

## 1. Prepare your computer for maintenance:

- Click **Start** then type: Settings then click Settings then System then Power & Battery
- Click Screen & Sleep
- May need to adjust times if you're doing large updates

## 2. System Restore

- What is a restore point?  
A Windows **restore point** is essentially a *snapshot* of important system files and settings at a specific moment in time. It gives you a safety net so you can roll your computer back to a previous working state if something goes wrong.  
A restore point captures: System files, Windows settings, Installed drivers, Registry information
- It does **not** affect your personal files (documents, photos, emails, etc.)
- Click **Start** then type/search: **System Restore** > Create a Restore Point
- From here you can do a system restore (if your computer has a problem), configure restore settings and create restore points
- Restore points may be automatically created (e.g. when a system update is performed) or can be created manually
- System Registry
  - The Windows Registry is the central configuration database for the entire operating system. It stores settings for Windows, hardware, software, and users, and it's essential for how Windows boots, runs, and behaves. It's powerful — but must be handled carefully.
  - It is a file stored on disc but is read into memory during boot
  - It can be modified using the Registry Editor, but you usually don't want to mess with it!
- Important! **System restores do not always work**
- What does a restore point do?
  - If your computer starts to misbehave after something like: a Windows update, a driver install, installing new software, or changing a system setting
  - You can use a restore point to return the system to how it was *before* the problem started.
  - A restore point will not delete personal files, restore deleted files or act as a full backup of your computer
  - It only affects system-level components
  - Does it always work: NO
- Click on the Configure button
  - Make sure 'Turn on system protection' is checked
  - Disk space usage: current usage and 10% is a good amount (unless your disk is getting full)

- Click on the Create button
  - This is how you manually create a restore point
  - Give it a new e.g. Maintenance Class or date
  - It then creates a restore point – takes 10 to 20 seconds
- How to restore a restore point
  - Click on System Restore
  - There you will see the restore points that are available
  - Click on one and follow the instructions

### 3. Windows System Software Updates

- Click Start then type/search: **Windows updates** then Check for Updates
- Window Update will appear
  - Shows when the system last checked for Windows updates (usually once per day)
  - Button to Check for Updates
  - You can pause updates from being installed
  - You can view your systems update history
  - Click Advanced Options to see when updates will typically be installed

### 4. System Antivirus Software

- We all know that by connecting our computers to the internet we expose it to many threats. Antivirus software acts as a protective layer that the Windows OS alone can't fully provide.
  - Antivirus software: protects you from malware, protects you while you're browsing, scans downloads and email attachments, monitors your system in real time, updates constantly to stay ahead of threats, etc.
- There are a number of third-party antivirus software programs and there is Microsoft Defender
  - Norton, McAfee, etc.
- Microsoft Defender is Microsoft's built in antivirus software
  - It's a free product from Microsoft. It integrates with the OS, light on system resources and it is updated constantly.
  - If you use third-party antivirus software, Microsoft Defender will be disabled (you never want two antivirus programs running at the same time.)
- Malwarebytes
  - Malwarebytes is a third-party antivirus scanning program
  - Not a replacement for Defender but can be used in conjunction with Defender (or other third-party antivirus software.) It does not conflict with Windows Security (as long as it's not registered as the main antivirus.)
  - There is a free version
  - While Defender runs all the time, Malwarebytes only runs when you want to do a scan. It removes malware, adware, spyware, etc.
  - It's a good program for doing a manual scan for virus's

## 5. Optimize or Defrag Disk Drives

- Click Start then type/search: **Optimize** then click 'Defragment and Optimize Drives'
- Window will show all of your drives, what type (solid state or hard drive), when last analyzed and status
- Buttons will let you Analyze hard drive or Optimize an SSD
- If you're using a traditional spinning hard drive (HDD), Windows 10 and 11 already performs defragment automatically, so you usually don't need to do anything manually. If you're using a solid state drive (SSD), Windows does not defrag it — it performs a TRIM operation instead, which is the correct maintenance for solid-state drives.
- Windows automatically runs scheduled drive optimization once per week by default. This includes: defragmentation of hard drives and trimming of solid state drives.
  - Click the Change Settings button
  - Here you can change how often the optimization runs
- When you might want to manually defrag a hard drive: when the drive is very full, you've just moved or deleted a large amount of data or the drive feels unusually slow.
- **Important notes:** Never defrag an SSD. If a spinning hard drive is extremely slow, it may be failing. Defragging a failing drive can make things worse. Always back up first.

## 6. Software update tool

- **Patch My PC** is a reputable, and widely used Windows utility. A lot of people use it as a lightweight way to keep third-party software updated without having to check each program manually.
- What it does:
  - Scans your PC for outdated third-party software
  - Downloads and installs updates to these apps
  - It does NOT do Windows OS updates
  - Is it safe: it has a strong reputation in the Windows community
  - The updates come directly from the official vendor websites
  - It does not manage Microsoft Store apps
  - If you have older software, you intentionally keep at a specific version, you should mark it as "Skip."
- The first thing: install the program 'Patch My PC' on your computer
- Start the 'Patch My PC' program
- The programs screen:
  - On the left, click on the Apps option
  - Under My Apps:
    - \* This shows all the third-party apps installed on your computer
    - \* Ones shown in red are those that need updates installed
    - \* Ones shown in green are up to date
  - Click the Start Updater button to install **all updates** that are out of date

