



How and Why To Back Up Your Hard Drive

Potomac Area Technology And Computer Society

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APCUG's Speakers Bureau**

Why should I back up?

Brought to you by APCUG's Speakers Bureau

A benefit of your membership



World Backup Day – March 31st



- “I solemnly swear to backup my important documents and precious memories on March 31st.”
- I will also tell my friends and family about World Backup Day - friends don't let friends go without a backup.

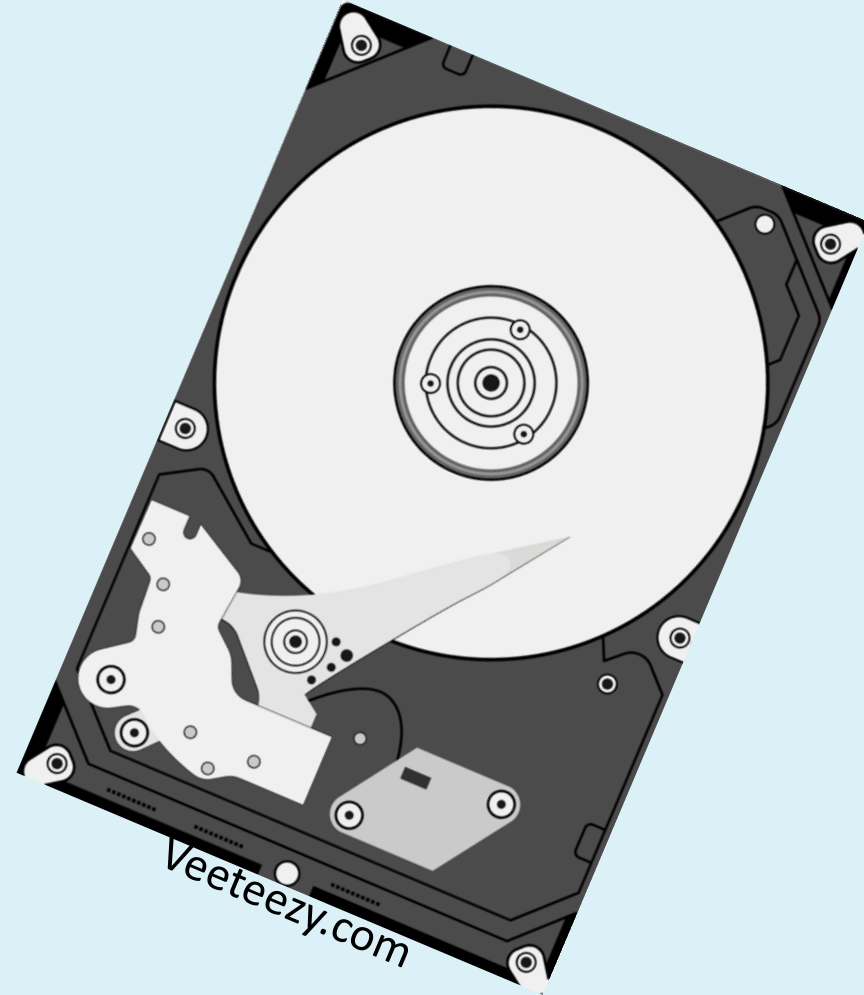
Why should I back up?

- 30% of us don't back up, even though we know we should
- Computers get infected; phones get lost or stolen
- Some still don't take the time
- Think of data backup as one of those better-safe-than-sorry precautions
 - Locking your front door -- Locking your car
 - Wearing your seat belt --
- Having a backup strategy can help you avoid the crushing feeling that comes with finding out that all your hard work and treasured memories are gone

Why should I back up?

