Dual operation system installation

Wiki on installing dual operation systems, Linux and Windows, on personal computers. Particularly, this wiki is for people who are seeking for solutions to how to install a Windows OS alongside a Linux OS which is already running. Installing Windows after Linux is harder than the reverse situation is because Windows can destroy Linux booting files once installed, thus making Linux OS undetectable even though Linux OS still exists in the hard disk.

Before we start, you might need at least a 16GB (or larger) USB flash drive, a windows machine for temporary use and the following docs/apps: Windows ISO, "universal USB installer" (only running on windows), "gparted" ISO, "boot repair disk" ISO, "easyBCD".

Make a free space for Windows installation on your hard disk

1. Use "universal USB installer" to burn "gparted" ISO into your flash drive.

2. Reboot your Linux machine and once you see the brand logo, for example DELL, press F12, or other keys which depend on your machine type, to enter BIOS.

3. Choose to boot from you USB drive and you will enter "gparted". Follow on-screen instructions to make a free space, at least 40 GB from my experience, for your windows installation. Once finishing the process, you can turn off your computer.

Install Windows

1. Use "universal USB installer" to burn "windows" ISO into your flash drive, which should be formatted before burning.

2. Reboot from flash drive by following the same procedure in previous section.

3. Follow Windows installation instructions to install windows on the free space you just created in previous section (!!!!). Once finishing the installation process, reboot and enter your windows OS.

4. Install correct drivers by consulting with manufacturer's website to resolve issues, for example low display resolution, you may meet in the new Windows OS.

rebuild your Linux boot files

1. Some people preferring using "EasyBCD", which runs on Windows to manage boot options and create boot files, however I, personally, failed to reboot my Linux using "EasyBCD". Thus, I here to offer the other option, "boot repair disk" for people who may have the same issue.

2. Burn "boot repair disk" ISO into your usb flash drive using "universal usb installer" and reboot your machine from this usb flash drive.

3. Follow on-screen instructions to repair your Linux boot files. You need to run some commands from the terminal within "boot repair disk" system. The best choice here is to create boot files for Linux on all the disks, including the one Windows runs on.

4. Reboot your computer and you will see Linux and Windows ready for you to choose from.

A few tricky parts you may encounter:

1. Fail to enter BIOS even though you pressed all the possible keys-→ you may need to check the keyboard you use, some function keys (F1- F12) may be disabled. For example, in some windows keyboards, the "F lock" key controls if the function keys are disabled or not.

2. In "boot repair disk" system, sometimes you need to make selections in terminal, for example, you need to select disk(s) to created boot files on. Try to use "space", "tab" and "enter" for operations in terminal.