- Or, to update each app individually, click the Outdated button for each app
- The App Library button shows Patch My PC's full catalog of supported apps
  - \* Apps you have installed, apps you don't have installed and apps you can choose to install with one click
  - \* It's safe to use this program to install new programs because it downloads installers directly from the official vendor websites

## 7. Disk Cleanup Tools

- We will be using a program called **PC Manager** – will need to load it on your computer
- You should run PC Manager about once per week
- It's a free, official Microsoft utility designed to clean, optimize, and secure Windows 10 and Windows 11 systems. It's safe to use and Microsoft maintains it directly.
  - Combines cleanup, performance boosting, storage management, and security checks into one interface.
  - Designed to reduce reliance on third-party "PC cleaning" apps.
  - It will help speed up your computer but don't expect a huge improvement.
- Cleanup & performance boost
  - The Boost option will free RAM & remove temporary files
  - Deep cleanup of hidden system junk
- Storage Management
  - The Deep Cleanup provides a more thorough scan than the standard Disk Cleanup
  - Finds large files and rarely used apps
- Click the Boost button
  - Frees up RAM
    - \* It should only take a few seconds to run
    - \* Boost tells Windows to release unused memory from background processes.
    - \* You'll see your RAM usage percentage drop right away.
    - \* This is especially helpful when you have many browser tabs or apps open.
  - Clears temporary files
    - \* Removes cached junk and temp files
    - \* Helps recover a bit of storage and reduce clutter
- Click the Health Check button
  - It scans your system for common issues—junk files, startup slowdowns, security settings, and update problems—and then recommends one-click fixes to improve stability and performance. It's designed as a quick, safe way to tidy up and tune your PC without digging through multiple Windows settings.
  - Scroll through the window: it gives you information about your hardware, how well your network is working, temporary files that can be deleted, rarely used apps you might consider uninstalling, etc.
  - Be careful with what you have it delete

- Click the Deep Cleanup button
  - This does a more thorough analysis of the files on your computer. It goes far beyond what the Boost or Health Check do.
  - It looks for things like: old Windows update leftovers, system cache and log files, browser caches, crash dumps, temp files from apps, etc.

## 8. Disable unnecessary start up programs

- Startup programs and processes are one of those quiet parts of Windows that make a big difference in how fast and stable your system feels.
- A **startup program** is an app that launches automatically when Windows boots.
  - Some examples: OneDrive, Adobe Updater, Printer utilities, cloud backup tools, antivirus software and many others.
  - Most programs run in the background and stay active until you shut down or restart.
  - They slow down boot time; consume memory; CPU cycles; can slow down your system.
- There are a number of ways to see these start up programs
  - Press Ctrl + Shift + Esc. Click Task Manager, then go to Startup Apps (icon on the left).
  - Headings: publisher, status and impact
  - Status: Enabled means the program starts at boot time (may or may not run continuously.)
  - Be careful if you want to disable a startup program
  - The “Startup impact” column (High, Medium, Low, None) tells you how much that program slows down your boot time, based on how many system resources it uses during startup, not afterward.

## 9. Windows OS and Data Backup

- Develop a strategy for backing up your personal data
- Free cloud storage
  - Dropbox 2GB, Google Drive 15GB, Microsoft OneDrive 5GB
- Automatic cloud storage – data is backed up to the cloud when changes are made
  - Microsoft OneDrive, Carbonite, Backblaze, etc.
- Full system backup to external drive (Windows OS and data)
  - Macrium Reflect (free version)

## 10. Turn computer off or do a restart occasionally

- A periodic system restart is one of the simplest, most effective bits of maintenance you can do for your Windows computer.
  - It cleans system memory completely, fully reloads the Windows kernel, resets all drivers and hardware interfaces, clears temporary system files, etc.

# How to Perform a System Restore

If something is wrong with your system, you can attempt a system restore using one of the restore points in several different ways:

## Using Restore Points When Windows Still Boots (but is misbehaving)

If Windows loads but something is wrong — crashes, glitches, bad driver install, update issues — you can launch System Restore from inside Windows.

1. Press **Start** and type **Restore Point**
2. Open **Create a restore point**
3. In the System Properties window, click **System Restore...**
4. Choose **Next**
5. Select the restore point you want
6. Click **Scan for affected programs** (optional but very helpful)
7. Click **Next → Finish**

Windows will restart and restore the system to that earlier snapshot.

## Using Restore Points When Windows Will NOT Boot Normally

If Windows is completely unbootable:

1. Insert a Windows 10/11 USB installer flash drive
2. Boot from it
3. Choose **Repair your computer** (bottom-left)
4. Go to **Troubleshoot → Advanced options → System Restore**

This loads the same restore interface.

## Here's how to create a bootable Windows USB installer (recovery disk)

- You'll need a Flash Drive to create the recovery disk – connect that drive in one of the USB ports
- Click **Start** then type/search: Control Panel then click: Backup & Restore (Windows 7)
- In the next window click: Create a System Repair Disk
- In the next window, select the drive where your Flash Drive is connected, then click Create Disc and follow the instructions
- You should now have a Flash Drive which you can use if your Windows system is failing
- Mark that drive as Windows Recovery Disk and keep it handy