasks: 119, 391 thr, 194 kthr; 1 runni
1[||        3.8%] Load average: 0.23 0.08 0.03
2[          0.0%] Uptime: 03:36:53
3[          0.0%]
Mem[|||||||1.14G/3.78G]
Swp[          0K/3.78G]

Main I/O
PID USER PRI NI VIRT RES SHR S CPU% MEM% TIME+ Command
5686 yousef 20 0 11376 5040 3616 R 3.2 0.1 0:00.44 htop
2613 yousef 20 0 209M 37788 29932 S 0.6 1.0 0:30.19 /usr/bin/vmto
1 root 20 0 23320 14560 9528 S 0.0 0.4 0:05.33 /sbin/init sp
383 root 19 -1 67248 18792 17184 S 0.0 0.5 0:00.98 /usr/lib/syst
419 root 20 0 148M 1668 1368 S 0.0 0.0 0:00.00 vmware-vmbloc
420 root 20 0 148M 1668 1368 S 0.0 0.0 0:00.00 vmware-vmbloc
421 root 20 0 148M 1668 1368 S 0.0 0.0 0:00.00 vmware-vmbloc
440 root 20 0 31812 9916 4988 S 0.0 0.3 0:00.52 /usr/lib/syst
662 systemd-oo 20 0 17560 7660 6744 S 0.0 0.2 0:05.25 /usr/lib/syst
667 systemd-re 20 0 21584 13220 10844 S 0.0 0.3 0:00.40 /usr/lib/syst
670 systemd-ti 20 0 91048 7852 6868 S 0.0 0.2 0:00.16 /usr/lib/syst
723 root 20 0 56064 11980 10408 S 0.0 0.3 0:00.07 /usr/bin/VGAu
728 root 20 0 311M 9644 7988 S 0.0 0.2 0:33.64 /usr/bin/vmto
F1Help F2Setup F3Search F4Filter F5Tree F6SortBy F7Nice -F8Nice +F9Kill F10Quit
```



The screenshot shows a terminal window titled 'yousef@yousef-VMware-Virtual-Platform: ~' with a search bar and window controls. The terminal displays a large ASCII art logo on the left and system information on the right. The system information includes OS, Host, Kernel, Uptime, Packages, Shell, Resolution, DE, WM, WM Theme, Theme, Icons, Terminal, CPU, GPU, and Memory. At the bottom, there is a color calibration bar with 11 squares.

```
./+oossssoo+/-.  
`:+ssssssssssssssssss+:`  
-+ssssssssssssssssssyyssss+-  
.osssssssssssssssssdMMMNyssso.  
/ssssssssssshdmmNNmnyNMMMMhssssss/  
+ssssssssshmydMMMMMMNddddyssssss+  
/ssssssshNMMMyhhyyyhmNMMMNhssssss/  
.sssssssdMMMNhssssssshNMMMdssssss.  
+ssssshhhyNMMNysssssssssyNMMMyssssss+  
ossyNMMMNyMMhssssssssssshmmhssssssso  
ossyNMMMNyMMhssssssssssshmmhssssssso  
+ssssshhhyNMMNysssssssssyNMMMyssssss+  
.sssssssdMMMNhssssssshNMMMdssssss.  
/ssssssshNMMMyhhyyyhdNMMMNhssssss/  
+ssssssssdmydMMMMMMNddddyssssss+  
/ssssssssshdmmNNNnyNMMMMhssssss/  
.ossssssssssssssssdMMMNyssso.  
-+ssssssssssssssssyyssss+-  
`:+ssssssssssssssss+:`  
./+oossssoo+/-.
```

```
yousef@yousef-VMware-Virtual-Platfor  
-----  
OS: Ubuntu 24.04.3 LTS x86_64  
Host: VMware Virtual Platform None  
Kernel: 6.14.0-37-generic  
Uptime: 2 mins  
Packages: 1829 (dpkg), 10 (snap)  
Shell: bash 5.2.21  
Resolution: 926x800  
DE: GNOME 46.0  
WM: Mutter  
WM Theme: Adwaita  
Theme: Yaru [GTK2/3]  
Icons: Yaru [GTK2/3]  
Terminal: gnome-terminal  
CPU: 13th Gen Intel i7-13620H (4) @  
GPU: 00:0f.0 VMware SVGA II Adapter  
Memory: 1019MiB / 3867MiB  
  
