

Disclaimer: This guide assumes that you have basic knowledge of the operating systems that will be represented. This guide also assumes that you have the latest version of the operating systems and programs used in this guide. This is also an ever-changing document, if you want anything to be added, or you have found a mistake, please contact GriffinB@Emailssd.com thank you.

Table of Contents

Restart Computer.....	3
Slow Computer.....	3
Utility Programs.....	3
Startup.....	4
Uninstalling Programs.....	5
Visual Effects.....	5
Disk Cleanup.....	6
Alternate Disk Utilities.....	7
Disk Defragmentation.....	7
Scan For Viruses.....	8
Update Programs.....	9
Slow Internet.....	9
Clear Cookies.....	10
Flush DNS.....	11
Check Hardware.....	11
Router.....	11

Restart Computer

It may sound cliché, but turning your computer off will solve most of the problems that you may experience.

- If you're on machine that has a GUI (i.e. PCs, Macs, newer printers, or servers) power off the machine through the interface, not the actual physical power button.
- If you're only dealing with the hardware, or you can't access the GUI (i.e. Routers, modems, older printers) it is always best to unplug the machine, then wait 30 seconds before you plug it back in.
- There is one other way to turn off a computer that works on every single piece of computer hardware. You can hold down the physical power button on the device for 5 seconds which will force shut off a machine. **WARNING:** This should only ever be used as a last resort when trying to turn off a computer. Compare it to someone fainting right in the middle of their day, they're working hard then BAM the pass out, you don't want that to happen to your computer do you?
- THINGS TO NEVER DO
 - Close your laptop cover to "put it to sleep" this can easily cause overheating on most laptop machines. Why? When a computer is put into "sleep" mode, it doesn't actually turn off it is still running in the background, causing memory to be used up while you're not even using it.
 - Unplug your desktop machine without first letting it turn all the way off.

Although restarting your computer will work most of the time, it doesn't necessarily solve the initial problem that the computer has. If you want to nip the problem right in the bud, you could try some of these steps.

Slow Computer

Utility Programs

PC

On a Windows computer, to open up Task Manager, you can use one of these two ways. Press the Ctrl Alt Delete keys on your keyboard all at the same time, then select "Start Task Manager". Alternatively, you can right-click on your taskbar and select "Task Manager".

Once Task Manager is open, you can right click on any of the processes to force shut them down. **WARNING:** Please make sure you know what processes you are ending, some of them are very important to your computer. If you have any process that is just a random set of numbers & letters, chances are, it's a virus, end the process immediately and run an antivirus program.

Mac

On an Apple computer, to open up activity monitor, click the "Finder" on your dock to open a Finder window. Click "Applications" on the sidebar of the Finder window to see your Mac applications. In this folder, double-click the "Utilities" folder. Double-click the "Activity Monitor" icon to access the application.

End all of the processes that you know for sure are unnecessary. If you see anything that looks suspicious, you can do a quick internet search on that specific process.

Ubuntu

Because there are many different types of Linux operating systems, we won't be able to cover all of them here. However, we will take a look at how to open up the System Monitor in Ubuntu, a flavor of Linux.

On an Ubuntu computer, open up System Monitor. To open this, go to your Dash, click, "System", then "Administration" and finally "System Monitor". End any process that you know is unnecessary.

Startup

Your computer may be slow when you first turn it on, because you may have some programs set to automatically open when the computer is turned on. You may not even know that some of these programs are turning on at the same time as your computer because most of them run in the background anyway.

PC

On a Windows computer, follow these steps to find out how to set which of or any of the programs will open when the computer is turned on.

1. Open your start menu and type "msconfig".
2. Hit the ENTER key.
3. Once the program opens, click the tab labeled "Startup".
4. Select or deselect the programs that you want the computer to launch on startup.

