


**Keeping your  
System/Computer  
healthy and Operating**

A decorative graphic consisting of several parallel white lines of varying thicknesses, slanted diagonally from the bottom-left towards the top-right, crossing the text area.

**Here is a list of tasks and programs that can be performed to keep your system running healthily**

Decorative white lines consisting of several parallel diagonal strokes in the bottom right corner of the slide.

# OK here are the first two and the most important:

## 1. Windows Updates

Make sure Windows updates itself automatically. In Windows 7 or 8 search for Windows Update. Click Change settings in the left pane. Install updates automatically (if recommended isn't selected, select it.)

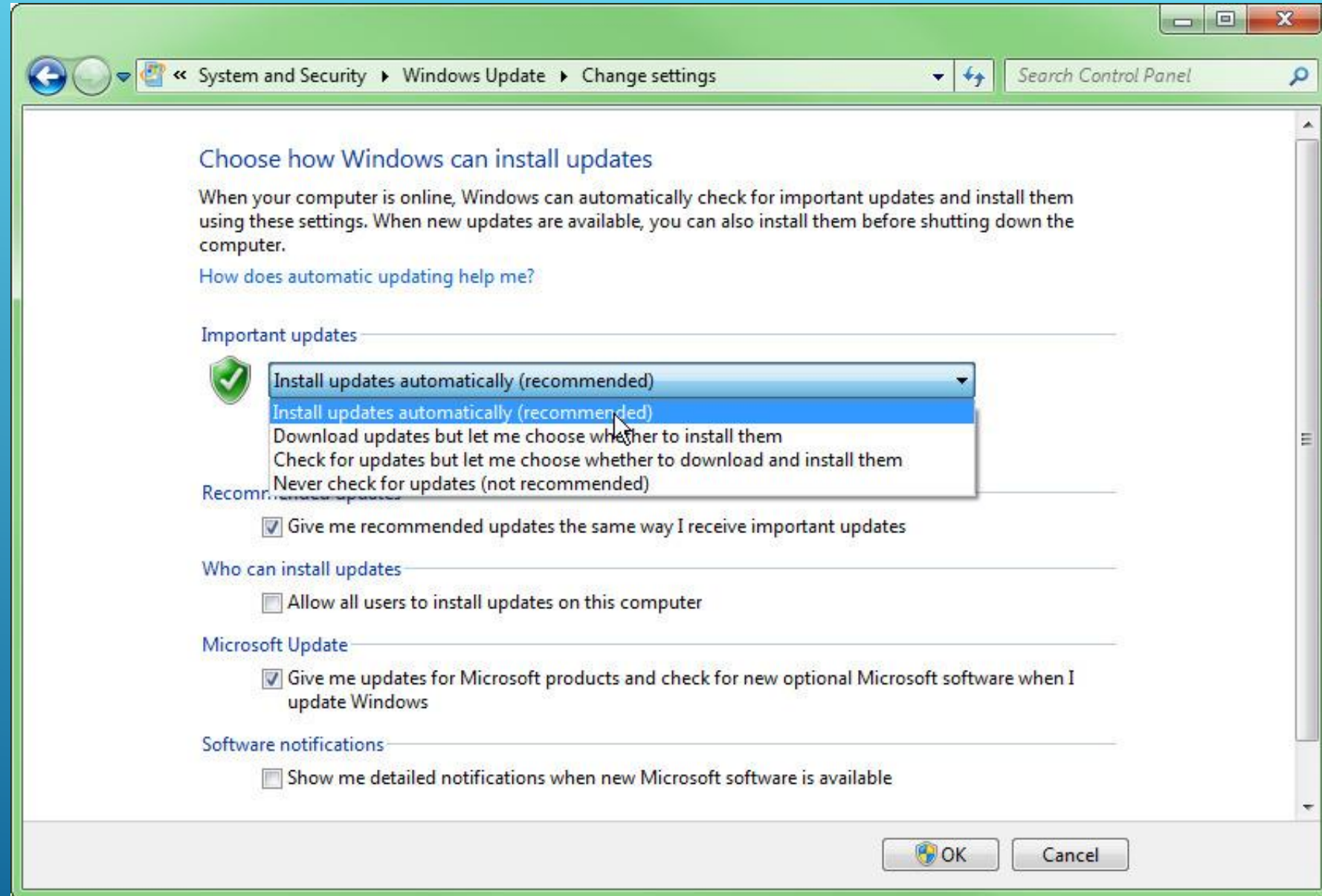
## 2. Windows Firewall

Like an antivirus, this type of program runs in the background at all times. But this one controls the traffic between your PC and the rest of the network (and internet).

Windows comes with a perfectly good firewall, but you should make sure it's on.

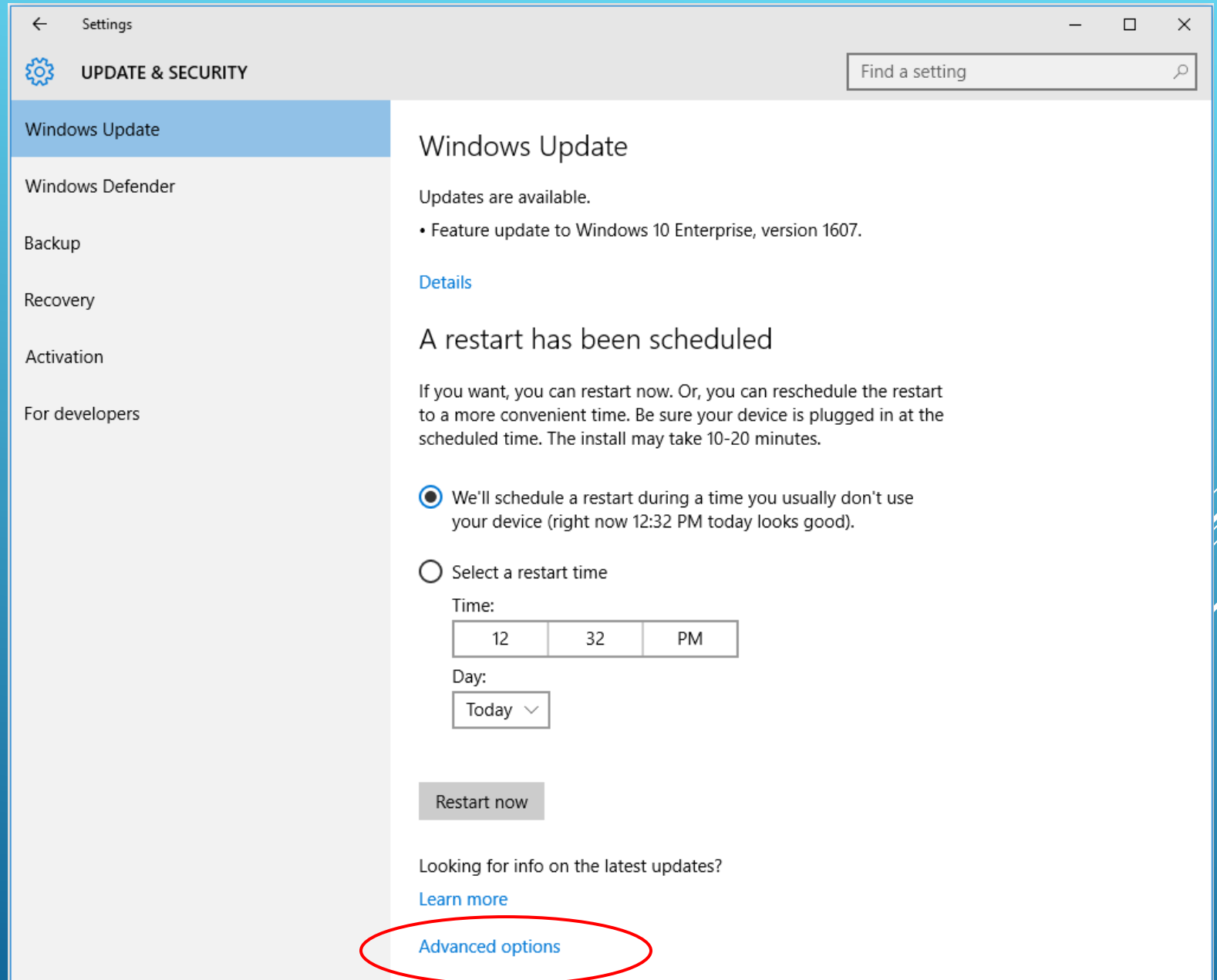
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# Windows Updates

