

# **TASK 5**

## **MULTIBOOT VM**

PREPARED BY:  
**MOHAMED AHMED MAIMON**

# INDEX

- Prerequisites
- Creation of the Virtual Machine
- Installation of Windows 11
- Configuration of Windows 11
- Installation of Linux Mint 21.3
- Configuration of Linux Mint 21.3
- Installation of openSUSE Leap 15.5
- Customization of the Grub
- Questions and Answers





## >>> Prerequisites



# PREREQUISITES



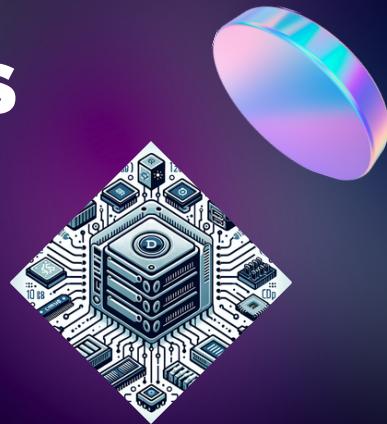
## Virtualbox 7.0

VirtualBox is the appropriate environment for carrying out this practice since we can test and make mistakes without fear of breaking our equipment. It is ideal for practice prior to these types of installations or, as in our case, for learning.



## ISO'S

The ISOs or operating system images that we will need for the correct installation of the different operating systems. In our case, it is a multiboot practice, so we are going to use 3: Windows 11, Linux Mint, and openSUSE.

