



BACK TO BASICS #4

WHY IS MY COMPUTER SLOW?

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We first need to identify what the user means by **my computer is slow**. These can include the following:

- Computer is slow to start-up
- Opening file explorer is slow
- Computer keeps “hanging”, but recovers
- Computer is slow opening applications
- Computer is slow when using certain applications

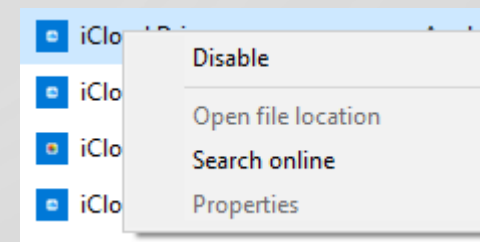
START-UP PROGRAMS



Right Click on the Taskbar and select “Task Manager”

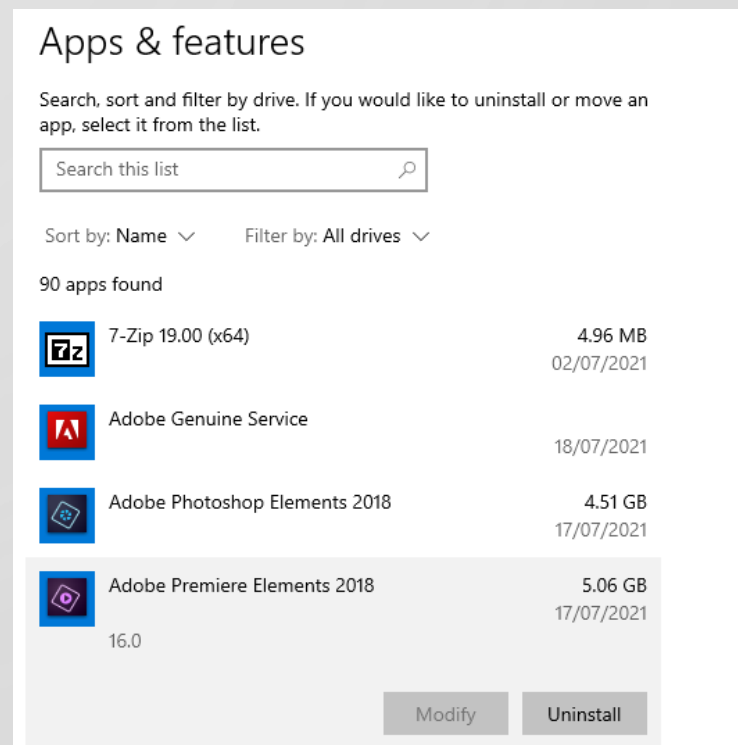
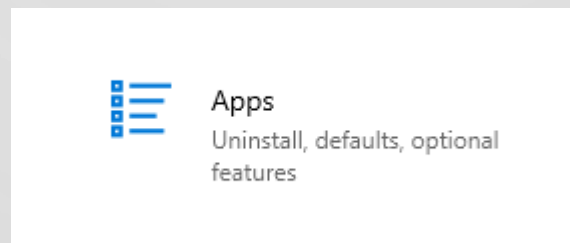
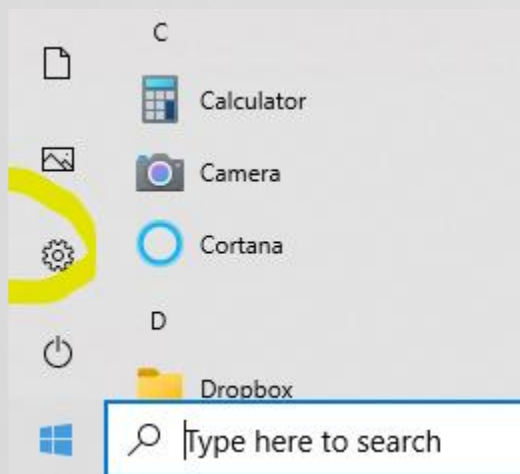
Name	Publisher	Status	Start-up impact
Adobe GC Invoker Utility	Adobe Systems, Incorpo...	Enabled	Not measured
Adobe Updater Startup Utility	Adobe Systems Incorpor...	Enabled	Not measured
Cortana	Microsoft Corporation	Enabled	Not measured
Dropbox	Dropbox, Inc.	Enabled	Not measured
Evernote Clipper	Evernote Corp., 305 Wal...	Enabled	Not measured
iCloud Drive	Apple Inc.	Enabled	Not measured
iCloud Internet Explorer Boo...	Apple Inc.	Enabled	Not measured
iCloud Photos	Apple Inc.	Enabled	Not measured
iCloud Shared Albums	Apple Inc.	Enabled	Not measured
iCloud Status Window	Apple Inc.	Enabled	Not measured
Intel® Graphics Command ...	INTEL CORP	Disabled	None
iTunesHelper	Apple Inc.	Enabled	Not measured
Killer Control Center	Rivet Networks LLC	Disabled	None
MapDrives.cmd		Enabled	Not measured

