

## **Task 1: Recover: -**

Recover deleted files from USB drive using Recuva

Tools: Recuva, USB Drive

### **What is Recuva?**

Recuva is a data recovery software application developed by Piriform, which is now part of Avast. Recuva is designed to help users recover deleted files from their computer's hard drive, external drives, and other storage media.

### **What happens when you delete a file from your hard disk. It gets deleted, or, does it?**

When you delete files from a USB drive, the space they occupy is marked as available for future use, but the files themselves are not immediately removed from the storage device. This means that the data is still physically present on the drive until new data is written over it.

However, from a user perspective, it may appear that the files are gone. This is because the file system (like FAT32 or NTFS) updates its index to mark the space occupied by the deleted files as available, and the files are no longer accessible through regular file browsing or file management tools. Your available space increases, and the files are essentially "hidden" from the operating system.

In many cases, if you haven't written new data to the USB drive or if the drive hasn't been used extensively after the files were deleted, it is possible to recover these deleted files using data recovery software like Recuva or other similar tools. These programs can scan the drive for "orphaned" data that has been marked as deleted but hasn't been overwritten by new data.

However, if you continue to use the USB drive, especially if you add new files or make changes to existing ones, there's a greater likelihood that the space occupied by the deleted files will be overwritten, making it more difficult or impossible to recover them. To maximize the chances of successful file recovery, it's best to stop using the drive as soon as you realize you've accidentally deleted important files.

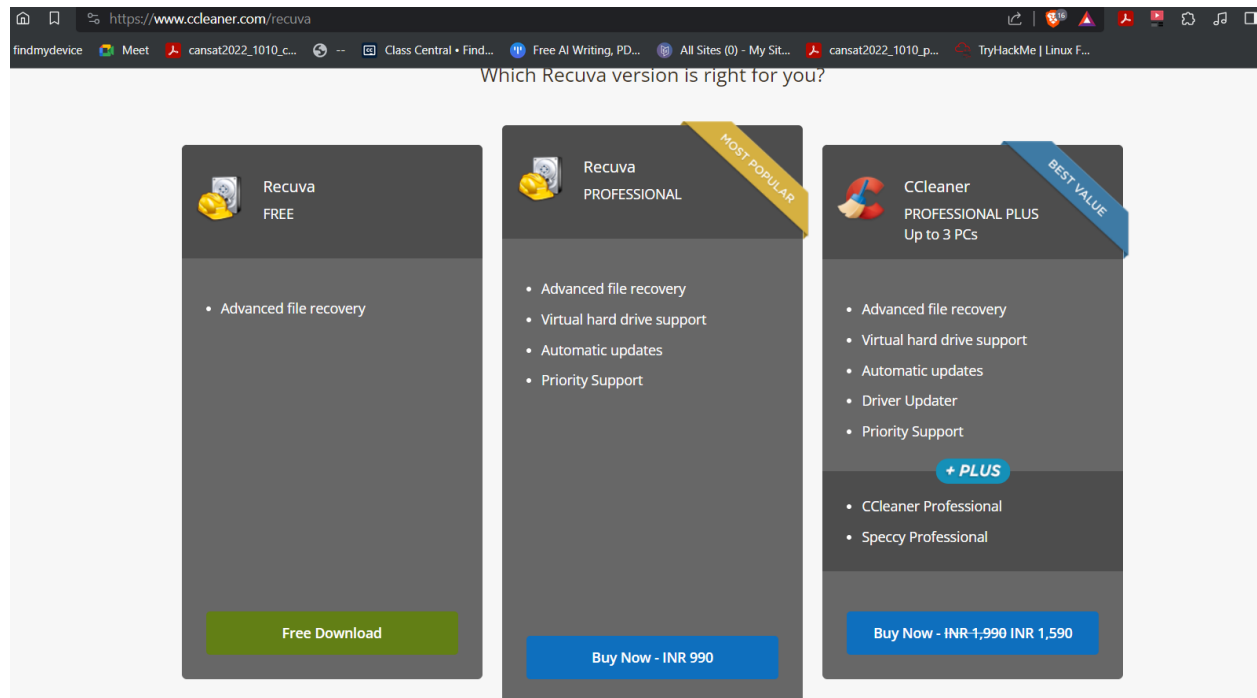
## How does Recuva work?