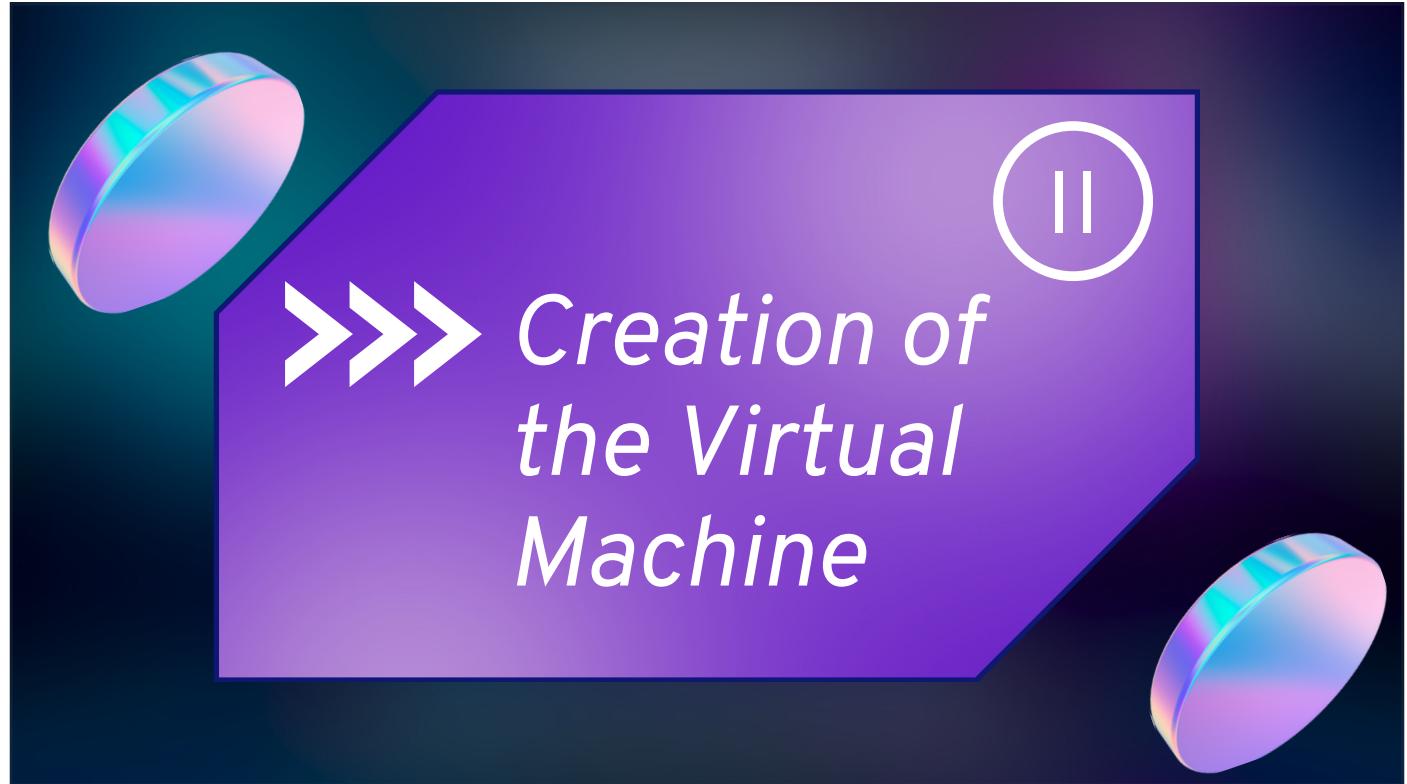


## Hardware specifications

- Virtual machine name: MultiBoot + your name (This name must be visible in all the screenshots you present in the finished tutorial).
- RAM Memory: 10 GB (10240 MB)
- Hard Drive: 120 GB
- Network: Internal at first, Bridged later

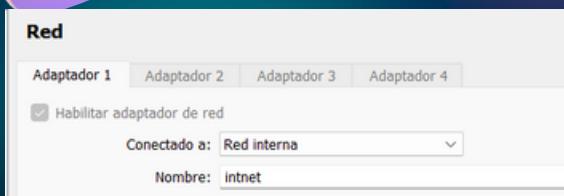


# >>> *Creation of the Virtual Machine*



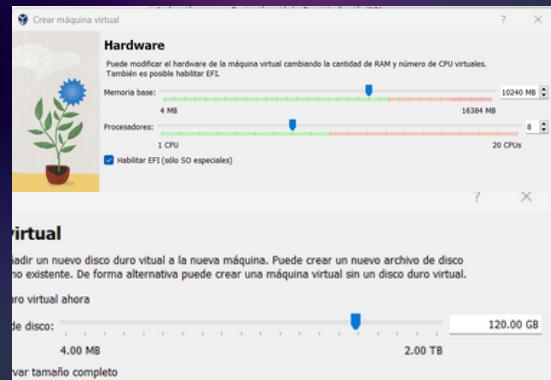


# CREATION OF THE VIRTUAL MACHINE



It's necessary to remember to modify the network settings and set them to Internal Network for the subsequent installation of Windows 11.

First, we create the virtual machine by inserting the Windows 11 ISO, assigning the corresponding RAM and storage memory, as well as the cores assigned to the machine, as indicated in the prerequisites.