[Color calibration bar with 11 squares]
```

yousef@yousef-VMware-Virtual-Platform:~\$

It shows system information like OS, kernel, CPU, RAM, uptime, and more in a formatted display.

Assignment 5.5: Users and permissions on Linux

```
yousef@yousef-VMware-Virtual-Platform: ~/hello
yousef@yousef-VMware-Virtual-Platform:~/hello$ ls -F
hello.txt*
yousef@yousef-VMware-Virtual-Platform:~/hello$ cd hello.txt
bash: cd: hello.txt: Not a directory
yousef@yousef-VMware-Virtual-Platform:~/hello$ cat hello.txt
hello yousef, 583168
yousef@yousef-VMware-Virtual-Platform:~/hello$ ./hello.txt
./hello.txt: line 1: hello: command not found
yousef@yousef-VMware-Virtual-Platform:~/hello$ ls
hello.txt
yousef@yousef-VMware-Virtual-Platform:~/hello$ nano ~/hello/hello.sh
yousef@yousef-VMware-Virtual-Platform:~/hello$ chmod +x ~/hello/hello.sh
yousef@yousef-VMware-Virtual-Platform:~/hello$ cd ~/hello
yousef@yousef-VMware-Virtual-Platform:~/hello$ ./hello.sh
./hello.sh: line 1: hello: command not found
yousef@yousef-VMware-Virtual-Platform:~/hello$ cat hello.sh
hello yousef 583168
yousef@yousef-VMware-Virtual-Platform:~/hello$ nano hello.sh
yousef@yousef-VMware-Virtual-Platform:~/hello$ ./hello.
hello.sh  hello.txt
yousef@yousef-VMware-Virtual-Platform:~/hello$ ./hello.sh
hello yousef 583168
yousef@yousef-VMware-Virtual-Platform:~/hello$ chmod 744 ~/hello/hello.sh
yousef@yousef-VMware-Virtual-Platform:~/hello$
```

Assignment 5.6: View the contents of files

```
yousef@yousef-VMware-Virtual-Platform:~$ less ~/Downloads/sherlock.txt
yousef@yousef-VMware-Virtual-Platform:~$ tail ~/Downloads/sherlock.txt

Most people start at our website which has the main PG search
facility: www.gutenberg.org

This website includes information about Project Gutenberg-tm,
including how to make donations to the Project Gutenberg Literary
Archive Foundation, how to help produce our new eBooks, and how to
subscribe to our email newsletter to hear about new eBooks.

yousef@yousef-VMware-Virtual-Platform:~$ head ~/Downloads/sherlock.txt

The Project Gutenberg eBook of The Adventures of Sherlock Holmes, by Arthur Cona
n Doyle

This eBook is for the use of anyone anywhere in the United States and
most other parts of the world at no cost and with almost no restrictions
whatsoever. You may copy it, give it away or re-use it under the terms
of the Project Gutenberg License included with this eBook or online at
www.gutenberg.org. If you are not located in the United States, you
will have to check the laws of the country where you are located before
yousef@yousef-VMware-Virtual-Platform:~$
```


The screenshot shows a Linux desktop with a dark theme. At the top, there are window tabs for 'Home', 'yousef 583168', 'Windows 11 x64', and 'Debian 13 yousef 583168'. The system clock shows 'Jan 9 21:47'. On the left is a dock with icons for Firefox, a file manager, an application store, a help icon, a terminal, a CD/DVD drive, and a trash can. The terminal window is titled 'yousef@yousef-VMware-Virtual-Platform: ~' and contains the following text:

```
yousef@yousef-VMware-Virtual-Platform:~$ wc ~/Downloads/sherlock.txt
12306 107560 607434 /home/yousef/Downloads/sherlock.txt
yousef@yousef-VMware-Virtual-Platform:~$ grep -n "kingdom" ~/Downloads/sherlock.txt
492:"I tell you that I would give one of the provinces of my kingdom to
1126:And that was how a great scandal threatened to affect the kingdom of
yousef@yousef-VMware-Virtual-Platform:~$ head -n 123 ~/Downloads/sherlock.txt |
tail -n 10
His manner was not effusive. It seldom was; but he was glad, I think,
to see me. With hardly a word spoken, but with a kindly eye, he waved
me to an armchair, threw across his case of cigars, and indicated a
spirit case and a gasogene in the corner. Then he stood before the fire
and looked me over in his singular introspective fashion.

