#### HomeWork 1 by aimeric rouyer

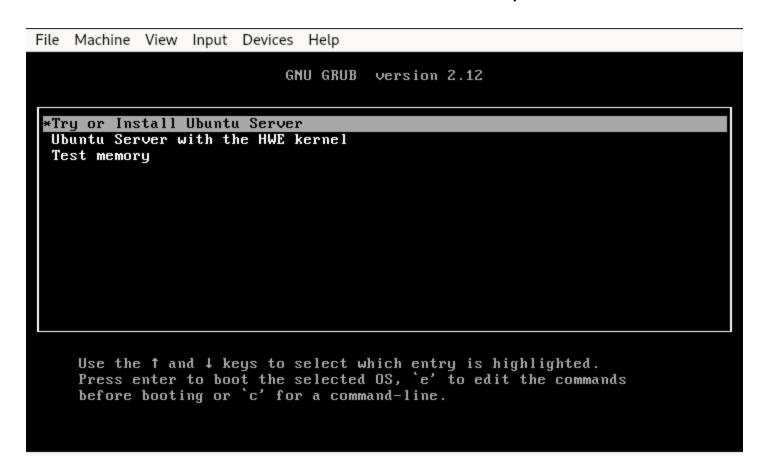
ID: 414410902

Consign:

Setup Ubuntu Desktop and Ubuntu server
Execute a list of command in a terminal
Show the result of thoes command
Explain what are their functions

The commands are: cd, ls, chown, rm, cat, ifconfig, vi, vim, nano, sudo, ps, kill, apt, wget, grep, source, service

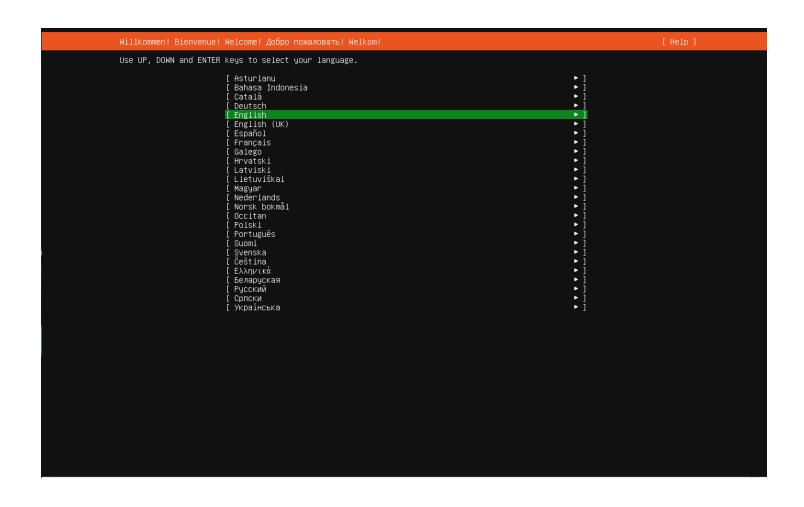
First we have to specify what we want to do with the iso (install ubuntu in our case)



#### Some lines of code will be shown here you have to wait

```
File Machine View Input Devices Help
  OK ] Listening on multipathd.socket - multipathd control socket.
    7.365246] systemd[1]: Listening on syslog.socket - Syslog Socket.
  OK ] Listening on syslog.socket - Syslog Socket.
    7.365961] systemd[1]: Listening on systemd-initctl.socket - initctl Compati
bility Named Pipe.
  OK ] Listening on systemd-initctl.socke…- initctl Compatibility Named Pipe.
    7.367781] systemd[1]: Listening on systemd-journald-dev-log.socket - Journa
 Socket (/dev/log).
  OK ] Listening on systemd-journald-dev-…socket - Journal Socket (/dev/log).
    7.368814] systemd[1]: Listening on systemd-journald.socket - Journal Socket
  OK ] Listening on systemd-journald.socket - Journal Socket.
    7.369822] systemd[1]: Listening on systemd-networkd.socket - Network Servic
 Netlink Socket.
  OK ] Listening on systemd-networkd.socket - Network Service Netlink Socket.
    7.370944] systemd[1]: systemd-pcrextend.socket - TPM2 PCR Extension (Varlir
  was skipped because of an unmet condition check (ConditionSecurity=measured-u
    7.373544] systemd[1]: Listening on systemd-udevd-control.socket - udev Cont
ol Socket.
  OK ] Listening on systemd-udevd-control.socket - udev Control Socket.
    7.377373] systemd[1]: Listening on systemd-udevd-kernel.socket - udev Kerne
 Socket.
      ] Listening on systemd-udevd-kernel.socket - udev Kernel Socket.
```

First we will select the language to do that use the arrow on our keyboard and then press enter when the green line is on the correct language



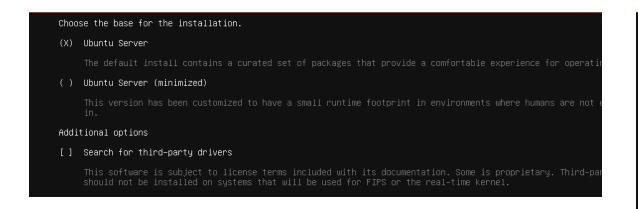
Now we will have to configure the keyboard i recommendd to sleect identify keyboard and press enter

It will ask you to press key and question about wether or not key are present on your keyboard

Please select your keyboard layout below, or select "Identify keyboard	" to detect your layout automatically.
Layout: [ English (US)	▼ ]
Variant: [ English (US)	▼ 1
[ Identify Keyboar	d ]