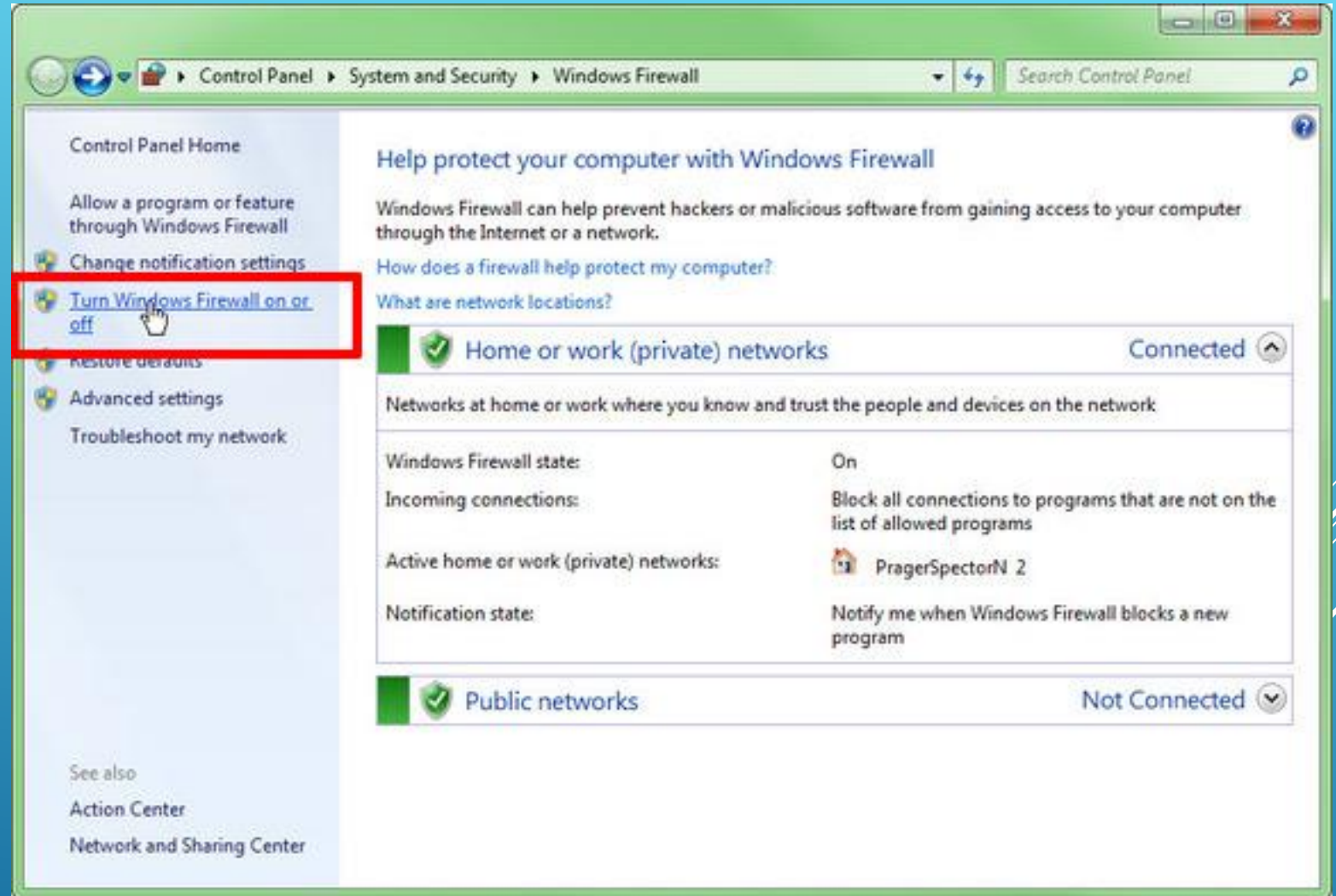
In Windows 10, Search for windows updates and select “Windows Updates Setting” Scroll down to the bottom of the window and click Advanced options. Make sure Automatic (recommended) is selected.



# Windows Firewall

Search for firewall and select “Windows Firewall” in the control Panel.

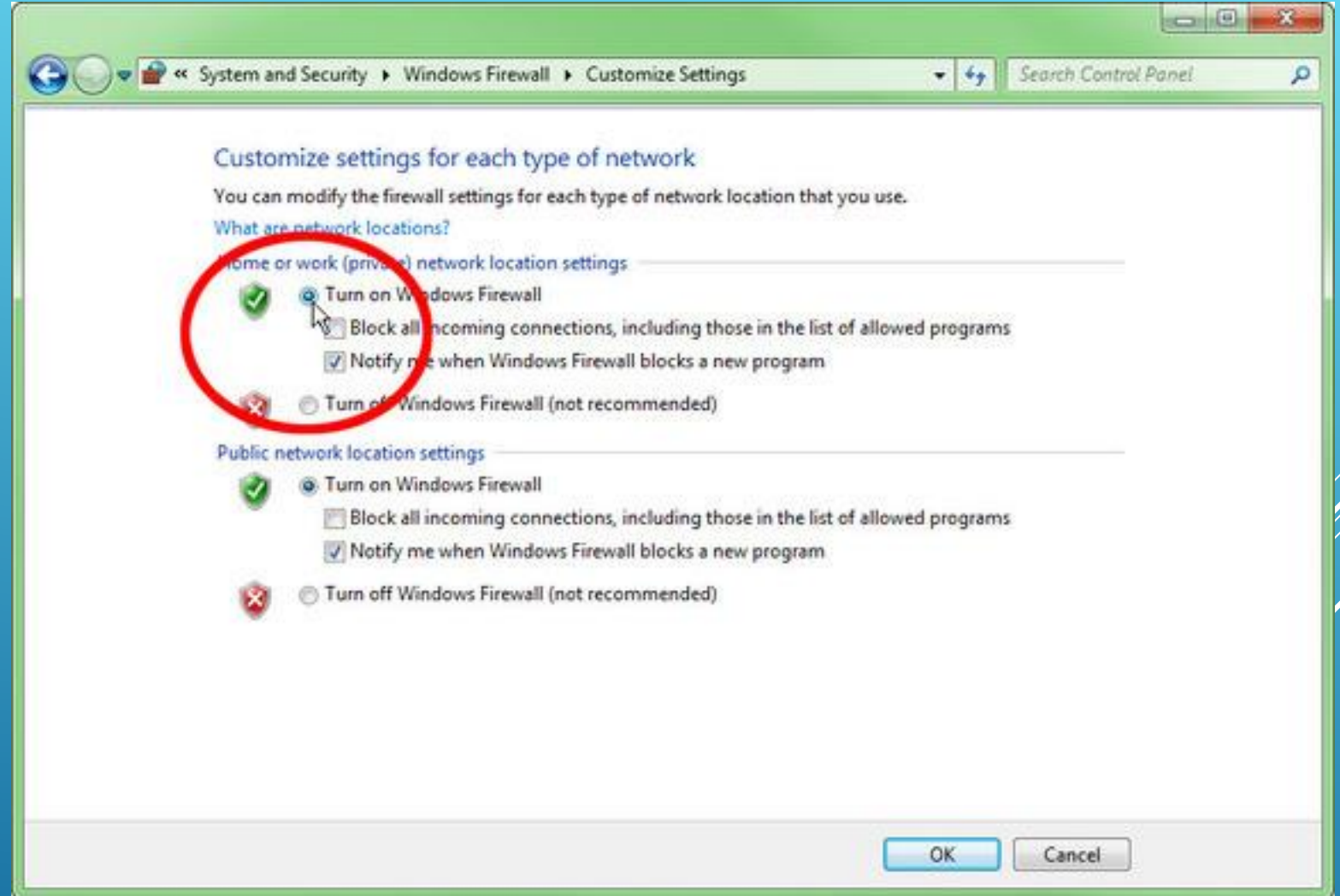
In the left pane, click Turn Windows Firewall on or off