Recuva is a data recovery software application developed by Piriform, which is now part of Avast. Recuva is designed to help users recover deleted files from their computer's hard drive, external drives, and other storage media. Here's how Recuva works:

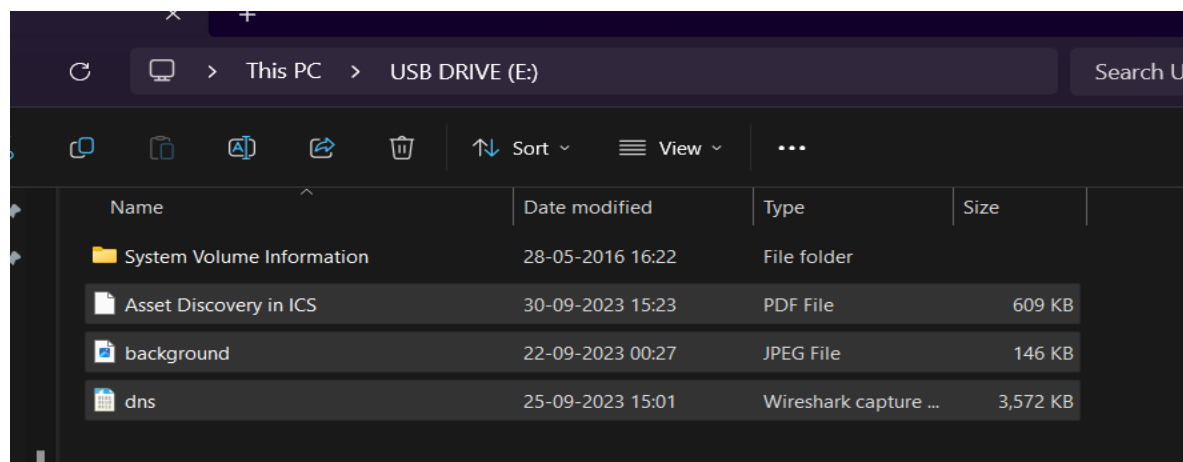
1. **File Scanning:** When you launch Recuva, it scans the selected drive or storage media for deleted files. It analyzes the file structure and checks for traces of files that have been marked as deleted by the file system. Deleted files are not immediately removed from the storage device; instead, the space they occupy is marked as available for future use.
2. **File Analysis:** Recuva identifies files that have been marked as deleted but have not been overwritten by new data. It does this by looking at the Master File Table (MFT) on NTFS file systems or the File Allocation Table (FAT) on FAT file systems. It also checks for file headers and other markers that indicate the presence of recoverable data.
3. **File Recovery:** After the scan is complete, Recuva presents a list of recoverable files to the user. The user can browse through this list and select the files they want to recover. Recuva will then attempt to restore the selected files to a location of the user's choice, which can be a different drive or folder.
4. **Deep Scan:** Recuva offers an advanced "Deep Scan" option, which performs a more thorough and time-consuming scan to find files that may not have been detected in the initial scan. This option is useful when the files you want to recover are more challenging to retrieve.

**Overwriting Prevention:** One important thing to note is that the chances of successful recovery decrease if the deleted files have been overwritten by new data. To maximize the chances of successful recovery, it's essential to stop using the storage device as soon as you realize files have been deleted to prevent overwriting.

