

How to back up a Windows PC or laptop for free | Keep your files safe by making copies

Making backups of your files is a chore you probably skip, but if you want to avoid losing irreplaceable photos, videos and files then it's something you need to take seriously. Here we'll explain how to back up your Windows PC, laptop and files.

By Jim Martin | 14 May 15

Making backups of your files is a chore, or it can be if you don't have a proper backup strategy in place. We're all guilty of failing to make regular backups, and for good reason: it isn't simple. Photos, music, videos, documents and more are scattered across our laptops, PCs, external hard drives as well as on phones, tablets and online. Here we'll explain the various options for backing up not only your files, but also your whole PC or laptop so that if your hard drive fails, you can restore it back just the way it was. Here's how to back up your laptop and PC.

How to back up a Windows PC or laptop: overview

You're busy, so here's a very quick overview of your options for backups. If you want more detail on any of them, scroll down to the appropriate section. It's wise to use more than one method, or create more than one copy of your files, too.

1. Backup to an external hard drive. This is the simplest way to back up selected files. You attach a USB hard drive or flash drive and use Windows Explorer to copy files from your computer to the removable drive. It's completely manual, but you can download backup software to make the process automatic. Some external hard drives come with backup software, too.
2. Backup to the cloud. Dropbox, OneDrive, Google Drive and many other online storage services make it supremely easy to make backups of your files, and the free storage on offer when you sign up may just be enough for you. If it isn't you can pay a reasonable monthly or yearly fee to get a lot more storage. Just bear in mind that most cloud storage services sync files in a certain folder on your computer. This means if you delete a file in that folder, it will disappear from your online storage as well. Many services have an undelete feature (like a Recycle bin) so you can undo your mistake, but this might be limited to 30 days, so check!

A real benefit of cloud storage is that it creates a copy of your files in a physically separate location. They're safe from flood, fire and theft. Cloud storage has lots of other advantages too: you can access the files from practically any computer with an internet connection and you can keep files in sync across multiple devices.

3. A full Windows PC or laptop backup. The first two methods back up certain files, but they're not sufficient to get your PC or laptop back up and running if your hard drive (or SSD) fails, or your computer is stolen. Making a backup of all the files on your hard drive is also known as a 'disk image' or 'ghost image'. You'll need software to do this, but as with file backup software there are free and paid versions.

How to back up a Windows PC or laptop: Basics

Unfortunately, there's no magic bullet for backup. There are ways (which we'll explain) to make your life a lot easier, but no form of backup is guaranteed for life. Let's say you backup all your photos to writable DVDs. It's not going to be long before all the DVD drives are gone (few laptops have them any more), and there's no way to get the photos off those discs.

This is why it's crucial to keep up with the times and make sure your files are moved off any device or platform that may not be accessible for much longer.

Another important point to consider is file versions. If you're modifying a file because you're working on it and developing it, it's useful to be able to return to previous versions. Some backup software supports versioning, as do some online backup and cloud storage services, including Dropbox.

If you're using software to backup your entire PC, be aware of the difference between incremental and full backups. Because only a subset of files changes between backups, there's no need to regularly backup all 500GB, say. Only new files and those which have been modified need to be backed up - this is called incremental backup.

Yet another thing to watch out for is the ease of restoring backed up files. Some software and services allow you to get inside a backup and retrieve specific files, while others force you to restore the entire backup. This is why it's important to read [reviews of backup software](#).

How to back up a Windows PC or laptop: Local backup

Traditionally, backup has been carried out locally and ideally you should do this as well as using an online service. The main options are an external hard disk, optical discs such as DVD or Blu-ray, or a USB flash drive if you don't have many large files to back up.

Optical discs are likely to be the most cost-effective: 4.7GB DVD-R discs cost less than 50p when bought in bulk making them slightly cheaper per GB than a typical 500GB portable hard disk. However, they're not the most convenient. You can't schedule a backup at night, for example, because you'll have to be present to swap discs.