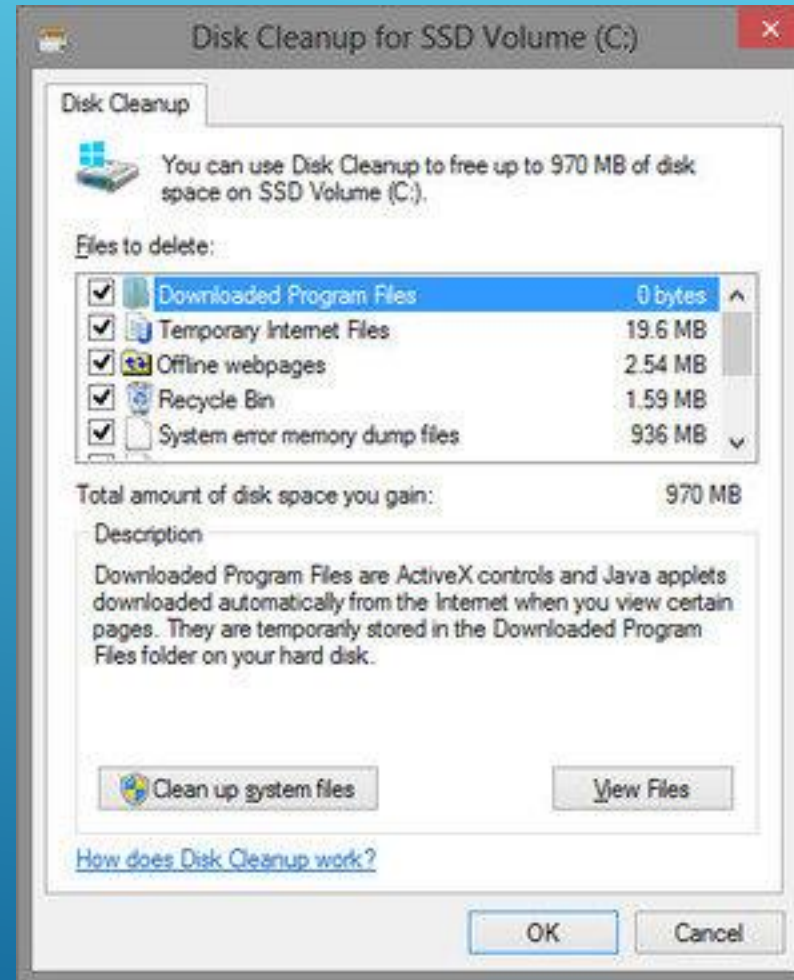
# Windows Firewall

Select the obvious option from selection.



# Clean the junk

There are many utilities available for ridding a PC of junk data, applications, and malware, but Windows has its own built-in Disk Cleanup utility, but its more of a quick-and-dirty tool for wiping temporary data rather than a full-blown utility. Still, running Disk Cleanup is a good way to reclaim disk space, which can be helpful on low-capacity hard-drives





# Antivirus and anti-malware Protection

## Most common list of Antivirus and **Anti-Malware**

### Antivirus

1. Symantec
2. MacAfee
3. AVG
4. Avast
5. Webroot

### Anti-Malware

1. Malwarebytes
2. AVG
3. Kaspersky
4. Webroot
5. Symantec

# Windows Registry Cleaning

The Windows Registry is a set of files that contains settings for your Windows PC – Such as what Program to use to open HTML files, when your antivirus program should run, or what desktop Background you use. You can read more about the Windows Registry at [Wikipedia](#).

A good program to use to clean Windows Registry would be “Ccleaner”

# Ccleaner

Ccleaner has consistently been one of the best systems cleaners for windows

To download ccleaner go to:  
[www.piriform.com/CCleaner](http://www.piriform.com/CCleaner)

Run installer and follow steps to install.

Here is an example of a scan

The screenshot shows the Piriform CCleaner Free interface. The top bar displays the application name and system information: Windows 10 Enterprise 64-bit, Intel Core i7-5500U CPU @ 2.40GHz, 16.0GB RAM, Intel HD Graphics 5500. The main window is divided into three sections: a left sidebar with navigation options (Cleaner, Registry, Tools, Options, Upgrade), a central list of categories and their sub-items, and a right pane showing the scan results.

The central list shows the following categories and their sub-items:

- Windows**
  - Microsoft Edge
    - Internet Cache
    - Internet History
    - Cookies
    - Download History
    - Session
    - Recently Typed URLs
    - Saved Form Information
    - Saved Passwords
  - Internet Explorer
    - Temporary Internet Files
    - History
    - Cookies
    - Recently Typed URLs
    - Index.dat files
    - Last Download Location
    - Autocomplete Form History
    - Saved Passwords
  - Windows Explorer
    - Recent Documents
    - Run (in Start Menu)
    - Other Explorer MRUs
    - Thumbnail Cache
    - Taskbar Jump Lists
    - Network Passwords
  - System
    - Empty Recycle Bin
    - Temporary Files
    - Clipboard
    - Memory Dumps
    - Chkdsk File Fragments
    - Windows Log Files
    - Windows Error Reporting
    - DNS Cache
    - Font Cache

The right pane shows the scan results, indicating that the cleaning is complete in 52.230 seconds, with 12,539 MB removed. Below this, a table lists the details of files deleted:

Application	File Type	Size	Number of Files
Microsoft Edge	Internet Cache	503 KB	91 files
Microsoft Edge	Internet History	0 KB	4 files
Microsoft Edge	Cookies	333 KB	254 files
Microsoft Edge	Download History	0 KB	3 files
Microsoft Edge	Session	4 KB	1 file
Internet Explorer	Temporary Internet Files	944,904 KB	12,478 files
Internet Explorer	History	147 KB	4 files
Internet Explorer	Cookies	3,264 KB	385 files
Windows Explorer	Recent Documents	3,833 KB	2,470 files
Windows Explorer	Thumbnail Cache	332,801 KB	13 files
System	Empty Recycle Bin	22 KB	1 file
System	Temporary Files	7,451,483 KB	27,097 files
System	Memory Dumps	930,351 KB	26 files
System	Windows Log Files	60,060 KB	342 files
Firefox	Internet Cache	Skipped	
Firefox	Internet History	Skipped	
Firefox	Cookies	Skipped	
Firefox	Download History	Skipped	
Firefox	Session	Skipped	
Google Chrome	Internet Cache	556,786 KB	2,869 files
Google Chrome	Internet History	1,857 KB	47 files
Google Chrome	Cookies	2,526 KB	875 files
Google Chrome	Session	1,838 KB	16 files
Windows Store	Bing Sports	927 KB	57 files

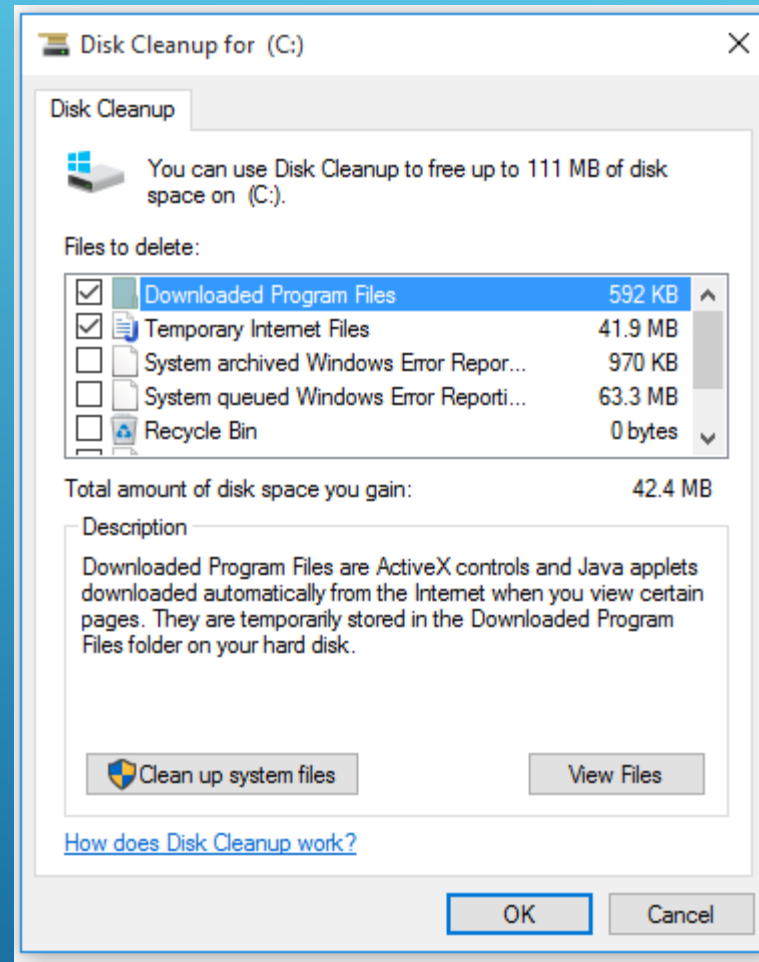
At the bottom of the right pane, there are buttons for 'Analyze' and 'Run Cleaner'. The status bar at the bottom right shows a 'Check for updates' link.

# Windows Disk Cleanup

Windows also has a built-in tool for those who don't want to install third party programs.

Search for "Disk Cleanup"

Here is an example.



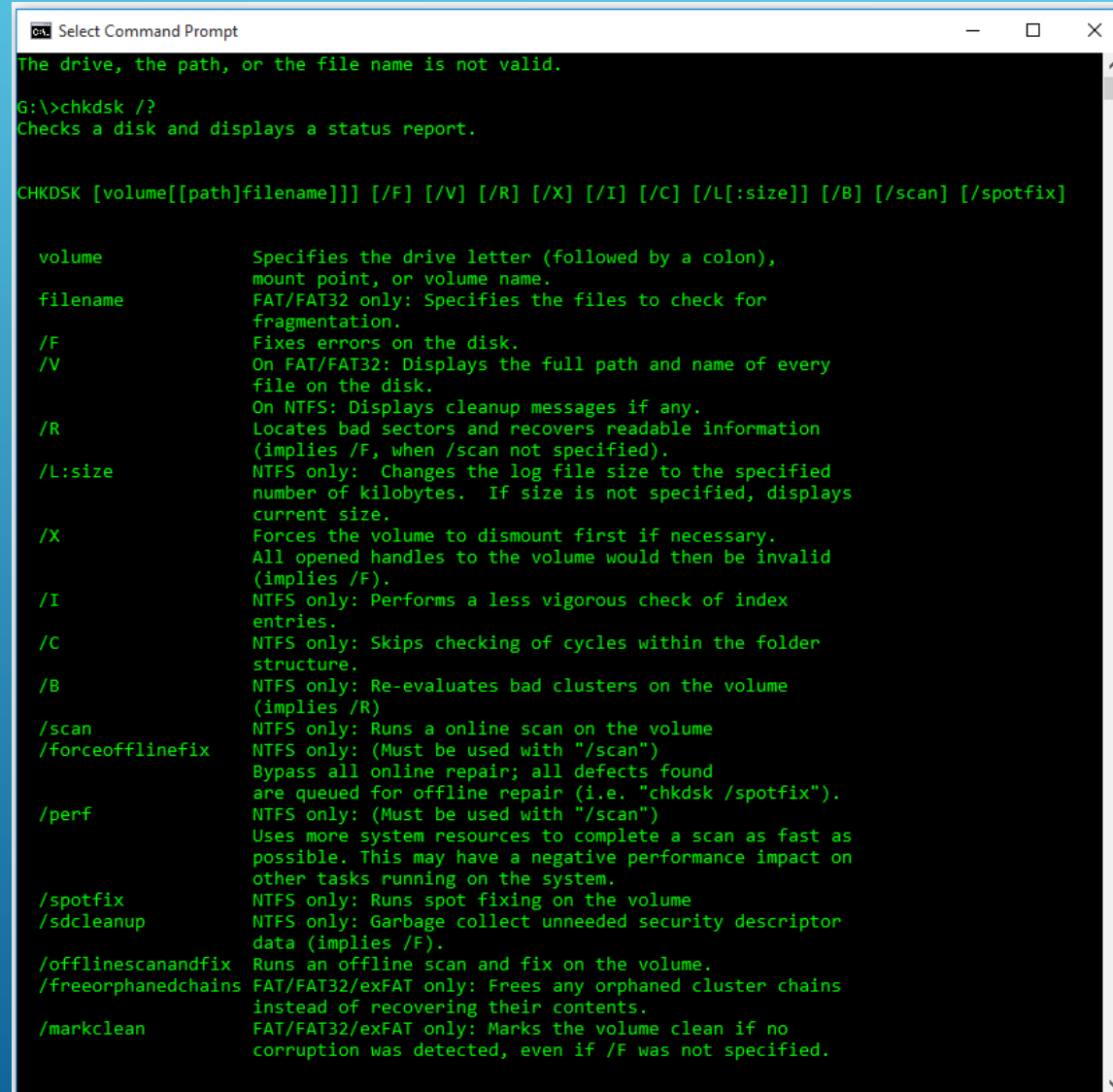
# Disk Check

## (Advanced item)

Every once in a while (once a month maybe) it is a good to run “chkdsk X: /f /r

(Where x is the drive letter you want to check) the f switch tells the command to automatically fix errors and the r switch locates bad sectors and recovers readable data.