You can temporarily disable a program



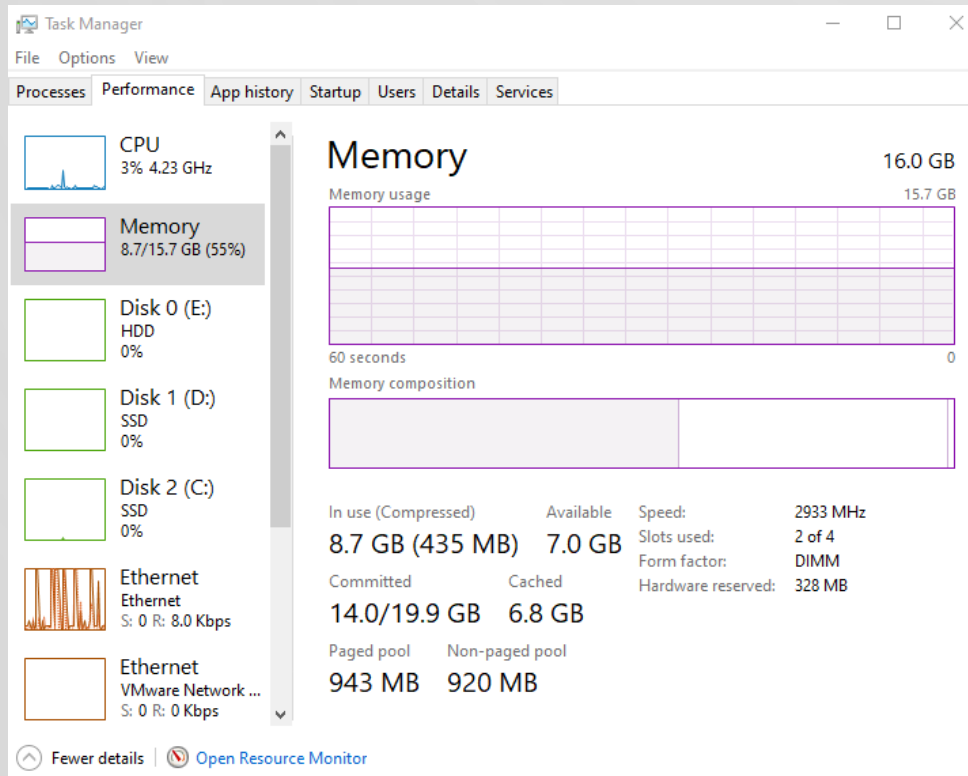
START-UP PROGRAMS (BLOATWARE)

If you want to permanently disable a program it is a good idea to uninstall the program. Click on the Start button and Select Settings. Then select Apps from the list of options. You can then click on the App and click Uninstall



MEMORY

When a program is running it is loaded into RAM (Random Access Memory). The amount of RAM your computer has is finite and when it becomes full your computer **will** slow down. In Task Manager you can view both your total amount and the amount you are using. You can view the programs which are using the memory by selecting the **Details** Tab.