Physical Drive

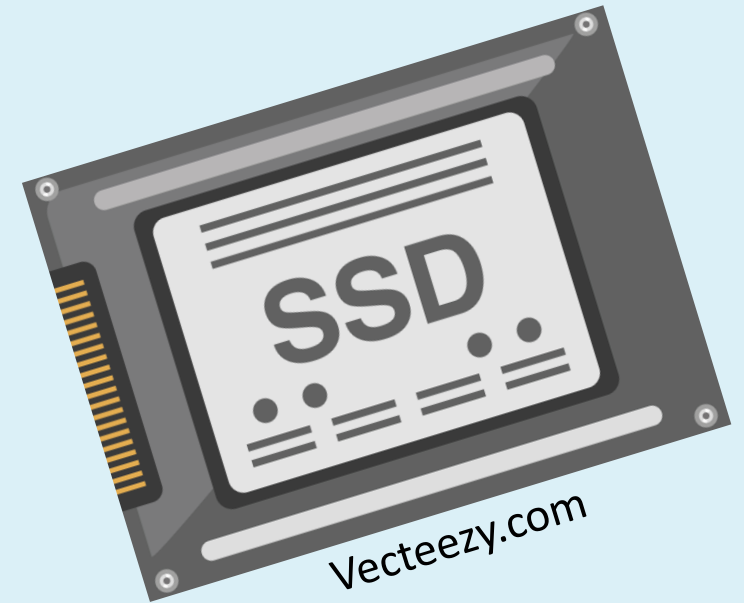
- Grinding noises?
- Beeps?



Why should I back up?

Solid State Drive (SSD) has no moving parts

- Your computer takes a long time to save files
- You have to restart often
- Your computer crashes during boot
- Random crashes



Why should I back up?

Hard Drive Fails

- Most serious ... generally cannot easily recover anything from damaged hard disk

Bad actors can hack into your computer

- Can use unimportant data and put it together to commit ID theft

Viruses

- Can target specific files or erase entire drive
- Some viruses (Ransomware) are designed to encrypt files on your hard drive and demand a ransom in exchange for the decryption key

Why should I back up?

A good backup strategy can make a big difference in your digital life and give you *peace of mind*

CISA Recommends



Best Practices To Minimize Ransomware Risks

- Backup your data, system images, and configurations
- Test your backups
- Keep backups offline

Buzz Words

Backup

- A copy of the data stored on your hard drive

External Hard Drive

- A storage device connected to your computer via a USB cable

Cloud Backup

- A service you pay for to have your data backed up over the Internet to a remote location

Online Synchronization

- OneDrive, Google One, DropBox

Buzz Words

Drive/System Image / Full backup

- Complete copy of everything on your Windows hard drive as it exists at that time
 - OS settings
 - Boot sector files
 - Tells PC how to start before Windows is loaded
 - Drivers for hardware peripherals - software that lets your PC talk to printers, external hard drives, video cards.....
- Restores system to look exactly like it is at the time of the backup without having to install files one at a time

Buzz Words

Data Backup

- Backs up all your documents, photos, videos, music, etc.
- Buying a new computer?
 - Use this backup to copy your data to the new hard drive

Buzz Words

Incremental Backup

- Only backs up changes made to new, altered, or updated files.
- Reduces the amount of storage space required for backups and speeds up backup times.
- Incremental backups are usually performed on a regular basis, such as daily or weekly.

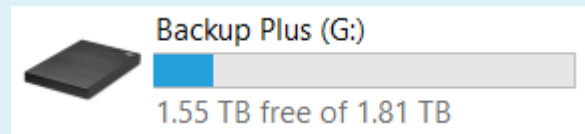
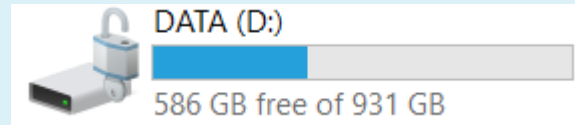
Buzz Words

Differential Backup

- Based on the most recent, previous full data backup
- Captures only the data that has changed since that full backup
- Differential = only the data that is "different" is copied
- The backups are usually performed on a regular basis, such as daily or weekly, and are useful for situations where frequent backups are necessary, but a full backup is too time-consuming or storage-intensive to perform regularly

What data should you back up

- Data - C: / D: - whichever stores your data
 - Desktop
 - Downloads
 - Documents
 - Music
 - Pictures
 - Videos