Run this by searching for “CMD” (Command line)



```
ca Select Command Prompt
The drive, the path, or the file name is not valid.
G:\>chkdsk /?
Checks a disk and displays a status report.

CHKDSK [volume[[path]filename]] [/F] [/V] [/R] [/X] [/I] [/C] [/L[:size]] [/B] [/scan] [/spotfix]

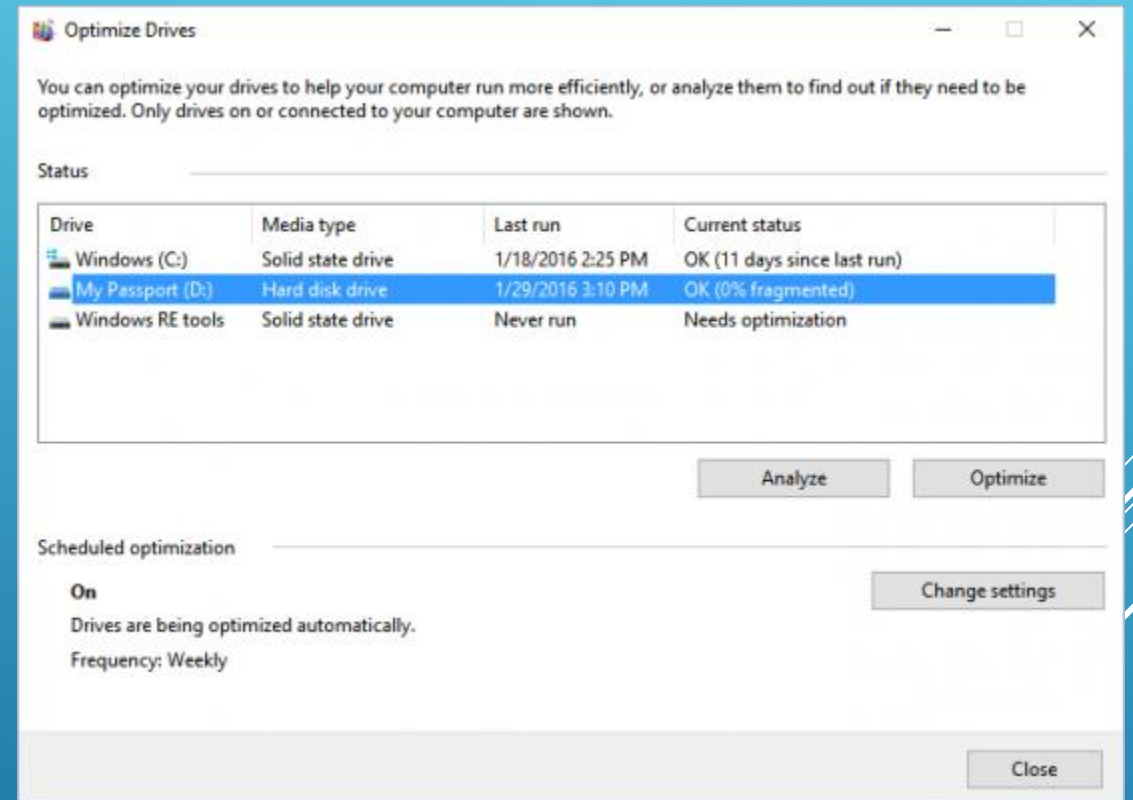
volume          Specifies the drive letter (followed by a colon),
                mount point, or volume name.
filename        FAT/FAT32 only: Specifies the files to check for
                fragmentation.
/F             Fixes errors on the disk.
/V             On FAT/FAT32: Displays the full path and name of every
                file on the disk.
                On NTFS: Displays cleanup messages if any.
/R             Locates bad sectors and recovers readable information
                (implies /F, when /scan not specified).
/L:size        NTFS only: Changes the log file size to the specified
                number of kilobytes. If size is not specified, displays
                current size.
/X             Forces the volume to dismount first if necessary.
                All opened handles to the volume would then be invalid
                (implies /F).
/I             NTFS only: Performs a less vigorous check of index
                entries.
/C             NTFS only: Skips checking of cycles within the folder
                structure.
/B             NTFS only: Re-evaluates bad clusters on the volume
                (implies /R)
/scan          NTFS only: Runs a online scan on the volume
                NTFS only: (Must be used with "/scan")
/forceofflinefix Bypass all online repair; all defects found
                are queued for offline repair (i.e. "chkdsk /spotfix").
                NTFS only: (Must be used with "/scan")
/perf          Uses more system resources to complete a scan as fast as
                possible. This may have a negative performance impact on
                other tasks running on the system.
/spotfix       NTFS only: Runs spot fixing on the volume
/sdcleanup     NTFS only: Garbage collect unneeded security descriptor
                data (implies /F).
/offlinescanandfix Runs an offline scan and fix on the volume.
/freeorphanedchains FAT/FAT32/exFAT only: Frees any orphaned cluster chains
                instead of recovering their contents.
/markclean     FAT/FAT32/exFAT only: Marks the volume clean if no
                corruption was detected, even if /F was not specified.
```



# Defragment your Hard Drive

Over time, files on your hard drive get fragmented, and your computer slows down because it has to check multiple places on your drive for those pieces. To have your computer run more efficiently, use the built-in tool in Windows to defragment those files. Here's how and when you should do it.

