



# How to Restore Any Crashed or Faulting System in Just 10 Minutes

**Special Report**

By Mark Andrews, Editor-in-Chief, **Windows Secrets**

**With the information in this special report you can:**

- ✓ Recover a crashed system in just 10 minutes using System Restore
- ✓ When all else fails, access your crashed PC using Safe Mode
- ✓ Use the 3 essential fixes to repair a failed PC

There's nothing worse than finding that a change to your system, such as a new application being installed, leads to crashes, or even prevents your PC from starting normally. Fortunately Windows has the answer, in the shape of System Restore. System Restore should be the first thing that you try when resolving serious problems with your Windows system, as it allows you to reset your PC to a time when you knew it was last working, undoing the harmful changes that are causing your PC problems, without risking the integrity of your personal files. In this special report, I will explain how to use system restore points to recover your PC from a serious crash or error state. When you have mastered Windows System Restore, you will be prepared to deal with a sudden PC failure.

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## Discover the Hidden Capabilities of a Little-known Windows Recovery Tool

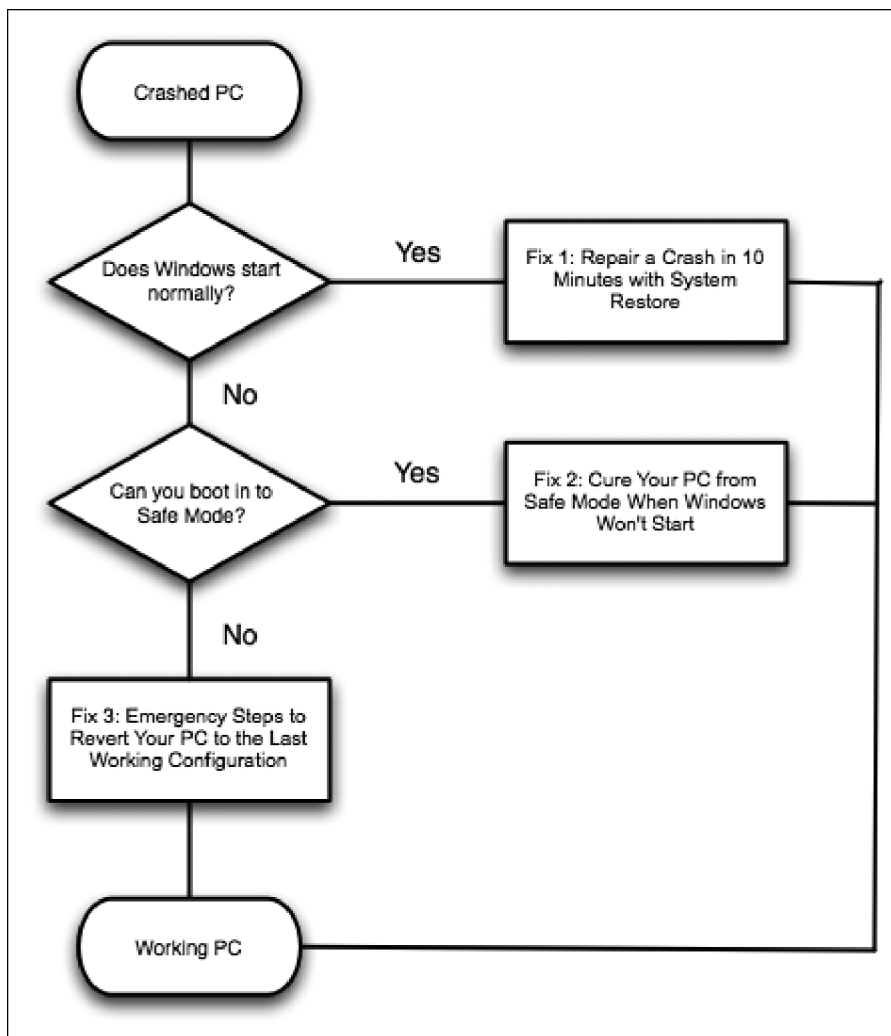
System Restore protects your PC by backing up vital Windows files and settings. These backups are called ‘restore points’ and contain all of the information required to return your PC to a previous healthy state, by undoing all of the changes that are causing you problems. There are two elements to System Restore: file monitoring and restore point management. Both of these functions are performed by a Windows service that is continually running in the background to keep you protected. There are four types of restore point:

Restore Point Type	Description
System checkpoint	Automatically created every 24 hours while your PC is running, or when first started. The computer must be idle for a point to be created, that is, no programs should be running, even in the background, including anti-virus software. Disabling and re-enabling System Restore will also create this type of point, as will starting Microsoft’s Backup Utility or installing an unsigned hardware driver.
Program installation	Automatically created before the installation of most new software, if the software installer is compliant with System Restore. For extra protection, always create a manual point before installing a new application.
Automatic update	Created when Windows Update is activated, to ensure that you can restore your system if the Windows Update causes serious problems.
Manual update	Created by the user via the System Restore dialogue. You should create a manual restore point before you make any major system change, using the steps given on page 12.

Restore points are retained on a first-in-first-out (FIFO) basis, dependent on the amount of hard disk space that is allocated to System Restore (usually 12% of the total), which means that when the space allocated to System Restore on your hard disk is full, the oldest restore point will be replaced. You should note that, while creating lots of manual restore points improves the chances of disaster recovery, FIFO deletes older points that may later prove invaluable. The number of points retained at any one time will of course be specific to your set-up.

## Easily Recover Your System from Disaster Using System Restore

If your PC keeps crashing, there are three essential fixes that will help you undo the problem causing the crash, and get your Windows back on its feet. Which fix you choose depends on whether or not you can get Windows started up. Follow the chart below, in combination with the steps given in this article, to select and apply the right fix for your problem.



### Fix 1: Repair a Crash in 10 Minutes with System Restore

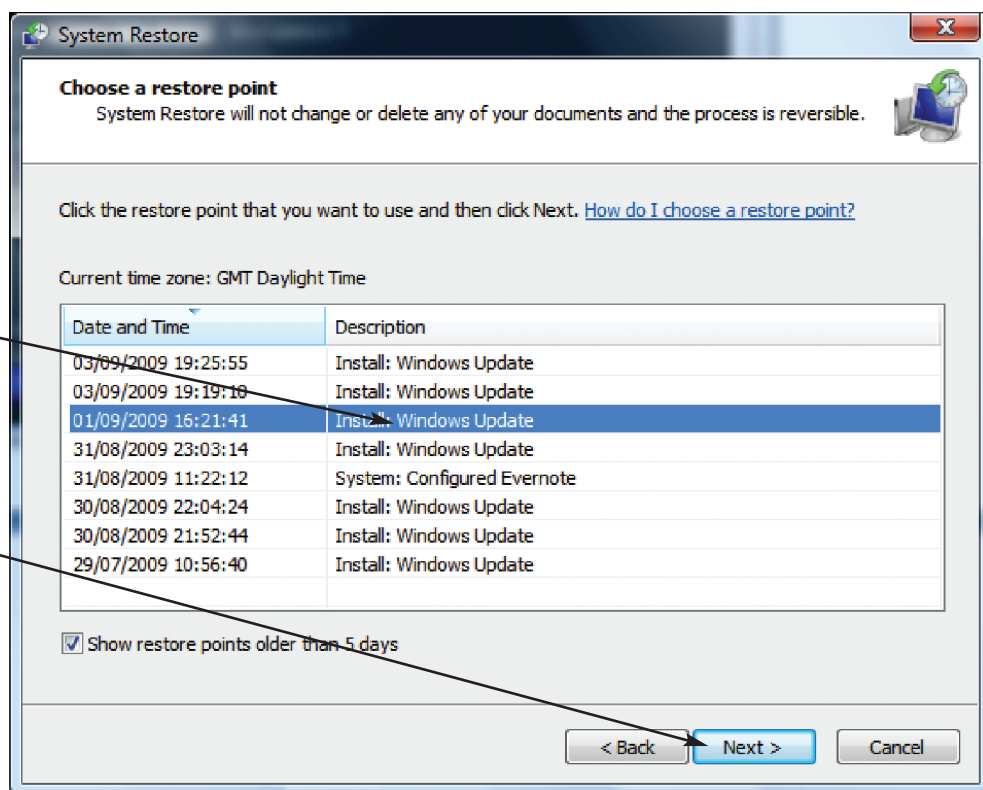
If you can start Windows, but the system is corrupt and keeps crashing, it should be reverted to a previous working configuration. You can run System Restore to do so:

## Windows 7/Vista

1. Click **Start** > **All Programs** > **Accessories** > **System Tools** > **System Restore**.
2. Click **Next** (Windows Vista users select **Choose a different restore point** and then click **Next**).
3. Select a restore point from when you know that Windows was working properly and click **Next**.
4. Click **Finish** to revert to the settings stored in the restore point.

Select the restore point that you want to revert to.

Click **Next** to continue.



*Revert your system to an earlier time using System Restore*

## Windows XP

1. Click **Start** > **All Programs** > **Accessories** > **System Tools** > **System Restore**.
2. Select **Restore my computer to an earlier time**.
3. Click **Next**.

4. On the **Select a Restore Point** screen, available restore points are indicated on the calendar as dates highlighted in bold. Select a date to display the available point(s) for that day.
5. When you have chosen and selected a restore point, click **Next > Next**.

### Fix 2: Cure Your PC from Safe Mode when Windows Won't Start

If you can't get your PC to run Windows, then you will need to boot your PC into Safe Mode, and then run System Restore from there. To do so:

1. Restart your PC and as it starts tap **F8** continuously.
2. Use the **↑** and **↓** keys to select **Safe Mode** from the options then press **Enter**.
3. As Windows starts in Safe Mode, you may see a prompt asking if you want to use System Restore instead. In this case, accept the offer and follow the instructions.
4. Follow the appropriate steps from Fix 1 above for your version of Windows to run System Restore and restore your system.

### Fix 3: Emergency Steps to Revert Your PC to the Last Working Configuration

As we've seen, System Restore can be a lifesaver when Windows has become unstable, allowing you to step back to a time when everything was working without any difficulties. However, System Restore will only work when you can start Windows.

Windows does provide another complimentary utility called Last Known Good Configuration that should allow you to get Windows started if you can't access System Restore. You can revert to the last known good configuration as follows:

1. Re-boot your PC and hold down the **F8** key to access the Advanced Options menu.
2. Use the **↑** and **↓** keys to select **Last Known Good Configuration** then press **Enter**.
3. Windows will be reverted to the last working configuration available, undoing the changes that are harming your system.

If Windows is then running but continues to have problems, you should run System Restore (since you can now access Windows) and revert your PC to an even earlier configuration. Last Known Good Configuration only remembers the registry settings that were in use when Windows last started correctly. It does not store any other driver or software installation information.

## Crucial Tip: How to Deal with a Severe Virus Infection

By default System Restore is enabled in Windows 7, Vista and XP. Since it will help you recover from serious system crashes, it should be left running, but there is one occasion when you may need to turn it off: when your PC becomes infected with a virus.

The problem is that the virus infection could be hiding inside your system restore point, meaning your virus checker can't remove it. If your virus checker finds a virus on your system but is unable to remove it, then the correct procedure is to disable System Restore, run your virus checker to remove the infection, then re-enable System Restore.

To make changes to the System Restore settings, your current Windows user account needs to have administrative privileges. To proceed:

### Windows 7

1. Click **Start > Control Panel > System**.
2. Click **Advanced system settings > System Protection**.
3. Click **Configure > Turn off system protection**.
4. Click **OK > OK**.
5. Restart Windows.
6. Run your virus checker to remove the virus.
7. Repeat Steps 1 and 2.
8. Click **Configure > Restore system settings and previous versions of files**.
9. Click **OK > OK**.

## Windows Vista

1. Click **Start > Control Panel > System**.
2. Click **Advanced system settings > System Protection**.
3. Under Available Disks, untick each one of the listed hard disks.
4. Click **OK**.
5. Restart Windows.
6. Run your virus checker to remove the virus.
7. Repeat Steps 1 and 2.
8. Under Available Disks, tick the **C:** drive.
9. Click **OK**.