Keyboard auto-detection ————————————————————————————————————
Keyboard auto detection completed.
Your keyboard was detected as:
Layout: French Variant: French
If this is correct, select Done on the next screen. If not you can select another layout or run the automated detection again.
[ OK ]

### Here it will ask us a series of questions, for the default config like ours we don't have to modify this simply press enter





```
If this system requires a proxy to connect to the internet, enter its details here.

Proxy address:

If you need to use a HTTP proxy to access the outside world, enter the proxy information here. (leave this blank.

The proxy information should be given in the standard form of "http://[[user][:pass]@]host[:port
```

If you use an alternative mirror for Ubuntu, enter its details here.					
Mirror address: http://tw.archive.ubuntu.com/ubuntu/ You may provide an archive mirror to be used instead of the default.					
The mirror location is being tested. /					

Here we have to specify the disk and how much of the disk we want to use, for a default config like ours we will just use the whole main disk

Guided storage configu	ration	[ Help ]				
Configure a guided storage layout, or create a custom one:						
(ێ) Use an entire dis	k j					
[ VBOX_HARDDISK_V	[ VBOX_HARDDISK_VBbe4c0b39-8fbf4ef7 local disk 25.000G ▼ ]					
[X] Set up this	[X] Set up this disk as an LVM group					
[] Encrypt	[] Encrypt the LVM group with LUKS					
Confirm						
	[] Also create a recovery key The key will be stored as ~/recovery–key.txt in the live system and /var/log/installer/ in the target system.	will be copied to				
( ) Custom storage la	yout					
	[ Done ] [ Back ]					

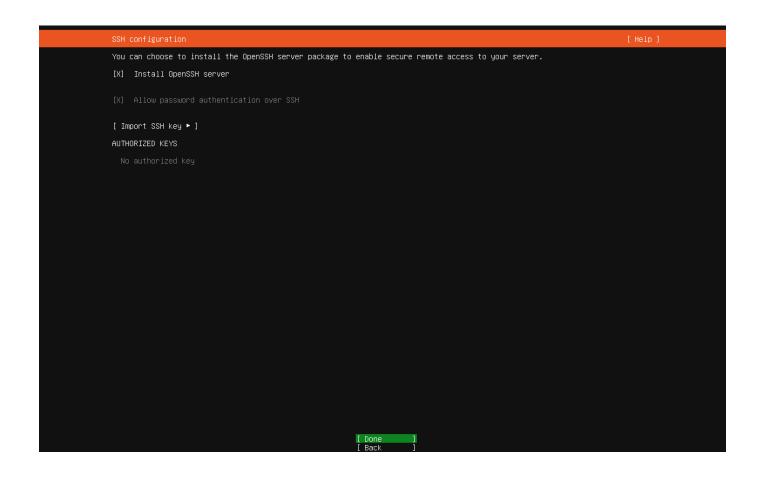
Here is a recap of every modification that will be applied to the disk

```
Storage configuration
                                                                                                                                   [ Help ]
FILE SYSTEM SUMMARY
                  11.496G new ext4 new LVM logical volume ▶ ]
2.000G new ext4 new partition of local disk ▶ ]
AVAILABLE DEVICES
                                                 LVM volume group
                                                                       22.996G • ]
11.500G •
[ ubuntu-vg (new)
 free space
USED DEVICES
                                                  LVM volume group
                                                                        22.996G • ]
11.496G •
 ubuntu–lv new, to be formatted as ext4, mounted at /
[ VBOX_HARDDISK_VBbe4c0b39-8fbf4ef7
                                                                        25.000G • ]
                                                                         1.000M ▶
 partition 1 new, BIOS grub spacer
 partition 2 new, to be formatted as ext4, mounted at /boot
 partition 3 new, PV of LVM volume group ubuntu-vg
                                                               [ <u>D</u>one
[ Reset
```

## Part 1 setting up ubuntu Server Here we enter our credential, the name of the account The name of the computer seen from the network and the password of the account

Profile configuration	[ Help ]	
Enter the username and password is still neede	password you will use to log in to the system. You can configure SSH access on a later screen, but a ed for sudo.	
Your name:	ubuntu	
Your servers name:	ubuntu The name it uses when it talks to other computers.	
Pick a username:	ubuntu	
Choose a password:	жжжж	
Confirm your password:	жжжжж <u></u>	
	[ Done ]	

If we want to be able to access to our server remotely without a screen here we have to check install openSSH server



### Part 1 setting up ubuntu Server Here we select additional module if we need them

Featured server snaps		Help ]		
These are popular snaps in server environments. Select or deselect with SPACE, press ENTER to see more details of the package, publisher and versions available.				
[] microk8s canonical/ [] nextcloud nextcloud/ [] wekan xet7 [] kata-containers katacontainers/ [] docker canonical/ [] rocketchat-server rocketchat/ [] mosquitto mosquitto/ [] etcd canonical/ [] powershell canonical/ [] j sabnzbd safihre [] wormhole snapcrafters [] aws-cli aws/ [] google-cloud-sdk google-cloud-sdk/ [] slcli softlayer [] doctl digitalocean/ [] postgresql10 cmd/ [] keepalived keepalived-project/ [] prometheus canonical/	Kubernetes for workstations and appliances Nextcloud Server – A safe home for all your data Open-Source kanban Build lightweight VMs that seamlessly plug into the containers ecosystem Docker container runtime Canonical Livepatch Client Rocket.Chat server Eclipse Mosquitto MQTT broker Resilient key-value store by CoreOS PowerShell for every system! SABnzbd get things from one computer to another, safely Universal Command Line Interface for Amazon Web Services Google Cloud SDK Python based SoftLayer API Tool. The official DigitalOcean command line interface PostgreSQL is a powerful, open source object-relational database system. High availability VRRP/BFD and load-balancing for Linux The Prometheus monitoring system and time series database LXD - container and VM manager			
	[ Done ]			
	[ Back ]			