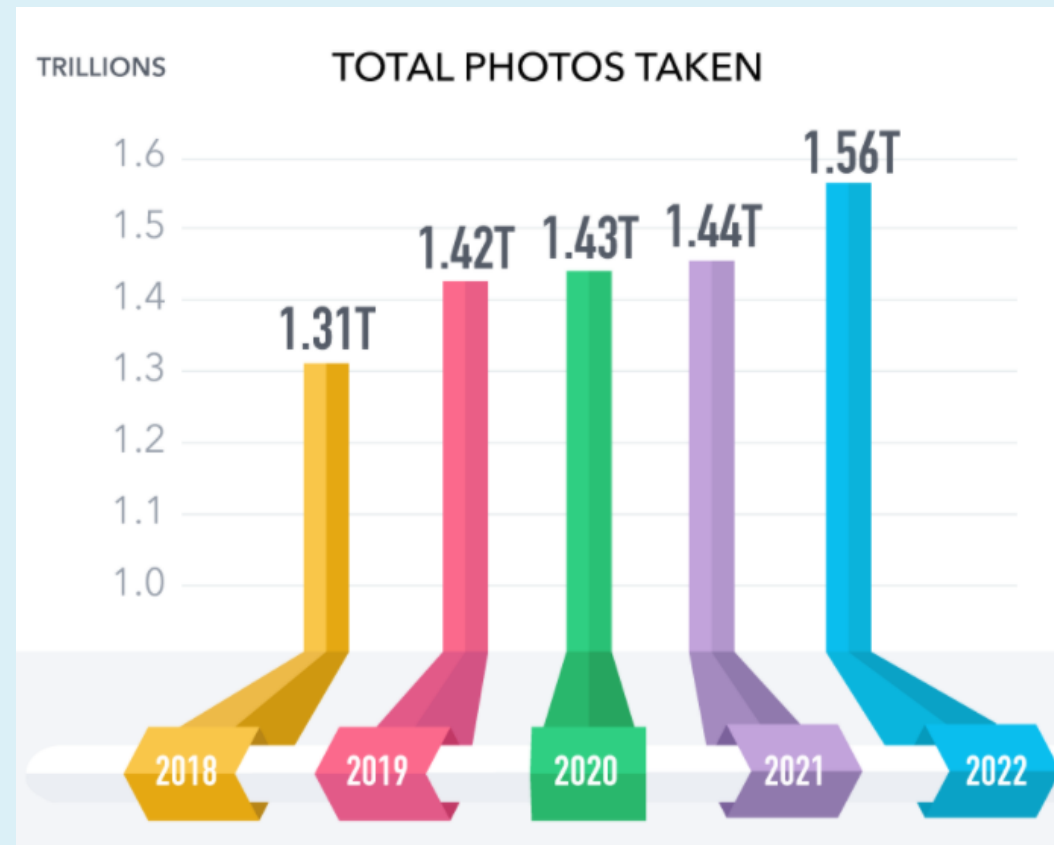
DATA (D:)

Name	Date modified
1 - Google Home Tips	1/16/2021 12:16 AM
1-GO	12/30/2020 2:20 PM
1-WORKING ON	9/16/2020 10:32 PM
2 - Articles2Go	1/1/2021 11:56 PM
3 - PCG	11/22/2020 5:49 PM
4 - APCUG	11/30/2020 4:05 PM
5 - New Website	10/14/2020 8:52 PM
6 - Calendar	11/25/2020 10:25 AM
7 - Zoom	8/9/2020 2:07 AM
8 - Presentations	2/1/2021 5:08 PM
9 - FYI	8/29/2020 9:31 AM
10 - Other Group Newslett...	10/17/2020 2:04 AM
11 - Senior Center	8/29/2020 7:17 PM
12 - BobG	12/12/2020 8:49 PM

A screenshot of a Windows File Explorer window showing the contents of the DATA (D:) drive. The window title is 'DATA (D:)'. The view is set to 'Details'. The table below shows the list of folders and their modification dates.

How many pictures do you take?

How important are they?



Back up rule

3-2-1 rule

- 3 different copies of your files
- Saved in 3 different drives or locations
- One copy on the device you are using (hard drive)
- 2 different types of storage
 - External hard drive
 - Cloud
- 1 is for at least one copy to be backed up off-site
- Ensures you have a copy, in case of an earthquake, fire, flood or even a very thorough burglar

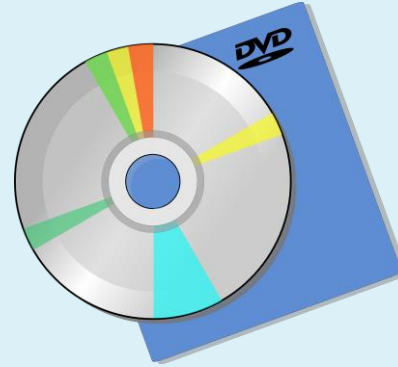
How to choose a backup app

- Ease of set up
- Cost
- How quickly your data can be backed up
- The security of your data
- Ability to restore and recover your data quickly
- Mobile and tablet apps to access your data