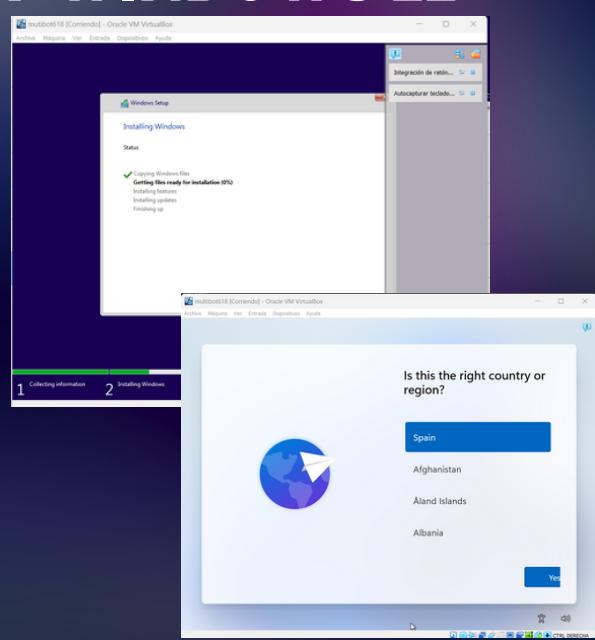
# >>>*Installation of Windows 11*

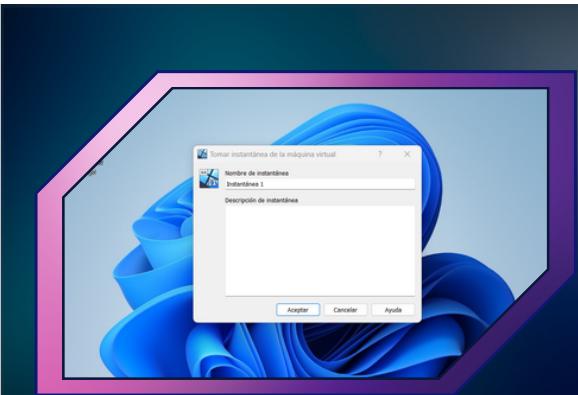


# INSTALLATION OF WINDOWS 11

Once the steps seen in the previous step have been completed and the screenshot installation on our right has finished, the machine will restart, and we should see the following page, which is the one we can see in the second image. We will select the relevant parameters to finish the installation, and finally, we will leave everything ready for the next step, which is the configuration of Windows

Following the above, we should install the Guest Additions, and then we would have the installation ready to work on configuring our Windows operating system,in the next slide





## INSTALL THE GUEST ADDITIONS

The first thing we will do is take a snapshot at this point so we can return to this point in case of any future failure



Second, we must go to the Devices section, and at the end of the list, there is the option to insert the Guest Additions CD. We click on it, and after a brief loading, we go to the file manager and proceed to where the disks are

## GIFT NO EMPTY

### INSTALL THE GUEST ADDITIONS

As we can observe in the gif on the left, once the Guest Additions “CD” is opened, we click on windows guest additions as in the image, and we click ‘Next’ until the installation finishes and the system restarts.



Once the machine is restarted, we will notice that if we put the machine in full screen, it will adapt to the entire screen, as in the image on the right.



# >>> Configuration of Windows 11



# CONFIGURATION OF WINDOWS 11

For this part, we will have two sections: one, to configure the network and the IP of our machine according to the defined parameters, and two, we will need to download a list of apps. We will use the Ninite page to generate an installer that downloads all the required apps at once



For the IP configuration, we access Network Settings > Configure IP Address > Manual, and we configure it with the following parameters:

IP Address: 192.168.8.[210+XX] Replace XX with your host computer number.

Network Mask: 255.255.248.0

Default Gateway: 192.168.8.1

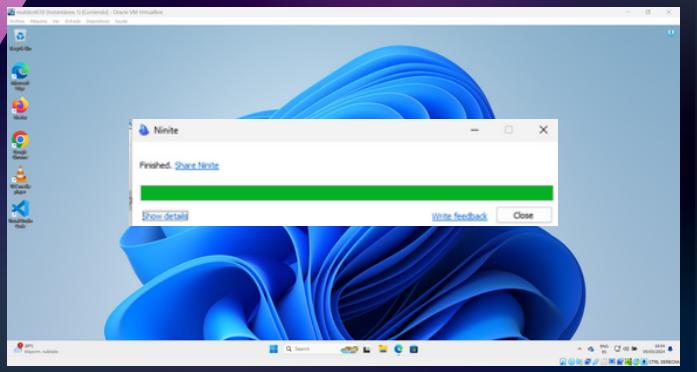
DNS Servers: 8.8.8.8 / 8.8.4.4

In the next step, we will use the Ninite page to download this list of apps:

-Chrome -Firefox -CutePDF -7ZIP -VLC -Visual Studio Code

# CONFIGURATION OF WINDOWS 11

For this step, it will be very quick and simple, thanks to the Ninite page, which looks as in the image on the left. There, we will click on the apps we want to download , and an installer will be generated that will do all the work for us.



A screenshot of the Ninite website interface. On the left, a sidebar lists categories: Messaging, Media, Business, Documents, Security, Online Storage, and Other. Under 'Business', several applications are listed with checkboxes: AVG AntiVirus Free Edition, AVG Internet Security, AVG PC TuneUp, AVG Privacy Protection, AVG Secure VPN, AVG Utilities, AVG Web Browser, AVG PC TuneUp 2022, AVG Privacy Protection 2022, AVG Secure VPN 2022, AVG Utilities 2022, AVG Web Browser 2022, AVG PC TuneUp 2023, AVG Privacy Protection 2023, AVG Secure VPN 2023, AVG Utilities 2023, and AVG Web Browser 2023. The main area has a heading '1. Pick the apps you want!' and a sub-section '2. Download and run your custom installer/update!'. At the bottom, there's a link 'Get Your Ninite'.

