



Alan German & Chris Taylor
Ottawa PC Users' Group

March 26, 2025

Two-for-one Membership!

- Join OPCUG now (or before March 31, 2025)
- Annual membership fee is only \$20.00
- But, you will receive **two-years** of membership for the price of one!

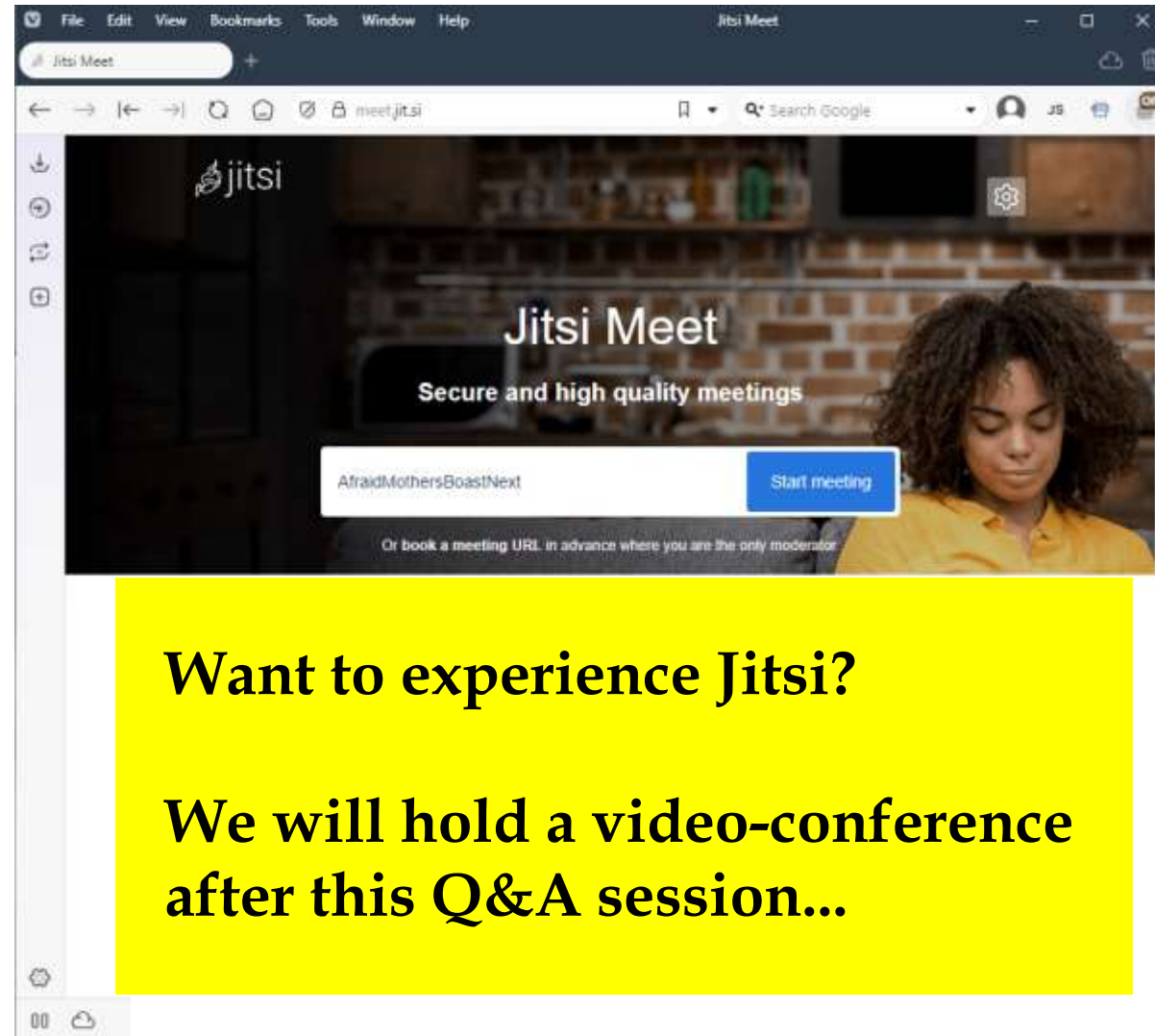
Last Call !!! - Offer ends in 5 days

<https://opcug.ca/join-or-renew/>



Follow Up

Jitsi Meet



The image shows a browser window displaying the Jitsi Meet website. The browser's address bar shows the URL 'meet.jitsi'. The website content includes the Jitsi logo, the text 'Jitsi Meet' and 'Secure and high quality meetings', a meeting ID input field containing 'AfraidMothersBoastNext', and a 'Start meeting' button. Below the website content, there is a large yellow rectangular area containing the following text:

Want to experience Jitsi?

**We will hold a video-conference
after this Q&A session...**



<https://meet.jit.si/OPCUGPostQandAJitsi>



Home Updater (PatchMyPC)

VirusTotal

Started by AlanG, February 06, 2025, 12:55:52 PM

[Previous Topic](#) - [Next Topic](#)

GO DOWN Pages: [1]

PRINT

 **AlanG**



Newbie

Posts: 1

Logged

February 06, 2025, 12:55:52 PM

Zillya on [VirusTotal.com](#) reports Trojan.Badur.Win32.42242 detected in PatchMyPC-HomeUpdater.msi but no other engines report any issues. Is this a false positive?

 **Justin (Patch My PC)**

Administrator



Newbie

Posts: 29

Logged

Today at 11:35:18 AM

Yes this is a false positive.

#1

March 22, 2025

Follow Up



Quadratic: an AI-powered spreadsheet

- Tired of complex Excel formulas?
- Struggling with:
 - pivot tables, data visualization, & automation?
- Meet Quadratic, the next-generation AI-powered spreadsheet:
 - summarize data
 - generate charts
 - and even write Python code
 - all inside a spreadsheet!

Some advanced features
require paid account

- **everything I did was
using a free account**

<https://www.quadratic.ai/teacherstech>

https://www.youtube.com/watch?v=jg5_eUy8Qbg

Follow Up

Q&A 2025-02-26

Chris's attempt at using AI to solve an Excel problem

https://opcug.ca/qa_recordings/20250226_PowerPoint.pdf

Share

An Excel problem

	A	B	C	D	E
1	FirstName	LastName	Street	City	Phone
2	Emma	Thompson	123 Maple Ave	Ottawa	613-123-4567
3	Liam	Garcia	456 Oak St	Ottawa	987-6543
4	Olivia	Chen	789 Pine Rd	Nepean	613-234-5678
5	Noah	Patel	321 Elm Ln	Orleans	
6	Ethan	Kim	987 Cedar Blvd	Toronto	416-765-4321
7	Sophia	Martinez	159 Willow Way	Ottawa	613-456-7890
8	Mason	Taylor	753 Spruce St	Vancouver	672-654-3210
9	Isabella	Brown	852 Aspen Ct	Nepean	
10	Mia	Wilson	357 Sycamore Ave	Ottawa	678-9012
11	James	Anderson	159 Chestnut St	Gatineau	819-432-1098
12	Charlotte	Thomas	753 Magnolia Ln	Ottawa	789-0123
13	Benjamin	Jackson	951 Poplar Dr	Nepean	321-0987
14	Amelia	White	246 Dogwood Rd	Ottawa	
15	Harper	Martin	579 Beech St	Nepean	613-901-2345

Want to normalize phone numbers so I can sort or query by area code

- some have area codes
- assume 613 if no area code
- thousands of records

What I need

- any phone number without an area code, add **613-** to the start

Perplexity AI

Wrong:

Better:

Perfect:

Final steps

- Column F (normalized phone numbers) had formulae
- wanted phone numbers as plain text
- selected all column F
- Copy (Ctrl-C)
- "Paste values" back over it
- Deleted column E
- original phone number
- Renamed new phone number column to Phone

Result

- exactly what I wanted
- accomplished in about 5 minutes
- would probably have taken me hours on my own!

Follow Up



Could Quadratic do better?

Follow Up

Imported Excel file by dragging and dropping into new Quadratic sheet

1	FirstName	LastName	Street	City	Phone
2	Emma	Thompson	123 Maple Ave	Ottawa	613 123 4567
3	Liam	Garcia	456 Oak St	Ottawa	987-6543
4	Olivia	Chen	789 Pine Rd	Nepean	(613) 234-5678
5	Noah	Patel	321 Elm Ln	Orleans	
6	Ethan	Kim	987 Cedar Blvd	Toronto	416-765-4321
7	Sophia	Martinez	159 Willow Wa	Ottawa	613-456-7890
8	Mason	Taylor	753 Spruce St	Vancouver	672-654-3210
9	Isabella	Brown	852 Aspen Ct	Nepean	
10	Mia	Wilson	357 Sycamore	Ottawa	678 9012
11	James	Anderson	159 Chestnut	Gatineau	(819) 432 1098
12	Charlotte	Thomas	753 Magnolia	Ottawa	789-0123
13	Benjamin	Jackson	951 Poplar Dr	Nepean	321-0987
14	Amelia	White	246 Dogwood	Ottawa	
15	Harper	Martin	579 Beech St	Nepean	613-901-2345

Made it *even harder*:

- changed some phone numbers
- parenthesis around area codes
- spaces instead of hyphens

Normalize "phone" column so that all phone numbers have an area code. If there is currently no area code, assume "613". Format all phone numbers so they appear the same. If the area code includes parenthesis, remove them. If the digits of the phone number are separated by spaces, change the spaces to hyphens. If there is no phone number, leave the cell blank.

I'll help normalize the phone numbers using Python. I'll create a code cell that will:

1. Read the existing data
2. Process phone numbers to add area code 613 where missing
3. Standardize the format to XXX-XXX-XXXX
4. Return the formatted data



Python

29 lines at G1



I've created a Python code cell at G1 that processes the phone numbers. The code:

1. Standardizes all phone numbers to XXX-XXX-XXXX format
2. Adds area code 613 where missing
3. Removes parentheses and converts spaces to hyphens
4. Preserves blank cells

The normalized phone numbers are displayed in column G. You can copy these values back to column E if you want to replace the original phone numbers.

To copy the normalized values back to column E, select the values in column G and paste them into column E.

Follow Up

Correct formatting in one try!

Python1[[]#DATA][#HEADERS]]

Sheet chat

Normalize "phone" column so that all phone numbers have an area code. If there is currently no area code, assume "613". Format all phone numbers so they appear the same. If the area code includes parenthesis, remove them. If the digits of the phone number are separated by spaces, change the spaces to hyphens. If there is no phone number, leave the cell blank.

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Python1[Phone]Cursor Original Sheet

copy the normalized values back to column E

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3	Liam	Garcia	456 Oak St	Ottawa	987-6543	613-987-6543
4	Olivia	Chen	789 Pine Rd	Nepean	(613) 234-5678	613-234-5678
5	Noah	Patel	321 Elm Ln	Orleans		
6	Ethan	Kim	987 Cedar Blvd	Toronto	416-765-4321	416-765-4321
7	Sophia	Martinez	159 Willow Wa	Ottawa	613-456-7890	613-456-7890
8	Mason	Taylor	753 Spruce St	Vancouver	672-654-3210	672-654-3210
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14	Amelia	White	246 Dogwood	Ottawa		
15	Harper	Martin	579 Beech St	Nepean	613-901-2345	613-901-2345

Why should I have to do the work?