We will then arrive here, and from here we only have to wait until the installation is complete

```
subiquity/Ad/apply_autoinstall_config:
subiquity/Late/apply_autoinstall_config:
configuring apt
curtin command in–target
installing system
executing curtin install initial step
executing curtin install partitioning step
 curtin command install
  configuring storage
   running 'curtin block-meta simple'
    curtin command block-meta
     removing previous storage devices
     configuring disk: disk-sda
    configuring partition: partition-0
    configuring partition: partition-1
    configuring format: format=0
    configuring partition: partition-2
    configuring lvm_volgroup: lvm_volgroup-0
    configuring lvm_partition: lvm_partition=0
    configuring format: format-1
    configuring mount: mount-1
    configuring mount: mount-0
executing curtin install extract step
 curtin command install
  writing install sources to disk
   running 'curtin extract
    curtin command extract
     acquiring and extracting image from cp:///tmp/tmpebulmlbu/mount
configuring keyboard
 curtin command in-target
executing curtin install curthooks step
 curtin command install
  configuring installed system
   running 'curtin curthooks'
    curtin command curthooks
     configuring apt configuring apt
     installing missing packages
     Installing packages on target system: ['grub-pc']
     configuring iscsi service
     configuring raid (mdadm) service
     configuring NVMe over TCP
     installing kernel ∖
                                                     [ View full log ]
```

Now you just have to select reboot now on the bottom, the coputer will restart and automatically boot on ubuntu server

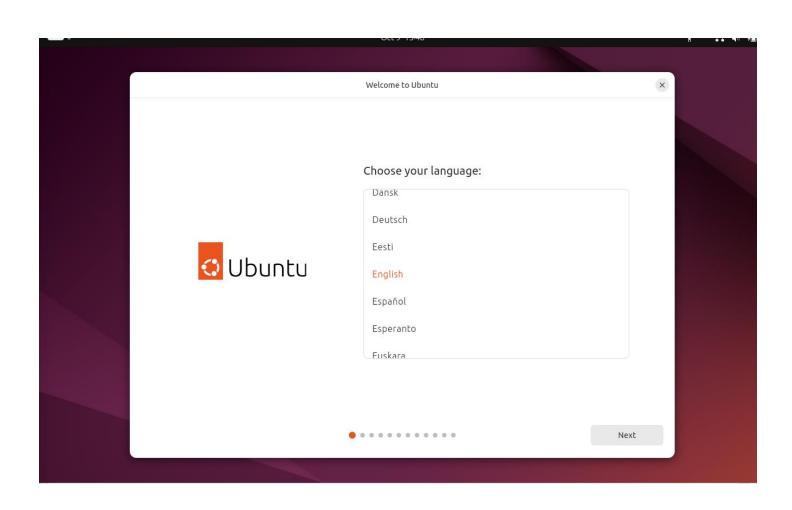
You will just have to enter your username and password

```
[ Help ]
                     writing install sources to disk
                     running 'curtin extract
                      curtin command extract
                       acquiring and extracting image from cp:///tmp/tmpebulmlbu/mount
                  configuring keyboard
                   curtin command in–target
                  executing curtin install curthooks step
                   curtin command install
                    configuring installed system
                     running 'curtin curthooks'
                      curtin command curthooks
                       configuring apt configuring apt
                       installing missing packages
                       Installing packages on target system: [ˈgrub-pcˈ]
                       configuring iscsi service
                       configuring raid (mdadm) service
                       configuring NVMe over TCP
                       installing kernel
                       setting up swap
                       apply networking config
                       writing etc/fstab
                       configuring multipath
                       updating packages on target system
                       configuring pollinate user–agent on target
                       updating initramfs configuration
                       configuring target system bootloader
                       installing grub to target devices
                       copying metadata from /cdrom
                  final system configuration
                  calculating extra packages to install
                  installing openssh-server
                   retrieving openssh–server
                   curtin command system-install
                   unpacking openssh–server
                   curtin command system-install
                  configuring cloud-init
                  downloading and installing security updates
                   curtin command in–target
                  restoring apt configuration
                   curtin command in–target
                 |subiquity/Late/run:
                                                                                                                                                2447.637850
tchdog: BUG: soft lockup – CPU#O stuck for 141s! [kworker/u7:2:13341]
 2541.143337] watchdog: BUG: soft lockup - CPU#O stuck for 75s! [swapper/0:0]
                                                                        View full log ]
```