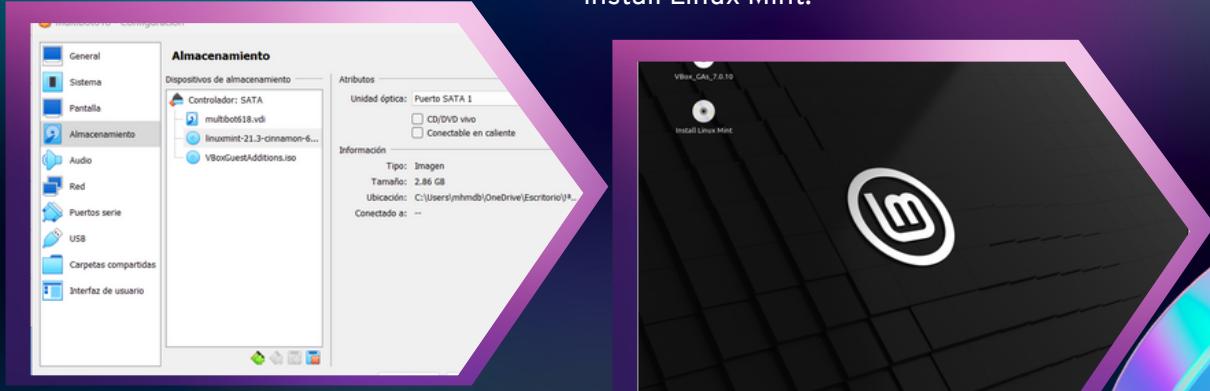


# >>> *Installation of Linux Mint 21.3*



# INSTALLATION OF LINUX MINT 21.3

The first thing we will do is take another snapshot to be able to return to this point. Immediately after, we will insert the Linux Mint ISO into the storage section of our virtual machine's settings. We will accept and start the virtual machine without letting the operating system boot, entering the boot manager from where we will install Linux Mint.

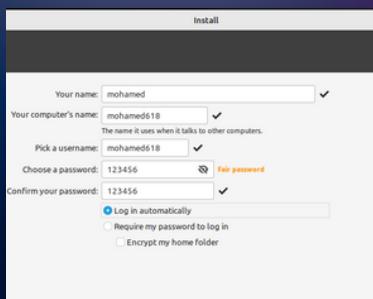


# INSTALLATION OF LINUX MINT 21.3



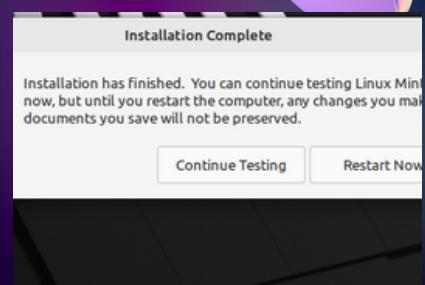
## Installation

During the installation, we will be asked for the usual information: language, keyboard language, and so on. We will keep filling in and skipping until we reach the part where we select the option that says 'Windows Boot Manager'



## User Details

Here, we will define the parameters in correspondence with those mentioned in the exercise statement, being the username our name + student number and the password 123456



## Installation completed

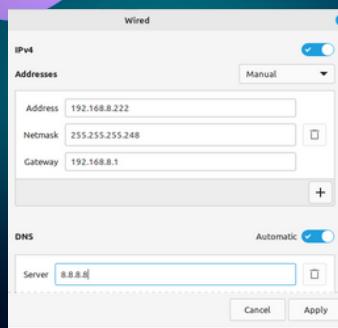
Once the "finished" message appears, we can proceed to the next step in which we will configure Linux Mint with the same IP configuration as in Windows and downloading the following applications. This time we will do it from the Linux terminal.