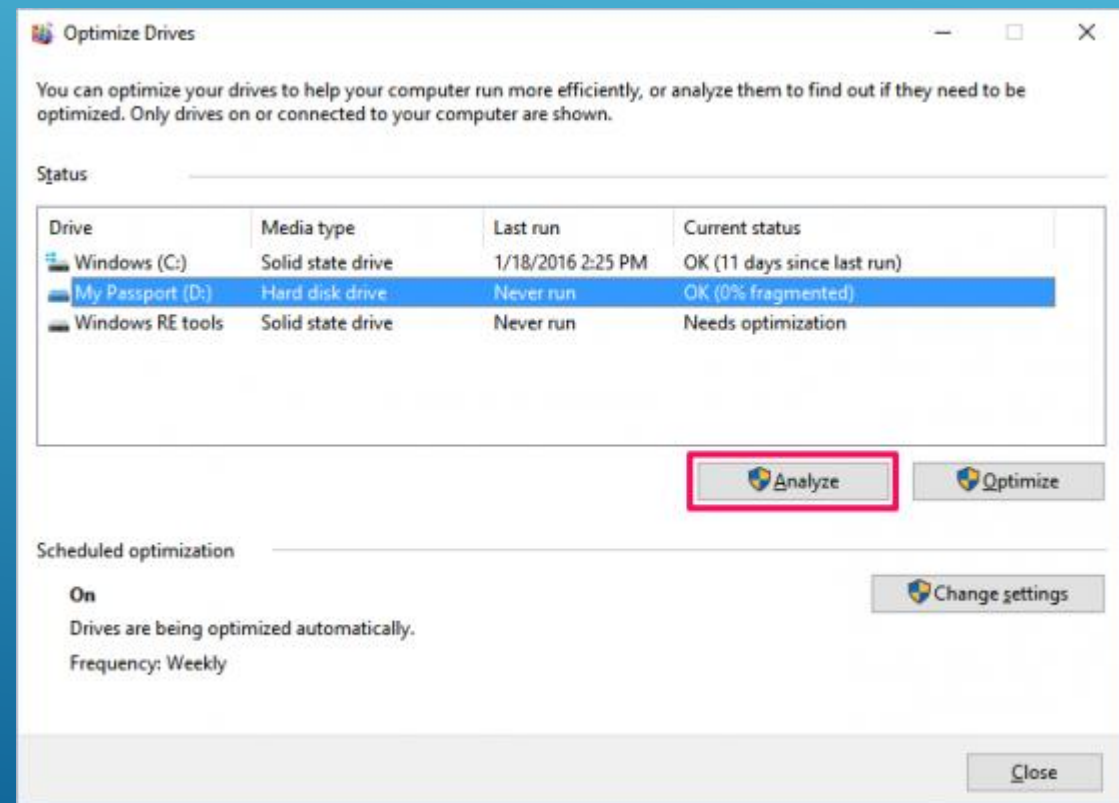
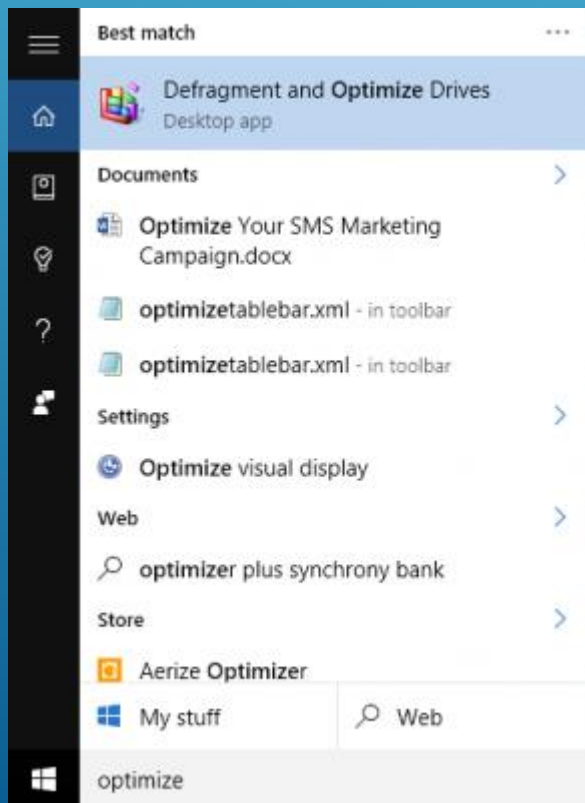
Windows 10, like Windows 8 and 7 before it, automatically defragments files for you on a schedule (by default, once a week). However, it doesn't always run consistently, so if you notice files are taking longer to load or you just want to double check, you can see how fragmented the drive is in Windows.



# Defragment your Hard Drive

Open the disk optimization tool by searching for “optimize” or “defrag” in the taskbar.

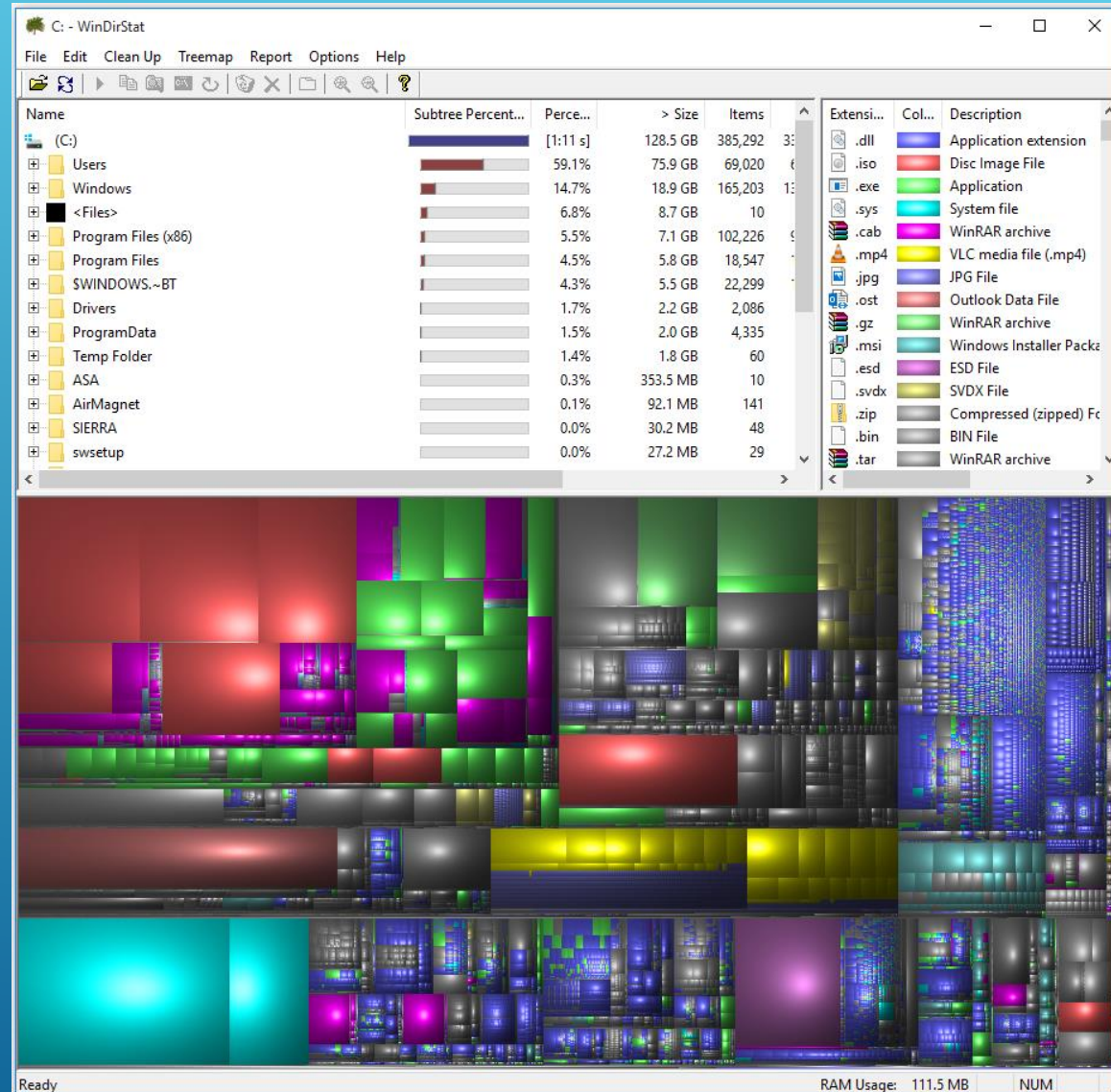
Select your hard drive and click Analyze. Note that if you have a SSD, this option is grayed out and not available



# Defragment your Hard Drive

**WinDirStat** is a disk usage statistics viewer is a must-have application as far as I'm concerned. I've used it regularly for many years now and it has never disappointed me. It stands for Windows Directory Statistics and it does exactly what it says.