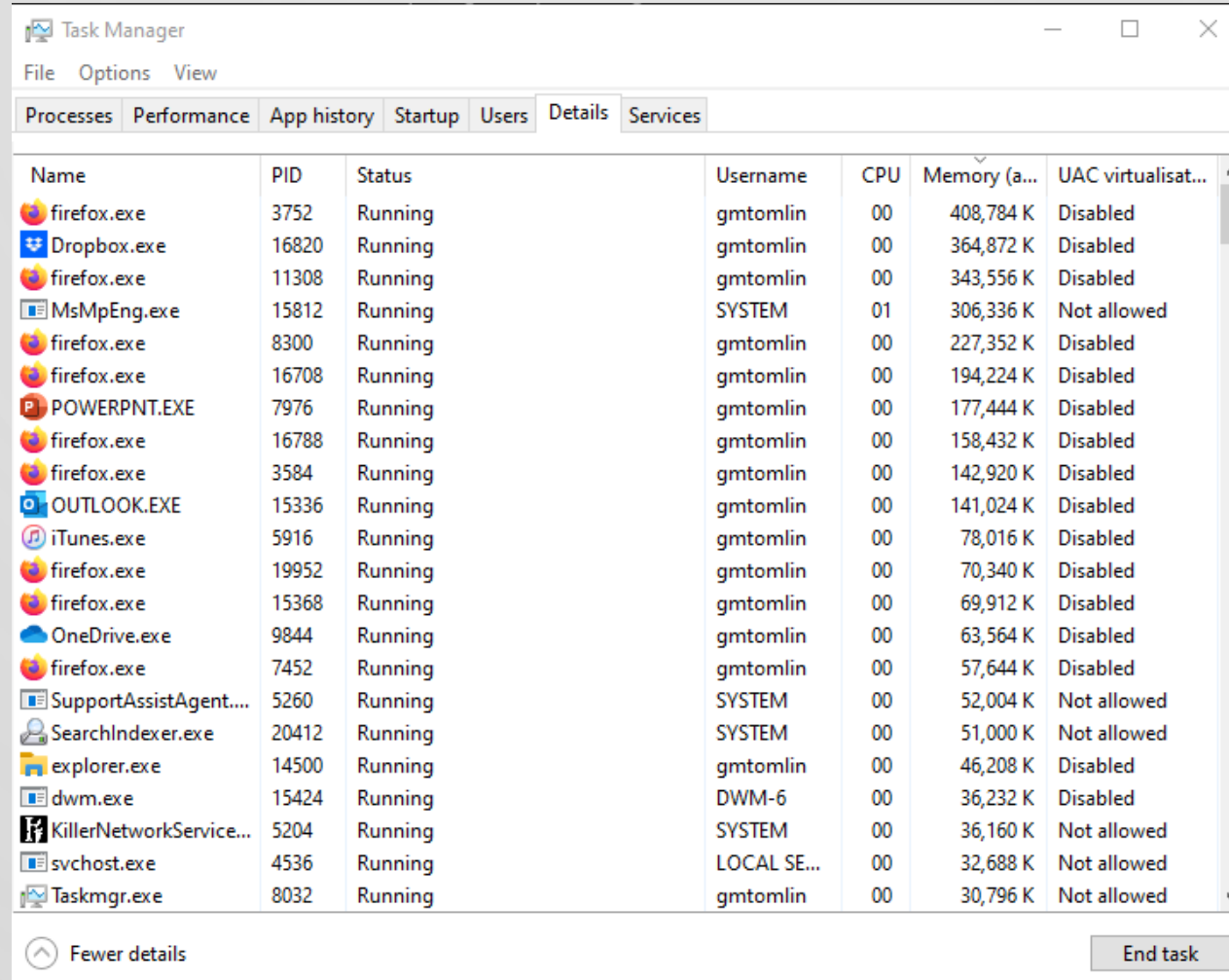


The screenshot shows the Windows Task Manager Details tab. It displays a list of running processes with columns for Name, PID, Status, Username, CPU, Memory (a...), and UAC virtualisat... The processes listed include firefox.exe, Dropbox.exe, MsMpEng.exe, POWERPNT.EXE, OUTLOOK.EXE, iTunes.exe, OneDrive.exe, SupportAssistAgent..., SearchIndexer.exe, explorer.exe, dwm.exe, KillerNetworkService..., and svchost.exe.

