

SAE 1.03

Deliverable 1 – Case study and Roadmap

Introduction:

This page will allow you to know how you do a dual boot with Ubuntu and Windows and all of this easily.

This manipulation does not require a lot of things to be done, you just need a USB drive with enough memory to download the OS of your choice, here we chose Ubuntu and the manipulation does not require a specific version of Windows.

Be careful to follow the steps precisely, otherwise, your windows can be uninstalled.

For the steps we will start by installing the dual boot then a virtual machine and finally Ubuntu.

Installation of a Dual boot:

- First off, you will need a USB drive of at least 4GO of storage to be safe.
- Then, to create your bootable USB drive, you will have to go to the Ubuntu website and download the latest version of Ubuntu (<https://ubuntu.com/#download>).
- Then, you will need to download **Rufus**, a software that will allow you to install the file that you just downloaded. Then, open Rufus, and in 'Peripheral', select your USB drive.
- Next, in 'Type of start', select the file that you just downloaded and then, click on 'Start'.
- Now that your USB drive is a boot of Ubuntu, you will need to restart your computer.
- Make sure your USB key is plugged in on one of the USB ports. Be careful when you restart your computer: you will have to enter the BIOS, so for that, when the computer is powering up, press F2 or DEL.
- Once you're on the BIOS, you will have to find the BootLoader and choose to boot on your USB drive and not on the 'Windows Boot Manager' if you are on Windows.
- Finally, save your changes and exit the BIOS. Your computer should restart automatically (Refer to the 'Installing Ubuntu' part at the end of this document for the rest of the installation).

Installing the VM

- First of all, you will have to download the .iso file of the distribution you want. In this case, we will take the latest version of Ubuntu (<https://ubuntu.com/#download>).
- Then, download the VirtualBox software:
(<https://download.virtualbox.org/virtualbox/6.1.30/VirtualBox-6.1.30-148432-Win.exe>).
- Once all of this is downloaded and installed, open the software 'VirtualBox'.
- Now, you will have to click on 'New' to create a new virtual machine and then you will have to put the name, the folder of the machine, the type and the version.
- In our case, we are going to put the name 'Ubuntu', in the folder where we want to install the machine, put 'Linux' in the type, and choose the 'Ubuntu (64-bits)' version.
- Then, click on 'Next'. Now, you are going to have to choose the memory you want to dedicate to the VM, so you either play with the slider or directly put a precise number. Then, click on 'Next'.
- Now the screen shows you what hard disk positioning you want, if you already have an existing virtual hard disk file, choose the option and choose the file. Otherwise, choose 'Create a virtual hard disk now'.
- Then you have to choose the location of the file and its size. You can modify it if you want, but in our case, we will pass and click on 'Create'.
- Now you have successfully created your VM. However, you can't launch it yet.
- Now, you must go to 'Configuration' then to 'Storage' and click on 'Empty' in 'Controller: IDE'.
- After that, click on the button on the right of the optical drive (The disk Blue), that opens you several possibilities, here we are choosing the 'Choose a disk file ...' option. Remember, as we said earlier, you had to download a .iso file from Ubuntu, here you have to find it and click on it.

- Once that is done, go to 'Category', then set the 'Network access mode' to 'Bridge access', then click on the advanced bridge, then click on the advanced options. Once this is done you will see many options appear. Now change the Promiscuity mode to 'Allow All'. Now you can close and click on 'Start' your VM. Now, you just have to finish the installation of Ubuntu normally (See section Installing Ubuntu' section).

Installing Ubuntu

- Once arrived on the installation, it will be necessary for you to select your language and if you just want to test, just click on 'Try Ubuntu' otherwise click on 'Install Ubuntu'.
- Now you find yourself on the keyboard layout, select the type of your keyboard. Be sure to test your keyboard because you will need it. Click on 'Continue'.
- Now you are on a page called 'Update and other software', here you are asked for several things.
- First, if you want a normal or minimal installation, take the normal one.
- Next, you are asked to enter a password called 'Secure Boot'. Then, you need to specify the type of installation you want. There are many possible choices 'Remove ...' 'Erase disk ...' 'Reinstall ...'. Those three options are if you already have a Linux to install. If not, you have other choices like 'Install' or 'Other thing', in this case, take 'Other thing' to be able to have the choice of sizes, then click on 'Continue'.
- Now you arrive on the most difficult part: you have to find free space (Either a new hard disk that you have installed on your computer, or you have free space on an existing hard drive, do not use WINDOWS hard disks, or it will replace your original Windows).
- Once you have found the free space, you will have to create several partitions with the button '+' located at the bottom of the page.
- The first partition created is for the installation of the OS give approximately 50GO if you can. After modifying the size, do not touch nothing more except the 'point of assembly' where you must put '/root'.
- Then you have to create another new partition: the SWAP. For this, it is not needed more than 8 GO for the size, and then modify the selector 'Use as' and put in 'swap space' (« swap »).
- Finally, the last partition to create is the home, allocate the remaining space and in 'mount point', put '/home'. Congrats, you have just done the most complicated part now we are at the end.
- Finally, you just have to click on 'Install now' and then put 'Continue' and again, 'Continue'.
- Then you will be on a new page and click on your country, then click on 'Continue'.
- Now you are on the part of the name and password. And then, congrats, your Ubuntu is installed!

Troubleshooting and repair

Error	Cause	Solution
Missing enough space to install the dual boot.	You didn't format your hard drive, or you don't have enough space.	Restart the installation and format your drive before starting again. Or take a drive with more space available.