Perfect!

1	FirstName	LastName	Street	City	Phone
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Result

- exactly what I wanted
- **accomplished in about 1 minute**
- would probably have taken me hours on my own!

Follow Up The Python code for anyone who cares (not me)

```
import pandas as pd
import re

# Read the data
df = q.cells('A1:E15', first_row_header=True)

# Function to normalize phone number
def normalize_phone(phone):
    if pd.isna(phone) or str(phone).strip() == "":
        return ""

    # Remove all non-digit characters
    digits = re.sub(r'\D', '', str(phone))

    # If length is 7, add area code
    if len(digits) == 7:
        digits = '613' + digits

    # Format as XXX-XXX-XXXX
    if len(digits) == 10:
        return f"{digits[:3]}-{digits[3:6]}-{digits[6:]}"

    return ""

# Apply normalization
df['Phone'] = df['Phone'].apply(normalize_phone)

# Return just the phone column
df['Phone']
```


Follow Up Quadratic can do so much more

- AI-powered data analysis
 - ask natural language questions: insights without complex formulas
- Code integration
 - write & execute Python, SQL, & JavaScript directly in spreadsheet cells
- Automated visualization
 - quickly generate tables, charts, & summaries based on user prompts
- Database connectivity
 - seamless connections to databases (e.g., PostgreSQL, MySQL, Snowflake)
- Enhanced performance
 - uses WebGL & Rust WASM: can handle large datasets more efficiently
- AI-powered SQL generation
 - generate SQL queries using natural language: no need to know SQL syntax
- Real-time collaboration
 - multiplayer mode: teams can work together in real-time

<https://www.quadratic.ai/teachertech>

https://www.youtube.com/watch?v=jg5_eUy8Qbg



YouTubeTech

Ask Leo - DISM



Using the DISM Command Prompt Tool to Repair Windows



Ask Leo!
136K subscribers

Subscribe

<https://www.youtube.com/watch?v=3ka-FliZK2k>



How secure are messaging apps?

YouTubeTech

- Messaging apps promise encrypted messaging
- Nobody but the sender & receiver can access the data
 - text
 - video stream
 - audio stream
- Not the service provider
- Not law enforcement
- Nobody

- But are they really secure?





How secure are messaging apps?

YouTubeTech

- Matt Johansen – VulnerableU Newsletter
 - *Signal vs. whatsapp vs. telegram (who wins?)*
 - focus on encryption, privacy, data storage, etc.
 - https://www.youtube.com/watch?v=_8CF3HXjtO8
- Another video from Matt not about messaging apps
 - *This browser hack can steal everything*
 - exposes a browser extension hack
 - <https://www.youtube.com/watch?v=oWtR8vqbyX4>





March 31, 2025

Beep,
beep,
beep...



Backup Components

- Operating System
 - plus patches
- Applications
 - plus updates
- Data Files
 - word processing files
 - digital images
 - audio files



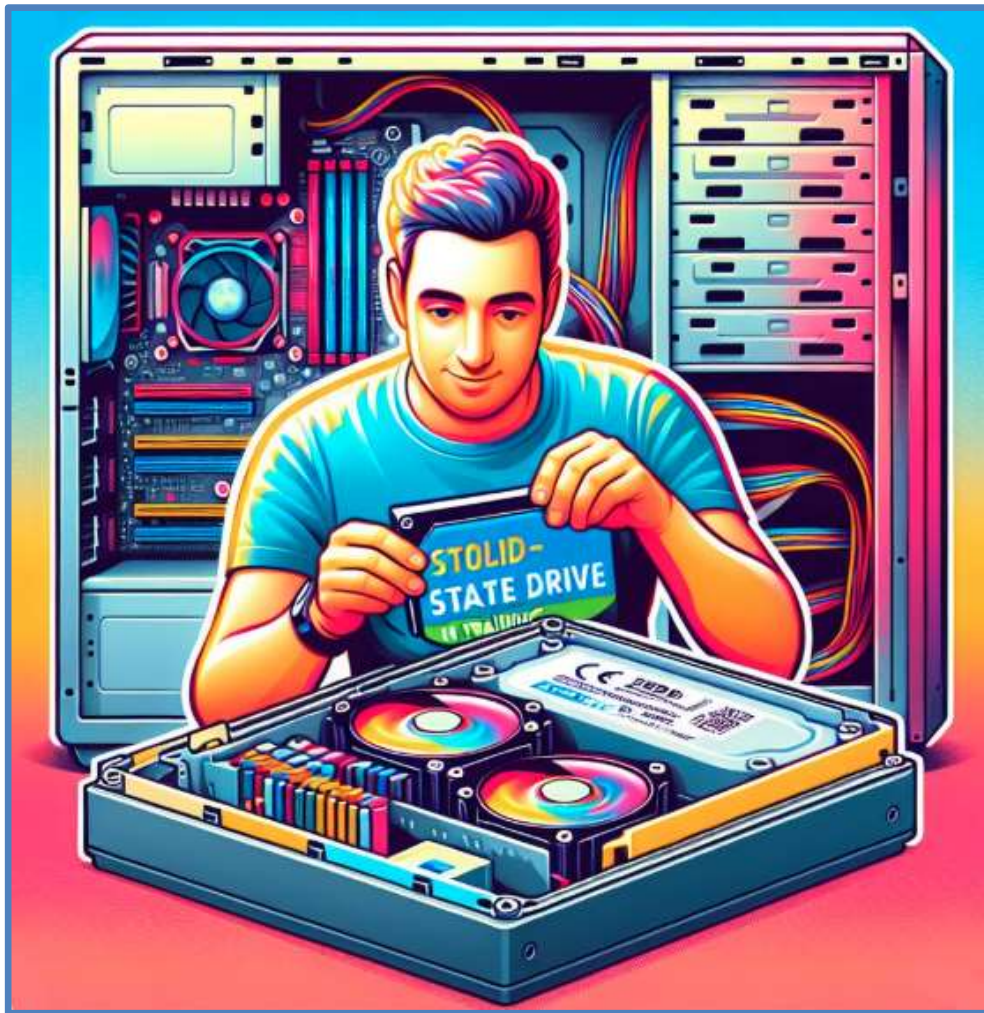
**Can be reinstalled
from source**



**No external source
for personal data
files**

Supercharging My Desktop PC

Share



Installing a 2TB SSD

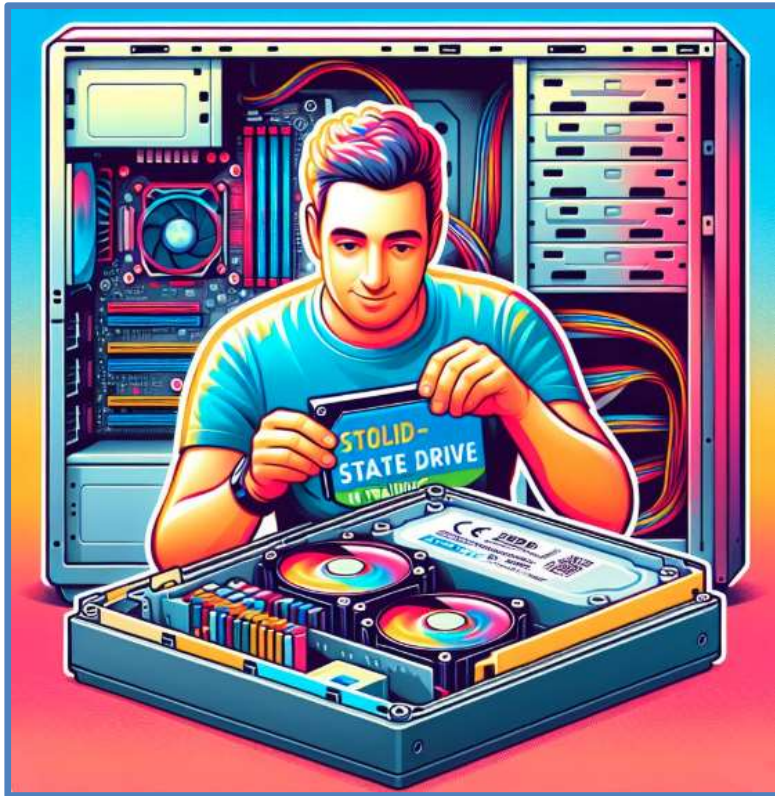
Q&A

OPCUG



*Users helping users
for over 40 years*

Supercharging My Desktop PC



Installing a
2TB SSD

and
My Backup Strategy



My Desktop PC



Purchased: September 2020

- **Memory:** 32GB RAM
- **Storage:** 512GB SSD (C:) System
- **Secondary Drive:** 1TB HDD (D:) Data