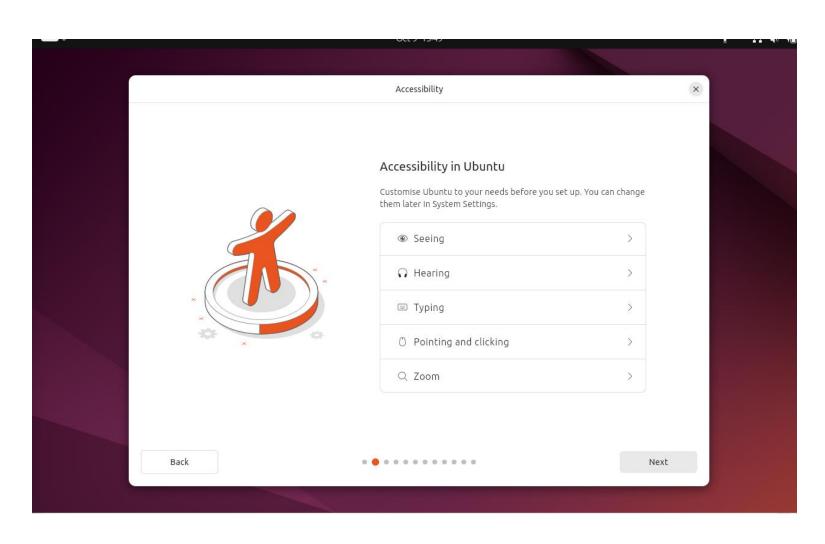
When we boot on ubuntu we arrive to this screen if we don't touch anything it will select Try or Install Ubuntu ( what we want ) by default



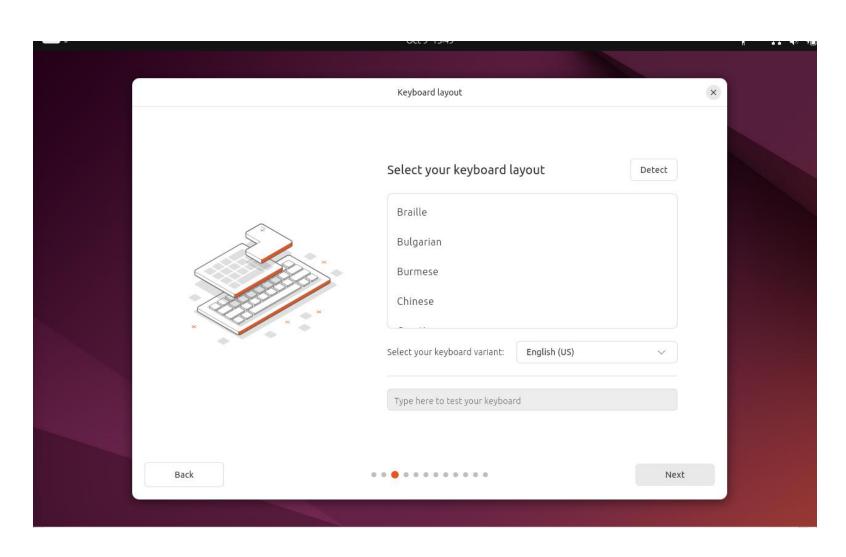
First we will select the language (since it is a graphic interface we can use the mouse if we want)



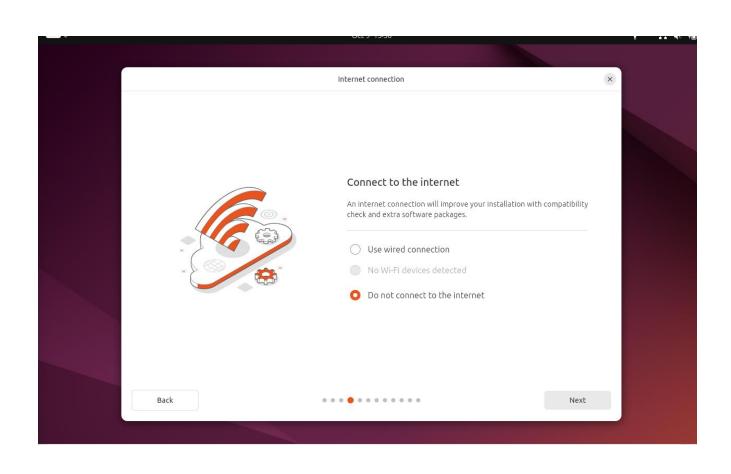
Here we will leave it by default since we don't have accessibility issues



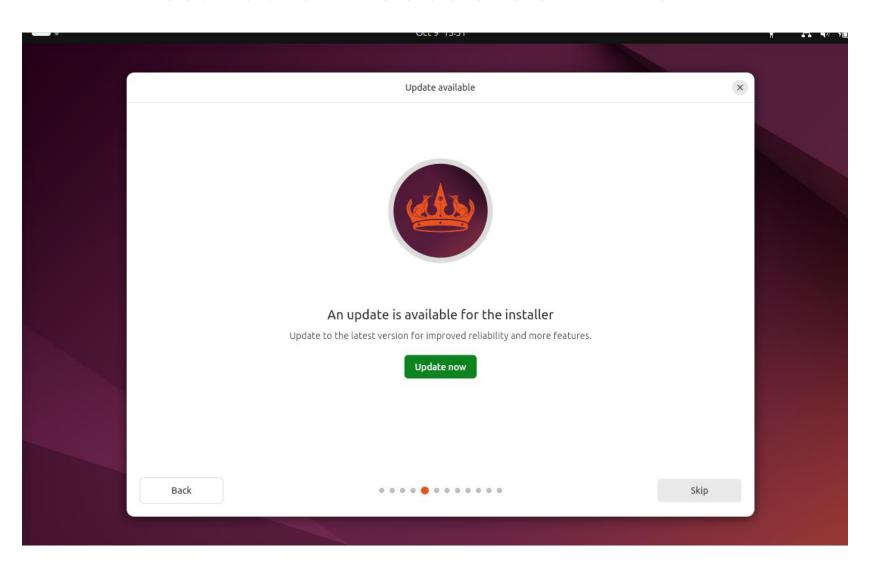
Here we will select the keyboard ( i will advise you to use the detect function )