"Wedlock suits you," he remarked. "I think, Watson, that you have put
on seven and a half pounds since I saw you."

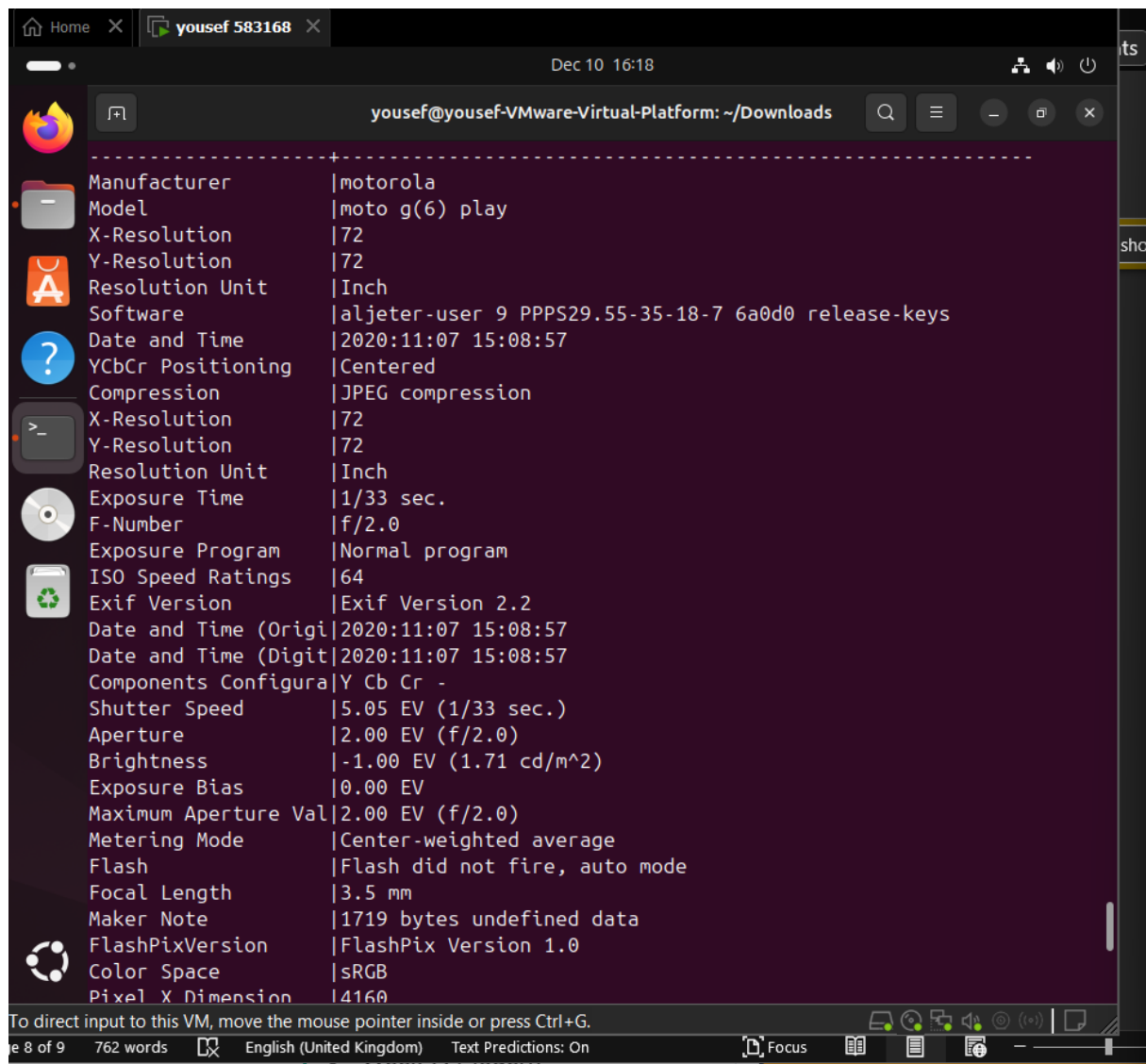
"Seven!" I answered.
yousef@yousef-VMware-Virtual-Platform:~$ tail -n +123 ~/Downloads/sherlock.txt |
head -n 10
"Seven!" I answered.