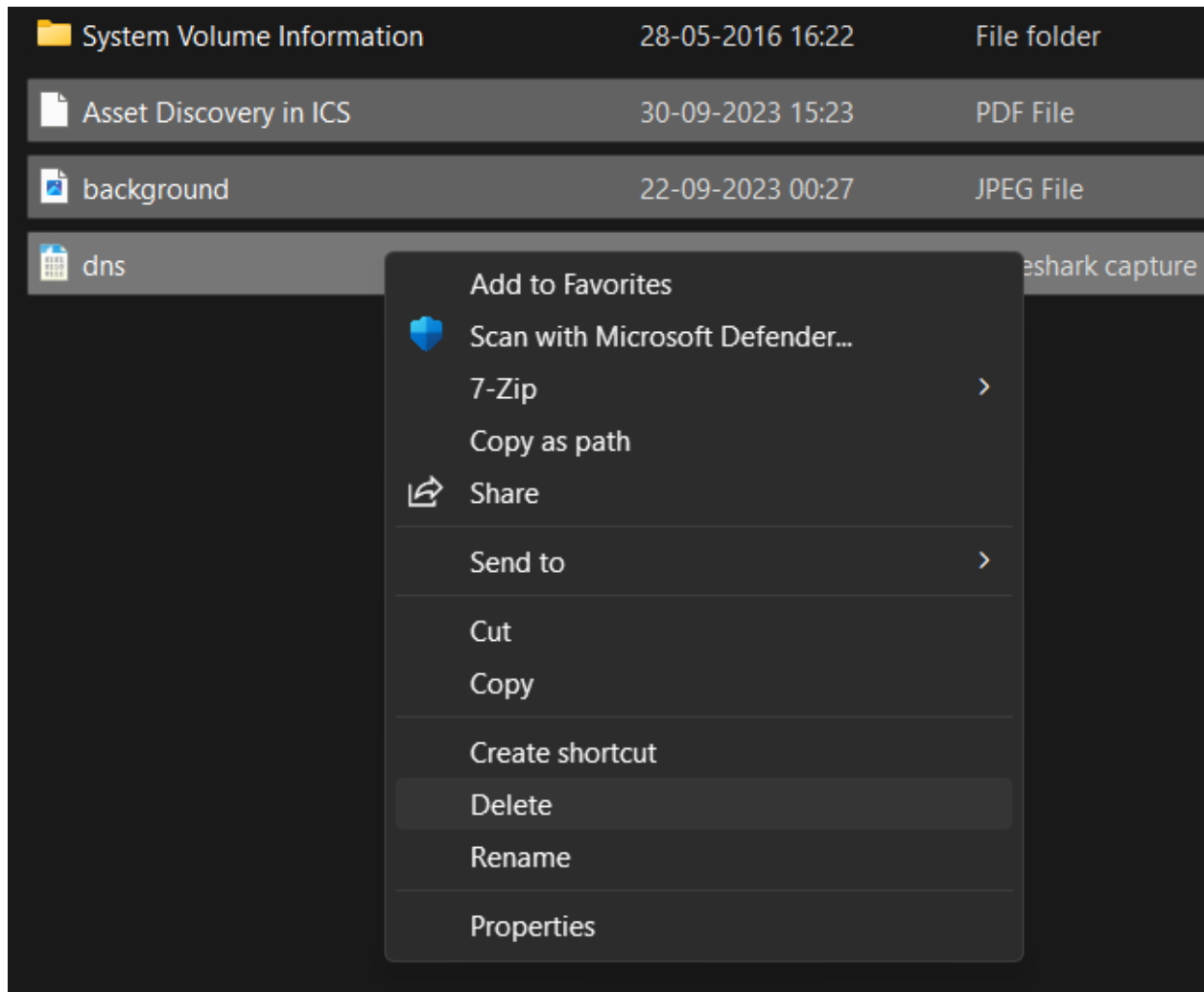
Step 1: Install Recuva - <https://www.ccleaner.com/recuva>



Step 2: Add some files to the USB Stick



### Step 3: Delete Files



### Step 4: Open Recuva



## Welcome to the Recuva Wizard

This wizard will help you recover your deleted files. Just answer a few simple questions and Recuva does the rest.

If you don't want to use this wizard, simply press Cancel and you will have access to the advanced features of Recuva.