Mac

Now that I've shown you how to do it on a Windows machine, I'll show you how to do it on a Mac or Ubuntu machine. We'll start with Mac

1. On your Dock, locate the System Preferences application, and open it.
2. Click "Users & Groups".
3. Select the user that you want to configure; from here, you can add or remove programs from the startup.

Ubuntu

How to disable startup programs in Ubuntu.

1. Click the search option and type "startup app".
2. Click the application named Startup Applications.
3. To select what applications open on startup, check or uncheck the boxes on the application window.

Uninstalling Programs

Follow these steps to uninstall any programs that may be unnecessary to the operation of your computer. However, please be careful; make sure you know what you are doing. If you don't, you might end up uninstalling an application that is crucial to your computer.

Windows

1. Open your start menu.
2. In your search bar, type "Uninstall".
3. Click "Uninstall a program" from the list that appears. (Note: You may see other programs labeled "Uninstall" do not click these, you don't know what program it might uninstall.)
4. Once the Uninstall utility is open, right-click and select uninstall on all the programs that you want to uninstall. (Note: Please make sure that you know what each program that you are uninstalling does, you don't want to randomly uninstall a crucial program.)
5. Done.

Mac

1. Click the "Launch Pad" icon in your dock.
2. Hold down an application's icon until it begins to jiggle.
3. Click the X on the top-right corner of the icon to uninstall it.
4. Done.

Ubuntu

1. Navigate to the Ubuntu Software Center.
2. On the top bar of the Ubuntu Software Center, click the option labeled "Installed".
3. Find the program/s that you want to delete, and click the "Remove" button.
4. Done.

Adjusting Visual Effects

If your computer is a bit older, you can adjust the appearance settings to help speed up your computer a bit. Follow these instructions to change your computer appearance settings.

Windows

1. Right click anywhere on the desktop
2. Click the "Personalize" option.
3. In the window that opens, you can change the way that your desktop looks and even the sounds that your computer uses. (Suggestion: If you're trying to gain a

little more performance out of your computer, choose one of the basic or high contrast themes.)

4. Done.

Mac

Mac computers do not natively support the ability to adjust visual effects, but there are some programs out there that allow you to adjust them.

Ubuntu

Ubuntu computers do not natively support the ability to adjust visual effects, but there are programs that allow you to adjust them. To disable the visual effects in Ubuntu you need to go a little more in depth than on Mac and PC.

1. Open Terminal and type “sudo apt-get install compizconfig-settings-manager” hit Enter
2. Start the program and navigate to the effects menu
3. Adjust the settings from there.

Disk Cleanup

Windows

On a Windows computer, you can run Windows’s Disk Cleanup Utility. When you use a program, it creates temporary files that do not get deleted after you close the program. As you can imagine, this can cause your hard drive space to be slowly eaten away. What the Disk Cleanup Utility does is it locates these temporary files and puts them into one place so that you can delete them if you want to. To get to this utility follow these instructions.

1. Open your start menu.
2. Click the “All Programs” menu.
3. Look for the “Accessories” folder.
4. Within that folder, find the “System Tools” folder.
5. Locate the program “Disk Cleanup” and open it.
6. Follow the instructions from there.
7. Done.

Mac

The way that Mac computers are setup, allows you to not have to really run any sort of “Disk Cleanup” utility. However, if something bad happens, there is a built in program that you can use that may help solve the problem that you may have.

1. Navigate to “Finder”
2. Go to your applications folder, within that, open up the utilities folder.
3. Open the program called “Disk Utility”
4. In the sidebar on the left side of the program, select your current hard drive.
5. Click the button that says “Repair Disk Permissions”.
6. Done.

Unless something is really wrong with your Mac, you do not need to worry about running this program.

Ubuntu

To perform a disk cleanup on an Ubuntu system, follow these instructions.

1. Open up your terminal and enter these commands.
2. `sudo apt-get autoclean`
3. `sudo apt-get clean`
4. `sudo apt-get autoremove`
5. Running these programs should cleanup your disk.
6. Done.

