

1. Enable AHCI

The Advanced Host Controller Interface (AHCI) is a paramount feature for ensuring that Windows will support all of the features that come with running an [SSD](#) on your computer, especially the TRIM feature, which allows Windows to help the SSD perform its routine garbage collection. The term “garbage collection” is used to describe the phenomenon that occurs when a drive gets rid of information that is no longer considered to be in use.

To enable AHCI, you’ll have to enter the BIOS of your computer and enable it somewhere within its settings. I can’t tell you exactly where the setting is, as each BIOS functions differently. You’ll have to do a bit of hunting. Chances are that newer computers will have this enabled by default. It’s most recommended that you enable this feature *before* installing the operating system, although you might be able to get away with enabling it after Windows has already been installed.

2. Enable TRIM

We’ve talked about TRIM enough in the previous section. You could see how such a feature would benefit your computer’s speed greatly, so let’s get to enabling it!

Open up your command prompt and enter the following:

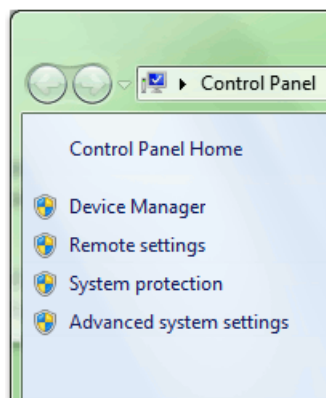
```
fsutil behavior set disabledeletenotify 0
```

That’s all you have to do! Onto the next step!

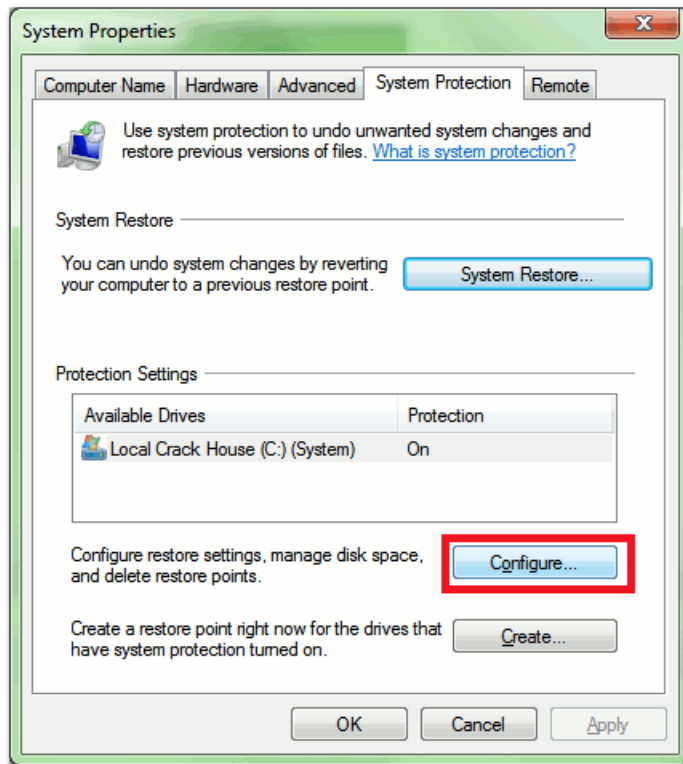
3. Disable System Restore

This isn’t an obligation. But, just so you know, your drive doesn’t exactly have infinite space. System restore undermines both the speed and space of your [SSD](#). Why don’t you just get rid of it?

Click your Start menu, right-click “Computer,” and click “Properties.” Click “System Protection” on the upper left-hand corner:



Once in the window, click “Configure,” like so:



Once in the configuration dialog, click “Turn off system protection.” Click “OK” and you’re all set!