Here is an example:

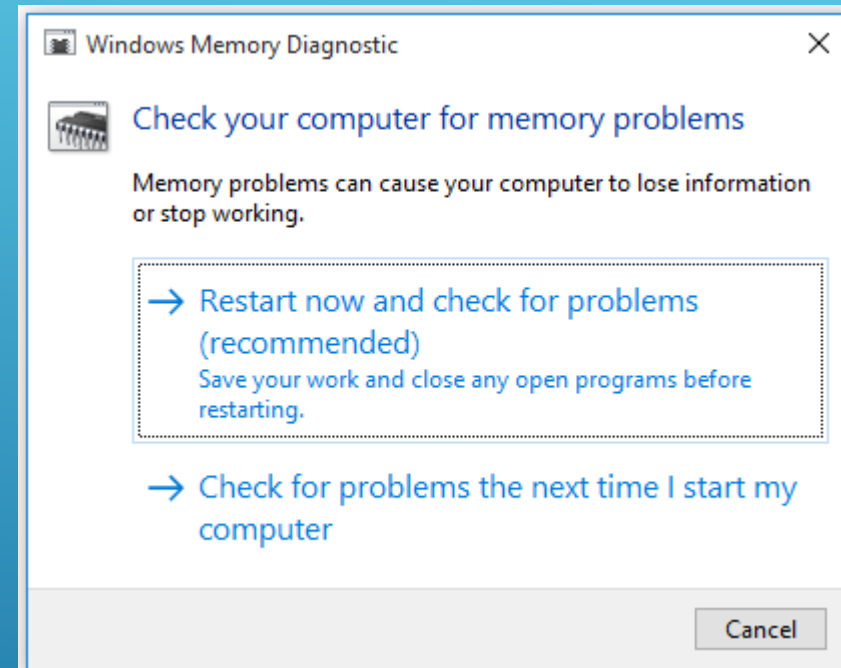


# Windows Memory Diagnostic

Is your computer unstable? There may be a problem with its RAM. To check, you can either use a hidden system tool included with Windows called "Windows Memory Diagnostic"

To launch the Windows Memory Diagnostic tool, open the Start menu, type "Windows Memory Diagnostic", and press Enter.

You can also press Windows Key + R, type "mdsched.exe" into the Run dialog that appears, and press Enter.

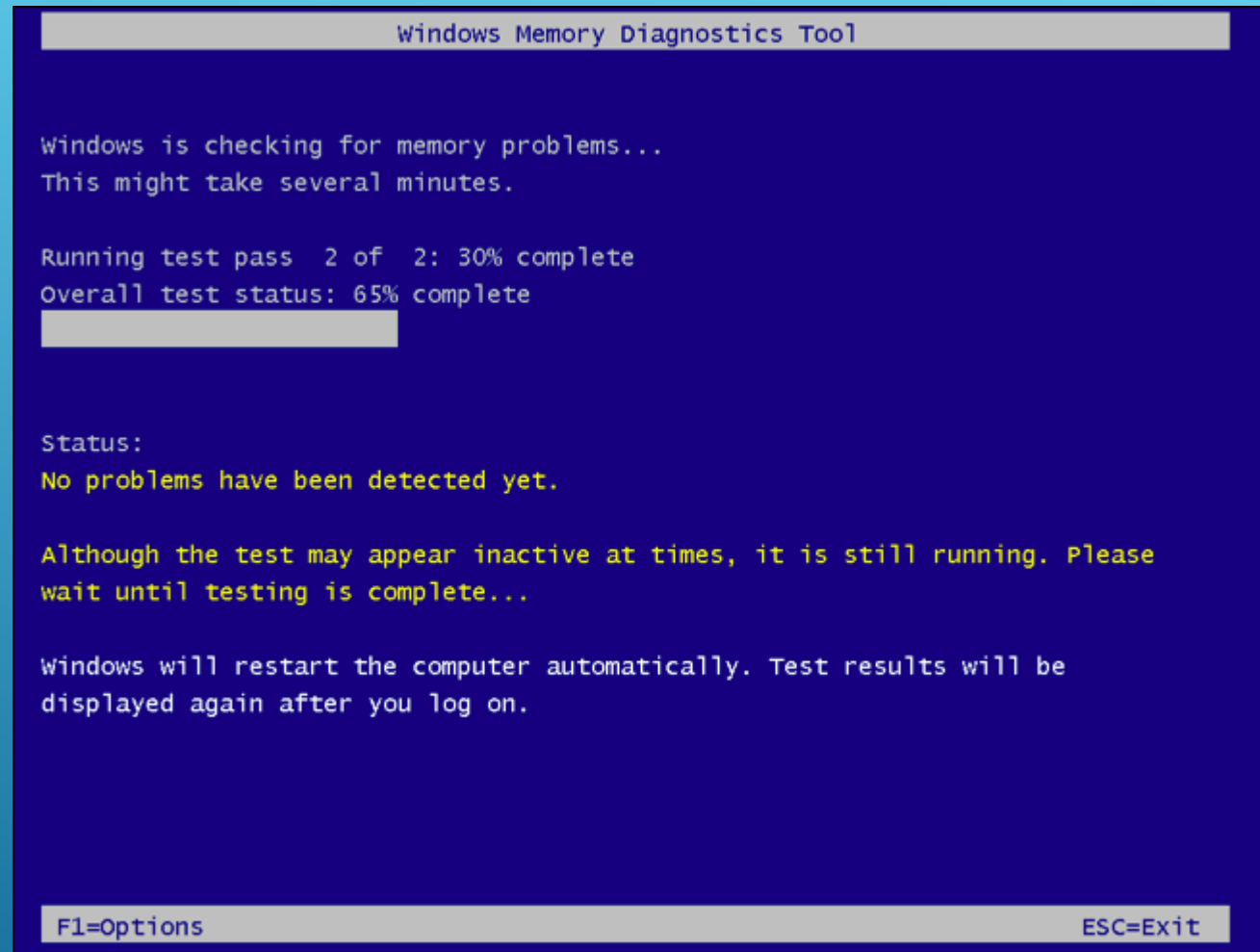




# Windows Memory Diagnostic

Your computer will restart and the Windows Memory Diagnostics Tool screen will appear. Just leave it be and let it perform the test. This may take several minutes. During this process, you'll see a progress bar and a "Status" message will inform you if any problems have been detected during the process.

However, you don't need to watch the test—you can leave your computer alone and come back to see the results later.