For archiving, but not for backup, you'll also have to give consideration to data longevity because this varies from one type of media to another. A hard disk will probably be reliable for five years although the risk of accidental damage is greater, and for flash drives 10 years has been suggested, but reports vary.

Exactly how long data lasts on optical media depends on a number of factors such as whether the disk is writable or re-writable, the manufacturer, and the environment in which it's stored. Under optimum conditions data should be readable for a century but there have been reports of discs being unreadable after just two years.

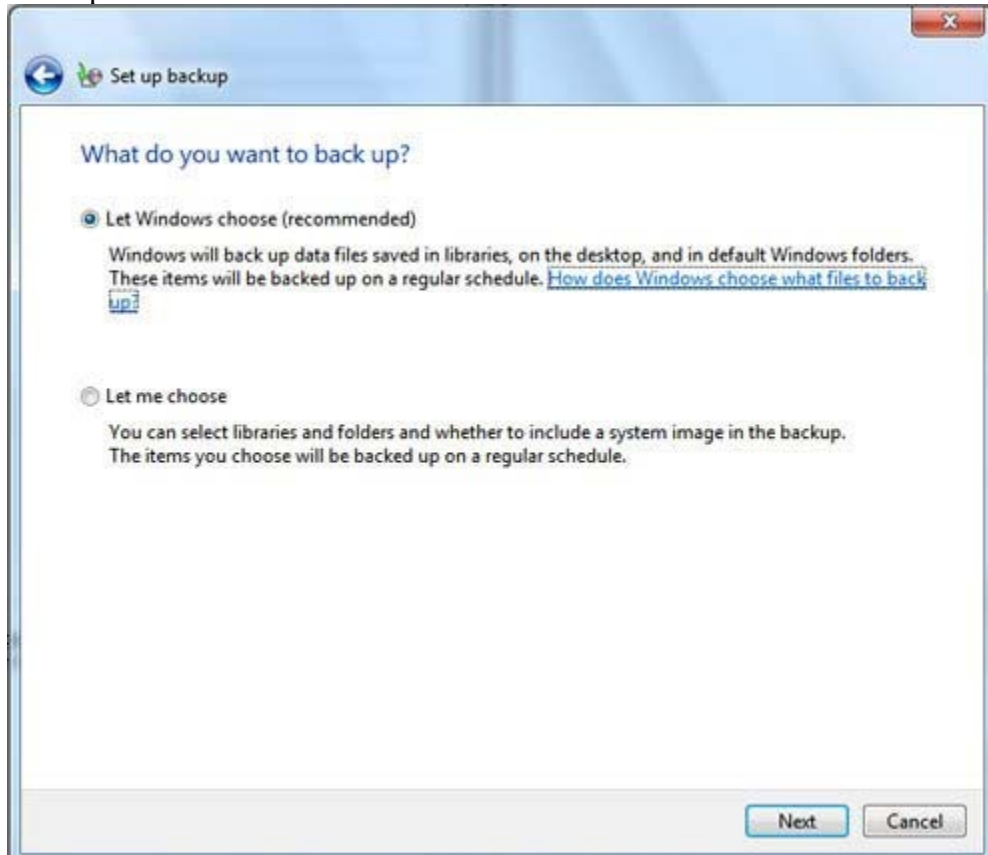
We somehow doubt that DVD and Blu-ray drives will be around to read such disks in 100 years, so it's important to periodically write your archives to the latest media to ensure the files can be accessed by current hardware.

You should also give some thought to storage of your backup or archive media so that it isn't lost in the event of a fire, flood or theft. Consider using a fireproof safe or, better still, storing it well away from your PC, perhaps in a friend's house locally.

You can create local backups or archives with no special software at all, simply using Windows Explorer to copy files and folders to your backup media. However, dedicated backup software makes the job a lot easier and provides additional features too.

What to look for in backup software

Windows 7 has a built-in backup utility: Windows Backup and Restore - you'll find it if you type 'backup' into the Start menu search box.