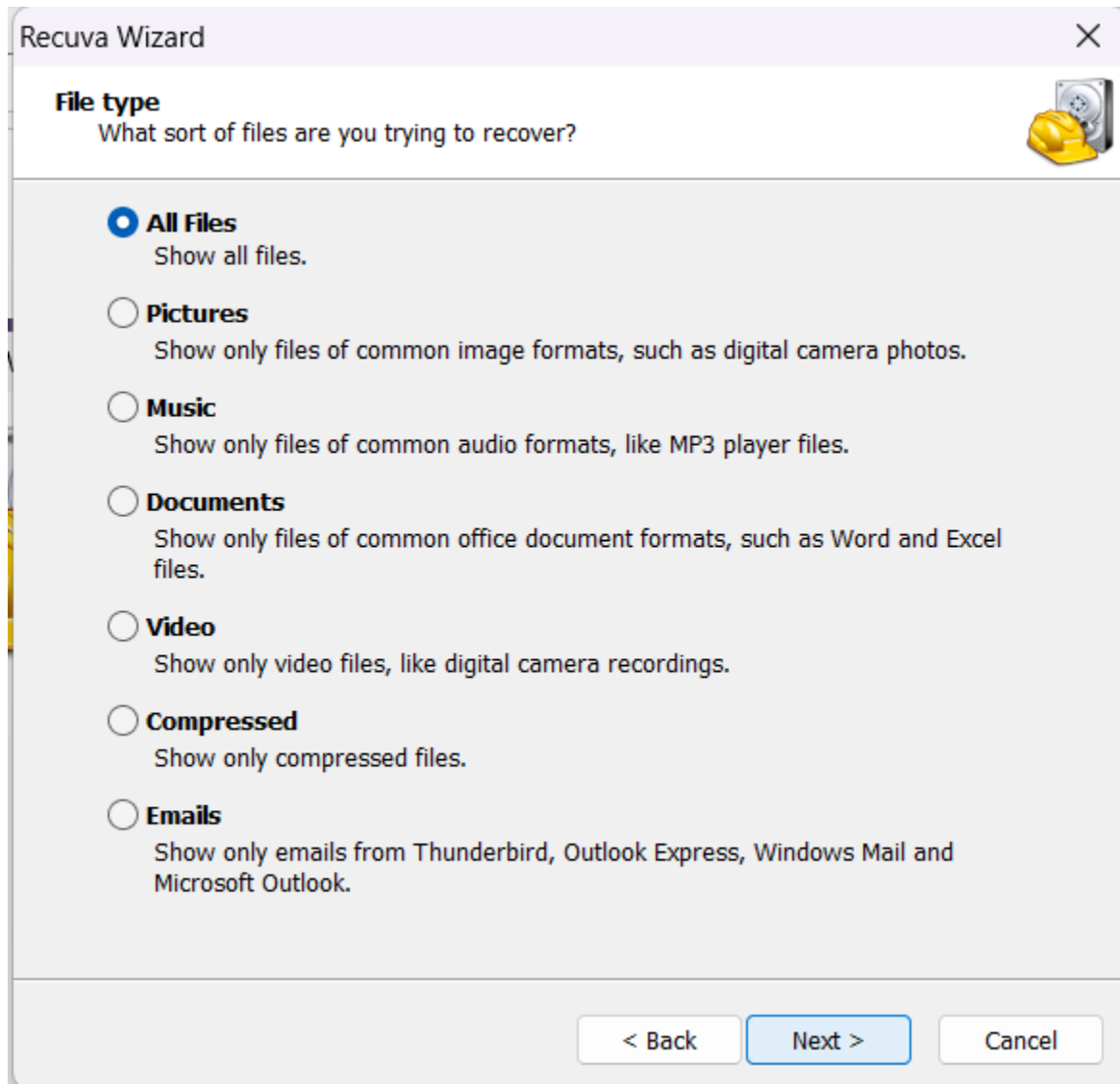
☐ Do not show this Wizard on startup.

< Back

Next >

Cancel

## Step 5: Select the appropriate file types

The image shows a Windows-style dialog box titled "Recuva Wizard". The title bar is light purple with a close button (X) on the right. Below the title bar, the text "File type" is followed by the question "What sort of files are you trying to recover?". To the right of this text is an icon of a hard drive with a yellow caution tape wrapped around it. The main area of the dialog contains seven radio button options, each with a bold label and a descriptive sentence. The "All Files" option is selected, indicated by a blue dot in the radio button. At the bottom of the dialog, there are three buttons: "< Back", "Next >" (which is highlighted with a blue border), and "Cancel".