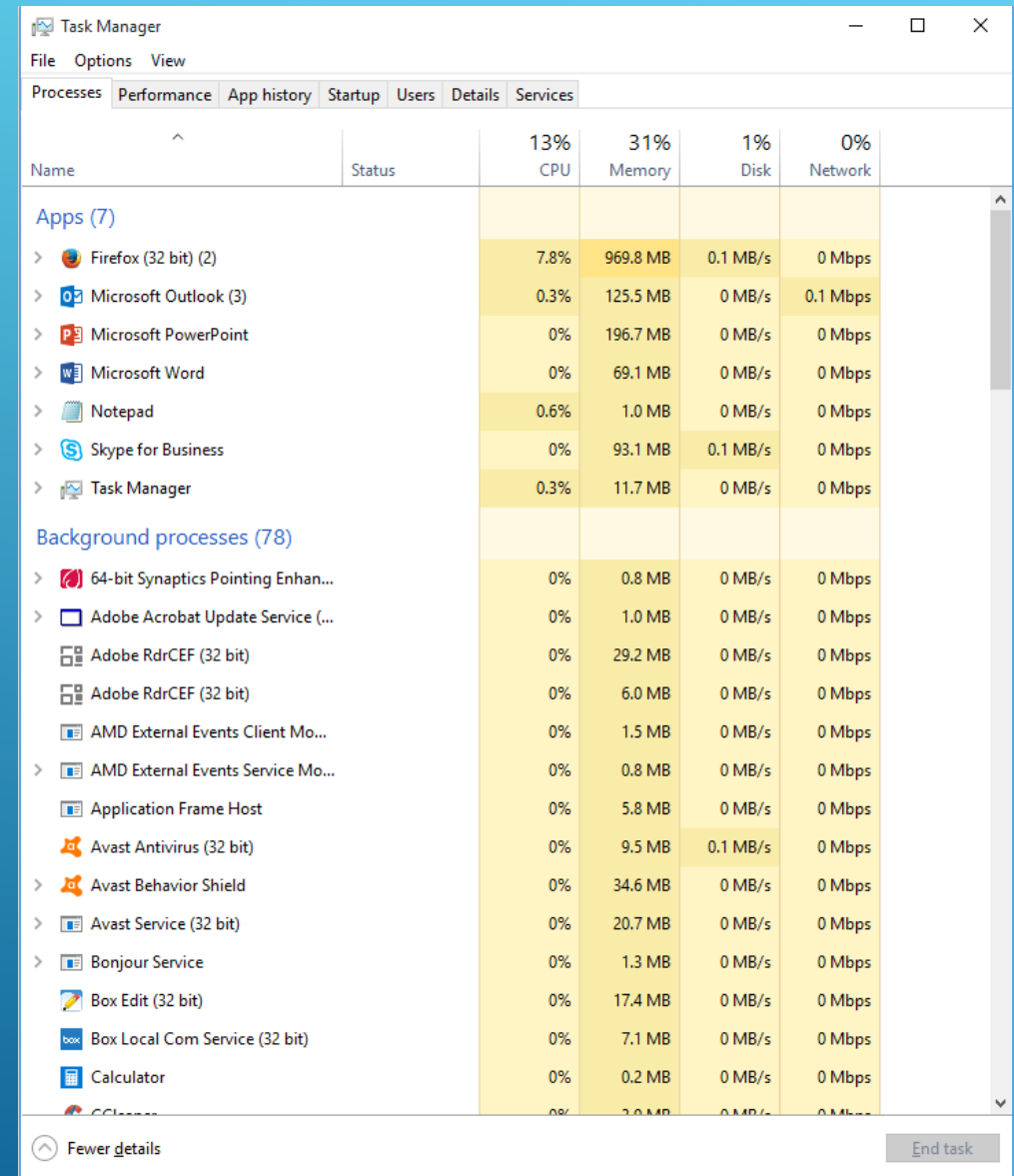




# Task Manager

Task manager is a system monitor, and startup manager included with Microsoft Windows systems. It provides limited information about computer performance and running applications, processes and CPU usage, and memory information, network activity and statistics, logged-in users, and system services. The Task Manager can also be used to set process priorities, processor affinity, forcibly terminate processes, and shut down, restart, hibernate, or log off from Windows.

Launch by tool bar or Ctrl + Shift + Esc



The screenshot shows the Windows Task Manager window with the 'Processes' tab selected. The window title is 'Task Manager' and it has a menu bar with 'File', 'Options', and 'View'. Below the menu bar are tabs for 'Processes', 'Performance', 'App history', 'Startup', 'Users', 'Details', and 'Services'. The main area displays a table of running processes, categorized into 'Apps (7)' and 'Background processes (78)'. The table has columns for Name, Status, CPU usage, Memory usage, Disk usage, and Network usage. The 'Apps (7)' section lists Firefox (32 bit) (2), Microsoft Outlook (3), Microsoft PowerPoint, Microsoft Word, Notepad, Skype for Business, and Task Manager. The 'Background processes (78)' section lists various system services and applications, including 64-bit Synaptics Pointing Enhance..., Adobe Acrobat Update Service (...), Adobe RdrCEF (32 bit), AMD External Events Client Mo..., AMD External Events Service Mo..., Application Frame Host, Avast Antivirus (32 bit), Avast Behavior Shield, Avast Service (32 bit), Bonjour Service, Box Edit (32 bit), Box Local Com Service (32 bit), Calculator, and CCleaner. At the bottom of the window, there is a 'Fewer details' button on the left and an 'End task' button on the right.

Name	Status	13% CPU	31% Memory	1% Disk	0% Network
<b>Apps (7)</b>					
> Firefox (32 bit) (2)		7.8%	969.8 MB	0.1 MB/s	0 Mbps
> Microsoft Outlook (3)		0.3%	125.5 MB	0 MB/s	0.1 Mbps
> Microsoft PowerPoint		0%	196.7 MB	0 MB/s	0 Mbps
> Microsoft Word		0%	69.1 MB	0 MB/s	0 Mbps
> Notepad		0.6%	1.0 MB	0 MB/s	0 Mbps
> Skype for Business		0%	93.1 MB	0.1 MB/s	0 Mbps
> Task Manager		0.3%	11.7 MB	0 MB/s	0 Mbps
<b>Background processes (78)</b>					
> 64-bit Synaptics Pointing Enhance...		0%	0.8 MB	0 MB/s	0 Mbps
> Adobe Acrobat Update Service (...)		0%	1.0 MB	0 MB/s	0 Mbps
Adobe RdrCEF (32 bit)		0%	29.2 MB	0 MB/s	0 Mbps
Adobe RdrCEF (32 bit)		0%	6.0 MB	0 MB/s	0 Mbps
AMD External Events Client Mo...		0%	1.5 MB	0 MB/s	0 Mbps
> AMD External Events Service Mo...		0%	0.8 MB	0 MB/s	0 Mbps
Application Frame Host		0%	5.8 MB	0 MB/s	0 Mbps
Avast Antivirus (32 bit)		0%	9.5 MB	0.1 MB/s	0 Mbps
> Avast Behavior Shield		0%	34.6 MB	0 MB/s	0 Mbps
> Avast Service (32 bit)		0%	20.7 MB	0 MB/s	0 Mbps
> Bonjour Service		0%	1.3 MB	0 MB/s	0 Mbps
Box Edit (32 bit)		0%	17.4 MB	0 MB/s	0 Mbps
Box Local Com Service (32 bit)		0%	7.1 MB	0 MB/s	0 Mbps
Calculator		0%	0.2 MB	0 MB/s	0 Mbps
CCleaner		0%	3.0 MB	0 MB/s	0 Mbps



QUESTIONS ?

Several thin, white, parallel lines are drawn diagonally across the bottom right corner of the slide, extending from the right edge towards the center.