Good backup software should be able to schedule backups so that they take place automatically at regular intervals. This is useful if you use an external drive which you leave connected to your computer. If the disk isn't attached the backup will fail. Similarly, scheduled backups aren't helpful if you're using optical disks as you'll have to insert them manually.

On the subject of multiple discs, backup software will automatically split the files and folders so each disc's full capacity is used. Depending on the software, it may produce a single file which can only be read by the program itself, or it may be readable by Windows natively.

Another common feature is support for incremental backups which we mentioned earlier. This way, only files that have changed since the last backup are copied to the media to reduce the time taken to copy data. Compression can also reduce the time taken as less data has to be written.

Some applications are able to back up 'locked' files, which are those that you're working on during the backup process. Yet another thing to look out for is the ability to back up files and settings outside of your Documents, Photos, Music and Video folders, such as contacts, email, web browser bookmarks and even save game files. It's crucial to ensure you're backing up everything you need to get back to where you were in the event of a disk failure.

In fact, some backup software offers the ability to backup your entire hard disk (this is known as disk imaging). The advantage of this approach is that in the event of a disk crash, recovery won't involve re-installing all your software and setting up all the Windows options and preferences.

Creating a disk image is great if you need to recover from a major incident such as complete hard disk failure. However, the convenience comes at a cost, namely that backing up will be more time consuming and you'll need to use much higher capacity media - usually another hard disk of the same size.

Our recommendation - and you may disagree - is not to bother with disk imaging. After all, disk crashes are relatively rare occurrences and if the worst does happen, having to start again from a blank hard disk will give you the opportunity to install Windows afresh and leave behind the flotsam and jetsam that slows Windows down after a while. What's important is that you have all your files and settings backed up plus your application CDs and DVDs (and serial numbers) to hand.

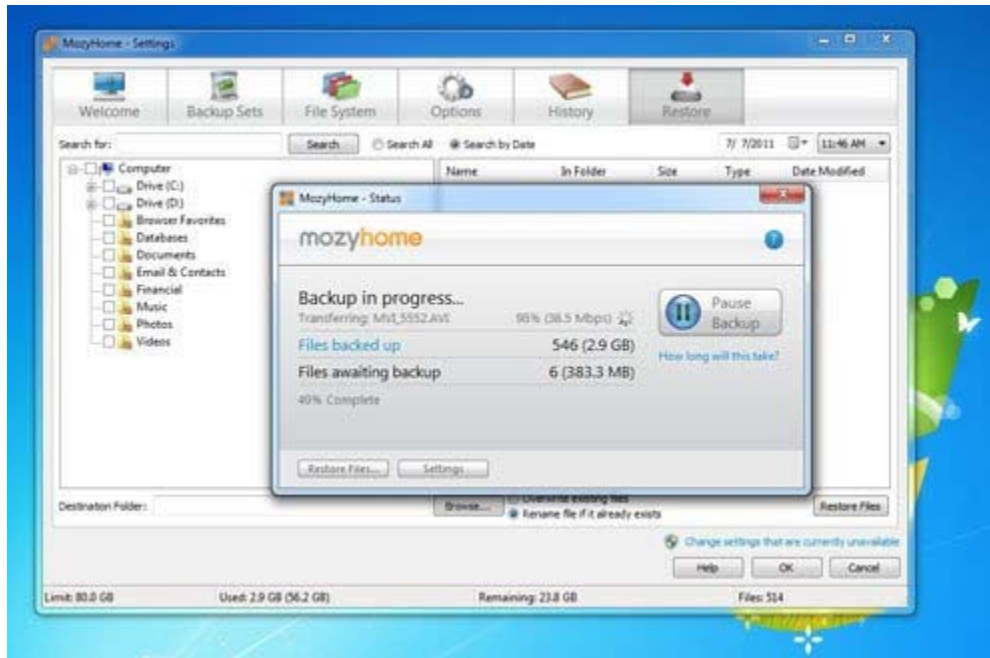
How to back up a Windows PC or laptop: Online backup

The alternative to local backup is to back up online and - as with everything - there are pros and cons to this approach. The major benefit is that it's easy. You don't have to make any decisions about what type of media to use and you don't have to worry about media becoming obsolete. You can also rest assured that your data is safe from fire and flood thanks to multiple redundancies where your data is stored in multiple places.