My Solution

2TB Internal Solid-State Drive



SSD

Fast, Easy, Backup of All Data



**2TB Internal
SSD**





Let's get started

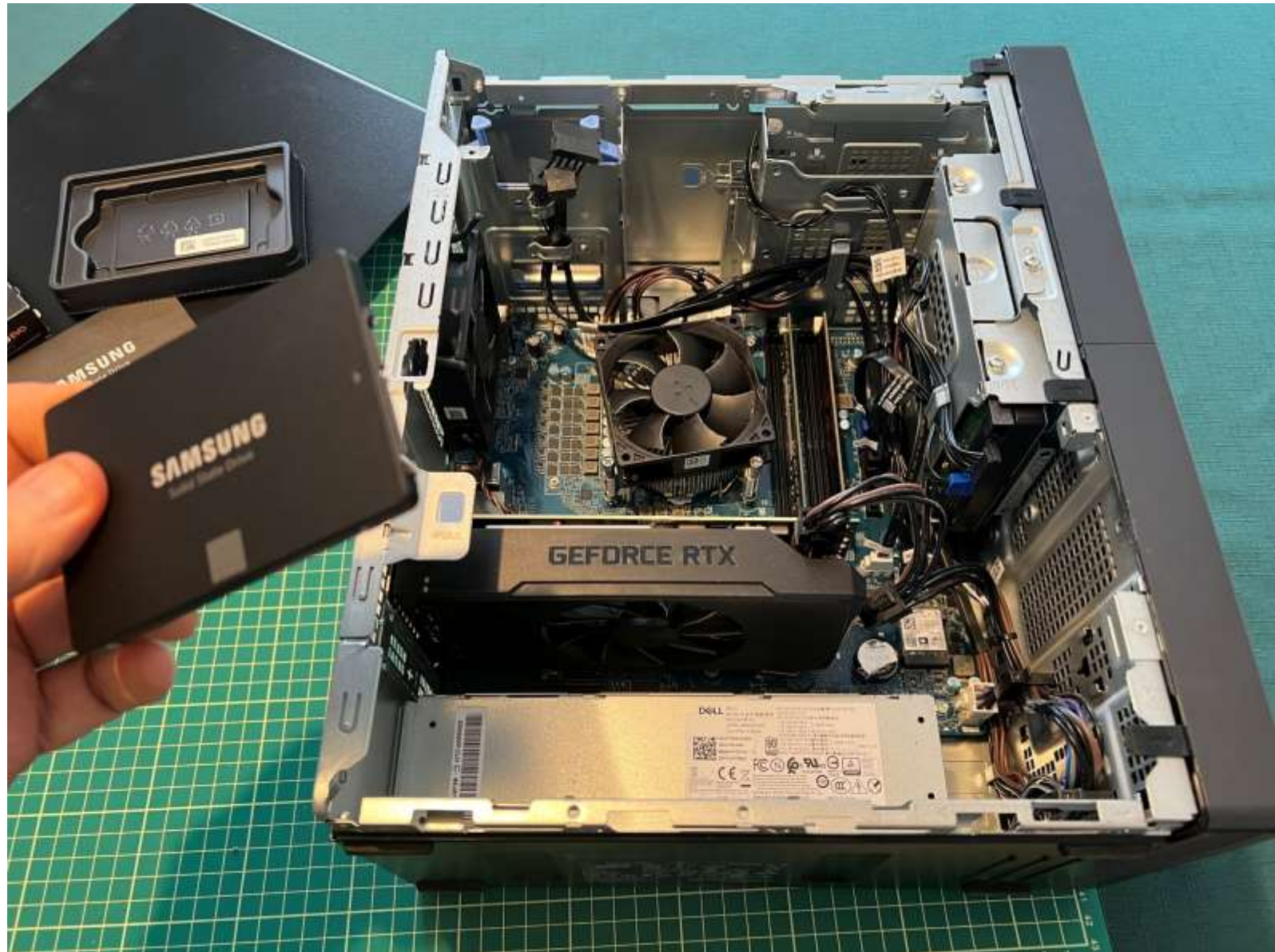
When working inside a Desktop PC

- Backup All Data.
- Unplug the Power cord.
- Use an “anti-static wrist strap” or keep touching the unpainted metal case to discharge static.
- Handle parts by the edges, not pins, and work on a non-conductive surface.



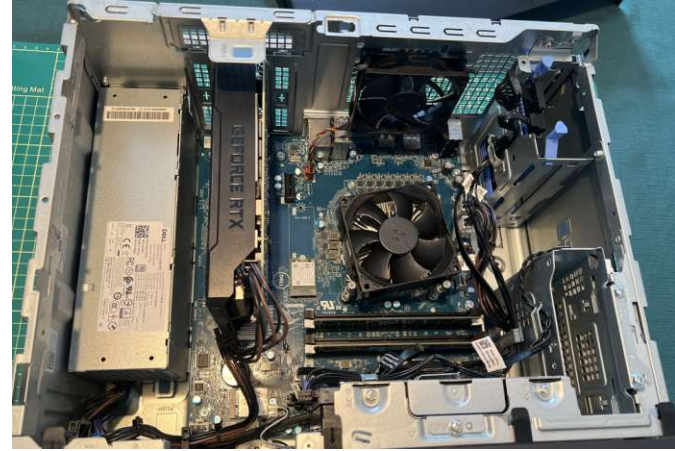
 avoid carpeted areas etc.

Case cover removed



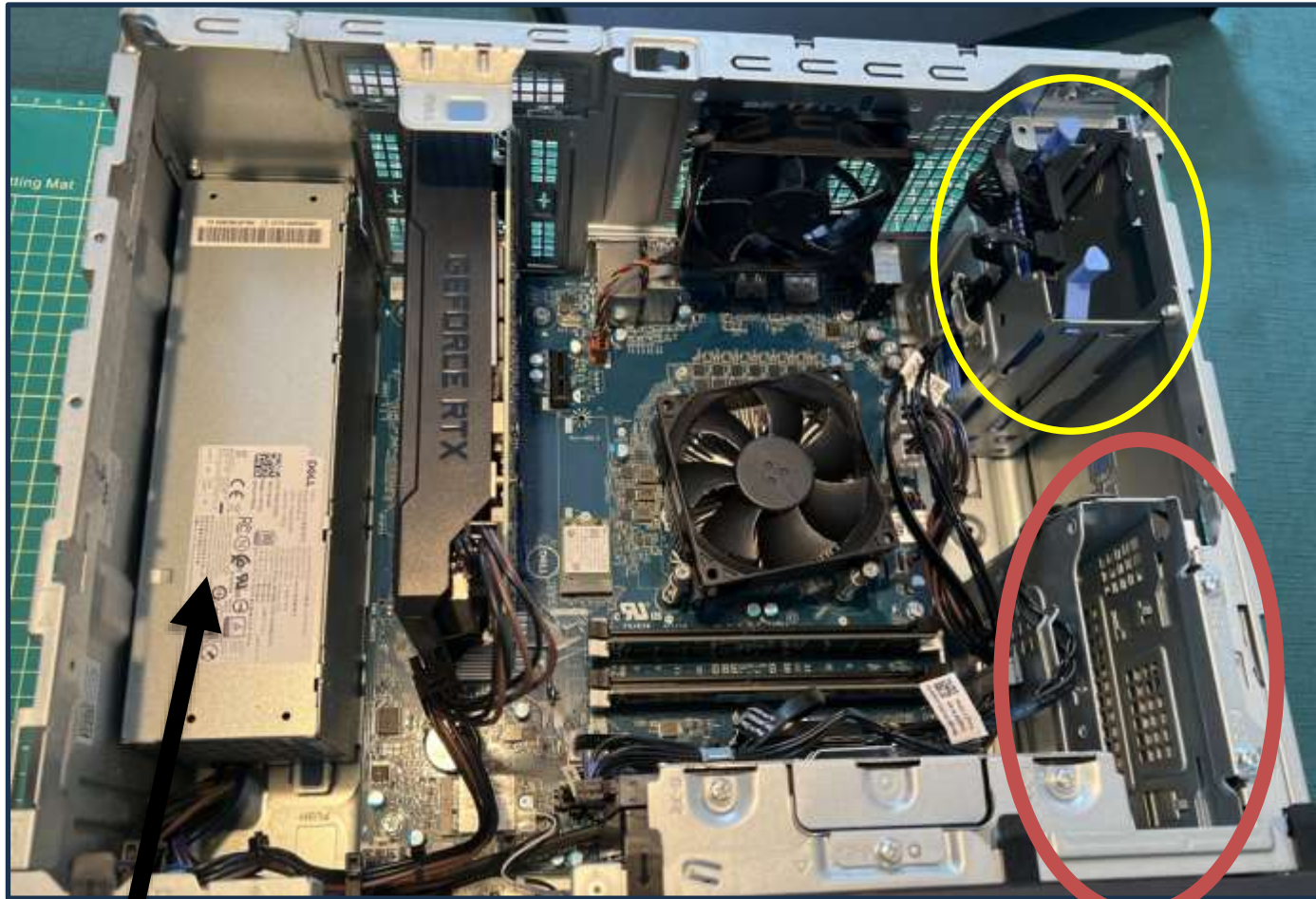


Gemini: Please look at this photo, of a inside a computer, and create a general list, of all visible parts.



Motherboard: The large circuit board that all other components connect to... **CPU Cooler:** The fan and heatsink assembly directly on the CPU, used for cooling. **Graphics Card (GPU):** A dedicated card labeled "GEFORCE RTX" for processing graphics, **RAM Slots:** Expansion Slots (PCIe), **SATA Cables,** **Drive Bays for 3.5" HDDs or 2.5" SSDs,** **Front Panel Connectors,** **Case Fan,** **Case,** **Cutting Mat** visible under the PC is being used as a work surface etc. cont'd

Drive Bays No need for Tools, or Screws!



2.5" Bay

3.5" Bay

Power Supply
(500 Watt)

