SAE 1.03

Deliverable 1 - Case Study & Roadmap

Case Study:

Introduction:

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

This manipulation does not require a lot of things to be done just a USB key with enough memory to download the OS of your choice hewe we chose Ubuntu and the manipulation does not require a specific version of Windows

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

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

Dual boot installation

First of all you have to create the bootable key which allows you to install Ubuntu. To do this, go to the Ubuntu website and download the latest version (https://ubuntu.com/#download), the file is then about 3Go. Then download a software such as **Rufus** to be able to put the file that you have just downloaded on the USB key. Open Rufus, and in 'Device select your USB key that you want to boot. Then in 'Type of start', select your file that you have just downloaded and click on

‘Start'.

Now that your USB key is become a boot of Ubuntu, you can restart your computer while putting the USB key on one of the USB ports. Be careful when you restart your computer you will have to go to the BIOS, the access keys change depending on the motherboard (usually F2, F10, F12 or DEL). Once on the BIOS, you will have to find what is called the BOOTLOADER and choose to boot on your USB key and not on the 'Windows Boot Manager' if you are on Windows. Finally quit and save and your computer should restart (See section 'Installing Ubuntu' for the rest.).

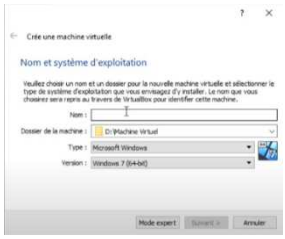
Installing the VM

First of all you'll have to download the .iso file of the distribution you want, here we'll take Ubuntu (Go to the Ubuntu website and download the latest version : 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 this has been downloaded and installed, open the software 'VirtualBox', you will arrive on an interface like this:

Now you need to click on ’New’ to create a new virtual machine and then you will come here :

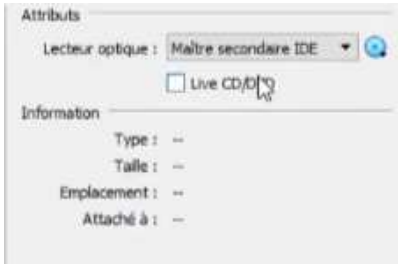


It will be necessary for you to inform the name, the folder of the machine, the Type and the version. Personally we are going to put in name 'Ubuntu', in the folder where we want to install the machine, in Type 'Linux', and in Version 'Ubuntu (64-Bits)'. Then click on 'Next', now you will have to choose the memory you want to allocate to the VM so you can play with the slider or directly put a number you want in MB and click on 'Next >'.

Now we ask you for the positioning of the hard drive 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 are asked for the Type of hard disk file' here we choose VDI (VirtualBox Disk Image). Then we ask you you if you want a hard disk 'Dynamically allocated' or in 'Fixed size', in dynamically it will be faster to create but there could be losses of performance and to fixed size it takes longer to create but it is faster to use. Then you are asked for the location of the file and its size, you can modify it if you want, personnaly we pass and click on ‘Create'.

Now you have created your VM, however you can't launch it yet, you will find it here you will find it here:

Now you have to go to 'Configuration' then to 'Storage' and click on 'Empty' in 'Controller: IDE'. Then on the right you will see this:



Click on the button on the right of the optical drive (The disk Blue) and that opens you several possibilities, here we choose 'Choose a disk file ...'. Remember earlier I asked you to download a file .iso file from Ubuntu, here you have to find it and click on it. Once that made, go category, then set the 'Network access mode' to 'Bridge access', then click on the advanced bridge, then click on the advanced options. Once this done you will see several 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

Now, only the installation part is left. (ONLY Ubuntu), once arrived on the installation, it will be necessary for you to choose the language (The selector on the left), select French and if you want to test just click on 'Try Ubuntu' otherwise 'Install Ubuntu'. We select 'Install Ubuntu', because we want to install it ..., now you find yourself on the keyboard layout, select the positioning of your keyboard (here we are in France thus select 'French' and 'AZERTY', but you can have keyboards of other languages) think 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 of all if you want a normal or minimal installation, take the normal one you never know, the minimal is used to have no software to install when we arrive on the desktop but it is better to take the normal one, and just below it is for the drivers. In fact, you'll be asked if you want to install third party drivers or not like the NVIDIA drivers (the Linux community is not a big fan of things that are closed like drivers so it doesn't check directly but it is very useful) so we advise you to check 'Install third party software for graphics hardware ...', however you are asked to enter a password called 'Secure Boot'.Then you are asked for the type of installation you want. There are several possible choices 'Remove ...' 'Erase disk ...' 'Reinstall ...' these three are options if you have already a linux to install if not you have other

choice 'Install' or 'Other thing', we will take 'Other thing' to be able to have the choice of sizes, then click on 'Continue'.

Now you arrive on the most difficult part but we are going to go there step by step you have to find the free space (Either a new hard disk that you have installed on your computer or you have made space on an existing hard drive, do not use **WINDOWS** hard disks). Once you have found the free space find, 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 so here Ubuntu in general one gives approximately 50 GO, after having modified the size do not touch nothing more except the 'point of assembly' or you must put '/root'. Then you have to recreate a new partition the SWAP, for this it is not enough much between 4 and 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 so you put all the remaining space and in 'mount point', put '/home'.

BRAVO, 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 still 'Continue'.

Then you arrive on a new page and click on your country (here 'France') then click on 'Continue'. Now you arrive on the part of the name and password, so enter all the information requested on your name, the name of the computer , the password, ... then click on 'Continue' and now you just have to wait for the you just have to wait that the installation finishes then you will arrive on your Ubuntu