# >>> Configuration of Linux Mint 21.3



# CONFIGURATION OF LINUX MINT 21.3



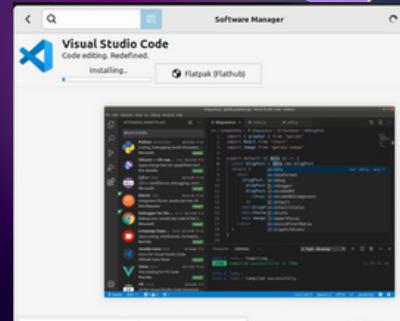
IP Configuration

Next, we will configure the IP address with the same parameters that we previously used for the configuration in Windows

```
mohamed610@mohamed610:~$ sudo apt update && sudo apt upgrade
[sudo] password for mohamed610:
Ign1: http://packages.linuxmint.com virginia InRelease
Ign2: http://archive.ubuntu.com/ubuntu jammy InRelease
Hit:3 http://packages.linuxmint.com virginia Release
Hit:4 http://archive.ubuntu.com/ubuntu jammy-updates InRelease
Hit:6 http://archive.ubuntu.com/ubuntu jammy-backports InRelease
Hit:7 http://security.ubuntu.com/ubuntu jammy-security InRelease
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
107 packages can be upgraded. Run 'apt list --upgradable' to see what's upgradeable
Reading package lists... Done
```

## update & upgadre

en el siguiente paso usaremos la siguiente expresión en el terminal  
**"sudo apt update && sudo apt upgrade"** Este comando actualizará la lista de paquetes y repositorios disponibles