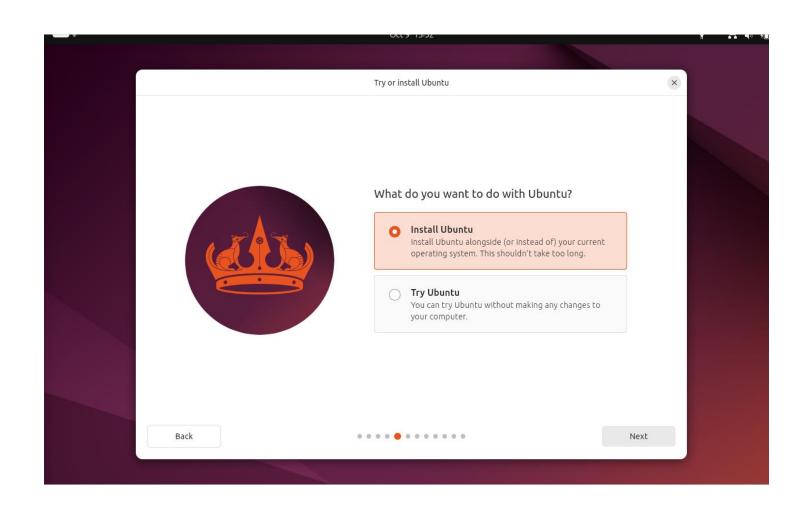
We setup the internet connexion (to download missing driver for example)



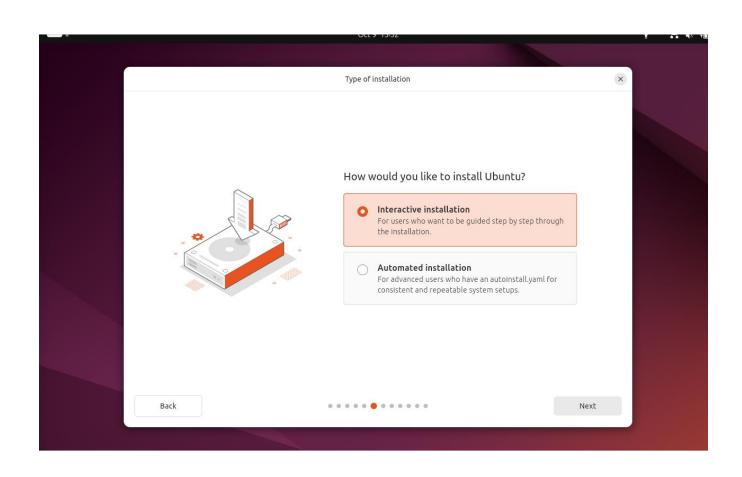
You will install the update in order to get a better compatibility, more secure and more stable version of ubuntu



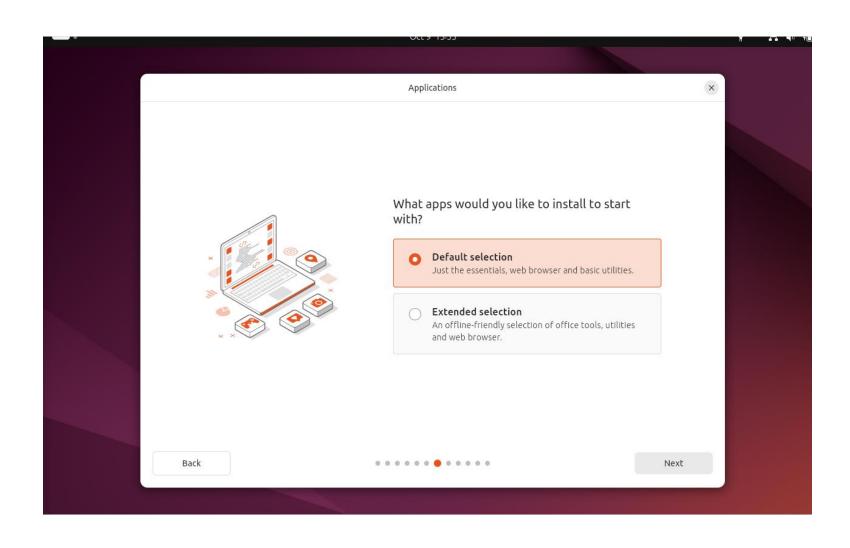
Here we will select install so the next time we boot our computer we don't have to do all of that all over again



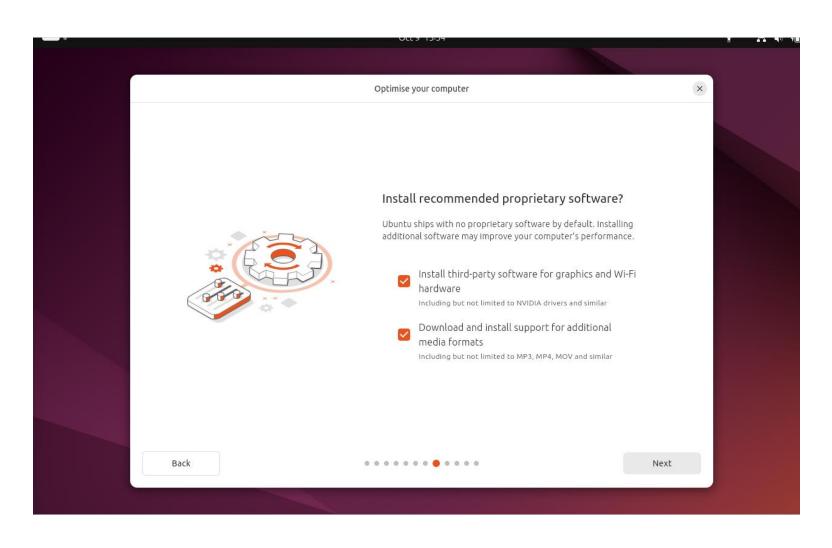
We will select interactive installation as it is easier and we don't need to partition our disk



