

How to Perform Windows Registry Repair and Fix Errors



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The Windows registry is a database containing important, machine-specific settings and information regarding almost everything in your computer — preferences, applications, users, attached devices and so on. The registry contains two basic elements: keys and values. The Windows operating system constantly refers to the registry; for example, to open a program, install new software or change your hardware, Windows must check the values of certain keys. You can change registry key values manually using the built-in Windows Registry Editor (regedit) in order to improve performance or make Windows work the way you want, but you need to know what you're doing or you can seriously damage your OS.

Common Registry Errors

There are several common causes of registry errors. Some are worth worrying about, and others are not.

- **Orphaned entries.** Orphaned entries occur when you uninstall software and small fragments of registry entries are left behind. Registry cleaner software will often claim these are an immediate issue, but in reality, they will just use up a few kilobytes of free space on your disk.
- **Duplicate keys.** Duplicate keys are made when you reinstall, upgrade or update software on your machine, including the operating system. Registry cleaner software will state that your programs will be confused by the duplicate entries, slowing your machines performance, but that is not true.
- **Fragmented registry.** The registry can also fragment when software is uninstalled, upgraded or updated.
- **System shutdown errors.** Each time your computer shuts down, a copy of the registry is saved to system memory. If your computer is turned off, crashes or dies without going through the normal shutdown routine, it could cause an issue in the future, but this is unlikely.
- **Malware.** Many types of malware attack and modify the registry. In particular, malware is regularly designed to change the values of startup keys so it will be activat-

ed each time you restart the PC. Changes to the registry by malware require immediate attention.

Why Clean the Registry?

Once you've been running the Windows OS for some time, installing and uninstalling programs, and swapping in different keyboard and mice, you end up with hundreds or thousands of registry entries that are completely useless. Each one uses very little hard drive space, but the operating system still has to filter through all of them, which slows it down a bit. By cleaning the registry, you can get rid of those unwanted entries and make your system run a little bit faster.

Sometimes, however, it is really necessary to fix registry issues. For example, if you have ever encountered a piece of malware, you know that it can completely mess up your registry. So, how to fix broken registry items? When the time comes to fix registry errors, it is important to know what you are doing. The first step is to make a registry backup.

Backing up the Windows Registry

Back up the Windows registry before you attempt to change, create or remove registry settings, so you can revert to the old version if something goes wrong. Take the following steps:

1. Press the **Windows** button and the **R** button simultaneously to open the Run window.
2. Type “regedit” and press **Enter**.
3. Click **File > Export**.
4. In the dialogue box, enter a name for the backup file (for example “regbkp2018”), select the location where you want to save it and click **Save**.

Restoring the Windows Registry

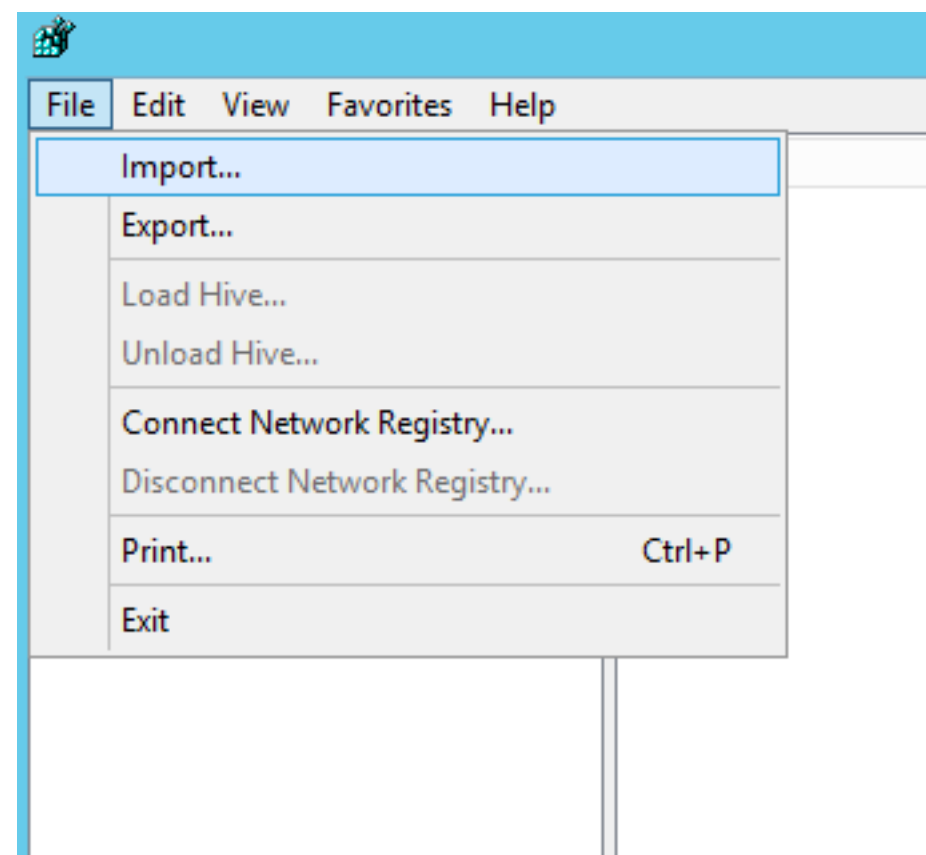
You also need to know how to restore the registry so you are ready if anything goes wrong. There are several methods.