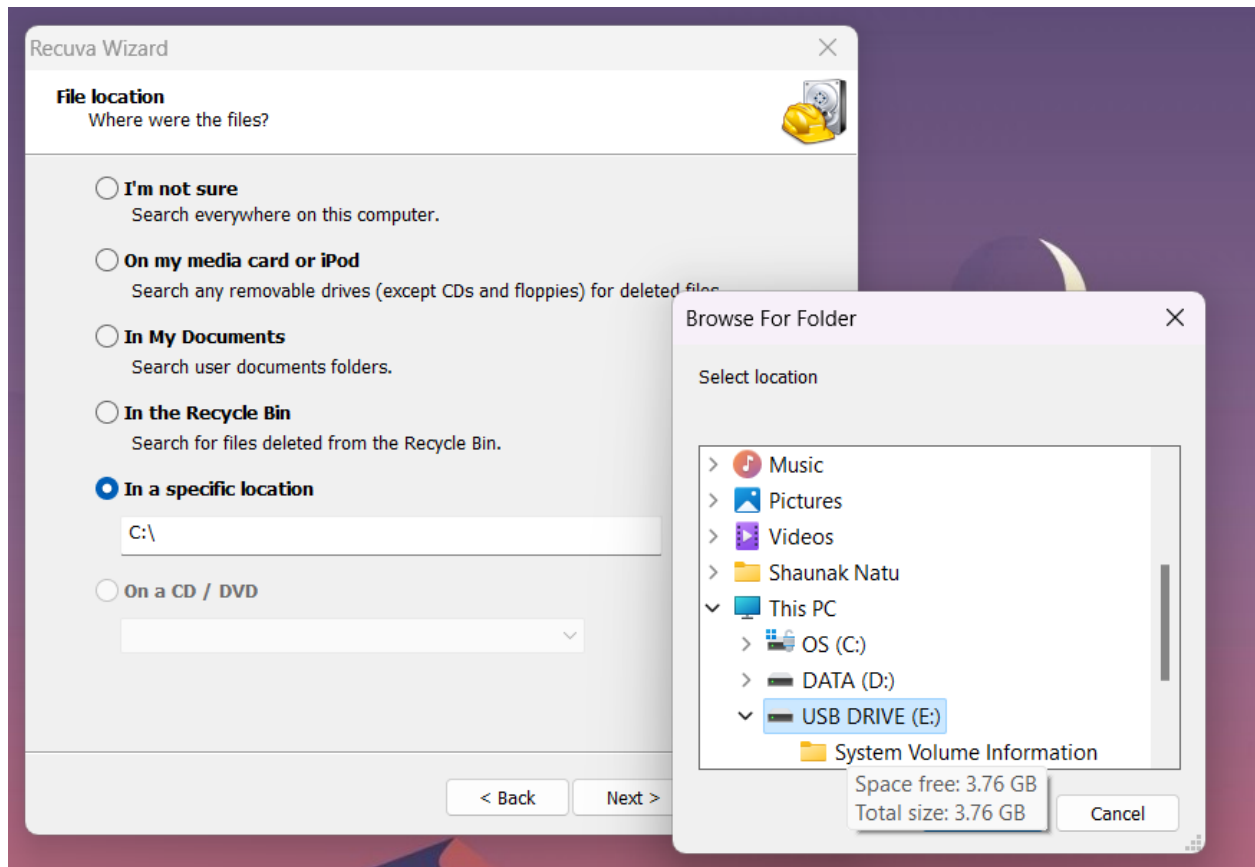
Recuva Wizard

**File type**  
What sort of files are you trying to recover?

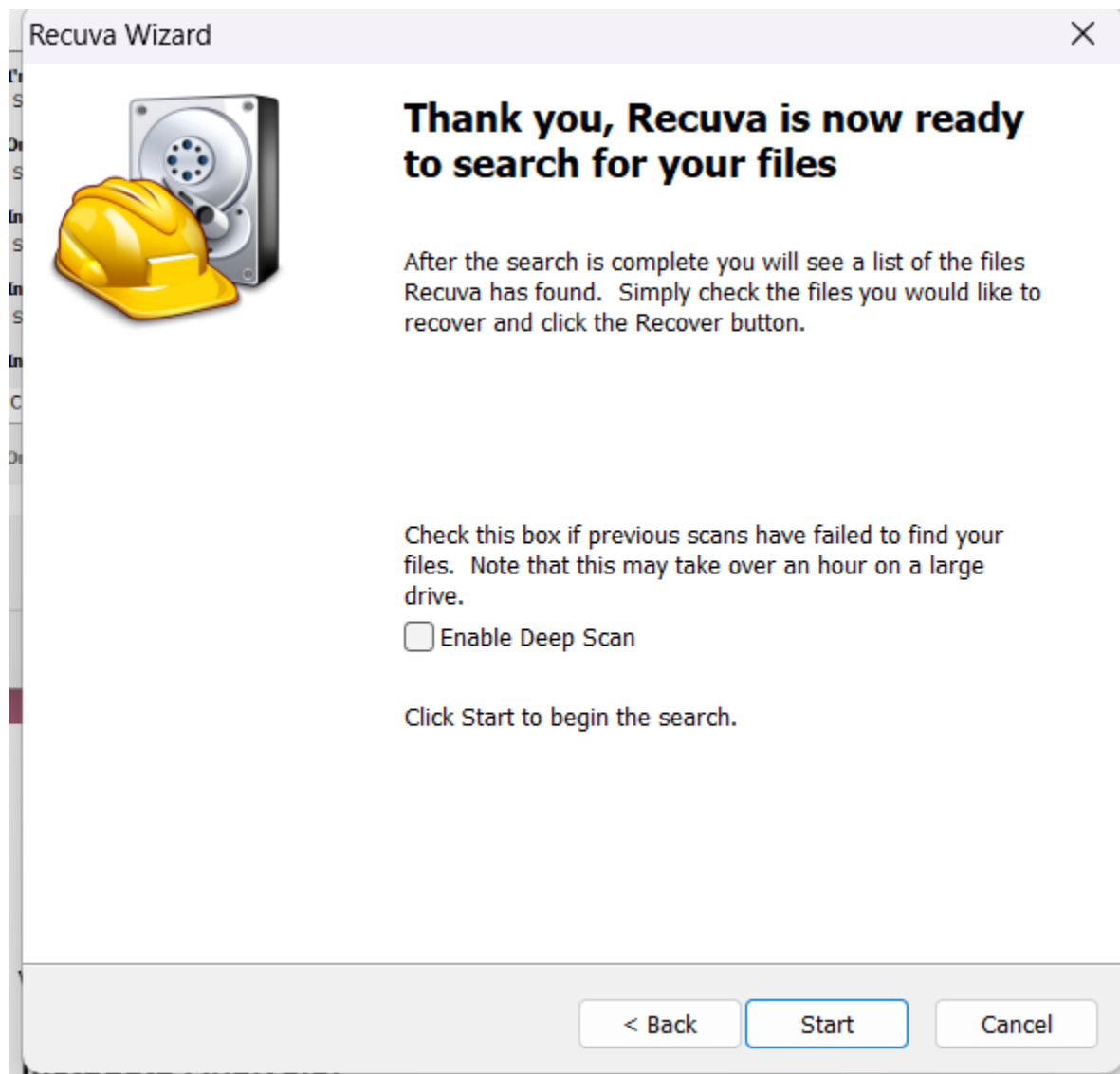
- ☒ **All Files**  
Show all files.
- ☐ **Pictures**  
Show only files of common image formats, such as digital camera photos.
- ☐ **Music**  
Show only files of common audio formats, like MP3 player files.
- ☐ **Documents**  
Show only files of common office document formats, such as Word and Excel files.
- ☐ **Video**  
Show only video files, like digital camera recordings.
- ☐ **Compressed**  
Show only compressed files.
- ☐ **Emails**  
Show only emails from Thunderbird, Outlook Express, Windows Mail and Microsoft Outlook.

< Back   Next >   Cancel

Step 6: Select the location where the files were deleted and click next.

