

# PDSC's Top Tips for Backing Up Your Data

Think of the consequences your organisation faces if you lost all of the data you hold. How long could you continue operating? Data loss may not always be the result of a cyber attack, but could be caused by theft, flood, fire, or general damage to the device. It is important to safeguard your most important data, and have it backed up regularly onto a safe location.

Here are some tips on how to back up your data safely;

## Backup Methods

### 1 External Hard Drives



This is the quickest and most efficient method to back up your data. There are various types of hard drives available, both in storage size and function, where it can either be plugged into your computer's USB port or connected via your wireless network. External hard drives can be easily stored off-site, keeping them safe and separate from the main network system. For added security and protection, purchase a hard drive with a built-in encryption, that can only be accessed with a password.

If you are a Mac user, the Time Machine Backup is a helpful tool that allows you to set up automatic backups of Mac operating systems. Find out more information on Time Machine backup here: <https://support.apple.com/en-us/HT201250>

For Windows users, Windows 10 allows you to backup and restore your data using File History. For more information follow the link: <https://support.microsoft.com/en-us/help/4027408/windows-10-backup-and-restore>

It is important to have procedures in place to prevent your backup from being corrupted or accessed during a cyber attack. Please visit the National Cyber Security Centre (NCSC) for more information on how to protect backups stored in the public cloud: <https://www.ncsc.gov.uk/blog-post/offline-backups-in-an-online-world>

### 2 Cloud Backup



The benefits of using cloud storage is that your data is physically separate from your location. Various cloud services allow you to store large amounts of data for free or at a more affordable cost and allows for automated backups to ensure that you have the latest version of your data saved.

Although using the cloud to backup is one of the recommendations, this should not be used as your only method. In the event of a ransomware attack, the risk might be that your original files are 'ransomware'd' and the cloud storage service you are using (such as OneDrive, Dropbox, SharePoint, etc.) may automatically synchronise those infected files, resulting in you losing your backup data as well. Therefore, ensure that you have multiple versions of backed up data.

### 3 Encrypted USB Devices



Using USB devices to store and back up data can be a convenient method, especially when transferring data between devices. Similar to hard drives, there are encrypted USB devices available that you can purchase for added security, especially when you need to store sensitive data and need to keep it separate to your network system.

However, unlike other backup methods, it has a limited capacity to the amount of data it can store. Therefore, it might only be useful to hold a few important documents on it. Additionally, USB devices should be stored safely, as they can be easily misplaced or stolen.

## Type of Backups

### 1 Full Backup



A full backup is exactly as it sounds - it is a complete backup operation that makes copies of all of your data to another device or location. This should be done on a regular basis to ensure you have a comprehensive backup of your data stored separately from your device or network system.

### 3 Differential Backup



Differential backup is similar to an incremental backup, but a slight difference is that it will only back up files that have been changed from the last full back up.

### 2 Incremental Backup



An incremental backup is a process where only data that has been changed since the last back up is copied. This method uses modified time stamps on files and compares it to the time stamp of the last back up. However, if the data has not been changed, then an incremental backup will not back up these files.