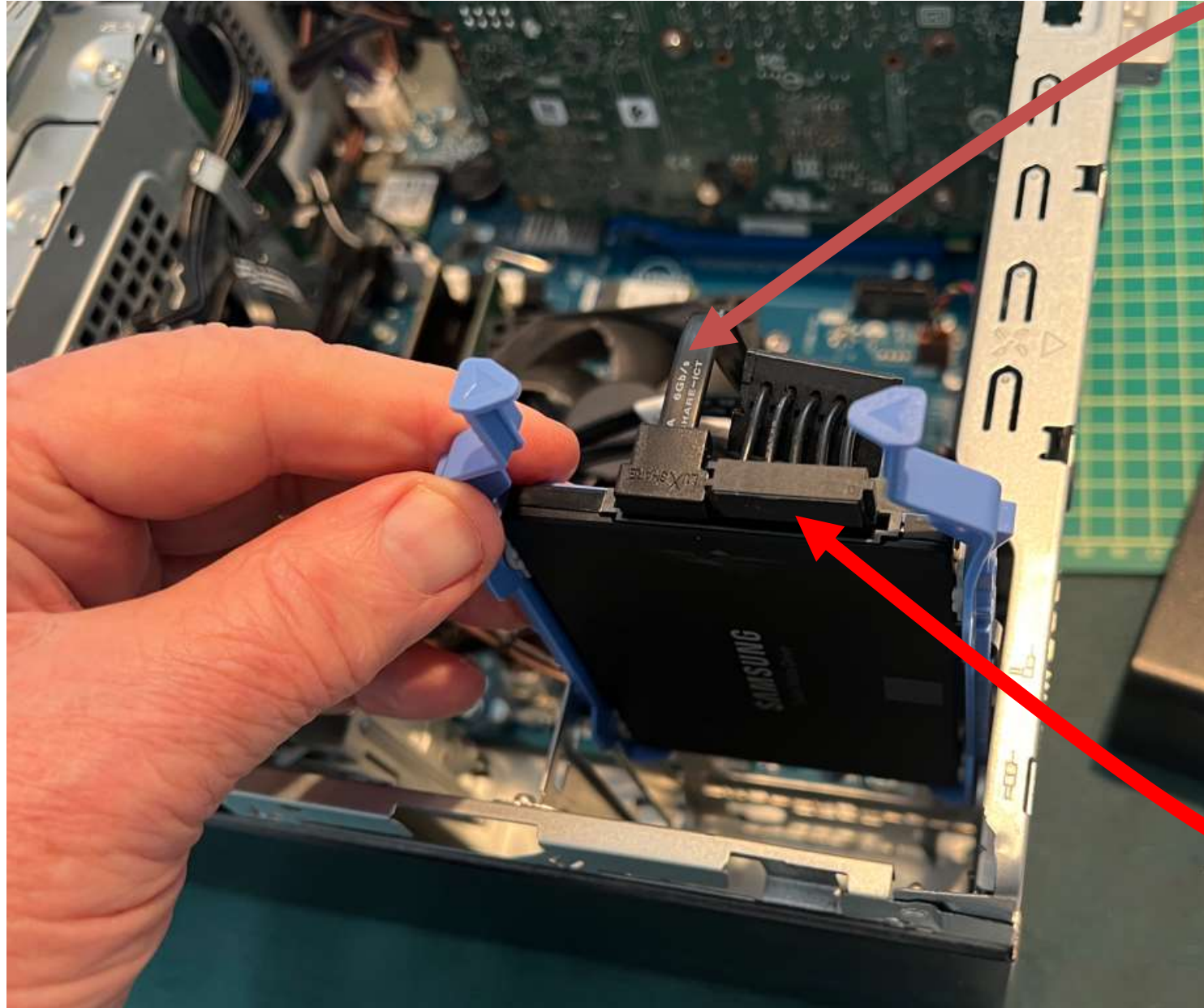
**2.5"
Drive Caddy**



SSD snaps into Drive Caddy



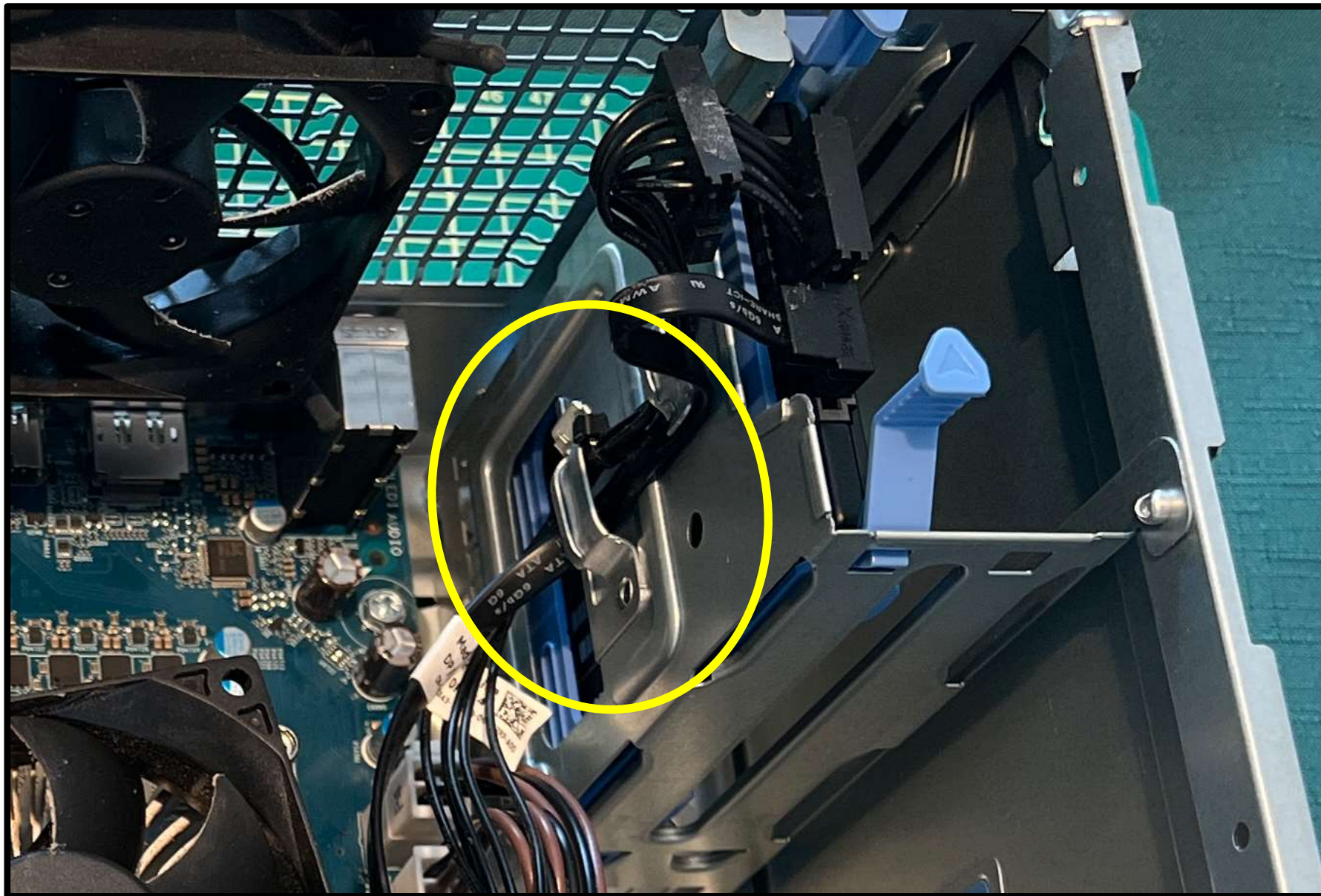
Attach 2 Cables to SSD



**SATA
Power Cable**

**SATA
Data Cable**

Secure Both Cables



Final Touch

Dusting Off with Compressed Air



Never use a vacuum cleaner. A light cleaning, with a can of Compressed Air works well. Use short bursts.

My Supercharged!

Desktop PC



Purchased: September 2020

- Memory: 32GB RAM
- Storage: 512GB SSD (C:) System
- 2nd Drive: 1TB HDD (D:) Data
- **3rd Drive: 2TB SDD (E:) Backup Data**

My Backup Strategy

Simple & Intentional

I've *never* saved files in the
Default Directory Locations

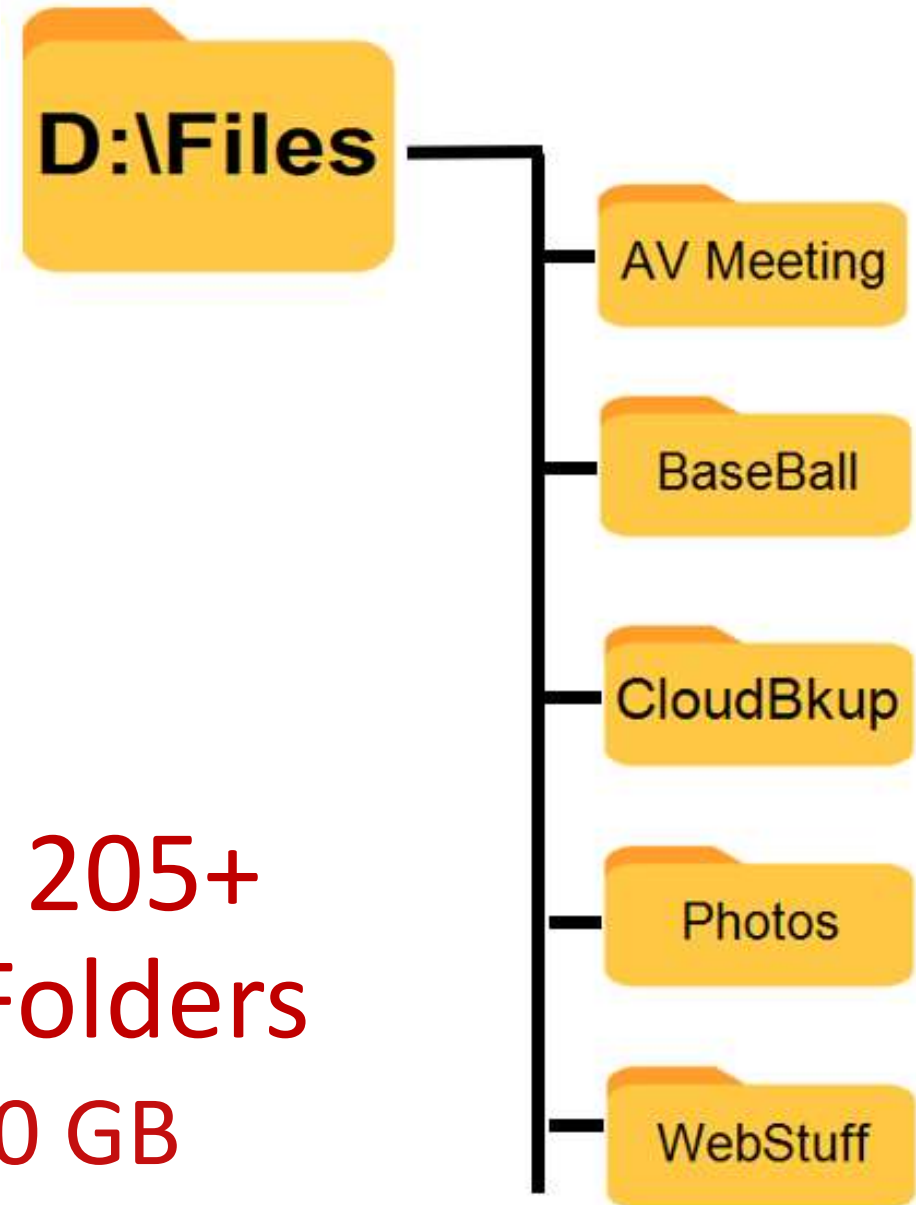
~~C:\Users\MyUsername\AppData\Local\Windows\Documents
\Projects\2025Files\Work\Reports\Q1\January\FileNameCon
tent\RandomFolderName\FileName.txt~~

I never liked those cumbersome, scattered paths—
they're messy to work with and a hassle to back up!

All Files are on a
Separate Drive (D:)

Organized into
One Folder

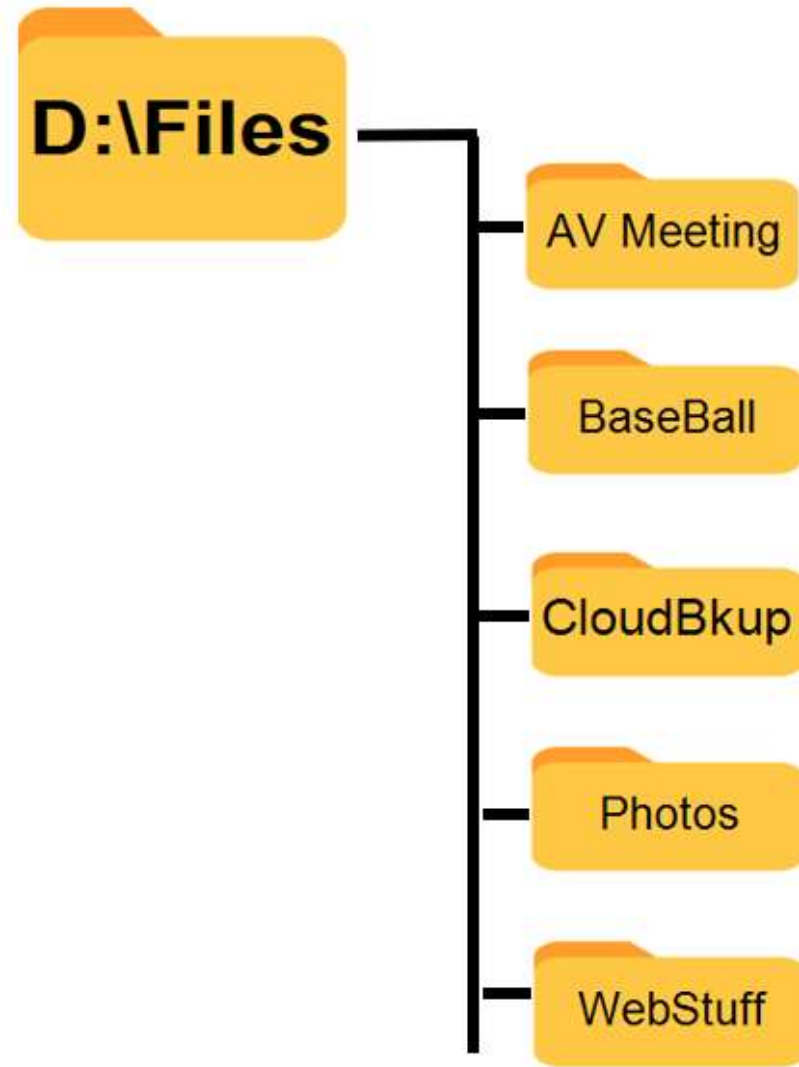
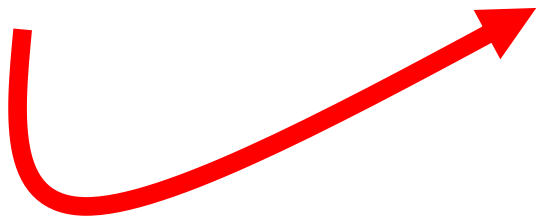
with 205+
SubFolders
~700 GB