On the reverse side of the coin, there's the risk that your backup service provider might go bust. There are no guarantees that even the largest companies will stay in business. Plus, there's also the issue about the security of your data as it's sent over the internet and stored on someone else's servers.

It pays to choose a company with a good track record to look out for companies with ISO 27001 accreditation: the international standard for data security. This not only covers the potential loss of data, but also applies to unauthorised access. The good news is that most reputable companies employ encryption so prying eyes can't see the contents of your files when they leave your PC.

This way there's no risk to your data as it flows across the internet and even staff at the backup company will be unable to read your files because they are totally impregnable without a secret key which is known only to you.

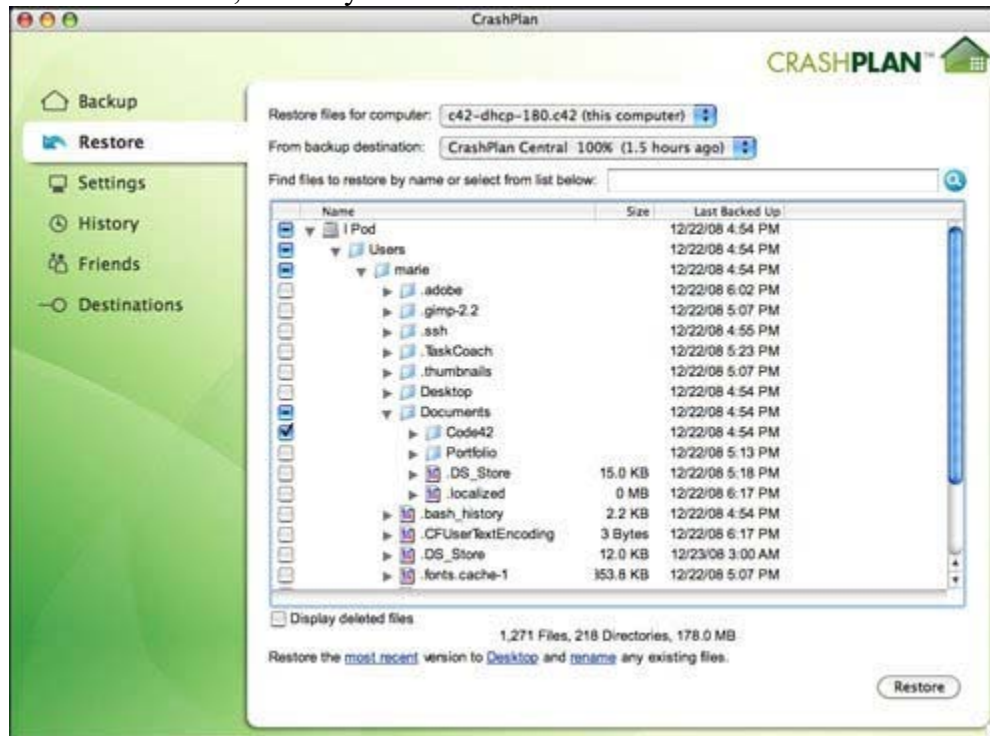


Of course, the other drawback of the cloud is that making backups can take a long time. Speed is limited by your broadband connection. Don't forget your quoted broadband speed is the download speed; the upload speed is typically much, much slower to the extent that backing up gigabytes and gigabytes of data becomes totally impractical and may even exceed your allowances for the month if you have a data cap.

You'll have to work out whether the volume of files you want to backup is feasible on your particular broadband connection. It's worth checking the small print scheduling backups so they run overnight. Unless you live in a remote area of the UK, it's certainly a good idea to incorporate online services as part of an overall backup strategy. Subscriptions start from around £5 per month but this varies depending on the amount of storage you need and the facilities on offer.