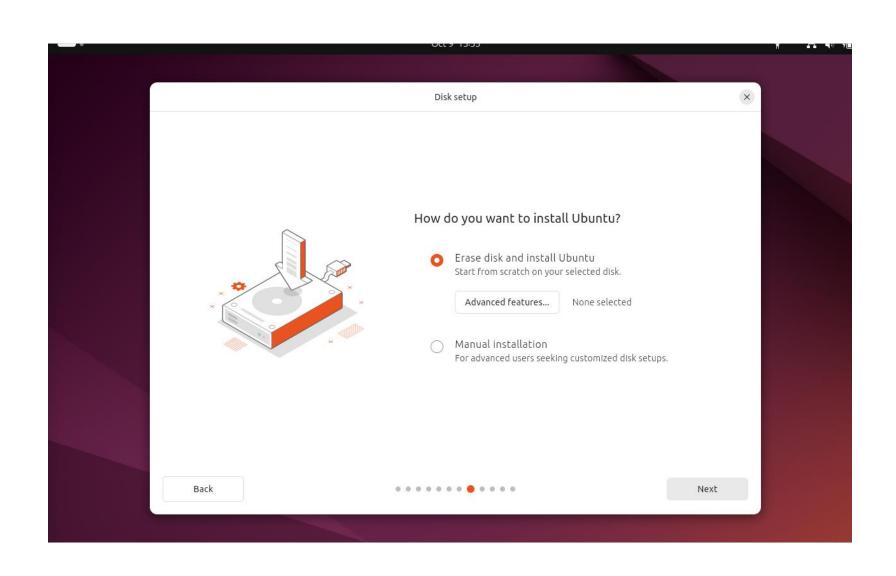
Here we also select default as we only need ubuntu desktop for testing we could still add more app later