Restoring the Windows registry from Safe Mode

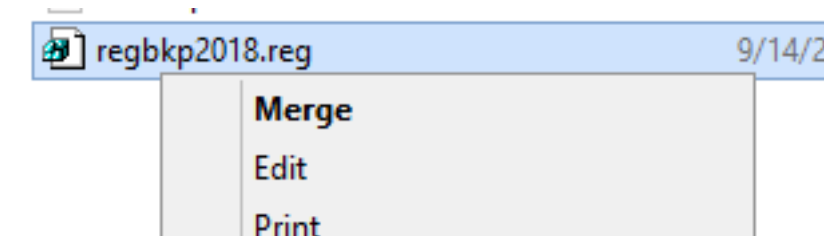
This is the most basic method, provided your computer is healthy. First, boot Windows in Safe Mode by pressing the F8 button while turning your device on. When you enter Safe Mode, Windows loads a minimal environment that ensures

a stable system so you can troubleshoot and fix Windows issues. Using Safe Mode to restore the registry is worthwhile because it helps protect vital files and drivers from corruption. Once you’ve booted into Safe Mode, do the following:

1. Press the **Windows** button and the **R** button simultaneously to open the Run window.
2. Type “regedit” and press **Enter**.
3. Click **File > Export**.
4. In the Import Registry dialogue box, browse to the location where you saved your backup file and click **Open**.



Alternatively, a slightly quicker method is to browse to the location with the backup, right-click the file and select Merge. The file will be automatically imported to your registry.



Restoring the registry from the command prompt

In some situations, the Windows system will not boot into Safe Mode, so you need to restore your registry manually from the command prompt. To do this you’ll need your original Windows OS disk or an ISO image on the bootable flash drive with your Windows operating system.

Tap the F8 button before Windows starts and choose Repair My Computer. If F8 doesn’t work, boot from your CD and enter the repair Windows mode from there. After booting the Windows OS setup, go to System Recovery and select the command prompt.

We’ll be assuming your Windows directory is located on the C drive. Enter these commands to change your working directory to the directory with your backup:

```
cd /d C:\windows\System32\config

xcopy *.* C:\RegBack\

cd RegBack

dir
```

Then replace the current registry settings with the ones from the backup using these commands:

```
copy /y software ..

copy /y system ..

copy /y sam ..
```

Note that the two periods are part of the command.

After this process completes, restart your computer.

Editing the Registry

To edit the value of a registry key, take these steps:

1. First, find the key you want to edit. Press the **Ctrl** and **F** keys simultaneously open the Find dialog.
2. Type the name of the key and click **Find Next**.
3. Double-click the key you want in the list.
4. Edit the key's value data.
5. Click **OK** to save your settings. Some edits require a Windows restart to take effect.
6. You can also [edit the registry with PowerShell](#).