What to use for Backing Up

Back in the day

- Floppy disks
- CDs, DVDs



Today

- External hard drives
- 3rd party apps
- The Cloud
- Online synchronization



What to use for Backing Up

External hard drives

- Plug one in and you are ready to go....
- USB 3.0
 - Seagate
 - Toshiba
 - Samsung
 - SanDisk
- Larger size than your internal hard drive
 - Windows 10 or 11 backup app
 - 3rd party app



What to use for Backing Up

- Macrium Reflect Home - \$69.95/year

<https://www.macrium.com/>



- EaseUS ToDo Backup Home - Free
- \$49.95/year \$69.95/lifetime

<https://www.easeus.com/>



- Aomei Backerupper - Standard - Free
- Personal \$39.95/year

<https://www.aomeitech.com/>



What to use for Backing Up

- Microsoft OneDrive is a cloud-based file storage and synchronization app that allows you to store and share files across multiple devices and users.
- It offers automatic synchronization of files and folders, offline access to files, and file version history.

Microsoft 365
Personal

\$69.99 / year

Buy now

Or buy at \$6.99 per
month

OneDrive Premium
Features

1 TB (1000 GB)

Cloud Backup

Cloud

- Tom's Guide
 - iDrive - Best
 - Backblaze - Easiest
 - Acronis - Powerful and versatile option



Backblaze Unlimited Backup

Get peace of mind knowing your files are backed up securely in the cloud. Back up your [Mac](#) or [PC](#) for just \$7/month.

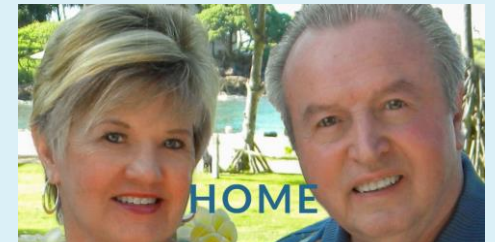
Sign Up Now

90*% OFF

iDrive - \$79.50/yr

5 TB of cloud backup at ~~\$79.50~~/year **\$7.95** for the first year

\$25.00

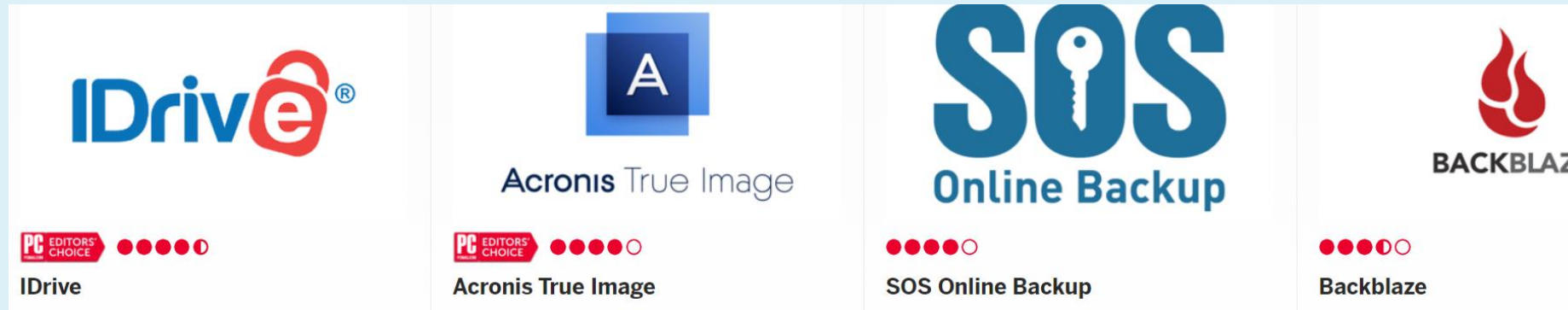


Acronis Cyber Protect Home Office -- Essentials is a new option that Acronis introduced recently to provide you with your backup software. Instead of purchasing a feature-based release, you purchase the right to use the most current release(s) of *CPHO* for an annual subscription fee. So, when a new version of *CPHO* becomes available, you would get a free upgrade to that new set of features for the remaining of your annual subscription.