By default thoes two element are not checked i recommend you to check them

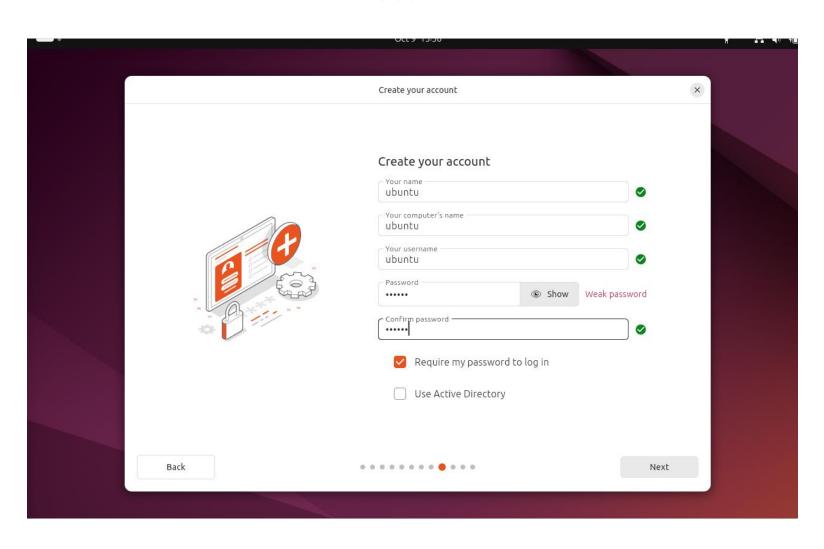


### Part 2 setting up ubuntu Desktop Same as before for simplicity we will use the whole disk

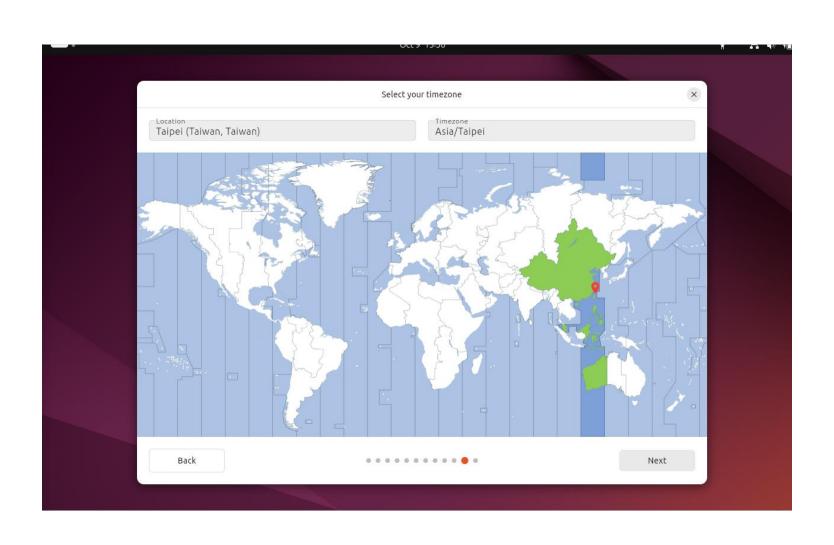


Here we enter our credential, the name of the account

The name of the computer seen from the network and the password of the account

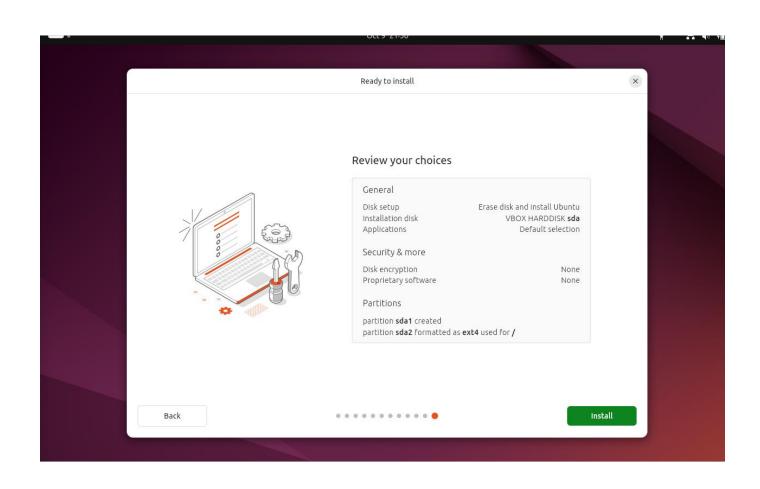


Here we select the time zone (use sometime for security) so the computer automatically know what time it is



#### Now click on install and it will proceed with the instalation

Once it is done the computer will restart and you iwll be able to use Ubuntu Desktop



The command CD

Used to move between folder

Change the current directory

For example i was in the home (represented by ~) and i moved to directoryExample

ubuntu@ubuntuserveur:~\$ mkdir directoryExample ubuntu@ubuntuserveur:~\$ cd directoryExample/ ubuntu@ubuntuserveur:~/directoryExample\$

#### Commande: ls

Show files and folder in the current folder

For example in the current folder you see in white the files (fileExample, fileExample2, fileExample3, fileExample4)

and in blue the folders: (subDirectoryExample, subDirectoryExample2, subDirectoryExample3, subDirectoryExample4)

#### Commande: chown

### Changes the owner of a file (in the example i made ubuntu owner of fileExample2)

```
_fileExample fileExample3 subDirectoryExample/ subDirectoryExample3/
fileExample2 fileExample4 subDirectoryExample2/ subDirectoryExample4/
jubuntu@ubuntuserveur:~/directoryExample$ chown ubuntu fileExample2
ubuntu@ubuntuserveur:~/directoryExample$
```

#### Commande: rm

#### Used to delete a file

You can also delete a folder by adding the argument –r
In the example i delete the fileExample3 and between the first and
last ls we see it disapear

ubuntu@ubuntuserveur:~/directoryExample\$ ls

fileExample fileExample2 fileExample3 subDirectoryExample subDirectoryExample2 subDirectoryExample3 subDirectoryExample4

ubuntu@ubuntuserveur:~/directoryExample\$ rm fileExample3

ubuntu@ubuntuserveur:~/directoryExample\$ ls

fileExample fileExample2 subDirectoryExample subDirectoryExample2 subDirectoryExample3 subDirectoryExample4

ubuntu@ubuntuserveur:~/directoryExample\$

#### Commande: cat

Show the content of a file or joins the contents of multiples files
In this example the content of fileExample was: "hey i m the
content of fileExample "

```
ubuntu@ubuntuserveur:~/directoryExample$ cat fileExample
hey i m the content of fileExample
ubuntu@ubuntuserveur:~/directoryExample$ _
```

# Commande: ifconfig Display the network interface ( can also be used to configure them )

```
ubuntu@ubuntuserveur:~/directoryExample$ ifconfig
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
       inet 10.0.2.15 netmask 255.255.255.0 broadcast 10.0.2.255
       inet6 fe80::a00:27ff:feb9:38db prefixlen 64 scopeid 0x20<link>
       inet6 fd17:625c:f037:2:a00:27ff:feb9:38db prefixlen 64 scopeid 0x0<global>
       ether 08:00:27:b9:38:db txqueuelen 1000 (Ethernet)
       RX packets 479 bytes 563945 (563.9 KB)
       RX errors 0 dropped 0 overruns 0 frame 0
       TX packets 237 bytes 20300 (20.3 KB)
       TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
       inet 127.0.0.1 netmask 255.0.0.0
       inet6 ::1 prefixlen 128 scopeid 0x10<host>
       loop txqueuelen 1000 (Local Loopback)
       RX packets 198 bytes 16802 (16.8 KB)
       RX errors 0 dropped 0 overruns 0 frame 0
       TX packets 198 bytes 16802 (16.8 KB)
       TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
ubuntu@ubuntuserveur:~/directoryExample$ _
```

#### Commande: vi

#### Basic text editor

A bit complicated to use so i didn't really use it when I'm connected to my servers in ssh



#### Commande: vim

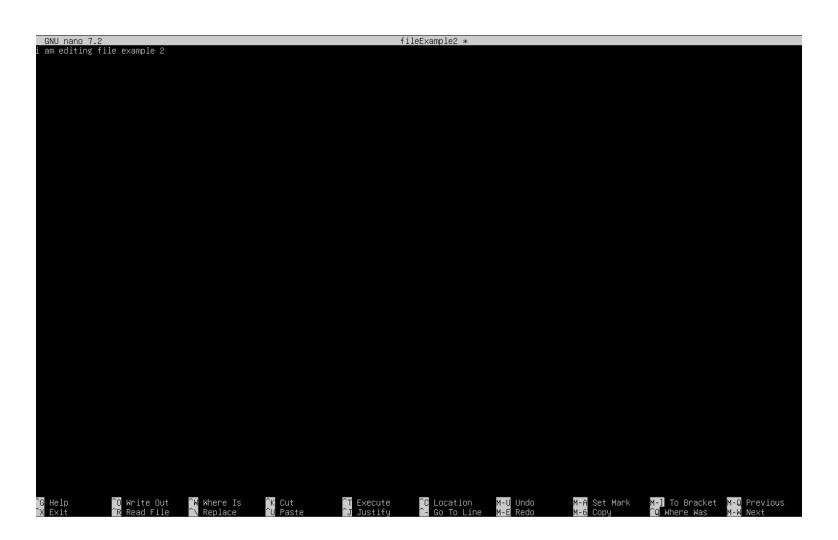
#### As hard to use as vi but is has more feature

this one is also bit complicated to use so i didn't really use it when I'm connected to my servers in ssh