Cleaning the Windows Registry with the Registry Editor

You can clean your registry manually using the Windows Registry Editor. Follow these simple steps:

1. Click the **Start** button and then select ...
2. Type "regedit" in the text box and press **Enter**.
3. Locate any applications that have already been uninstalled and delete them:

- a. Expand the **HKEY_CURRENT_USER** section and then expand the **Software**
- b. Look for keys based on the name of the uninstalled applications or the vendor and delete them.

4. Next, find and remove any duplicate keys that the uninstalled applications might have left behind:

- a. Press **Ctrl+F** to open the Find dialog box.
- b. Enter the name of the uninstalled application and click **OK** to search. Each matching key or value will be highlighted.
- c. Remove the highlighted key.
- d. Press **F3** to find the next match and delete it. Repeat this step until you have reviewed all highlighted items.

5. Remove unwanted start-up items from the registry:

- a. Navigate to the following location: **My Computer\HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\Current Version**
- b. Click **Run** to list shortcuts to all the executable files that run at startup.
- c. Delete any applications that you don't want to run at Windows startup. Do an online search to investigate any that are unfamiliar.

- HKLM\SOFTWARE\Wow6432Node\Microsoft\Windows\CurrentVersion\Run

- HKLM\SOFTWARE\Microsoft\Active Setup\Installed Components

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Fixing Windows Registry Errors with System Restore

If a recent change to your system caused errors in your registry, you can revert your computer's registry settings using a Windows restore point. If your computer has System Restore enabled, restore points will be created automatically when major changes are made to the system, such as the installation of new drivers. You can also create restore points manually.

1. To open the System Restore window, click the Start menu and enter "restore" in the search box.
2. Select **System Restore** from the list of results.
3. Select a restore point. Windows will select the most recent restore point. If the error has been around for a while, click **Show more restore points** to see previous

ones. Each restore point will have a timestamp as well as a brief description of why the restore point was created.

4. Click **Scan for affected programs** to see all of the programs and drivers that will be deleted from the computer and all programs that will likely not work correctly if you proceed with the restore. A system restore will not affect any of your personal files.
5. Click **Next** and then **Finish** to start the restore process. This may take a few minutes. Your computer will reboot after the restore is complete.

Repairing the Registry with Automatic Repair

Newer versions of Microsoft Windows include an automatic repair feature. When you run Automatic Repair, it will attempt to fix corrupt registry keys and repair invalid keys. Take these steps:

1. Open the **Settings**.
2. Go to the **General**.
3. On the **Advanced Startup** panel, click **Restart now**.
4. On the **Choose an option** screen, click **Troubleshoot**.

5. On the **Advanced Options** screen, click **Automated Repair**.
6. Choose an account and login when prompted to do so.
7. Automatic repair will start and your computer may reboot during this process.

Fixing Broken Registry Items with System File Checker

Another way to fix a corrupted registry is to run the System File Checker:

1. Run cmd.exe with administrator rights.
2. In the command window, type "sfc /scannow" and press **Enter**.
3. Wait until the scan is complete and then reboot if needed.

Refreshing the Windows System

Windows 10 allows you to reset your computer and leave all your files untouched. This option completely refreshes your system files and may help you fix registry issues. Here are the steps to follow:

1. Go to **Settings** and click **Update and Security**.
2. Select **Recovery**.
3. In the **Reset This PC** section, click **Get Started** and then click **Keep My Files**.
4. Click **Next** twice and then click **Finish**.

Repairing the Registry with the DISM Command

1. Run cmd.exe with administrator rights.
2. Run the following command:

```
DISM /Online /Cleanup-Image /ScanHealth
```

3. Wait until the scan process completes.

If these methods didn't fix your registry problems, then you probably will have to reinstall Windows from scratch.

Editing your registry is not likely to improve system speed or PC performance. However, you should make regular backups so you can restore if the installation of a program or device causes issues. It is also important to track changes to your registry. In particular, malware often changes registry startup keys so it will start automatically after each reboot. You can learn more in this guide about [detecting modifications to startup items in the Windows registry](#).

Windows Registry Tutorial

Free Download