Backups are Simple:

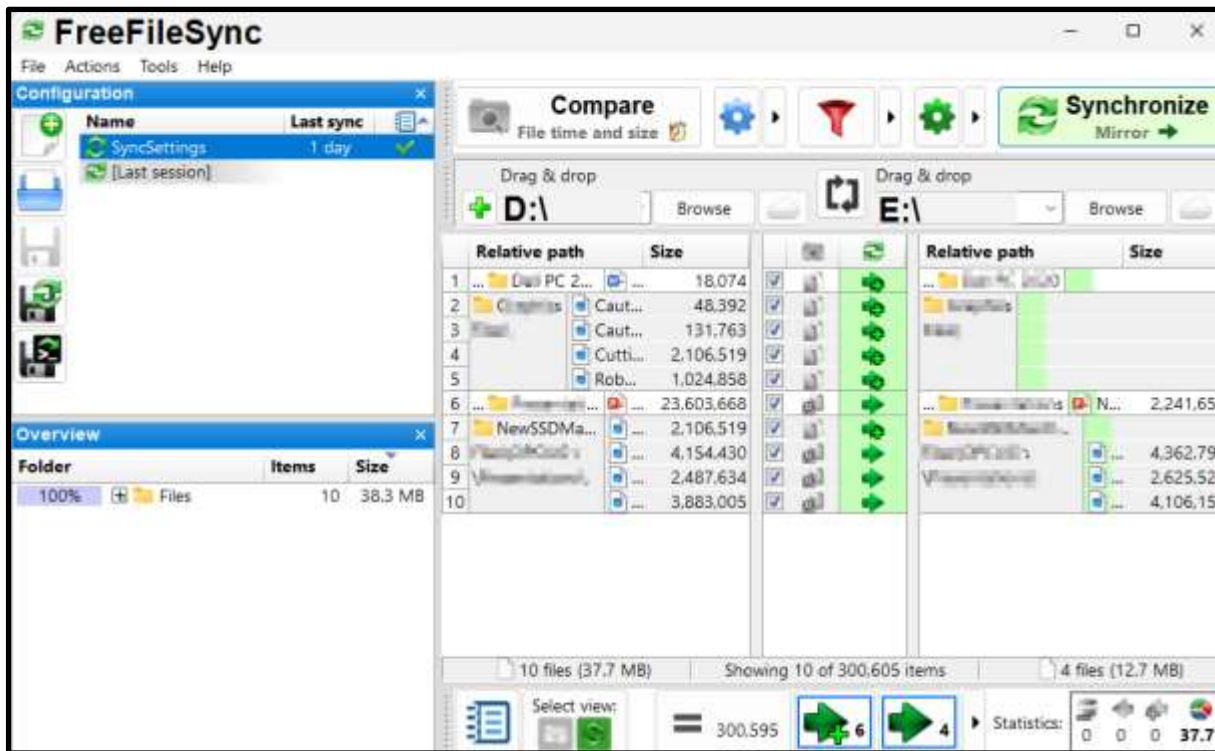
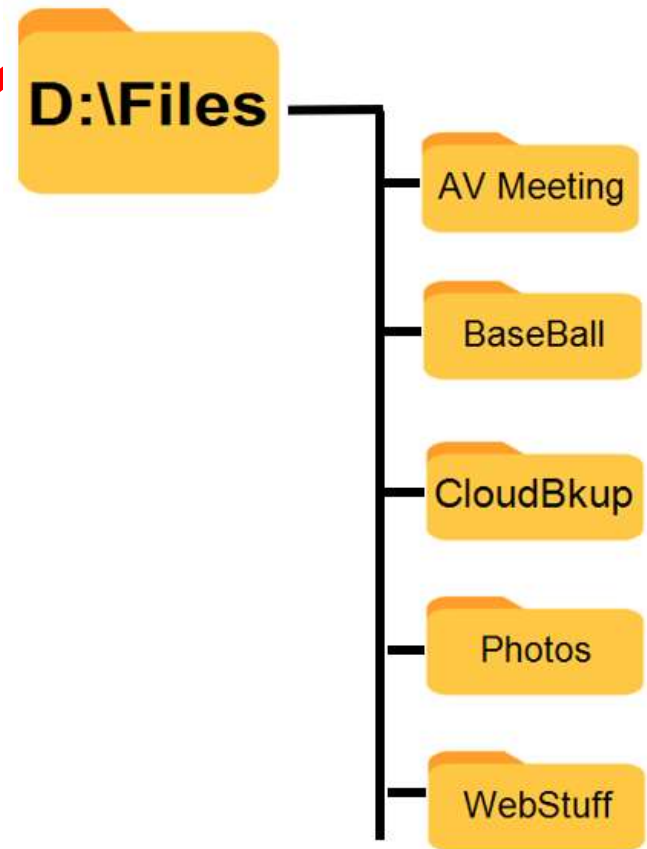
Primary Backup to:
Internal SSD (**E:\Files**)

Simply Copy
D:\Files to **E:\Files**



FreeFileSync
Makes that easy!

Primary Backup to:
Internal SSD (E:\Files)

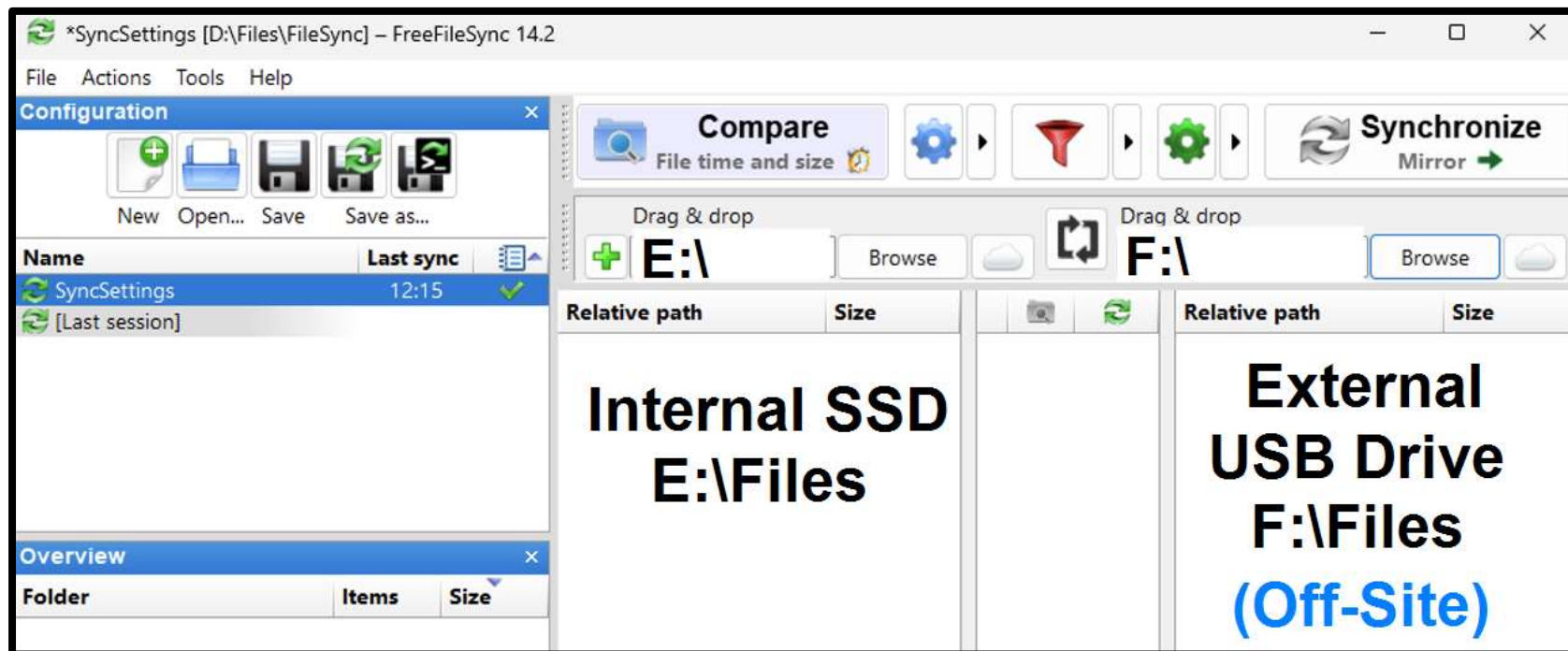


Time Req'd:
Often
“Seconds”



Thank You
Alan German

Secondary Backup: (Off-Site)



2TB USB Drive

Time Req'd: often 4-5 Minutes



**Every drive fails eventually
are you ready?**



Thank You, comments are welcome

Alan's Backup Strategy

- Full disk image monthly (Foxclone)
- Daily (every logon) incremental backup of a dedicated data partition* (Back In Time)
- Manual snapshot of the dedicated data partition after every session (FreeFileSync)



* *Shared data partition: Drive D: (Windows)
/media/DataDisk (Linux)*

Foxclone

- Open source (GPL)
- Andy Hardwick (and Larry Hale)
- Live-distro (USB/CD/DVD)
- Ubuntu Linux desktop
- Front end for *partclone*
- Supports:
 - MBR and GPT
 - ext4, NTFS, and FAT32



Focal version (based on Ubuntu 20.04)



Backup Drive to Image Files



1 - Drive to Backup:

- sda • ATA Samsung SSD 840 • 250GB • Partition table
- sdb • WD My Book 1230 • 32.0TB • Partition table MS
- sdd • Generic- SD/MMC/MS PRO • 62GB • Partition tal

2 - Partition(s) to Backup:

- sda1 • fat32 [ESP] • 524MB (7% used) • EFI system
- sda2 • fat32 [DIAGS] • 42MB (0% used) • Flags: hi
- sda3 • unknown • 134MB (100% used) • Flags: ms
- sda4 • ntfs [WINRETOOLS] • 2GB (22% used) • Fla
- sda5 • ntfs [Windows 10] • 150GB (91% used) • Fl