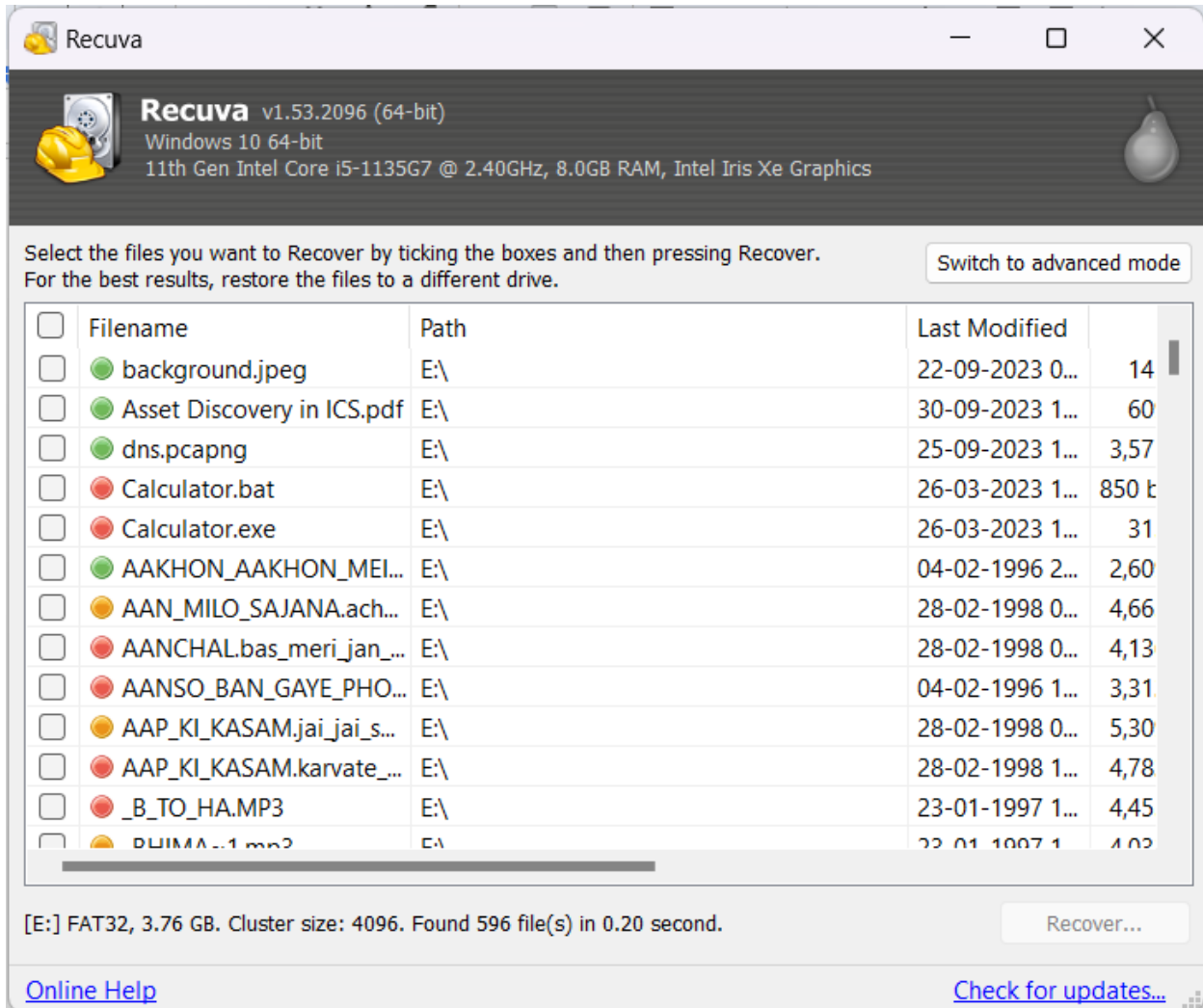


## Step 7: Start the scan





## Step 8: Results!!!



Recuva v1.53.2096 (64-bit)  
Windows 10 64-bit  
11th Gen Intel Core i5-1135G7 @ 2.40GHz, 8.0GB RAM, Intel Iris Xe Graphics

Select the files you want to Recover by ticking the boxes and then pressing Recover.  
For the best results, restore the files to a different drive.