"Indeed, I should have thought a little more. Just a trifle more, I
fancy, Watson. And in practice again, I observe. You did not tell me
that you intended to go into harness."

"Then, how do you know?"

"I see it, I deduce it. How do I know that you have been getting
yourself very wet lately, and that you have a most clumsy and careless
yousef@yousef-VMware-Virtual-Platform:~$
```

Assignment 5.7: Digital forensics



- Phone brand/type

Motorola – Moto G6 Play

- Are there GPS coordinates known?

Yes

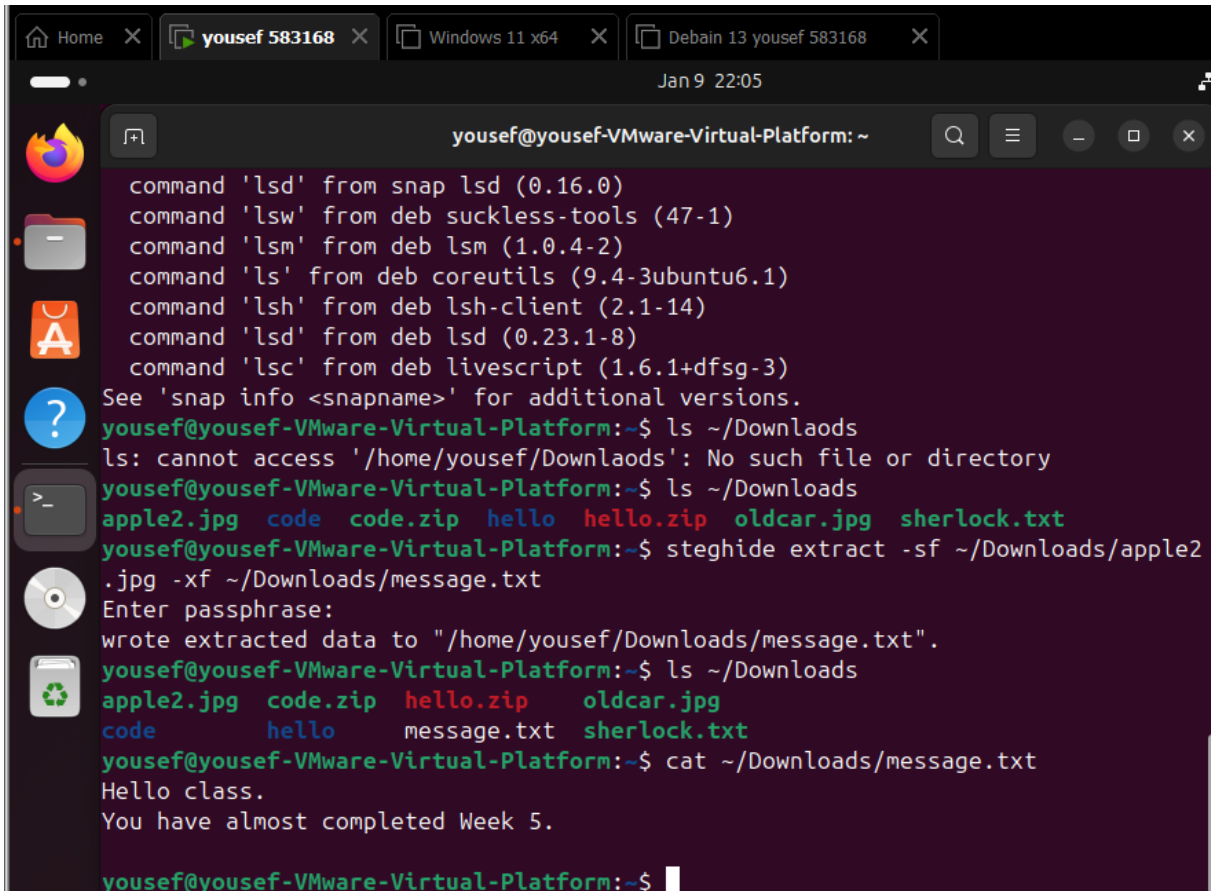
Latitude: 53° 11' 39.6794" N

Longitude: 6° 32' 12.9018" E

- City where the photo was taken

These coordinates point to Groningen, Netherlands.

Assignment 5.8: Steganography