#### Commande: nano

My personnal favorite and the command i always use when i work on my server, it is a simple, fast, light and simple to use text editor



#### Commande: sudo

#### Sudo means Super User DO

#### Used to run command with root privileges

```
ubuntu@ubuntuserveur:~/directoryExample$ sudo
usage: sudo -h | -K | -k | -V
usage: sudo -v [-ABkNnS] [-g group] [-h host] [-p prompt] [-u user]
usage: sudo -l [-ABkNnS] [-g group] [-h host] [-p prompt] [-U user]
           [-u user] [command [arg ...]]
usage: sudo [-ABbEHkNnPS] [-r role] [-t type] [-C num] [-D directory]
           [-g group] [-h host] [-p prompt] [-R directory] [-T timeout]
            [-u user] [VAR=value] [-i | -s] [command [arg ...]]
usage: sudo -e [-ABkNnS] [-r role] [-t type] [-C num] [-D directory]
            [-g group] [-h host] [-p prompt] [-R directory] [-T timeout]
            [-u user] file ...
µbuntu@ubuntuserveur:~/directoryExample$
```

#### Commande: ps

Used to list the currently running process and their PID

```
ubuntu@ubuntuserveur:~/directoryExample$ ps
PID TTY TIME CMD
1211 tty1 00:00:00 bash
6483 tty1 00:00:00 ps
ubuntu@ubuntuserveur:~/directoryExample$
```

Commande: kill

Used to send signal to a programm (usually to stop it)
To stop a programm using kill you have to use the –9 argument

```
ubuntu@ubuntuserveur:~/directoryExample$ kill
kill: usage: kill [-s sigspec | -n signum | -sigspec] pid | jobspec ... or kill -l [sigspec]
ubuntu@ubuntuserveur:~/directoryExample$ _
```

#### Commande: apt

#### Install, update and remove software

I had to use it to install net-tools to get the ifconfig command

```
ubuntu@ubuntuserveur:~/directoryExample$ apt
apt 2.8.3 (amd64)
Jsage: apt [options] command
apt is a commandline package manager and provides commands for
searching and managing as well as querying information about packages.
It provides the same functionality as the specialized APT tools,
like apt-get and apt-cache, but enables options more suitable for
interactive use by default.
lost used commands:
 list - list packages based on package names
 search - search in package descriptions
 show - show package details
 install - install packages
 reinstall - reinstall packages
 remove - remove packages
 autoremove - automatically remove all unused packages
 update - update list of available packages
 upgrade - upgrade the system by installing/upgrading packages
 full-upgrade - upgrade the system by removing/installing/upgrading packages
 edit-sources - edit the source information file
 satisfy - satisfy dependency strings
See apt(8) for more information about the available commands.
Configuration options and suntax is detailed in apt.conf(5).
Information about how to configure sources can be found in sources.list(5).
Package and version choices can be expressed via apt_preferences(5).
Security details are available in apt-secure(8).
                                        This APT has Super Cow Powers.
ubuntu@ubuntuserveur:~/directoryExample$ _
```

#### Commande: wget

Download files throught http://https://ahtml.page.in.my.case/

```
ubuntu@ubuntuserveur:~/directoryExample$ wget
wget: missing URL
Jsage: wget [OPTION]... [URL]...
Try `wget --help' for more options.
ubuntu@ubuntuserveur:~/directoryExample$ wget https://example.com/
-2025-10-09 03:17:58-- https://example.com/
Resolving example.com (example.com)... 23.215.0.136, 23.192.228.84, 23.220.75.232, ..
Connecting to example.com (example.com)|23.215.0.136|:443... connected.
HTTP request sent, awaiting response... 200 OK
_ength: 1256 (1.2K) [text/html]
Saving to: 'index.html'
index.html
                                      2025-10-09 03:17:59 (927 MB/s) - 'index.html' saved [12<u>56/1256</u>]
ubuntu@ubuntuserveur:~/directoryExample$ _
```

#### Commande: grep

Find matching patterns or word

In my case i echo "hello world" in grep and ask him to find the word "world"

ubuntu@ubuntuserveur:~/directoryExample\$ echo "hello world" | grep world nello <mark>world</mark> ubuntu@ubuntuserveur:~/directoryExample\$

#### Commande: source

Execute a script in the current environnement (doesn't create a new shell)

```
ubuntu@ubuntuserveur:~/directoryExample$ source
-bash: source: filename argument required
source: usage: source filename [arguments]
ubuntu@ubuntuserveur:~/directoryExample$ _
```

#### Commande: service

#### Start and stop system services

I use it a lot with mongodb (sudo systemctl status mongod)

```
ubuntu@ubuntuserveur:~/directoryExample$ service
Jsage: service < option > | --status-all | [ service_name [ command | --full-restart ] ]
Jountu@ubuntuserveur:~/directoruExample$ service
```