4. Disable Indexing

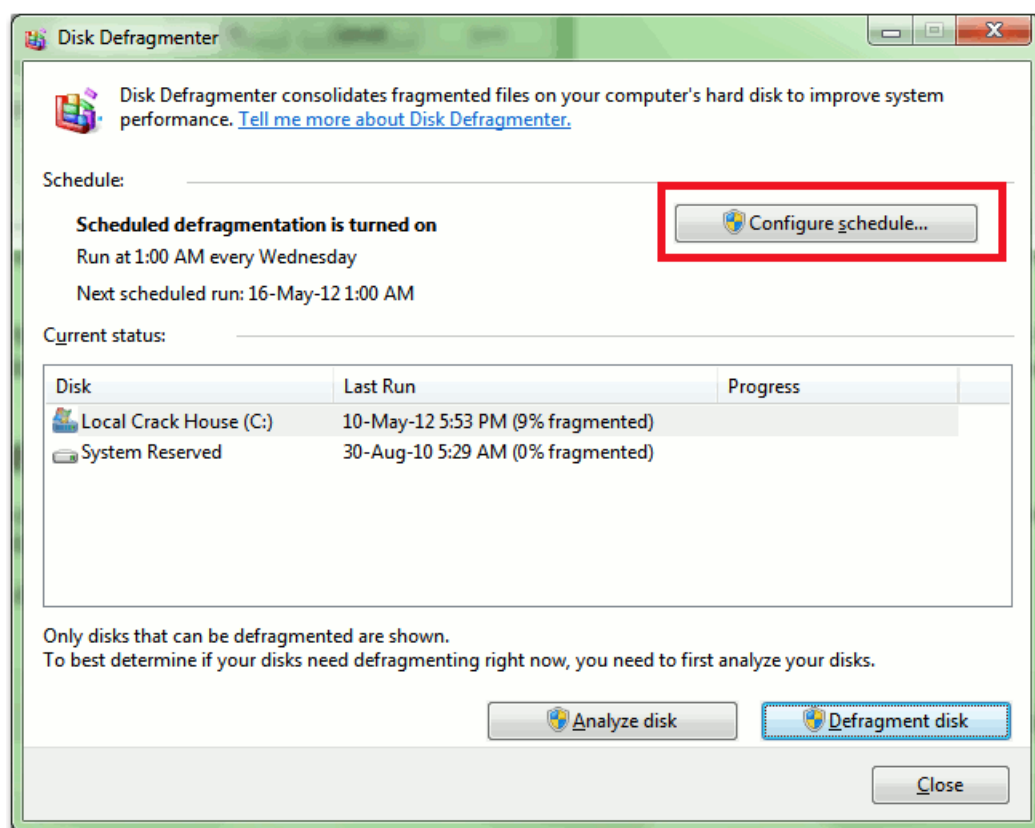
A good part of your [SSD](#) speed is consumed in indexing files for Windows search. This could be useful if you store everything you have on your SSD, but you might be annoyed by it if you experience slow-downs due to the periodic indexing process that occurs every time you add new data to the drive. You’re better off without it in an SSD, because the speed boost from the indexing process is superfluous in such environments.

Click your Start menu and click “Computer.” Right-click your [SSD](#) and click “Properties.” De-select the box labeled “Allow files to have contents indexed in addition to file properties” and click “OK.” Once you do this, the operating system will apply this to all the files and folders on the drive. If you see a dialog telling you that it couldn’t remove a file from the index, click “Ignore All.” That will streamline the process and ignore any errors.

5. Disable Scheduled Defragmentation

Because the SSD is a solid media with no moving parts, you often don’t see a performance drop due to file fragmentation. Therefore, there’s no need to actually defragment the drive as frequently as you would defragment an HDD, per se. That’s why we’re about to disable this!

Access your Start menu, click “Accessories,” click “System Tools,” and then click “Disk Defragmenter.” Click “Configure schedule,” like so:



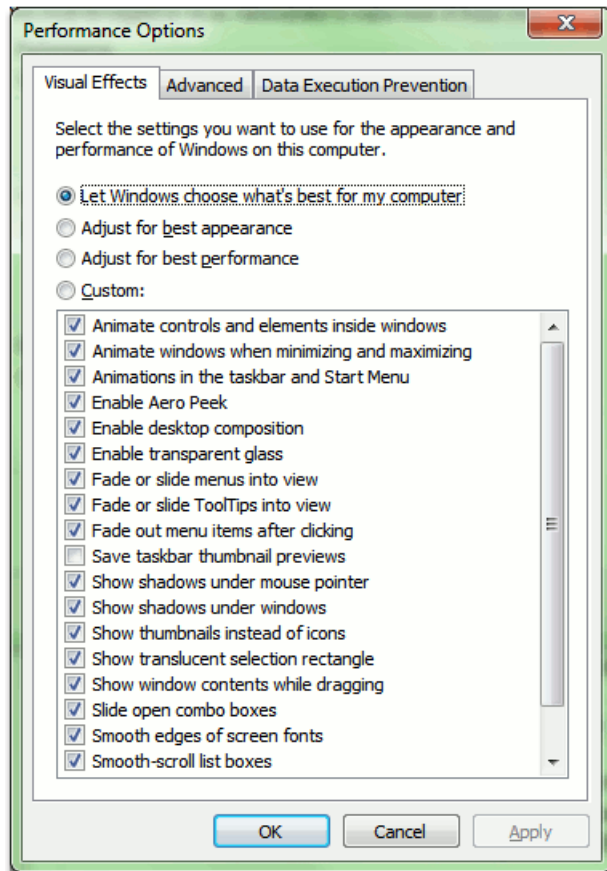
Once in the schedule configuration window, uncheck the box labeled “Run on a schedule.” Click “OK,” and you won’t have to worry about scheduled defragmentations again.