A particularly interesting online backup service is CrashPlan which is unusual in allowing you to backup remotely either to CrashPlan's servers or to computers belonging to friends, family or business colleagues. If you want to use CrashPlan's servers you'd pay a subscription, as you would with most online services, but the option of using the "social backup concept", as

CrashPlan calls it, is totally free.



In fact, the CrashPlan software also allows you to backup to local drives so, in this way, you get the best of both worlds by having your backups geographically distributed for additional security. Of course it's quite possible that your friends won't want to use up their valuable disk space for your backup but, in that case, all you need do is loan them an external disk drive to keep plugged into their PC or hand them a NAS drive to connect to their router. You can repay the favour by allowing them to do the same at your house.

Certainly a drive at a friend's house won't be as secure as a server at a reputable online backup company but, even so, the likelihood of your PC's hard disk and your remote backup suffering some catastrophe at the same time is extremely unlikely.

Back up data on all your devices

The days when a household had valuable data only on a single desktop PC are long gone. Now, you probably have more than one PC, a couple of laptops, plus an assortment of handheld devices such as smartphones and tablets. It's important to give some thought, therefore, to the best way to backup the data on all your devices in the simplest possible way.

Multiple desktops or laptops that are used by different family members are easy enough to deal with. Our recommendation is that you handle each of them separately, backing each up as and when appropriate for each user. However, in buying backup software or subscribing to an online backup service, it pays to shop around for a deal that allows several family members to use the software or the online service.

Where it gets trickier, though, is handling a number of devices – say a desktop, a laptop and a smartphone – that are used by the same person. Certainly you could backup each independently, but there's an alternative that's more convenient and possibly cheaper.

If you're already using synchronisation software to ensure that you have the same versions of your files on each of your devices, then all you have to do is backup your desktop PC to ensure that data from all your other devices is backed up too. If you haven't already implemented a synchronisation scheme, it's well worth the effort and not only to ease backup. Synchronisation means that you can work on the same document on more than one machine and you'll always be working on the latest version, irrespective of which computer you last edit it on.

This is achieved by copying files between devices when they are connected, either via a home Wi-Fi network or via the Internet. For Windows PCs, you could use SyncToy which is a free download from Microsoft or one of several online utilities such as Dropbox, which is free for 2GB accounts (you can get more by referring friends).



For Apple devices you can use iCloud to synchronise with a desktop PC but there are iOS apps for pretty much all cloud storage services now. If you use an Android phone, there's also no shortage of free synchronisation apps (including Dropbox) to choose between. Box.com, for example, offers 5GB of free online storage for smartphone and tablet users who install the free Box app and register for an account. Having uploaded your data to the cloud, it can be accessed from any device running the Android app or via a web browser. The brand new Google Drive also provides 15GB of online storage that's accessible from Android phones.

How to backup a Windows PC or laptop: Conclusion

We've looked at how to backup locally, we've considered options for backing up online, and we've explained the pros and cons of the two approaches. However, we've stopped short of telling you which method and service to use as everyone's requirements are different. You might have 2GB to back up or you might have 2TB.

Using an online service is perfect for small amounts of data, but impractical (and possibly too expensive) for terabytes when you're limited to a slow broadband upload speed.

Most people will benefit from backing up both locally and online. This doesn't mean that you'll necessarily back up everything in both ways. Documents, for example, which are critical in both their importance and also need to be accessed quickly, should be backed up online. Photos and videos can be archived on a hard disk or NAS, and this option is likely to be much cheaper and faster than online storage.

In making your decisions, remember that the online approach takes away concerns of media obsolescence and, if you choose a reputable company with ISO 27001 accreditation, the security of your data should be assured. On the other hand, there are no guarantees that your service provider will stay in business for the long term and, in this respect, being able to hold a backup in your hand provides a level of confidence.

If you've been reluctant to give backup the attention it deserves, we hope we've demonstrated that it needn't be as time-consuming and expensive as you might have feared. And remember, that effort will be well worth it the moment that your hard disk fails, you suffer a virus attack, lose your laptop or someone steals your pride and joy.