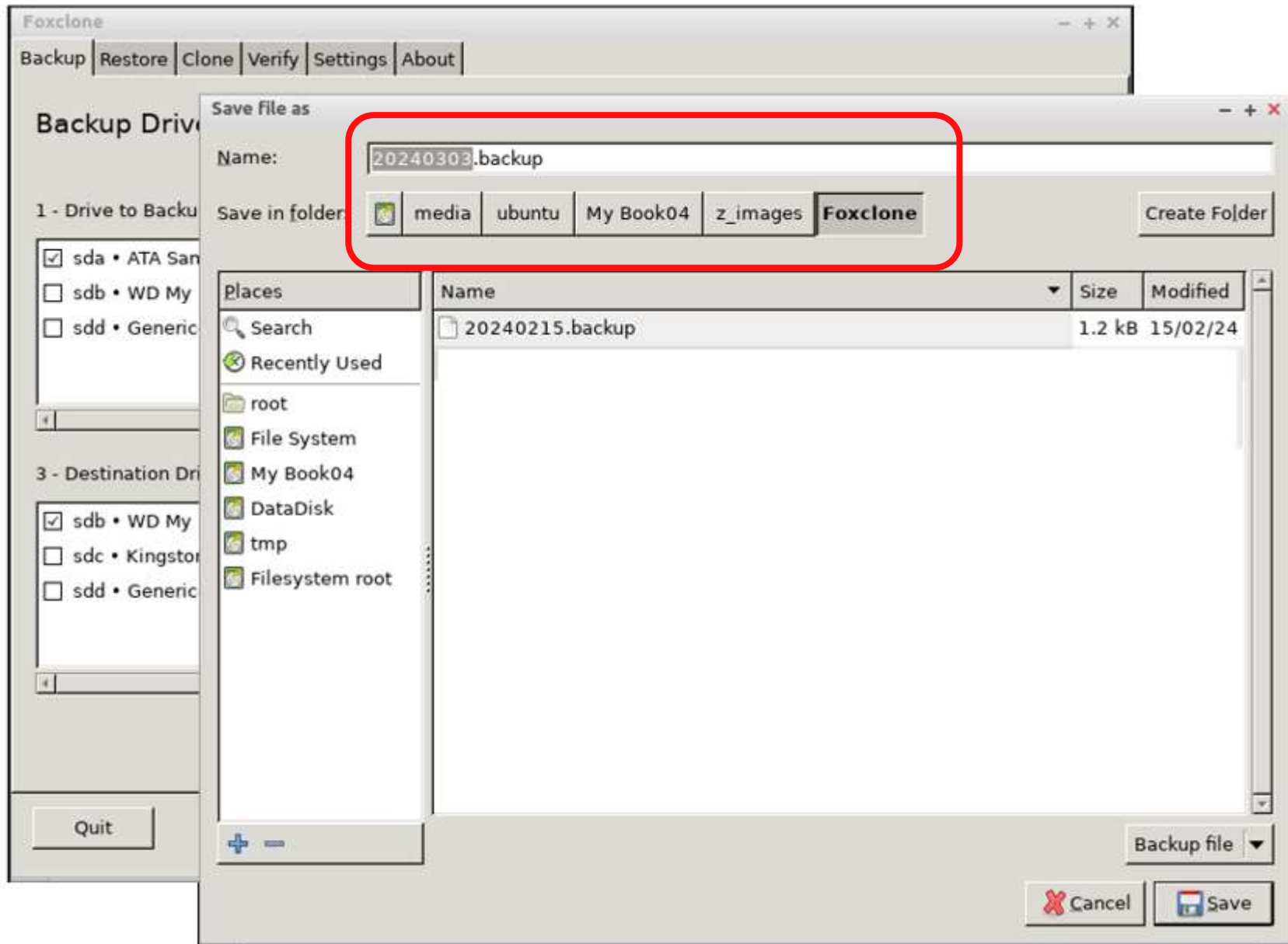
3 - Destination Drive:

- sdb • WD My Book 1230 • 32.0TB • Partition table MS
- sdc • Kingston DataTraveler 3.0 • 31GB • Partition tal
- sdd • Generic- SD/MMC/MS PRO • 62GB • Partition tal

4 - Destination Partition:

Save to File

Quit



Back In Time

- Open source (GPL)
- Linux (only)
- Front end for *rsync*
- Incremental backups of files and folders
- GUI and command-line
- Scheduling
- Local and remote storage
- On-line User Manual



Manage profiles



Profile: Main profile

Edit

+ Add

- Remove

General

Include

Exclude

Auto-remove

Options

Expert Options

Mode: Local

Where to save snapshots

/media/toaster/64GBSDcard/BackInTime



Advanced

Host: i7-Inspiron-7547

User: toaster

Profile: 1

Full snapshot path: /media/toaster/64GBSDcard/BackInTime/backintime/i7-Inspiron-7547/toaster/1

Schedule

At every boot/reboot

Restore Config

Edit user-callback

Cancel

OK

Back In Time

Back In Time Backup Restore Help



Snapshots

- Now
- Today
- 2025-02-25 08:03:50
- Yesterday
- 2025-02-24 16:20:00
- Last week
- 2025-02-23 07:55:39
- 2025-02-22 16:31:06
- 2025-02-21 19:44:28
- 2025-02-20 15:13:24
- February
- 2025-02-14 17:08:32
- 2025-02-09 09:37:45
- January
- 2025-01-31 09:19:44

Now

/media/DataDisk

Shortcuts

Global

- Root
- Home
- Backup folders
- /media/DataDisk**

Name	Size	Type
\$RECYCLE.BIN		Folder
0_archives		Folder
agtemp		Folder
alan		Folder
alan_and_carol_home_page		Folder
bats		Folder
JLC		Folder
nikon		Folder
OneDriveFiles		Folder
original		Folder
RBC-Info		Folder
receipts		Folder
Road Safety Research		Folder
System Volume Information		Folder
tests		Folder
thunderbird		Folder
thunderbird local folders		Folder

Done

Restore a file (on 2025-03-04)

The screenshot shows the Back In Time application window. The 'Restore' tab is active. The left sidebar shows a list of snapshots, with '2025-02-28 13:25:30' selected and highlighted by a red box. The main area shows the file browser for the path '/media/DataDisk'. A file named 'HoodHeight.py' is selected and highlighted by a red box. A red circle highlights the 'Restore' button (a yellow arrow pointing back) in the top right corner of the file browser area. The status bar at the bottom left shows 'Done'.

Back In Time Backup Restore Help

Snapshots

Now
Today
2025-03-04 11:11:39
2025-03-04 07:43:21
Yesterday
2025-03-03 17:41:02
2025-03-03 16:06:05
Last week
2025-03-02 08:47:34
2025-03-01 13:59:11
2025-02-28 13:25:30
February
2025-02-23 07:55:39
2025-02-14 17:08:32
January
2025-01-31 09:19:44

Snapshot: 2025-02-28 13:25:30

/media/DataDisk

Shortcuts

Global

Root

Home

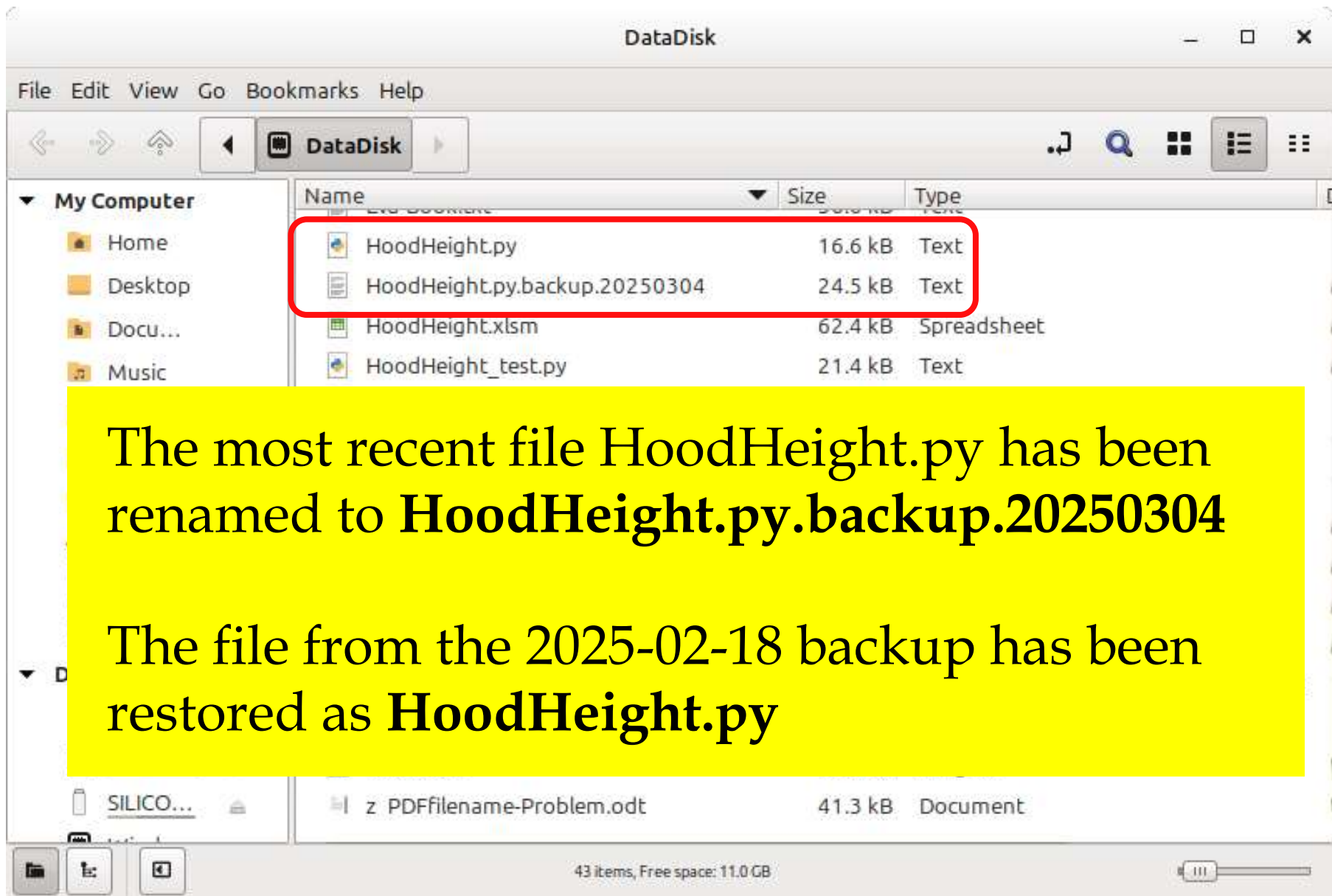
Backup folders

/media/DataDisk

Name	Size	Type
HoodHeight_test.py	14.93 KiB	py File
HoodHeight.py	16.17 KiB	py File
HoodHeight.xlsm	75.00 KiB	xlsm File
index.htm	218 bytes	htm File
linux.htm	3.10 KiB	htm File
lockbox	40.00 MiB	File
PDFfilename-Problem.odt	40.29 KiB	odt File
PDFfilename.txt	25 bytes	txt File
PDFfileResults.txt	716 bytes	txt File
PDFsource-BMW.txt	201.45 KiB	txt File
PDFsource-Toyota.txt	58.95 KiB	txt File
PDFsource.txt	67.33 KiB	txt File
red_folder.kdbx	36.98 KiB	kdbx File
sync.ffs_db	359.48 KiB	ffs_db File
thunderbird.msf	1.14 KiB	msf File
touch.exe	35.00 KiB	exe File

Done

**Restore HoodHeight.py
from 2025-02-28**



FreeFileSync

open Source File Synchronization

About

Tutorials

Screenshots

Vision

Download

Archive

Forum

F.A.Q.

Manual



Download FreeFileSync

 Download [FreeFileSync 14.2 Windows](#)

 Download [FreeFileSync 14.2 macOS](#)

 Download [FreeFileSync 14.2 Linux](#)

Download [FreeFileSync 14.2 Source](#)


What is the FreeFileSync **Donation Edition** ?    

