

THE COMPUTER CORNER

No. 302: LINUX: FINE TUNING YOUR NEXT INSTALLATION

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Here are some things to think about, and tweaks you might make next time you install Linux, that will carry your abilities far beyond that available in Microsoft Windows. These suggestions are based on my own experience and also the book I reviewed in No. 301 titled *Linux Mint Essentials*.

Specifically, outlined here are steps that will permit you to isolate your personal files from the operating system, so that each time you install a new version of Linux, your personal files will remain untouched and will remain exactly where they were before you started the new installation! In the Windows world, this would be akin to changing from Windows 7 to Windows 10 without destroying all your letters, notes and other personal files already on the disc. Of course, that can't really be done in the Windows world without copying all your files off onto some other media such as another hard drive or a DVD, but it most certainly can be done without such copying in Linux.

Before we get into the mechanics of this slick but simple change, let me compare some of the terminology in Linux and Windows.

1. This forward slash in Linux: **/** symbolizes the beginning of the file system and is the equivalent of **c:** in the Windows world. It is also labeled the **root** partition in Linux text.
2. In Linux, the **/home** folder is where your personal files are stored. If my username on a Linux computer is stan, then my personal files are stored in **/home/stan**.
3. There is also a **/tmp** folder for storing temporary files, but it is not for long term storage, because it can and will be deleted. Just leave it to Linux to use as it sees fit.
4. There is an **/etc** folder for storing system-wide configuration files like those involved in networking. Again, leave it to Linux to use as it wishes.
5. Swap Space (not a folder) is an area of your hard drive used as a sort of "scratch pad" when the memory gets full. It is similar to the Paging File in the Windows world. You should allow the swap space to be created when installing Linux; it will not take much space. It may be labeled "swapfile" in the current latest version of Linux Mint Cinnamon (21.1).

OK, now let us suppose you are about to install Linux on a machine that has 8 GB of RAM and a brand new 500 GB hard drive that you physically installed after the old one

gave up the ghost. During the installation process, the “Installation Type” screen will ask you if you wish to “Erase the disk and install Linux Mint” or “Something else”. Choose the “Something else”. If you choose to just erase the disk and install Linux Mint, that is like just having a single **c:** partition on a Windows machine – there will be just a **/** partition on your initial new installation and you will need to backup your personal files and copy them back, manually, after an upgrade to the next version. Otherwise, they will be lost. Note that this backup and reinstall is not necessarily a bad thing, but it might not be as slick and convenient as what we are aiming for here.

So what is the aim? Of the 500 GB drive, about 465 GB will be usable and available to you during the setup (see the tabulation after this paragraph). The first item is **/**, which you will remember is the **root** partition or the same as **c:** in the Windows world. Make it 40 GB in size. You don’t need nearly that much initially, but 40 GB will leave plenty of space for future expansion. That will leave about 425 GB left. Next, create a swapfile, and the rule of thumb among experts seems to be to make it equal to the amount of RAM you have, plus one more GB for “good luck”. So create the second partition 9 GB in size, leaving 416 GB unallocated. That remaining 416 GB should be all designated for the home partition (**/home**), which is where all your personal stuff resides. So, we have:

| | |
|-------------------|---------------------|
| 500 GB | 465 GB usable space |
| root (/) | <u>40 GB</u> |
| | 425 GB |
| swapfile | <u>9 GB</u> |
| | 416 GB |

So, you will have 416 GB out of 500, or about 82% of all available hard drive space left for **/home**, where all your personal files reside. That's not bad at all. Moreover, when you next update from, lets say 21.1 to 21.2 (coming in late June 2023, by the way), you will tell the Linux install disk NOT to erase **/home** where all your personal stuff resides. So, the total install should go somewhat quicker and all your personal stuff will already be in place.

On the other hand, don’t let this convince you to not to make a backup of your stuff! You know Murphy’s Law will tend to leave you alone if you make periodic backups but will certainly bite you in the rear if you fail to do so! Always make periodic backups of your personal files. Especially now that it is easier because your personal stuff is isolated in the **/home** partition. A backup of this entire partition containing your stuff should take far less time than trying to copy the whole 500 GB drive.

I have not given you step-by-step detailed items to follow in this procedure, but rather, a general goal-oriented path. You can refer to the book *Linux Mint Essentials* for the step-by-step details. Have fun! Remember, so long as you have made a good backup of your personal stuff, if you mess up during your try to implement these procedures, it will only take you on the order of an hour to wipe the drive and try it again, or even just let the installation disk do it all by selecting “Erase the disk and install Linux Mint”. It all depends upon your making an adequate backup, which is always a key! Happy Computing!