```
command 'lsd' from snap lsd (0.16.0)
command 'lsr' from deb suckless-tools (47-1)
command 'lsm' from deb lsm (1.0.4-2)
command 'ls' from deb coreutils (9.4-3ubuntu6.1)
command 'lsh' from deb lsh-client (2.1-14)
command 'lsd' from deb lsd (0.23.1-8)
command 'lsc' from deb livescript (1.6.1+dfsg-3)
See 'snap info <snapname>' for additional versions.
yousef@yousef-VMware-Virtual-Platform:~$ ls ~/Downloads
ls: cannot access '/home/yousef/Downloads': No such file or directory
yousef@yousef-VMware-Virtual-Platform:~$ ls ~/Downloads
apple2.jpg  code  code.zip  hello  hello.zip  oldcar.jpg  sherlock.txt
yousef@yousef-VMware-Virtual-Platform:~$ steghide extract -sf ~/Downloads/apple2
.jpg -xf ~/Downloads/message.txt
Enter passphrase:
wrote extracted data to "/home/yousef/Downloads/message.txt".
yousef@yousef-VMware-Virtual-Platform:~$ ls ~/Downloads
apple2.jpg  code.zip  hello.zip  oldcar.jpg
code        hello      message.txt  sherlock.txt
yousef@yousef-VMware-Virtual-Platform:~$ cat ~/Downloads/message.txt
Hello class.
You have almost completed Week 5.
yousef@yousef-VMware-Virtual-Platform:~$
```

Assignment 5.9: Capture disk images

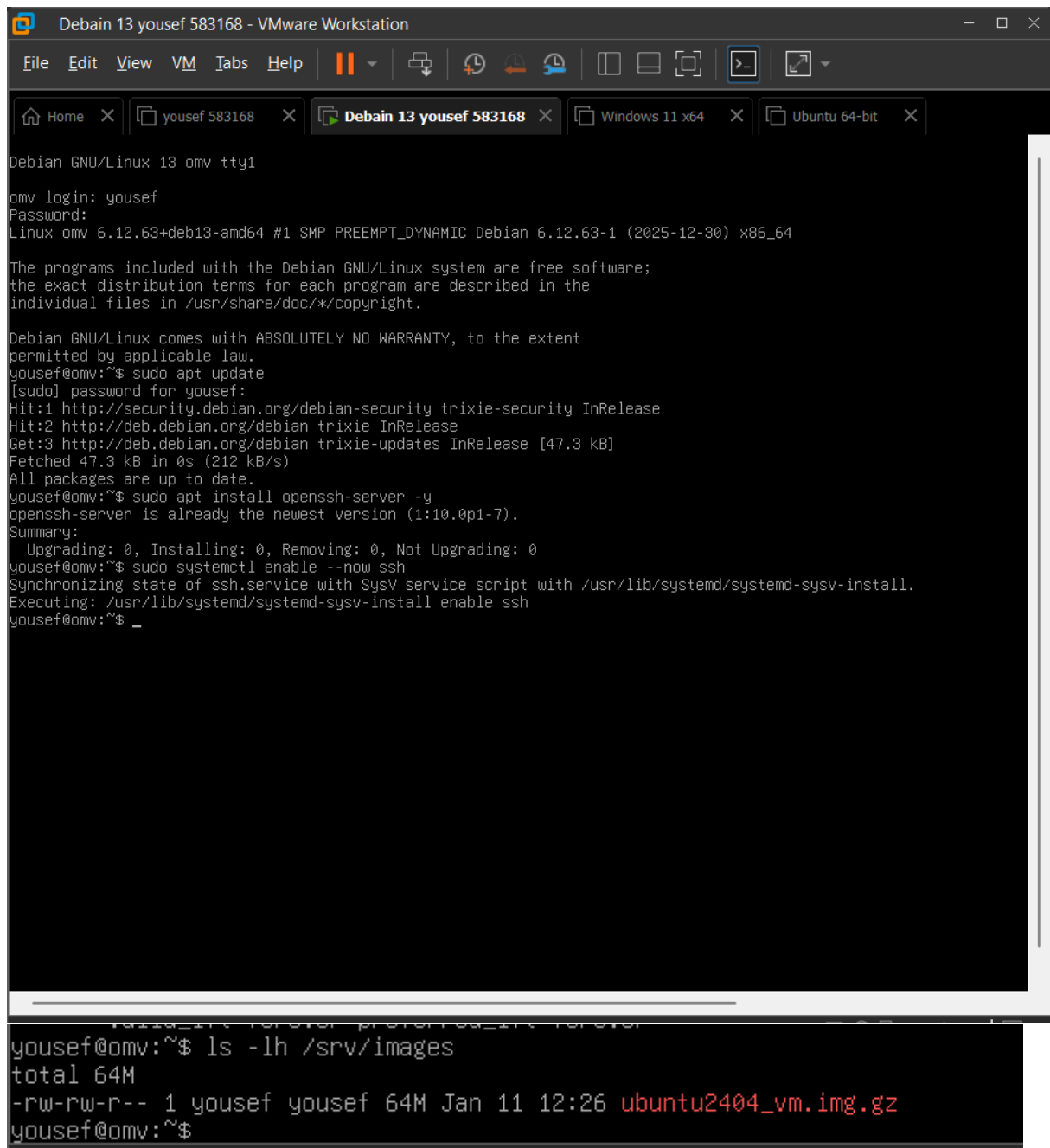
Make relevant screenshots + motivation:

- Proof that the Debian 13 server stored a back-up image of the Ubuntu 24.04 Desktop VM.
- Proof that you can restore the back-up image into an empty VM.