Cloud Backup

Cloud

- PCMag




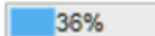
- Windows Central

- iDrive - Acronis - Backblaze

iDrive Email

IDrive ×

 scvjudy@usa.net

731.57 GB of 2000.00 GB used  36%


Backup Status


Files considered for backup:	26315
Files already present in your account:	26306
Files backed up now:	9 [more]

Your next scheduled backup will start on 3/19/2022 2:30:00 AM

Don't show this notification

IDrive ×

 scvjudy@usa.net

731.57 GB of 2000.00 GB used  36%

Backup Status

Files considered for backup:	26373
Files already present in your account:	26354
Files backed up now:	19 [more]

Your next scheduled backup will start on 3/28/2022 2:30:00 AM

Don't show this notification

Cloud Backup

Online Synchronization

- DropBox



Dropbox Plus

- 2000 GB Storage

1-month plan

\$ **11.90** / month

1-year plan

\$ **9.99** / month

\$119.88 billed every year

Save 16 %

Cloud Backup

Online Synchronization

- Google One fka Google Drive



100GB

- 100 GB Storage

1-month plan

\$ **1.99**/month

1-year plan

\$ **1.67**/month

\$19.99 billed every year

Save 16 %

200GB

- 200 GB Storage

1-month plan

\$ **2.99**/month

1-year plan

\$ **2.50**/month

\$29.99 billed every year

Save 16 %

2TB

- 2000 GB Storage

1-month plan

\$ **9.99**/month

1-year plan

\$ **8.33**/month

\$99.99 billed every year

Save 17 %

Backing Up with Win 7

Image backup

- Start > type backup in Search box > click on Backup settings
- Control Panel - Backup and Restore (Windows 7)
- Create a system image > Where do you want to save the backup?
 - Hard Disk (backup drive)
 - Click next
 - Confirm backup settings
 - Start backup



Backup and Restore
(Windows 7)

On a hard disk

BackupDrive (E:) 31.92 GB free

Backing Up with Win 7

- Might take a long time depending on....
 - Speed of your system
 - Speed of your hard disks
 - How much is being backed up
- You can continue using your system while the backup is going on
- When it is complete you will be asked if you want to create a system repair disc
 - Used to restore system images to your computer
 - Recommended if your computer can't boot normally

Backing Up with Win 10/11

Windows 10 File History

- Writes copies of your data files each time they change
- Can recover a file as it was an hour ago - week ago, etc.
- Type “File History” in Search box > click on “Backup settings”
- Back up using “File History” page > click “Add a drive”
- Click on drive you want to use (external hard drive)
- Replaces “Add a drive” option with “Automatically back up my files” option - turned on

BackupDrive

Automatically back up my files



Backing Up with Win 10/11

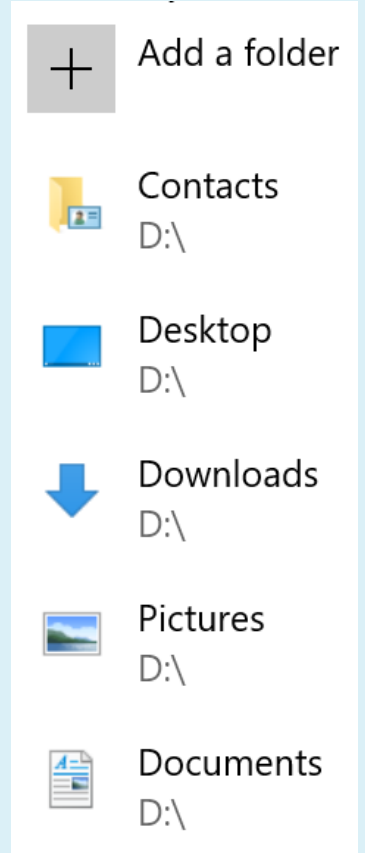
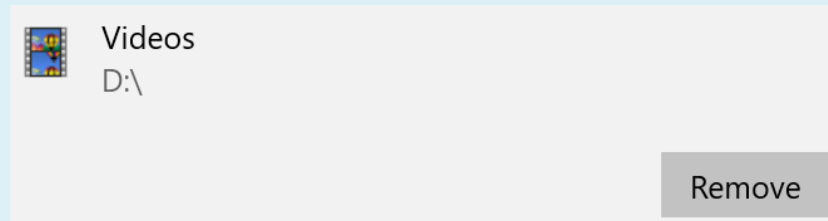
Windows 10 File History