## Windows XP

1. Click **Start > Control Panel > System**.
2. Click **System Restore**, then tick **Turn off System Restore on all drives**.
3. Click **Apply > OK** to finish.
4. Restart Windows.
5. Run your virus checker to remove the virus.
6. Repeat steps 1 and 2.
7. In the System Properties dialogue, untick **Turn Off System Restore**.
8. Click **OK**.

## **Important: Create a Restore Point Before Any System Change**

Whenever you install a new program (particularly one that you suspect is not compliant with System Restore), it is a good idea to create a manual restore point. Similarly, you should create a point of this type when you make any potentially risky changes to your Windows installation. The procedure is as follows:

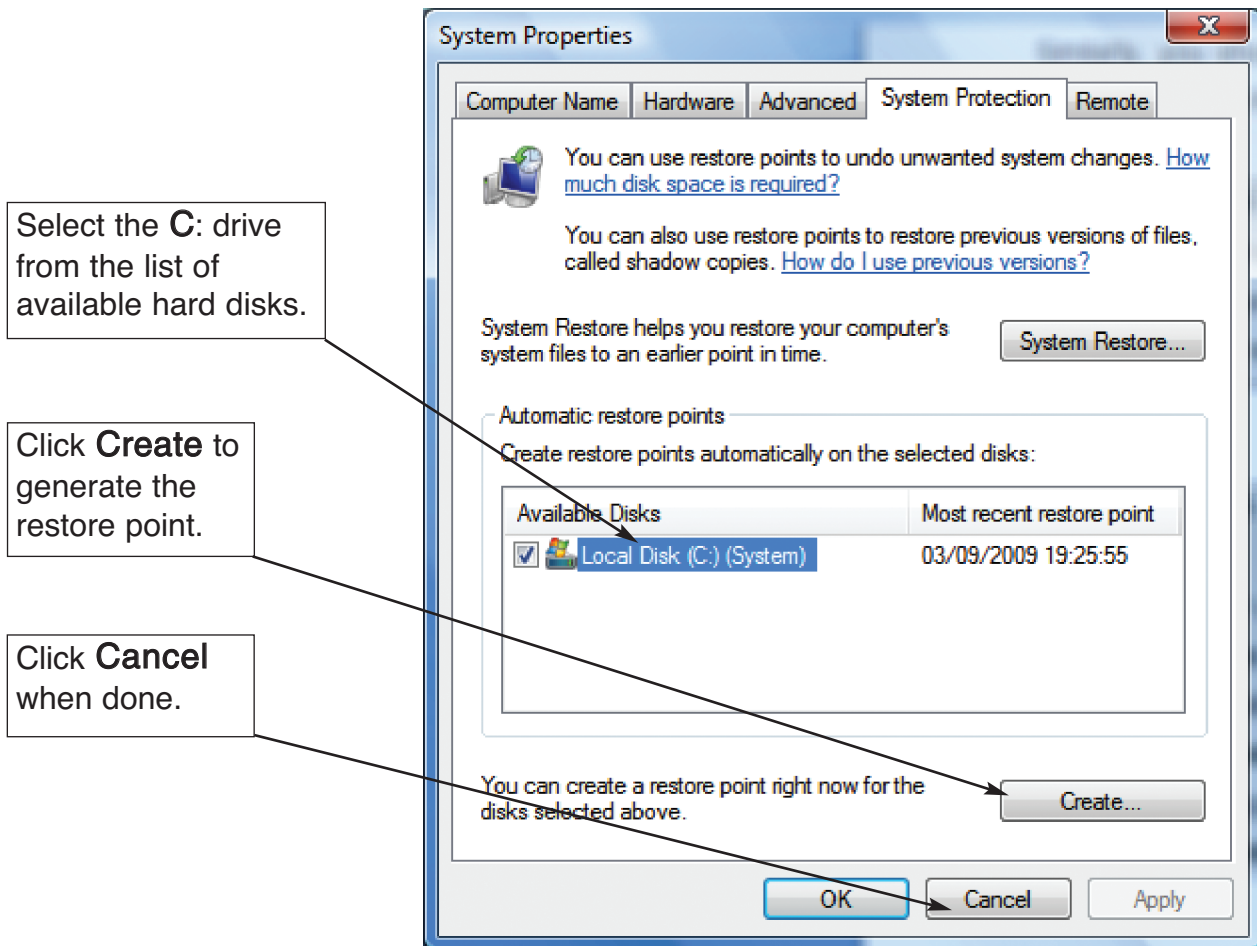


## Windows 7

1. Click **Start > Control Panel > System**.
2. Click on the link **System Protection**, then click **Create**.
3. Enter a name for your restore point, then click **OK**.
4. Once the restore point had been created, click **Close > OK**.

## Windows Vista

1. Click **Start > All Programs > Accessories > System Tools > System Restore**.
2. If the User Account Control dialogue appears, click **Continue**.
3. Click **open System Protection**.
4. Under Available Disks, tick the **C:** drive.
5. Click **Create**.
6. Type an appropriate and memorable name for your restore point.
7. Click **Create**.
8. When the process is complete, click **OK**.
9. To close any open dialogues, keep clicking **Cancel**.



*Create a manual restore point in Windows Vista*

## Windows XP

1. Click **Start > All Programs > Accessories > System Tools > System Restore**.
2. Select **Create a Restore Point** and click **Next**.
3. Type a memorable name for your restore point.
4. Click **Create > Click Close**.

## Troubleshooting: How to Undo a Restore Point that has Not Helped

If the selected restore point is either not the one required, or does not improve the stability of Windows, you may need to undo the restoration. To achieve this:

## Windows 7/Vista

1. Click **Start > All Programs > Accessories > System Tools > System Restore**.
2. Click **Undo System Restore**, then click **Next**.
3. Review the changes to be made, then click **Finish**.

## Windows XP

1. Click **Start > All Programs > Accessories > System Tools > System Restore**.
2. At the **Welcome to System Restore** screen, click **Undo my last restoration**.
3. Click **Next**.
4. You may see a message detailing the changes that System Restore will make. Click **OK**.