Alternate Disk Utilities

Windows

A third option that you have is to download and install a program called CCleaner. This program is a much more robust version of the Disk Cleanup Utility program that we used earlier. CCleaner doesn't just clean out unnecessary files, it does many other things as well. However, that is a topic for another blog post. Here is how to use CCleaner.

1. Go to your preferred web browser and go to this link:
<https://www.piriform.com/ccleaner/download>
2. Download the file.
3. When the download is finished, run the installation program.
4. Once installed, open the program and click the "Run Cleaner" button on the bottom right. (Note: If you do a deep scan, this process may take several hours depending on the amount of files are on your computer.)
5. Done.

CCleaner can also fix up your computer's registry, but I don't recommend that you run that part of the program.

Mac

The program used in the previous example is your best option for a system cleanup.

Ubuntu

There is an Ubuntu program called BleachBit that you can use for something similar to CCleaner. However, if you do not know what you are doing when you use it, you may mess up some important config files. Use with caution.

Disk Defragmentation

Yet another way for you to enhance your computer's performance is by running a disk defragmentation. First, I'll need to explain what that means. When you delete files

of off your computer, they don't actually get deleted, they just get shredded and put into many different locations on the computer and the computer interprets these areas as empty space that can be overwritten. Compare it to putting a piece of paper through a shredder, there are pieces of the paper scattered around everywhere waiting to be thrown away. But, just like with computer files, they could be put back together very carefully. However, that is yet another topic for a different blog post.

Running a disk defragmentation consolidates all of that empty space essentially freeing up more space on the hard drive. Here is how you can get to the utility. **WARNING:** If you have a Solid State Drive (SSD) instead of a standard hard drive, **DO NOT** run a disk defragmentation on an SSD.

Windows

1. Open your start menu.
2. Click the "All Programs" menu.
3. Look for the "Accessories" folder.
4. Within that folder, find the "System Tools" folder.
5. Find and click on "Disk Defragmenter".
6. Follow the instructions. (Note: Just like CCleaner, this process could take several hours depending on the amount of files on your computer. Defragmentation is usually best done overnight, or while you are at work.)
7. Done.

Mac

Disk defragmentation on a Mac system is not necessary for the performance of the computer.

Ubuntu

There really isn't ever any reason, believe it or not, to run a disk defragmentation on an Ubuntu system. This is because the file system that it uses (ext4) doesn't fragment files enough for it to affect performance.

Scan for Viruses

Windows

If none of these earlier options help increase your computer's performance, you can try installing anti-virus software. There are many companies that create anti-virus utilities; all of them have their pros & cons. For this example, I'm going to use Microsoft's free anti-virus program called Microsoft Security Essentials, here is how to get it.

1. Go to this link: <http://windows.microsoft.com/en-us/windows/security-essentials-download>
2. Click the "Download now" button.
3. Once it is done downloading, install the program.
4. Open the program and click "Scan now". (Note: If you do a "Deep Scan" it may take several hours depending on how many files you have on your computer.)
5. Done.

Microsoft Security Essentials scans through all the files on your computer looking for ones that it may believe “malicious”. Given the nature of modern computer viruses, you may need to update this program every few days because writers from computer viruses can still get around a scan from any anti-virus software.

Mac

You may think that Mac computers are not susceptible to viruses and malware. If you think that, you are sorely mistaken. The program that I’ll use is called Avast, to obtain this software, follow these instructions.

1. Go to this link: <https://www.avast.com/en-us/free-mac-security>
2. Click the download button.
3. Once it’s done downloading, install the program.
4. Scan your computer for viruses. (Note: This process may take several hours.)
5. Done.

Ubuntu

Much like Mac users, you may think that your computer is immune to viruses but sadly, that is not the case. The program that I’ll use for this example is called AVG. to download and install this program, follow these instructions.

1. Go to this link: <http://free.avg.com/us-en/free-downloads>
2. Download and install the program.
3. Scan your computer for any potential viruses.
4. Done.