6. Remove The Page File

The page file in Windows refers to a file on a disk reserved for the storage of application components that would otherwise fit into physical memory. It’s like a form of [RAM](#) on your hard drive. Disabling the page file on a [solid state drive](#) would greatly increase the focus it would have on running system processes. Don’t do this if you run your computer solely on one SSD. If you paired an SSD with an HDD, then you can easily configure the HDD to handle the page file. The most ideal setup, though, is one SSD to run the page file, another SSD to run Windows, and an HDD for storage.

The process of configuring the page file differs based on your setup, so we’re only going to teach you how to reach the configuration window.

Right-click “Computer” in the Start menu and click “Properties.” Click “Advanced system settings” on the top left-hand side of the window and access the “Advanced” tab. Click “Settings” under “Performance.” You should now be at a window like this:



Click the “Advanced” tab and click “Change.” The rest of the configuration process should be easy enough!

7. Disable Hibernation

Windows occupies at least 2 GB for the hibernation state image. If you want to keep it, that’s fine by me, but you’re not getting all the juice you can out of your drive. Type “`powercfg -h off`” in your command line to disable it. You’ll be thankful for those two extra gigabytes when you have an intense game to install on it!

8. Disable Prefetch and Superfetch

Windows sometimes places information in your physical memory and virtual memory belonging to programs that you don’t currently use, but use very often. This is known as “Prefetch” and “Superfetch.” If you are stuck with having to cope with virtual memory on your SSD, you’re better off just doing away with these two features. You can find them on your registry editor under

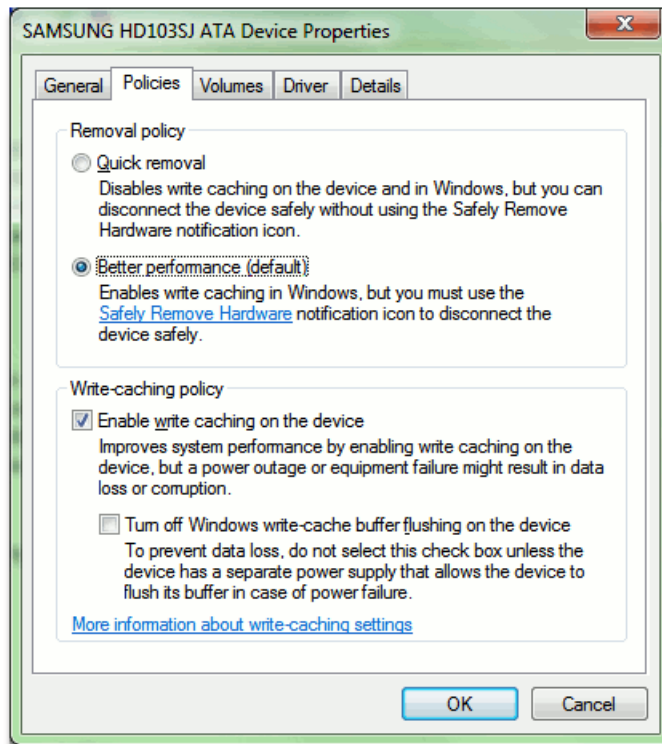
```
HKEY_LOCAL_MACHINE\CurrentControlSet\Control\SessionManager\Memory  
Management\PrefetchParameters
```

as two values: EnablePrefetcher and EnableSuperfetch. Set both values to zero and be done with it!

9. Configure Write Caching

On many SSDs, user level write caching can have a detrimental effect on the drive. To figure this out, you'll have to disable the option in Windows and see how the drive performs afterwards. If your drive performs worse, enable it again.

To reach the configuration window, right-click "Computer" on the Start menu and click "Properties." Click "Device manager," expand "Disk Drives," right-click your SSD, and click "Properties." Select the "Policies" tab. In this tab, you'll see an option labeled "Enable write caching on the device."



Benchmark your SSD with and without the option and compare results.

10. Disable Services for Windows Search and Superfetch

Even with the above-mentioned registry tweak and index removal, your computer might continue slowing your hard drive with their respective services. Press "Win+R" on your [keyboard](#), type "services.msc," and press "Enter." Find both services mentioned in the title of this section and disable them.

11. Disable ClearPageFileAtShutdown and LargeSystemCache

Windows is quick to implement things that are no longer necessary. An SSD operates on flash memory, making it possible to easily overwrite things on the disk. Therefore, the page file doesn't need to be erased while the computer's shutting down. This will make the Windows shutdown process much faster. LargeSystemCache, on the other hand, exists primarily in Server versions of Windows, and tells the computer whether to use a large cache for pages on the drive.

Both these options are found in your registry editor under

```
HKEY_LOCAL_MACHINE\CurrentControlSet\Control\SessionManager\Memory Management
```

Set them to 0.

12. Set the “High Performance” Power Option

This should be a no-brainer. When your SSD powers on and off all the time, you’ll notice a slight lag whenever you use your computer after you’ve been idle for a while.

To switch your power options, access your control panel, click “System and Security,” and then click “Power Options.” Select “High Performance” from the list. You might need to click “Show additional plans” to find it.