- Back up my files
 - Every hour (default)
- Keep my backups
 - Forever (default)
- Click on both down arrows to choose how often you want to have your files back up and how long you want everything kept
 - you do not want “Forever”
- “Until space is needed” is a good choice

Backing Up with Win 10/11

Back up these folders

- List of folders that File History monitors for updates
- Click on “Add a folder” to add one not on the list
- Or click on one and the “Remove” button to remove it from File History



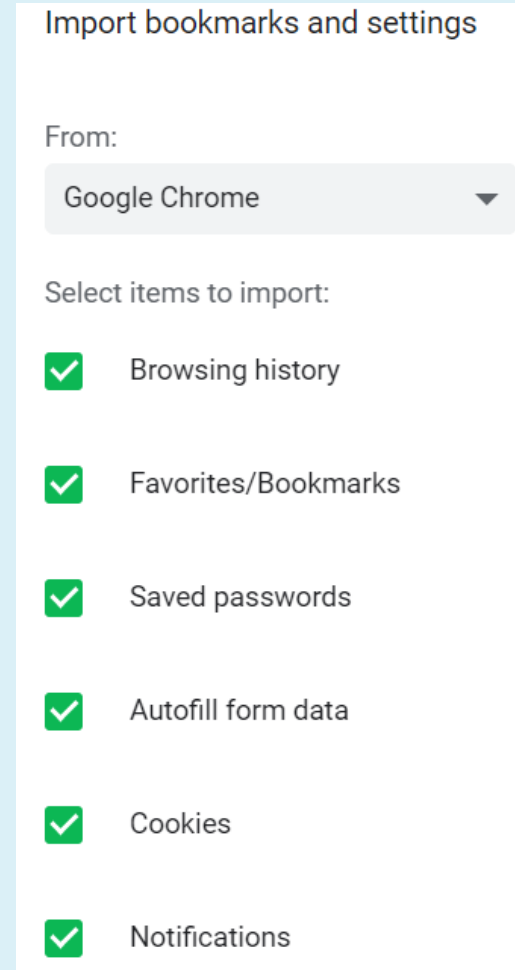
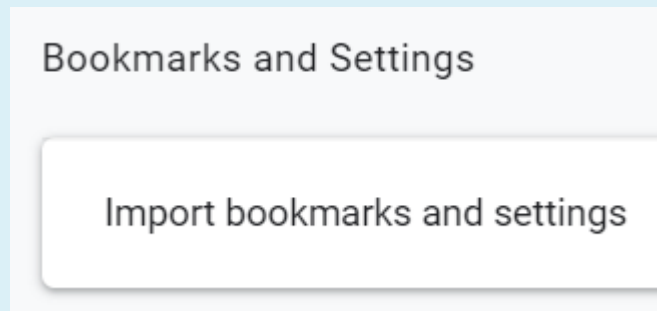
Back up your favorites & bookmarks



Back up your favorites & bookmarks

Chrome

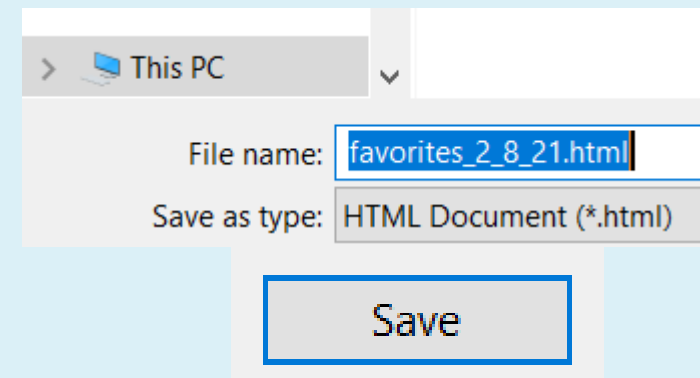
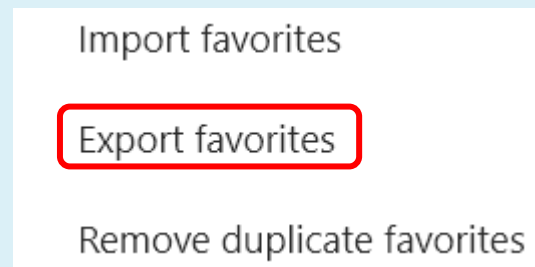
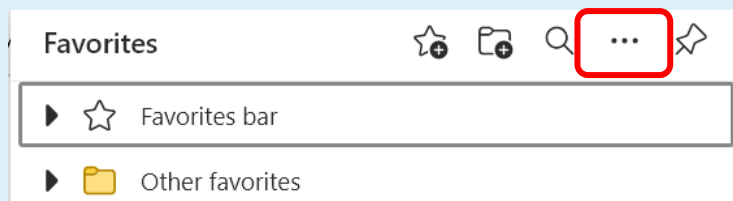
- `Chrome://settings/syncSetup`