Name	PID	Status	Username	CPU	Memory (a...)	UAC virtualisat...
firefox.exe	3752	Running	gmtomlin	00	408,784 K	Disabled
Dropbox.exe	16820	Running	gmtomlin	00	364,872 K	Disabled
firefox.exe	11308	Running	gmtomlin	00	343,556 K	Disabled
MsMpEng.exe	15812	Running	SYSTEM	01	306,336 K	Not allowed
firefox.exe	8300	Running	gmtomlin	00	227,352 K	Disabled
firefox.exe	16708	Running	gmtomlin	00	194,224 K	Disabled
POWERPNT.EXE	7976	Running	gmtomlin	00	177,444 K	Disabled
firefox.exe	16788	Running	gmtomlin	00	158,432 K	Disabled
firefox.exe	3584	Running	gmtomlin	00	142,920 K	Disabled
OUTLOOK.EXE	15336	Running	gmtomlin	00	141,024 K	Disabled
iTunes.exe	5916	Running	gmtomlin	00	78,016 K	Disabled
firefox.exe	19952	Running	gmtomlin	00	70,340 K	Disabled
firefox.exe	15368	Running	gmtomlin	00	69,912 K	Disabled
OneDrive.exe	9844	Running	gmtomlin	00	63,564 K	Disabled
firefox.exe	7452	Running	gmtomlin	00	57,644 K	Disabled
SupportAssistAgent...	5260	Running	SYSTEM	00	52,004 K	Not allowed
SearchIndexer.exe	20412	Running	SYSTEM	00	51,000 K	Not allowed
explorer.exe	14500	Running	gmtomlin	00	46,208 K	Disabled
dwm.exe	15424	Running	DWM-6	00	36,232 K	Disabled
KillerNetworkService...	5204	Running	SYSTEM	00	36,160 K	Not allowed
svchost.exe	4536	Running	LOCAL SE...	00	32,688 K	Not allowed
Taskmgr.exe	8032	Running	gmtomlin	00	30,796 K	Not allowed

MEMORY

If your computer indicates you are using more than 100% of the memory you can try closing programs you are not using or close unwanted tabs in the web browser.



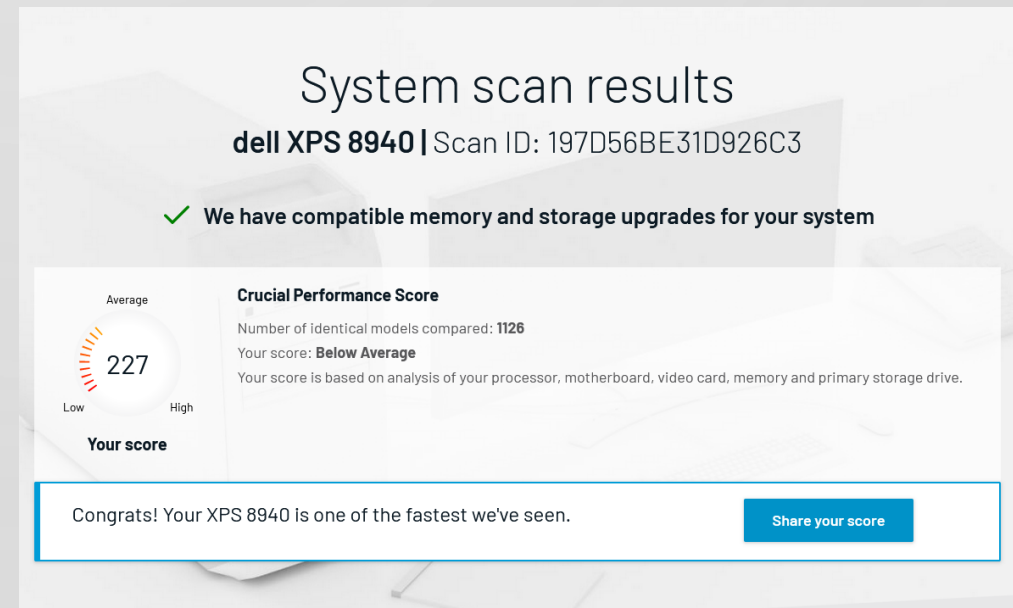
The screenshot shows the Windows Task Manager window with the 'Details' tab selected. The table below lists the running processes, their PIDs, statuses, usernames, CPU usage, memory usage, and UAC virtualization settings.

Name	PID	Status	Username	CPU	Memory (a...)	UAC virtualisat...
firefox.exe	3752	Running	gmtomlin	00	408,784 K	Disabled
Dropbox.exe	16820	Running	gmtomlin	00	364,872 K	Disabled
firefox.exe	11308	Running	gmtomlin	00	343,556 K	Disabled
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MEMORY

It maybe possible to upgrade the memory in your computer. This is dependent upon an a number of factors including the hardware and operating system architecture.

The quickest way it to navigate to <https://uk.crucial.com/> run their Scanner by clicking on “Start your Scan”. You then need to agree to their terms and conditions. This will download a small program you need to run. It will then report on upgrades for your computer.