 [Subscribe for FreeFileSync update notifications](#)

What is the FreeFileSync **Business Edition** ?     

Latest Changes

FreeFileSync 14.2

 Fixed crash when closing progress dialog after sync (Windows)

Compare File time and size

 Synchronize Two way

Drag & drop
 Drag & drop

Relative path	Size	Date
1 presentations\0_index.txt	61,587	2025-03-22 2:11:13 PM
2 alan\opcug\0_reminder.txt	18,585	2025-03-22 2:11:34 PM
3 2025-03-26-Share-Backup...	2,304,312	2025-03-22 1:45:09 PM
4 Q&A.pptx	6,566,883	2025-03-22 2:17:21 PM

Relative path	Size	Date
presentations\0_index.txt	61,465	2025-03-21 9:30:56
alan\opcug\0_reminder.txt	18,584	2025-03-21 5:36:49
Q&A.pptx	3,378,745	2025-03-21 9:46:45

4 files (8.54 MB)
 Showing 4 of 5,401 items
 3 files (3.30 MB)

Select view:
1
= 5,396
 1
 3

 Statistics: 0 0 0 **8.54 MB** 1 3 0

Share

Why backup?

- We don't back up for backup's sake
- *We back up so we can recover*
- What can happen that could lead to data loss *for you*
- How will you mitigate loss?
- You *must* plan ahead



Share

What is on your computer?

- Operating system
 - you can reinstall the OS in the event of a disaster, but
 - do you want to manually do this?
- Programs
 - you can reinstall programs in the event of a disaster, but
 - do you have all the programs you need to reinstall?
 - do you have all your license keys?
 - do you want to reinstall dozens of programs manually?
- Data files
 - nobody else has copies: *do you have copies?*
 - can you recover in the event of a fire, theft, or tornado?
 - do you know where *all* your data files are?
 - many programs will squirrel away important data files in obscure locations

Share

Backup Approaches

- File level backup
 - local
 - cloud
- Imaging

Share

File-level backup

- Back up just your data files
 - your data files are the most important
 - nobody else has copies
- Did you back up *all* your files?
 - it's more than just *Documents, Pictures, Videos, Desktop*, etc.
 - many programs squirrel away important data files in obscure locations
- Two excellent programs for file-level backup
 - *File History* – built into Windows 10 & 11
 - *FreeFileSync*

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File-level backup – *File History*

- Near real-time backup of data files
 - defaults to most folders under your profile
 - C:\users\YourName\
 - such as Documents, Pictures, Desktop, Videos, etc.
 - can add additional folders
 - as frequently as every 10 minutes
- Version backup
 - can potentially allow recovery of years-old versions of files
- *Does not provide for off-site backup*

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File History – initial setup

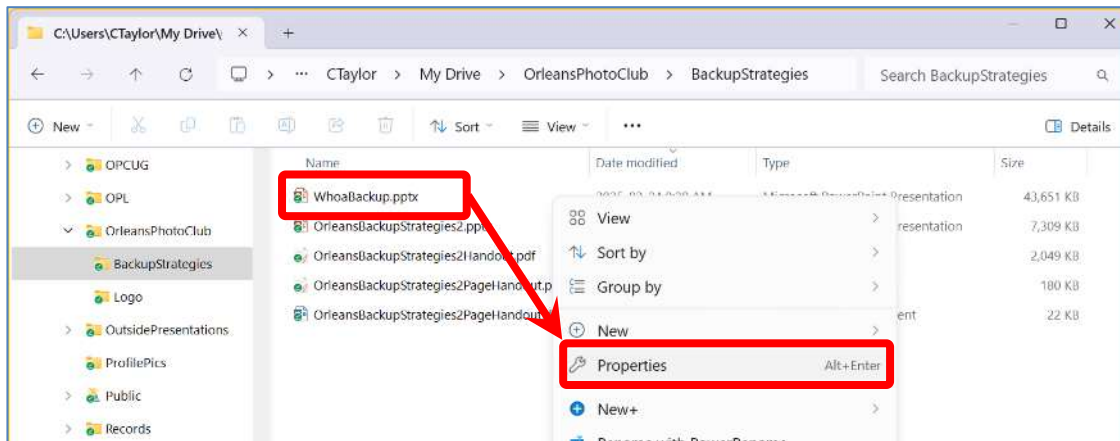
- Windows 10
 - *Settings > Update & Security > Backup > Backup using File History*
- Windows 11
 - *Control Panel > File History*
 - Note: File History in Windows 11 requires work-arounds due to Microsoft lobotomization
- Details on File History configuration
 - you almost certainly don't want *all* the defaults
 - <https://www.youtube.com/watch?v=QRzwKdmUrbw> @ 15:54

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File History – recovering files

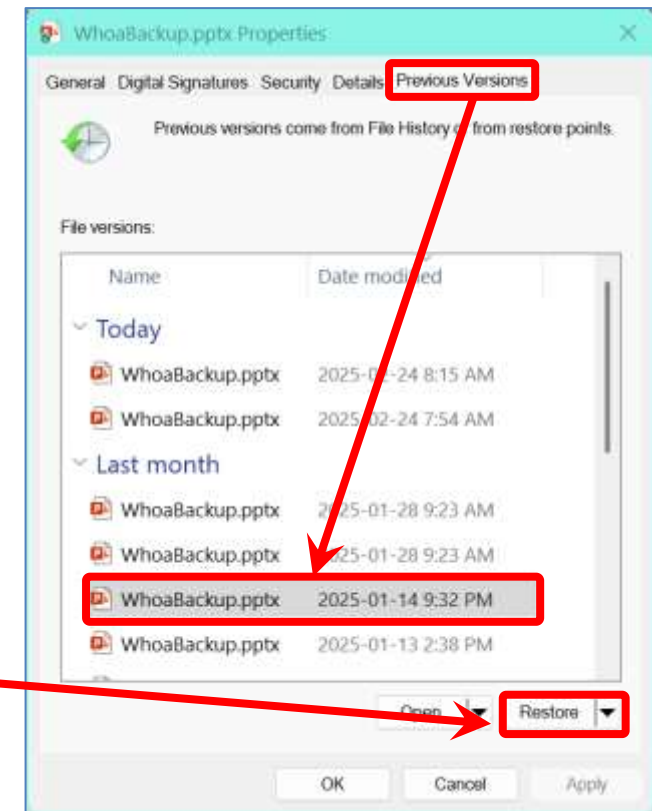
Right-click file

- choose *Properties*



On *Previous Versions* tab

- find version you want



Restore file

- can *Restore To* if you want to preserve current copy as well

Lots more details

- <https://www.youtube.com/watch?v=QRzwKdmUrbw> @ 19:25

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File-level backup – FreeFileSync

- Covered admirably by Bob and Alan
- Provides all the capabilities of *File History*
 - plus off-site capabilities not provided by *File History*
 - more tedious to set up, configure, & recover than *File History*
- Solution for if...*or when*...Microsoft removes *File History*

FreeFileSync
Open Source File Synchronization

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Image backup

- Provides for comprehensive recovery
- Disaster recovery
 - recover operating system, programs, data, customizations
 - ...*everything*
- File recovery
 - recover individual files and folders
- Offsite backup
 - protection from fire, theft, flood, tornados...

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Free options for imaging



The screenshot shows the Ottawa PC Users' Group website. The logo features a stylized computer monitor with the text 'OpcUG' above it and 'Users helping users' below. The main heading is 'Ottawa PC Users' Group'. A navigation menu includes 'Home' and 'Reviews'. The article title 'Finding a Backup Program' is highlighted with a red box, with the author 'by Chris Taylor' listed below it. A search bar with 'Google Custom Search' is visible on the right. The beginning of the article text is visible: 'I've been a long-time user of Acronis True Image. However, I have found the user interface has become a mess over the past few'.