[Switch to advanced mode](#)

<input type="checkbox"/>	Filename	Path	Last Modified	
<input type="checkbox"/>	background.jpeg	E:\	22-09-2023 0...	14
<input type="checkbox"/>	Asset Discovery in ICS.pdf	E:\	30-09-2023 1...	60
<input type="checkbox"/>	dns.pcapng	E:\	25-09-2023 1...	3,57
<input type="checkbox"/>	Calculator.bat	E:\	26-03-2023 1...	850 b
<input type="checkbox"/>	Calculator.exe	E:\	26-03-2023 1...	31
<input type="checkbox"/>	AAKHON_AAKHON_MEI...	E:\	04-02-1996 2...	2,60
<input type="checkbox"/>	AAN_MILO_SAJANA.ach...	E:\	28-02-1998 0...	4,66
<input type="checkbox"/>	AANCHAL.bas_meri_jan_...	E:\	28-02-1998 0...	4,13
<input type="checkbox"/>	AANSO_BAN_GAYE_PHO...	E:\	04-02-1996 1...	3,31
<input type="checkbox"/>	AAP_KI_KASAM.jai_jai_s...	E:\	28-02-1998 0...	5,30
<input type="checkbox"/>	AAP_KI_KASAM.karvate_...	E:\	28-02-1998 1...	4,78
<input type="checkbox"/>	_B_TO_HA.MP3	E:\	23-01-1997 1...	4,45
<input type="checkbox"/>	BLUMA...1.mp3	E:\	22-01-1997 1...	4,02

[E:] FAT32, 3.76 GB. Cluster size: 4096. Found 596 file(s) in 0.20 second.

[Recover...](#)

[Online Help](#) [Check for updates...](#)

Step 9: Select the files you want to recover and then click “Recover”

<input checked="" type="checkbox"/>	background.jpeg	E:\	22-09-2023 0...	14
<input checked="" type="checkbox"/>	Asset Discovery in ICS.pdf	E:\	30-09-2023 1...	60
<input checked="" type="checkbox"/>	dns.pcapng	E:\	25-09-2023 1...	3,57
<input type="checkbox"/>	Calculator.bat	E:\	26-03-2023 1...	850 b
<input type="checkbox"/>	Calculator.exe	E:\	26-03-2023 1...	31
<input type="checkbox"/>	AAKHON_AAKHON_MEL...	E:\	04-02-1996 2...	2,60
<input type="checkbox"/>	AAN_MILO_SAJANA.ach...	E:\	28-02-1998 0...	4,66
<input type="checkbox"/>	AANCHAL.bas_meri_jan_...	E:\	28-02-1998 0...	4,13
<input type="checkbox"/>	AANSO_BAN_GAYE_PHO...	E:\	04-02-1996 1...	3,31
<input type="checkbox"/>	AAP_KI_KASAM,jai_jai_s...	E:\	28-02-1998 0...	5,30
<input type="checkbox"/>	AAP_KI_KASAM.karvate_...	E:\	28-02-1998 1...	4,78
<input type="checkbox"/>	_B_TO_HA.MP3	E:\	23-01-1997 1...	4,45
<input type="checkbox"/>	BLIMA...1.mp3	E:\	23-01-1997 1...	4,03

[E:] FAT32, 3.76 GB. Cluster size: 4096. Found 596 file(s) in 0.20 second.

Recover...

Step 10: Select the location where you want to restore the files and click “OK” in the dialog box that appears.

Operation completed

**i** Total recovered 3 file(s):  
Fully recovered 3 file(s)  
Partly recovered 0 file(s)

Operation completed in 1.69 seconds.

**Upgrade to Recuva Professional:**

Why not upgrade to Recuva Professional and benefit from:

- ✓ Advanced file recovery
- ✓ Virtual hard drive support
- ✓ Automatic updates
- ✓ Premium support

**UPGRADE NOW!**

OK

Step 11: Done!!!

Check the location to see the recovered files.