Back up your favorites & bookmarks

Edge Chromium

- Click on the Menu icon (three dots) in upper-right corner
- Select “Favorites > Manage Favorites” option
- Bookmark page > Export favorites
- Save As window > select destination > click on “Save”



Back up your favorites & bookmarks

Firefox



- Click Bookmarks
- Click Show All Bookmarks bar at the bottom
- Import and Backup
- Choose Export Bookmarks to HTML... from the drop-down menu.
- In Export Bookmarks File window that opens, choose a location to save the file, which is named bookmarks.

Back up your phone



Back up your phone

5 Reasons

- Theft
 - Important data on your phone?
 - Oops, it's gone
- Hardware Failure
 - Most common form of phone failure among phone users in the world today
 - Every gadget has a life cycle
 - Can die without a signal
 - Oops, everything is gone

Back up your phone

5 Reasons

- Malicious Attack
 - Can cripple your phone's OS functions
 - Install a new OS = end up losing important stuff
- Loss of Data by Mistake
 - How much time do you want to spend on adding vital information from scratch?
 - Delete files
 - Delete contacts

Back up your phone

If you already store most of your data in cloud-based storage services, why is it so important to do a hard backup of your devices?

- It can be a pain to start over from scratch
- It's not that you've lost your data, you have lost all your apps
- It takes a lot of time to download your apps....will you remember all of them?
- You also lose all of your settings....how long did it take you to customize your phone so it works for you?
- Your pictures may be safe but....how about your docs?

Back up your phone to your HD

Android Backup Tool

Very easy to use

- Connect your phone to your PC > launch the tool
- Click on Toolbox > Backup Device
- Check all data you want to back up
- Select Backup

Back up your phone to your HD

Restore your Android data from backup files

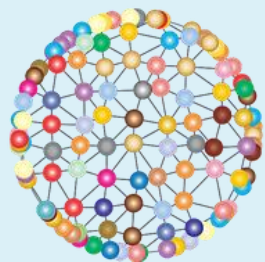
- Connect the phone you want to receive the data
- Select Restore Device in Toolbox menu
- Select backup files
- Check the files you would like to restore to your phone
- Click Restore

Back up your iPhone to iCloud

- Enable iCloud backups
- Settings > tap Apple ID > tap iCloud
- Flip switch next to iCloud Backup on > tap OK
- Select backup files
- iCloud will attempt to start a backup of your data every 24 hours if phone is connected to Wi-Fi and plugged in to charge
- The first backup can take a while > others go faster

Manually

- Settings > Apple ID > iCloud > iCloud Backup > Back Up Now



Resources

- [Creating a Backup Image Using Windows' Built-in Backup - Ask Leo!](#)
- [Enable File History in Windows 10 - Ask Leo!](#)
- [How to back up your iPhone or iPad | iMore](#)
- [iPhone Backup Software | iMazing](#) - 3 devices \$49.99
- [iPhone Backup and Transfer for Free | AOMEI MBackupper \(aomeitech.com\)](#) - also paid
- [Top 5 Reasons Why You Need to Backup Your Phone \(wondershare.com\)](#)

Resources

- [|| The Importance Of Backing Up Your Home Computer \(onlinebanktours.com\)](#)
- [The Beginner's Guide to PC Backup \(pcmag.com\)](#)
- [How to make a full backup of your Windows 10 PC | Windows Central](#)
- [How to Use All of Windows 10's Backup and Recovery Tools \(howtogeek.com\)](#)
- [Backing Up Your Data - Choosing a Method and Configuring Your Backups \(techvera.com\)](#)
- [The importance of data backup | Norton](#)

Resources

- [Which Files Should You Back Up On Your Windows PC? \(howtogeek.com\)](#)
- [The best cloud backup services in 2021 | Tom's Guide](#)