5. On the **Confirm Restoration Undo** screen, click **Next**.
6. When Windows restarts, the **System Restore Undo Complete** page should appear. Click **OK**.

With the faulty restore point removed, try using System Restore to revert to a different restore point.

## **Protect Essential Documents and Files from Being Replaced by System Restore**

Every restore point includes a copy of the latest state of the Windows registry. Beyond this, it is useful to understand just what System Restore is monitoring. Obviously, you don't want System Restore to replace your documents, emails, image files, music and so on, with older versions. This could be disastrous. You also want to preserve your Internet Explorer Favorites, latest passwords, browsing history and desktop configuration. Therefore, System Restore only takes a data snapshot of certain items.

Any files stored in your Documents directory will be safe from being replaced by System Restore. Common personal file extensions (such as .DOC, .HTML, .HTM, .TXT, .JPG, .GIF, .PDF, .MP3, for example) are NOT included in the list of file types monitored by System Restore, meaning that they should be safe

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anywhere on your computer. However, there is a need for slight caution. The list of included file extensions DOES feature the following types: .EXE, .BAT, .DLL and many others. Any file of this type will be overwritten with an earlier version, unless they are inside a directory not monitored by System Restore.

The best advice is to locate any really valuable files inside one or more subfolders of the Documents folder. The following guidelines may help to explain some of the less obvious features of System Restore:



- Files with an extension type that is monitored by System Restore will be restored even if they have been completely deleted from the PC.
- Files that were created (or added) after the date of the restore point are not deleted by System Restore (even when they are not found in the original point). However, the restore process will remove any references to them in the registry.
- Files that were created (or added) after the date of the restore point (and were subsequently deleted) cannot be recovered using System Restore.

## Create a Manual Restore Point with Just 1 Click

The problem with System Restore is that you have to click your way through a lot of Windows just to be able to create a restore point. Wouldn't it be great if you could create a restore point with just one click? Well, you can.