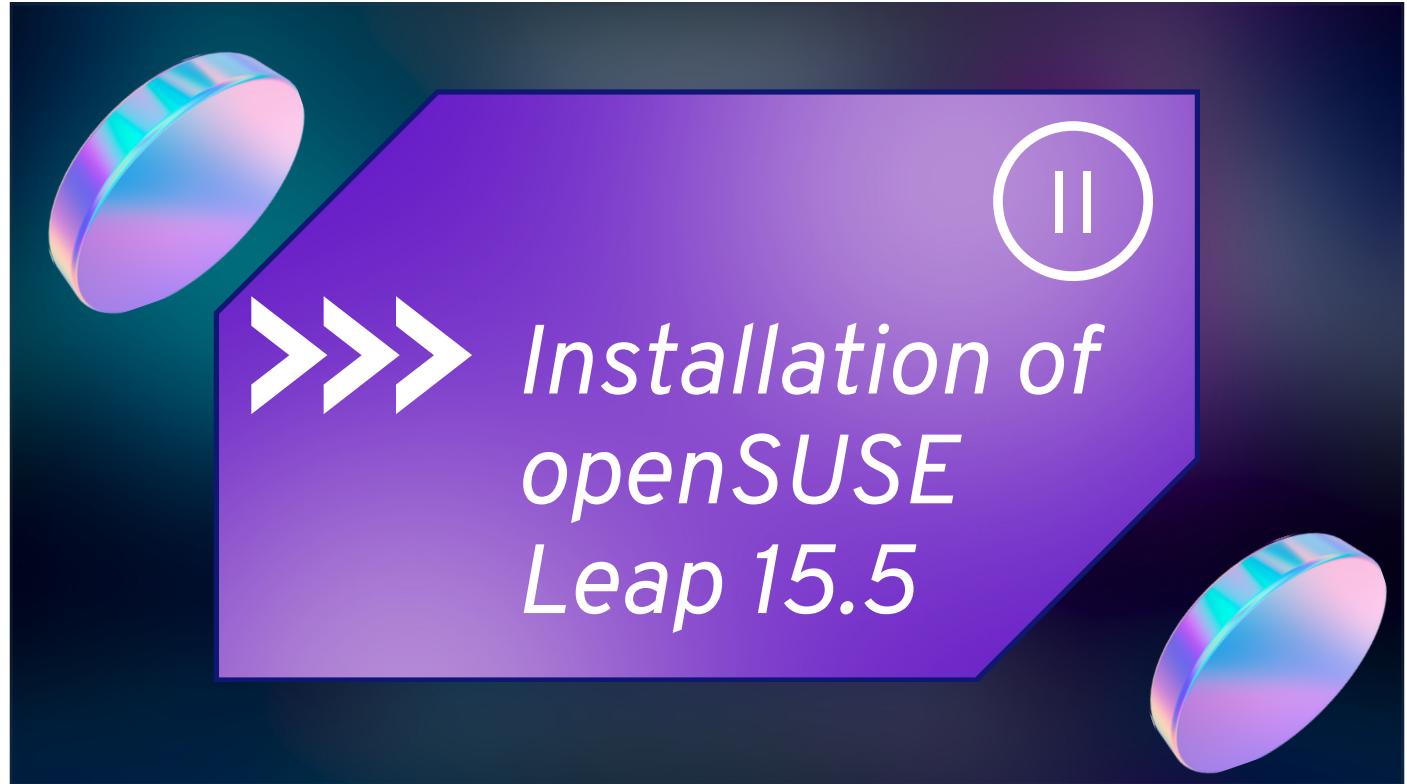


Installation completed

Finally, we install the apps that we need to download; some will be installed from the terminal using the command **"sudo apt install gimp"**, and others from the **Software manager** de linux