Update Your Programs

As much as you may not like Windows Update, it is a very important for the health, and performance of your computer. Make sure that you have it turned on and set to update automatically. It will update your Windows default programs and many security updates.

Slow Internet

Before you do anything, you need to figure out if the slow internet is a problem with your computer, or with your network setup.

Clear Cookies/History

Whenever you access websites in your internet browser, your computer receives a thing called a cookie or, if it already has the cookie, it is taken out of “storage” and acts as if your computer just received it. These cookies don’t store chocolate chips, they store any information that you may have entered into on a website (i.e. Login information). Overtime, these cookies start to fill up space on your computer causing your internet connection to “slow down”.

Think of erasing your cookies this way; imagine an index at the end of a book, when you're looking for specific information it may take a while depending on how long the book is. Now, think of the cookies as the items in the index, the more you have, the longer it will take to find which "slows down" your internet connection.

Google Chrome

To clear all of the browser data for Google Chrome, follow these instructions:

1. Open up Google Chrome
2. In the upper right-hand corner, click on the icon that has 3 horizontal lines.
3. Select "Settings"
4. Scroll down, click on "Advanced Settings"
5. Under "Privacy", click "Clear browsing data"
6. Select what you want to be deleted, and from how long ago, click "Clear browsing data" (Note: This may take a few minutes depending on how long you have been using a browser.)
7. Done.

Mozilla Firefox

To clear all of the browser data for Mozilla Firefox, follow these instructions:

1. Open up Mozilla Firefox
2. In the upper right-hand corner, click on the icon that has 3 horizontal lines.
3. Select "Options"
4. On the left sidebar click on the "Privacy" icon
5. Click "clear your recent history"
6. Select what you want to be deleted, and from how long ago, click "Clear Now" (Note: This may take a few minutes depending on how long you have been using the browser.)
7. Done.

Internet Explorer

To clear all the browser data for Internet Explorer, follow these instructions:

1. Open up Internet Explorer
2. Select "Tools" click "Delete Browsing History"
3. Click "Delete All"
4. Click "Yes"
5. Done.

Edge

To clear all of the browser data for Microsoft Edge, follow these instruction:

1. Open up Microsoft Edge
2. In the upper right-hand corner, click on the icon that has 3 horizontal lines.
3. Click "Clear all history"

4. Select what you want to deleted, and from how long ago, click “Clear” (Note: This may take a few minutes depending on how long you have been using the browser.)
5. Done.

Safari

1. From the Safari menu, select Clear History and Website Data....
2. Select the desired time range, and then click Clear History.
3. Done.

Flush DNS cache

- Open your start menu and type “cmd”
- Open the program
- Type “ipconfig /flushdns” hit ENTER
- Done

Check Hardware

PLEASE make sure that your computer is powered off AND unplugged before you open your computer!

Router

In many cases, the easiest fix for a slow internet connection is to restart your router. There are two ways that you can do this, you can unplug it, or you can access it remotely to uninstall it.

1. Open your start menu
2. Type “cmd”, open the program
3. In the window that opens, type “ipconfig”
4. Look for the numbers that are aside “Default Gateway”
5. Type those numbers (including the periods) into a browser.
6. Click on the option “Restart Router” and restart it. (Note: All brands of routers have pages that are structured differently so it may take a while to find the option)
7. Done.

Another problem that your router may be having is that there are a lot of devices that are connected to it. Using these steps, you can see how many devices are connected to your router.

- Find the option “Connected Devices”, this option may be on the side bar, or a dropdown list on the page. (Note: All brands of routers have pages that are structured differently so it may take a while to find the option)

To restart your router, find the power plug in the back of the unit and disconnect the plug. Wait 30-60 seconds before you plug it back in. Why do you need to wait the 30-60 seconds? Even after you unplug the router or modem, it is still running on battery power, because it still has things to take care of before it actually powers off. Waiting the 30-60 seconds assures that all of these processes are over, and the device is properly shut off.