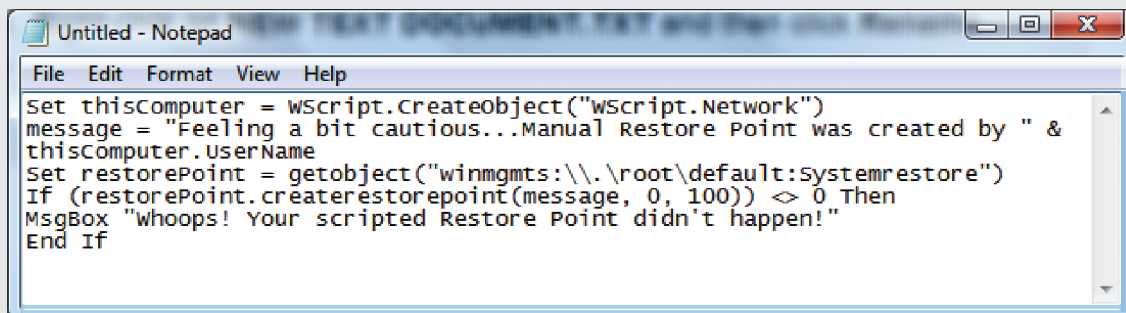
Windows has a built-in tool, the Windows Script Host (WSH), that hosts programs written in several scripting languages. A script is a program written in a plain text file, using a tool such as Notepad. This is enabled by default in Windows but in some situations it can present a security risk, so your security software might have disabled it.

To check whether the WSH is enabled:

1. Click **Start > Run**.
2. Type: **cmd** and press .
3. When the Command Prompt window opens, type: **wscript** and press . If the WSH is enabled, a dialogue box will open. This means that you can run script files. If no dialogue appears, then WSH is disabled. There are a variety of ways to disable the WSH. To re-enable it, you will need to refer to the documentation for the original tool that was used to disable the WSH.

We will create a script called CREATE\_RESTOREPOINT.VBS which will use a command from the Windows Platform SDK (Software Development Kit) to create a restore point. The Windows Platform SDK is a programmer's resource that includes the latest files, libraries and tools for developing Windows programs. To create CREATE\_RESTOREPOINT.VBS proceed as follows:

1. Right-click on the **desktop** and then click **New > Text Document**.
2. Double-click on **NEW TEXT DOCUMENT.TXT**.
3. When Notepad opens, type in the following:

A screenshot of a Notepad window titled 'Untitled - Notepad'. The window contains the following VBS script code:

```
Set thisComputer = wscript.createObject("wscript.Network")
message = "Feeling a bit cautious...Manual Restore Point was created by " &
thisComputer.UserName
Set restorePoint = getobject("winmgmts:\\.\root\default:systemrestore")
If (restorePoint.createrestorepoint(message, 0, 100)) <> 0 Then
MsgBox "whoops! Your scripted Restore Point didn't happen!"
End If
```

4. Click **File > Save**.
5. Click **File > Exit**.
6. Right-click on **NEW TEXT DOCUMENT.TXT** and then click **Rename**.
7. Type: **CREATE\_RESTOREPOINT.VBS** press **Enter** and confirm that you want to change the file's extension.

Now, every time you click on CREATE\_RESTOREPOINT.VBS a System Restore point will be created.

## Choose Your Own Schedule for Creating Restore Points

In the last section, you learned how to create a restore point with just one click. To take this a stage further, it is possible to use Windows Scheduled Task feature to trigger the same script at regular intervals. Unlike the system checkpoints created daily by Windows, you can select the frequency of this scheduled restore point yourself. In addition, this point will be stored even when your PC is not idle (scanner or anti-virus checker activity can prevent a system checkpoint). To get started:

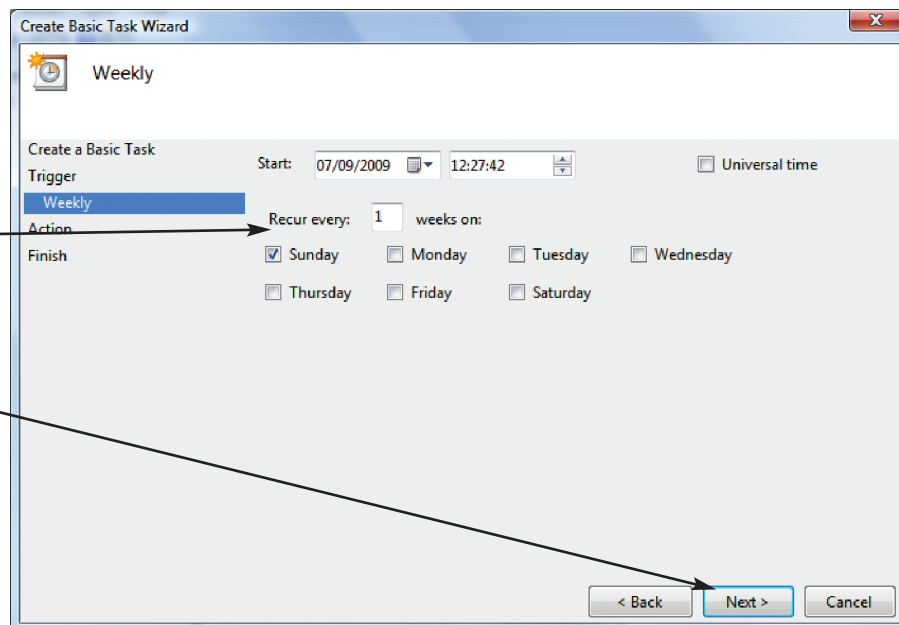
### Windows 7/Vista

1. Click **Start > All Programs > Accessories > System Tools > Task Scheduler**.

2. Click **Create Basic Task**.
3. Enter a name for the task (e.g. **Create restore point**) and click **Next**.
4. Select how often you'd like the task to run, click **Next**, then configure the specific details of the days or dates to run the task.
5. Click **Next**. Select **Start a program** and click **Next**.
6. Browse to **CREATE\_RESTOREPOINT.VBS** on the **desktop**.
7. Select **CREATE\_RESTOREPOINT.VBS** and then click **Open**.
8. Click **Next > Finish**.

Configure the specific dates and times that you would like the restore point to be created.

Click **Next** to continue.



*Automatically create a restore point every week*

## Windows XP

1. Click **Start > All Programs > Accessories > System Tools > Scheduled Tasks**.
2. Double-click **Add Scheduled Task**.
3. When the **Scheduled Task Wizard** launches, click **Next**.
4. Under **Click the program you want Windows to run**, click **Browse**.
5. Browse to **CREATE\_RESTOREPOINT.VBS** on the **desktop**.
6. Select **CREATE\_RESTOREPOINT.VBS** and then click **Open**.

7. Under **Type a name for this task**, change the name to: **Create A Restore Point**.
8. Under **Perform this task** select **daily** (you can always change this later).
9. Click **Next**.
10. Complete a **Start time** and **Start date**. To test that this set-up is working, initially set the **Start time** for five minutes from the current time and set the **Start date** to yesterday's date (note: it won't perform the task if you set it to today's date).
11. Leave **Perform this task** set to **Every Day**.
12. Click **Next**.
13. Enter your Windows logon password. Note: if your user account has a blank password, you will need to set one by going to **Start > Control Panel > User Accounts**.
14. Click **Next > Finish**. The scheduled task **Create A Restore Point** should now appear in the **Scheduled Tasks** windows, under **Add Scheduled Task**.
15. If necessary, you can adjust the Schedule by right-clicking **Create A Restore Point** and then clicking **Properties > Schedule**. You can check that the task is working by monitoring the **Last Run Time** column in the **Scheduled Tasks** window. You can also go to System Restore and check that the new restore point is displayed.

So, now you know how to use System Restore to get your PC back up and running. If you come across any problems in Windows you can easily resolve them by reverting your system to a previously working configuration. You have also found out how simple scripting can reduce the effort required to protect your computer. Hopefully, you are now feeling completely restored!

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