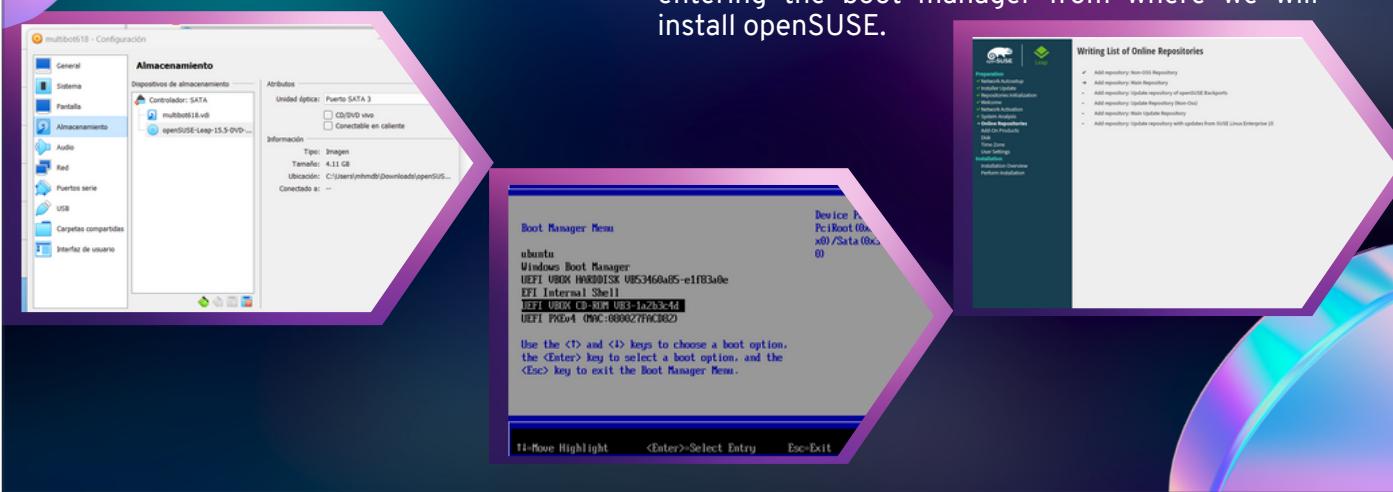


# ">>>> *Installation of openSUSE Leap 15.5*



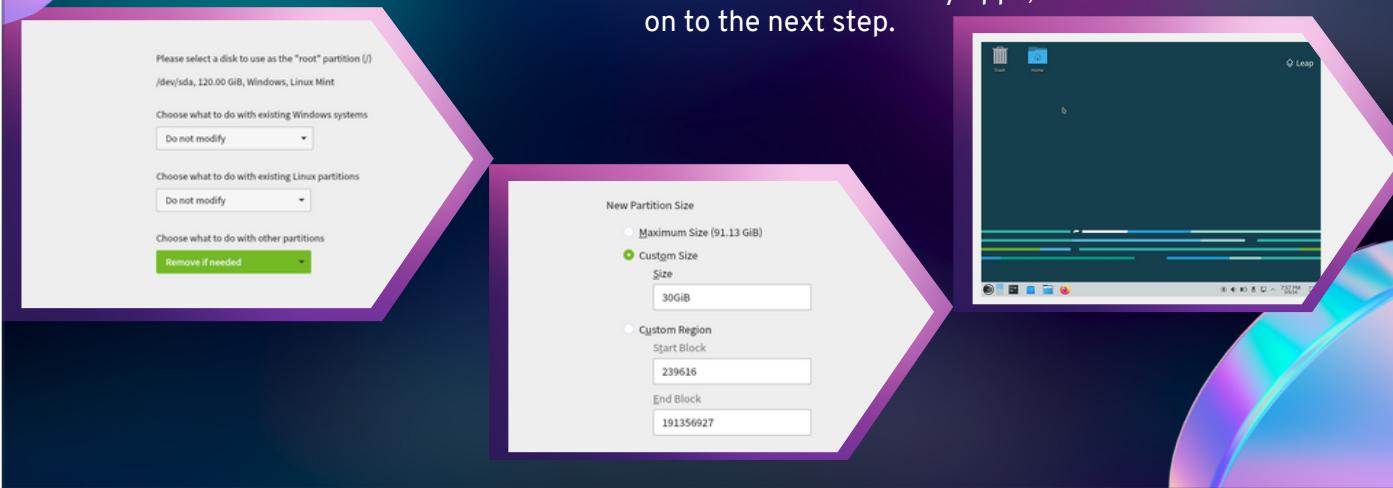
# INSTALLATION OF OPENSUSE LEAP 15.5

The first thing we will do is take another snapshot to be able to return to this point. Immediately after, we will insert the openSUSE ISO into the storage section of our virtual machine's settings. We will accept and start the virtual machine without letting the operating system boot, entering the boot manager from where we will install openSUSE.



# INSTALLATION OF OPENSUSE LEAP 15.5

Regarding the partition configuration, we will choose the guided option and select not to modify either the openSUSE or the Windows partitions that we had previously established. We will continue if the partitions are correctly configured, which will allow us to proceed, and once the installation is complete Additionally, we download the necessary apps, and that's it. we can move on to the next step.

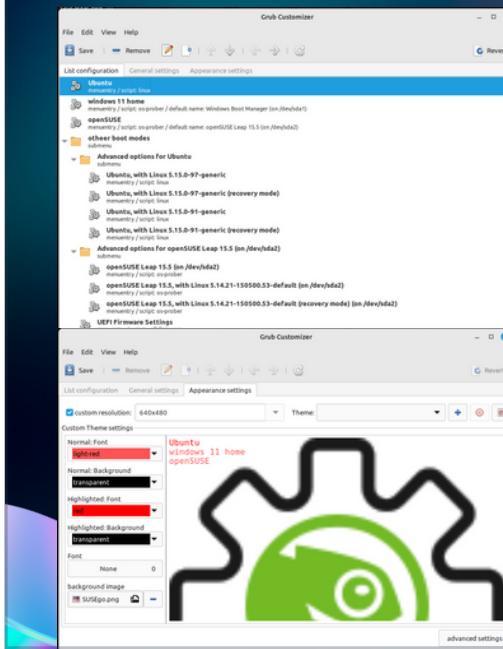




# >>> *Customization of the Grub*



# CUSTOMIZATION OF THE GRUB



Finally, we will customize the GRUB boot menu to suit our needs. We will return to linuxmint and use grub-customizer to make the menus look exactly as in the image on the left.

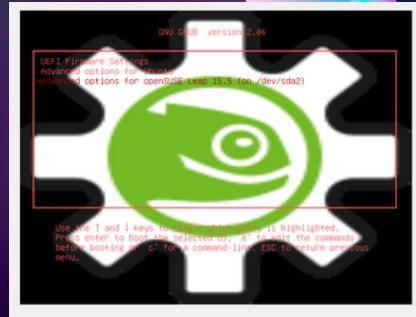
We should customize this menu with a different color theme and a background image of your choice, leaving on the main page only the "shortcut" to each operating system and to other modes, in addition to setting Windows to boot by default after 20 seconds.