DISK (HARD DISK'S AND SOLID STATE)

When you install a program or operation system onto your computer is it stored on your hard disk or solid state drive. This is non-volatile unlike the RAM.

Hard Disk (HD) / Disk Drive (DD) / Hard Drive (HD) /Solid State Drive (SSD)

Free Disk Space

If your disk runs out of space your computer will start behave strangely and may stop working completely. You can check the size of the disk and the free space by going to Settings -> System -> Storage

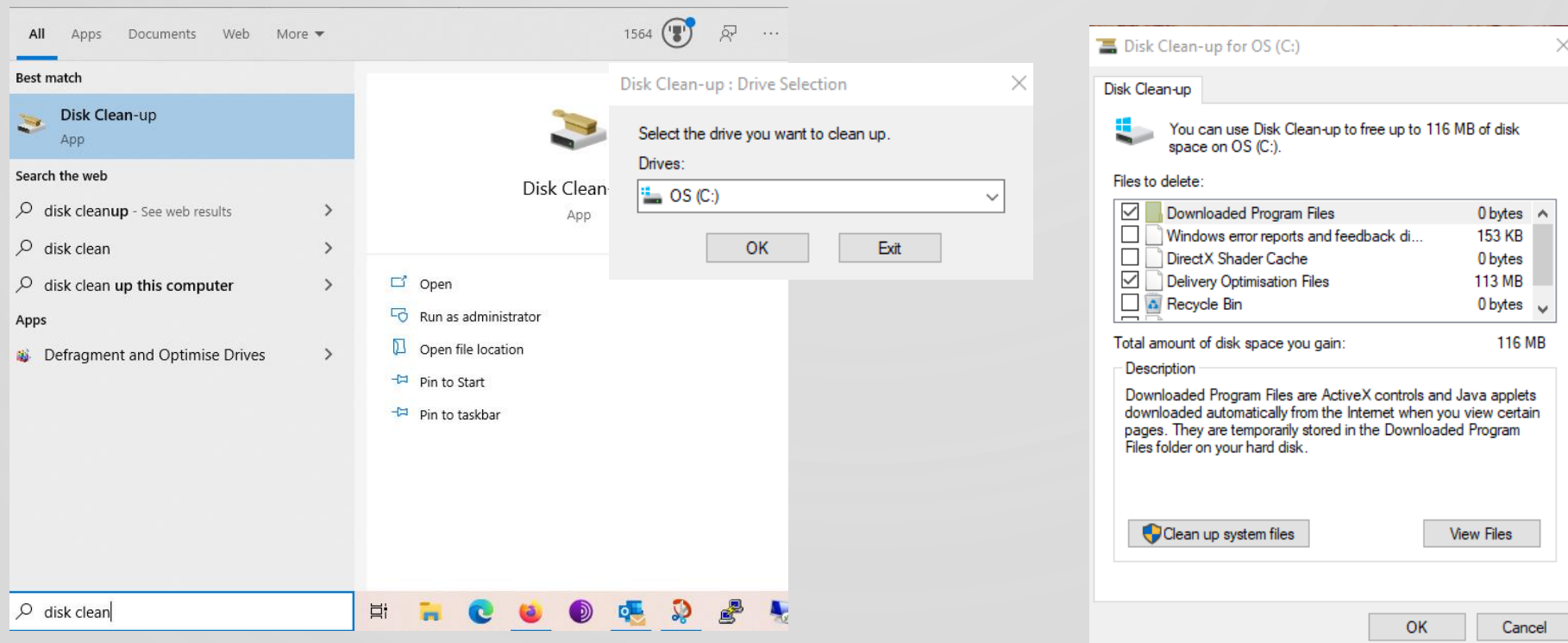
The screenshot shows the Windows Settings application with the 'Storage' page selected. The left sidebar lists various settings categories, with 'Storage' highlighted. The main content area displays the storage status for the OS (C:) drive, which is 448 GB in total. A progress bar indicates that 67.0 GB is used and 380 GB is free. Below this, a section titled 'This is how your storage is used and how you can free up space.' provides a breakdown of storage usage: System & reserved (41.0 GB), Apps & features (24.7 GB), and Other (746 MB). The 'Storage Sense' feature is shown as turned off, with a toggle switch and a link to 'Configure Storage Sense or run it now'. On the right side, there are links for 'Keep clutter off your PC', 'Help from the web', and 'Get help'.