Aomei Backupper



EaseUS Todo Backup



Paragon Backup & Recover

<https://opcug.ca/Reviews/BackupPrograms.htm>

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EaseUS Todo Backup

Add Backup



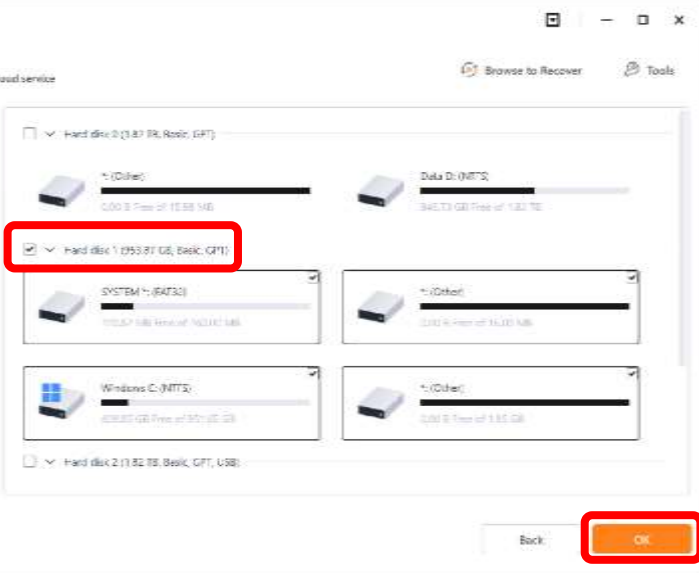
Click to rename backup job



Disk



Top-left checkmark to select all partitions on each drive you want to back up

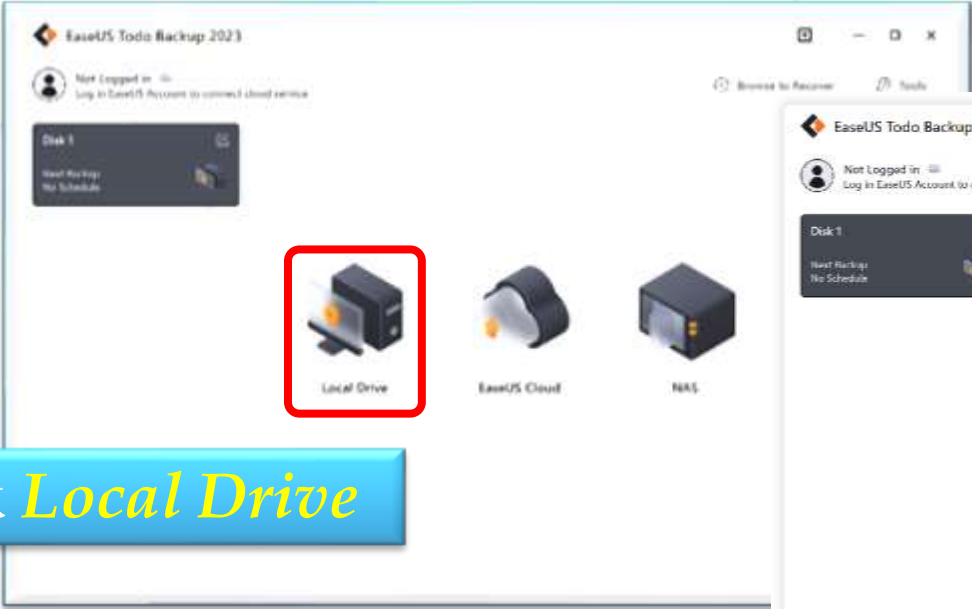


Share

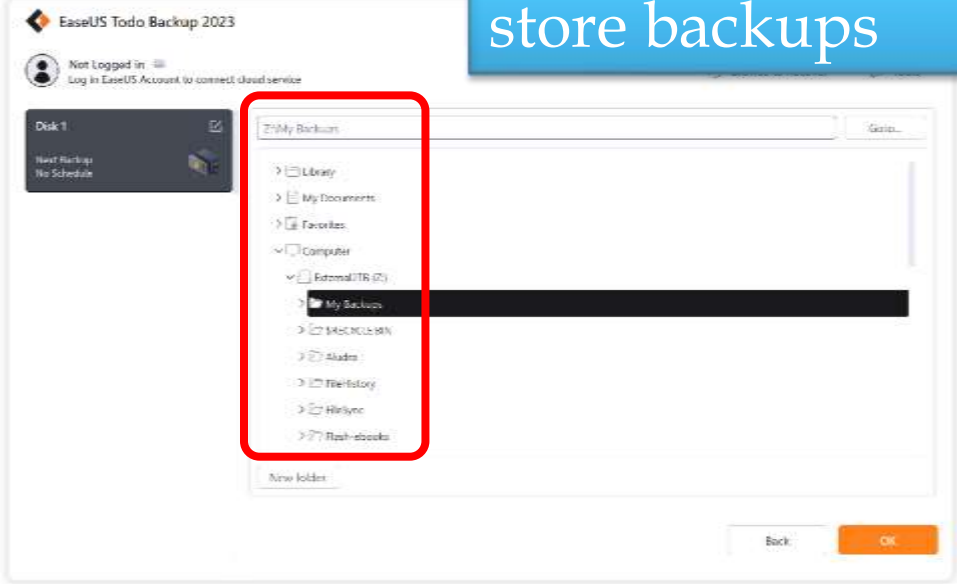
Click to select disk where backups will be stored



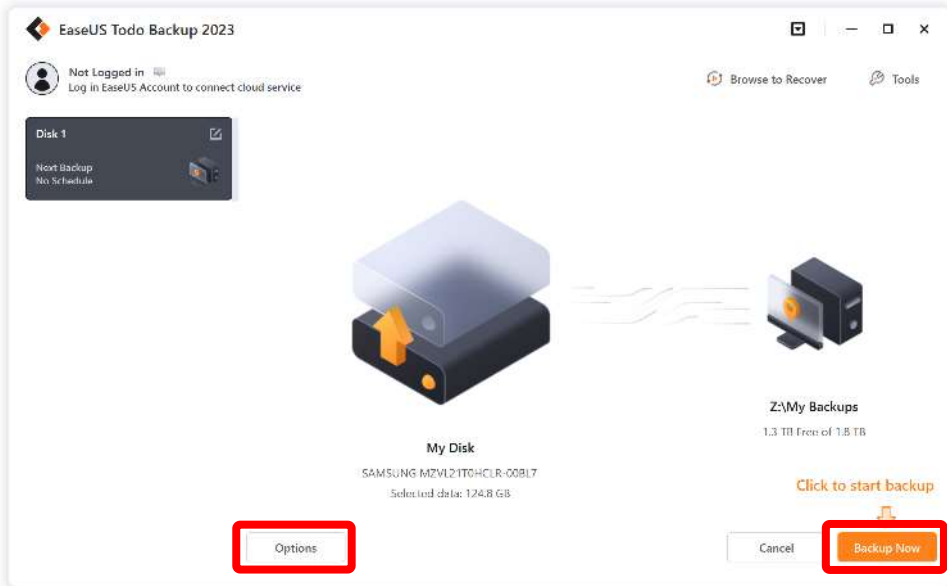
Select drive/folder to store backups



Click *Local Drive*



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Start the backup

Lots of options

- type of backup
 - full/incremental/differential
- scheduling
- encryption
- more...

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EaseUS Todo Backup – recovery

Select backup job to recover

Click *Recover*

To recover files/folders

To recover entire partitions

If you have multiple full or incremental backups can choose which backup

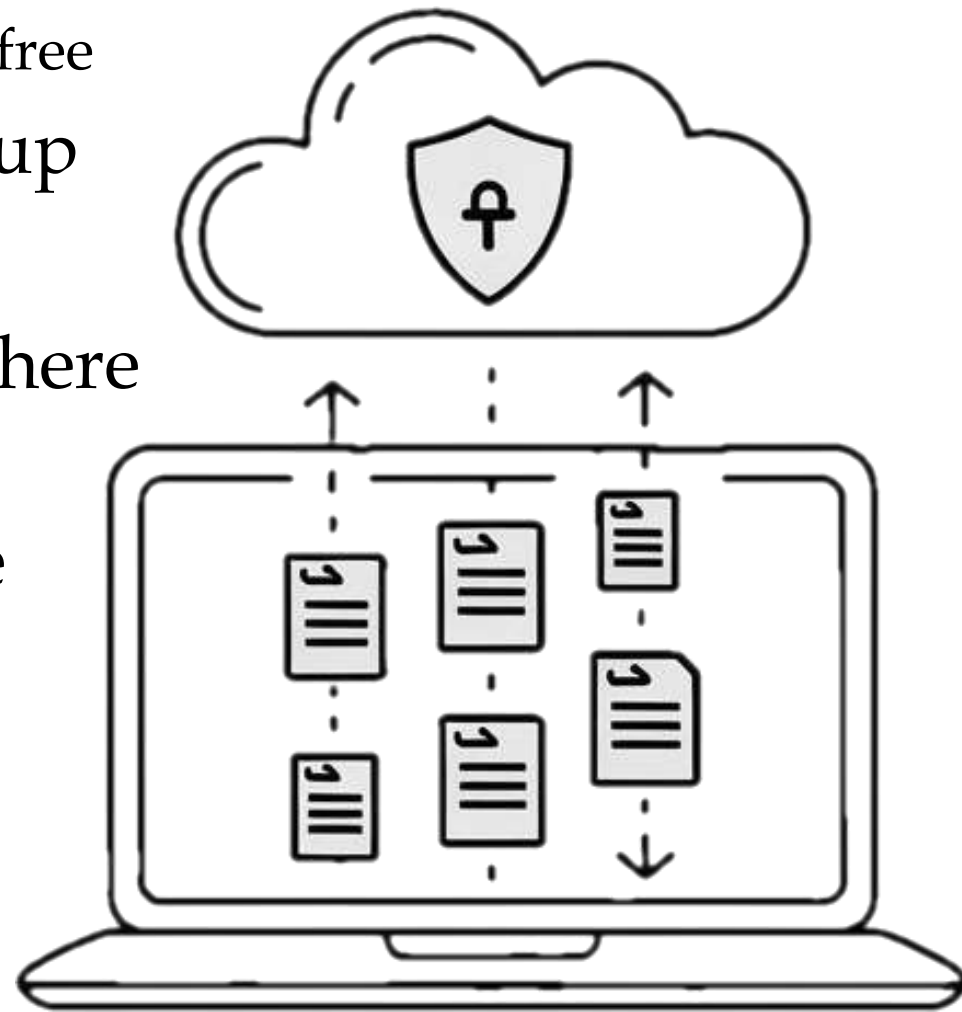
Important: *Create Emergency Disk*

- details: <https://www.youtube.com/watch?v=QRzwKdmUrbw> @ 40:25

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Cloud backup

- Backs up what is most important: your data files
 - if you have enough space
 - *Google Drive* gives 15 GB for free
- May provide real-time backup
- May provide file versioning
- Access data files from anywhere in the world
- Share data files with anyone in the world
- Off-site protection against fire/theft/tornados...



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Cloud backup

- Choose a provider that has an app to enable automatic synchronization between your computer and the cloud
- Enables
 - real-time backup
 - file versioning (generally limited to ~30 days)
- Free space may not be enough for all your files
Use for:
 - your most important files
 - files you need to share
 - files you need to access from elsewhere
- Make sure you have a backup solution for your other files
 - they are important too!

Pros & cons – file-level backup

- Pros:
 - most important – your data files (nobody else has copies)
 - may provide real-time backup
 - may provide file versioning
 - potentially recover files from many years ago
 - quick and easy recovery of individual files/folders
 - offsite backup (if you plan correctly)
- Cons:
 - may not back up *all* your data
 - many programs squirrel away data files in obscure locations
 - doesn't back up operating system & programs
 - disaster recovery can be tedious and problematic

Share

Pros & cons – image backup

- Pros:
 - complete disaster recovery
 - recover operating system, programs, customizations...**everything**
 - offsite backup
- Cons:
 - requires *lots* of disk space for backups
 - you are backing up everything: OS, programs, data
 - not likely to allow recovery from long ago
 - can be tedious to recover individual files & folders

Share

Pros & cons – cloud backup

- Pros:
 - offsite protection from fire, theft, flood, tornados
 - share files with others
 - access files from anywhere in the world
- Cons:
 - It is someone else's computer: what if they
 - go out of business
 - fail to protect your files adequately
 - limited space: you might not back up all your files
 - disaster recovery tedious
 - you first have to get back your operating system & programs



**Any other:
Questions
Comments
Shares?**





OPCUG PRESENTATIONS AT THE OTTAWA PUBLIC LIBRARY

Basic Photo Editing - Learn Easy, Stunning Techniques

Lynda Buske

Centennial, Thursday Mar 27, 2025 at 2:00pm

Quick PC Tips: Enhancing capabilities and performance with free tools

Chris Taylor

Blackburn Hamlet, Monday Mar 31, 2025 at 2:00pm

<https://bibliottawalibrary.ca/en/program?text=pc+users>

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- Annual membership fee is only \$20.00
- But, you will receive **two-years** of membership for the price of one!

Last Call !!! - Offer ends in 5 days

<https://opcug.ca/join-or-renew/>

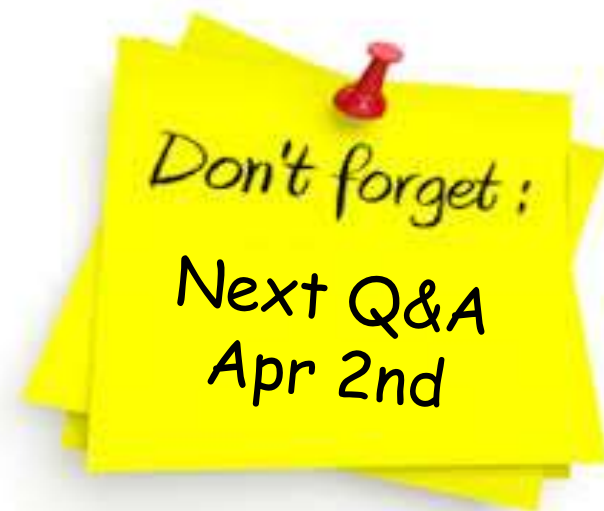


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Your membership expiry date will be extended by another year at no cost



**Send your questions,
answers, and topics
you wish to share to:**

SuggestionBox@opcug.ca



<https://meet.jit.si/OPCUGPostQandAJitsi>