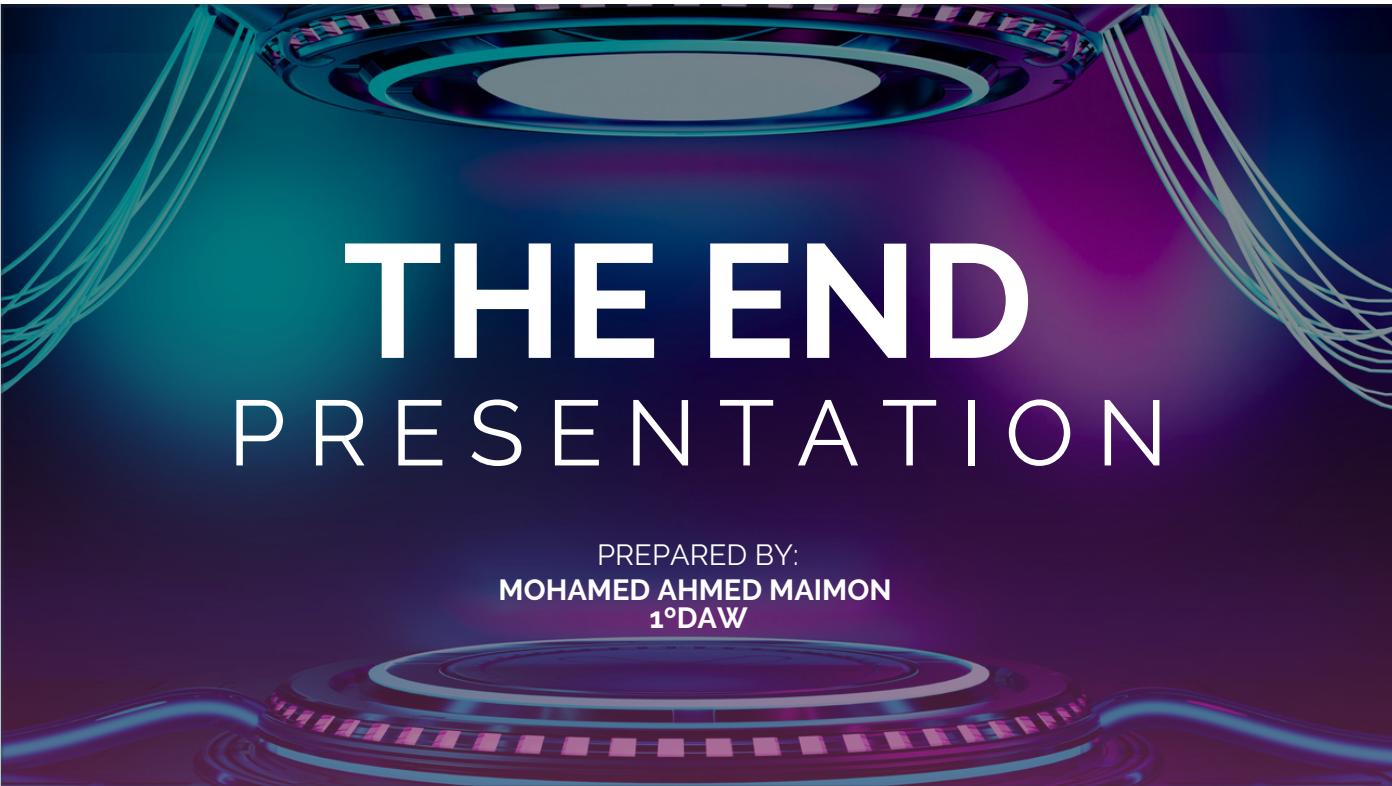
We will also customize the background image; in my case, I have used the only one I found in the system, and I have set the font color to red. However, we have respected the file order as indicated in the example provided by the teacher.

# CUSTOMIZATION OF THE GRUB

## showcase the results

Finally, we will focus on showing the final result of the GRUB menu with the background image of openSUSE, which is quite amusing, I must admit, and the lettering in red color, as well as the order of each main option as indicated in the exercise. As we can see, arranged on each side, two by two, are the screenshots of each of the screens. Additionally, a video is attached in which the correct functioning of the system can be seen as requested in the statement.





# THE END PRESENTATION

PREPARED BY:  
**MOHAMED AHMED MAIMON**  
**1°DAW**