```
Debian GNU/Linux 13 omv tty1
omv login: yousef
Password:
Linux omv 6.12.63+deb13-amd64 #1 SMP PREEMPT_DYNAMIC Debian 6.12.63-1 (2025-12-30) x86_64

The programs included with the Debian GNU/Linux system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
yousef@omv:~$ sudo apt update
[sudo] password for yousef:
Hit:1 http://security.debian.org/debian-security trixie-security InRelease
Hit:2 http://deb.debian.org/debian trixie InRelease
Get:3 http://deb.debian.org/debian trixie-updates InRelease [47.3 kB]
Fetched 47.3 kB in 0s (212 kB/s)
All packages are up to date.
yousef@omv:~$ sudo apt install openssh-server -y
openssh-server is already the newest version (1:10.0p1-7).
Summary:
  Upgrading: 0, Installing: 0, Removing: 0, Not Upgrading: 0
yousef@omv:~$ sudo systemctl enable --now ssh
Synchronizing state of ssh.service with SysV service script with /usr/lib/systemd/systemd-sysv-install.
Executing: /usr/lib/systemd/systemd-sysv-install enable ssh
yousef@omv:~$ sudo mkdir -p /srv/images
yousef@omv:~$ sudo chown $USER:$USER /srv/images
yousef@omv:~$ ls -ld /srv/images
drwxr-xr-x 2 yousef yousef 4096 Jan 10 23:01 /srv/images
yousef@omv:~$ _
```

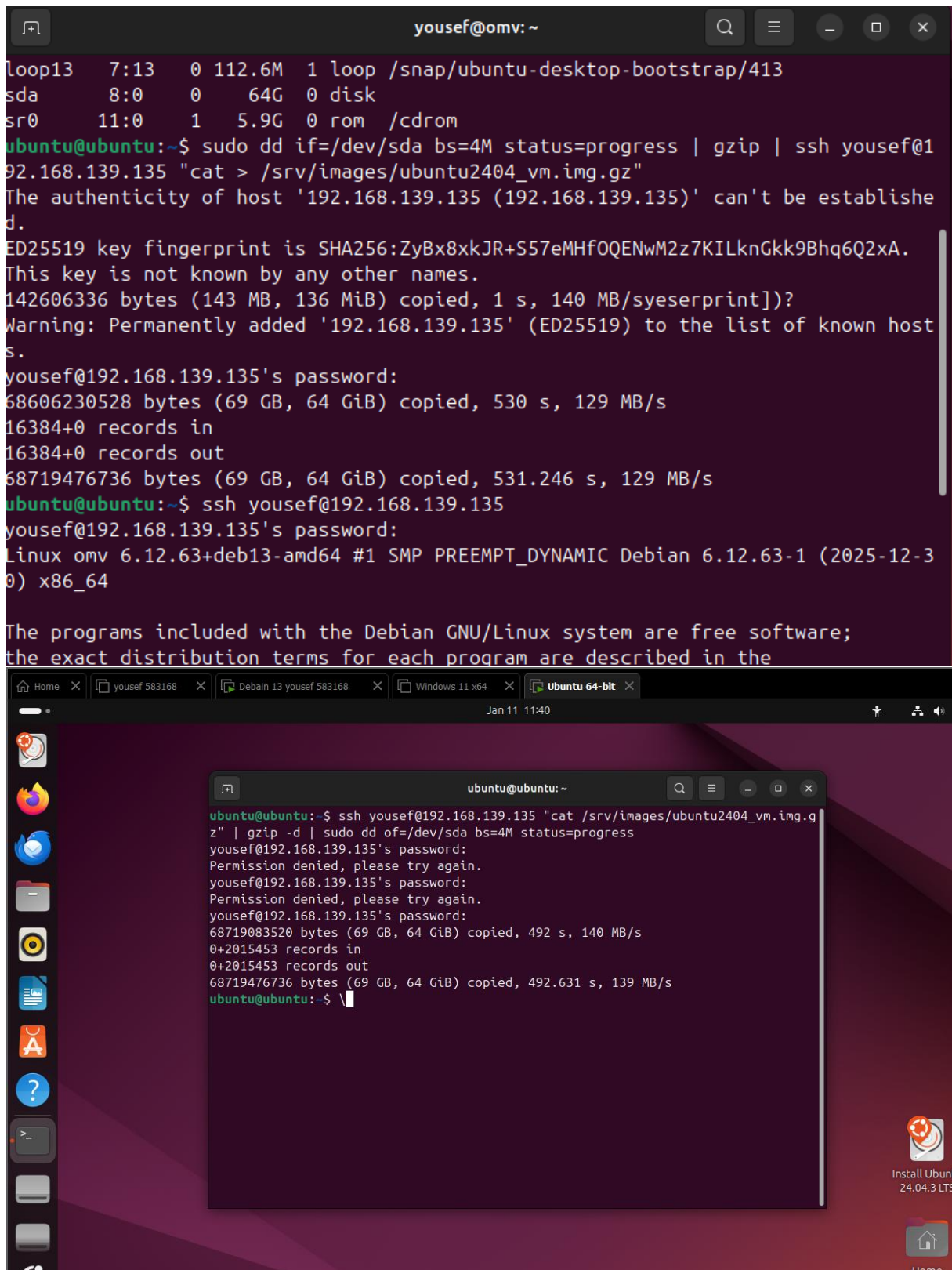


```
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Get:3 http://deb.debian.org/debian trixie-updates InRelease [47.3 kB]
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Executing: /usr/lib/systemd/systemd-sysv-install enable ssh
yousef@omv:~$ _

yousef@omv:~$ ls -lh /srv/images
total 64M
-rw-rw-r-- 1 yousef yousef 64M Jan 11 12:26 ubuntu2404_vm.img.gz
yousef@omv:~$
```



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