Category	Usage
OS (C:) - Total	448 GB
OS (C:) - Used	67.0 GB
OS (C:) - Free	380 GB
System & reserved	41.0 GB
Apps & features	24.7 GB
Other	746 MB

DISK (HARD DISK'S AND SOLID STATE)

Disk Clean-up

You can clean up your disk by running the Disk Clean-up utility. This will remove temporary files and files which windows manage. It will NOT delete any of your data. Type **disk clean-up** in search box. Click the Disk Clean-up App. Select the Drive and click OK. Click OK to clean-up



DISK (HARD DISK'S AND SOLID STATE)

Fragmentation (Hard Disk's Only)

As programs are installed and deleted the data becomes fragmented across the drive which can increase the time to load the program into memory. Windows 10 regularly optimises your drives, but you can also check and run this task.

Settings -> System -> Storage then click Optimise Drives from the more storage settings

The screenshot shows the Windows Settings application. The left sidebar is open to the 'Storage' section. The main pane displays 'Storage' settings, including 'Storage Sense' (currently off) and 'OS (C:) - 448 GB' with a progress bar showing 67.0 GB used and 380 GB free. A 'More storage settings' section is visible at the bottom. An 'Optimise Drives' utility window is open in the foreground, displaying a table of drive status and scheduled optimization settings.

Drive	Media type	Last analysed or o...	Current status
OS (C:)	Solid state drive	03/09/2021 12:40	OK (9 days since last retrim)
Data (D:)	Solid state drive	03/09/2021 12:12	OK (10 days since last retrim)
Media (E:)	Hard disk drive	10/09/2021 11:50	OK (0% fragmented)

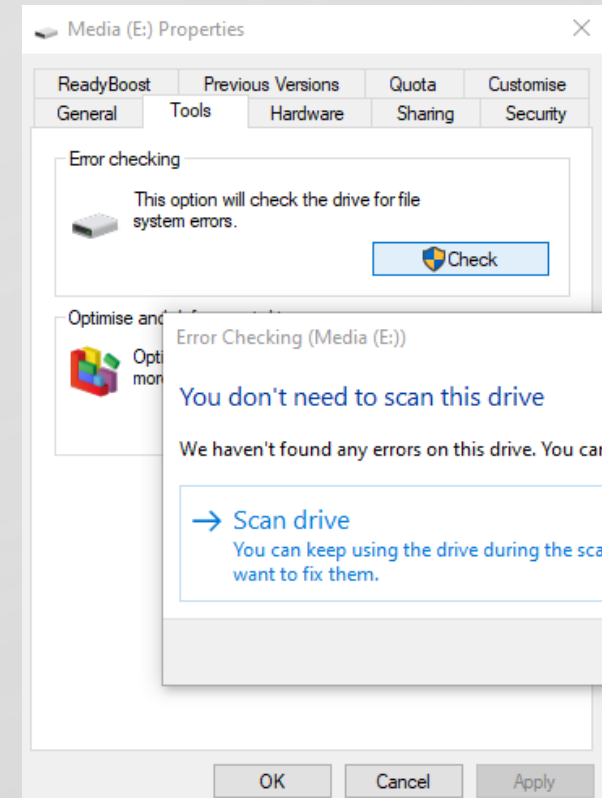
Scheduled optimisation: On, Frequency: Weekly

DISK (HARD DISK'S AND SOLID STATE)

Disk Problems

If you start getting warnings when you try and open or save documents or you get pop-up messages about problems with your disk you should run the Disk Error Checking Program. THIS IS A SHORT TERM FIX AND YOU MUST RUN A BACKUP AND PLAN TO HAVE THE DISK REPLACED.

Open the file manager "This PC" and right click on your C: drive and select Properties. Then click the Tools Tab and then click Check. This can take some time.



THIRD-PARTY TOOLS

With Windows 10 it should not be necessary to install and run third-party tools to maintain your computer. Some of these tools can cause more problems and some may introduce spyware or viruses onto your computer.

In the past I have used ccleaner and defraggler but stopped using them when I upgraded to windows 10 and moved from a hard disk to a SSD.

As mentioned before I have not used any third-part anti-virus programs for a long time as the built-in Microsoft Virus & Threat Protection is good enough and does not take a lot of resources from the system.