EXPERIMENT NO: 03 (ii)

File Recovery using open-source tool - Autopsy

Aim: To perform File Recovery using open-source tool - Autopsy

Theory:

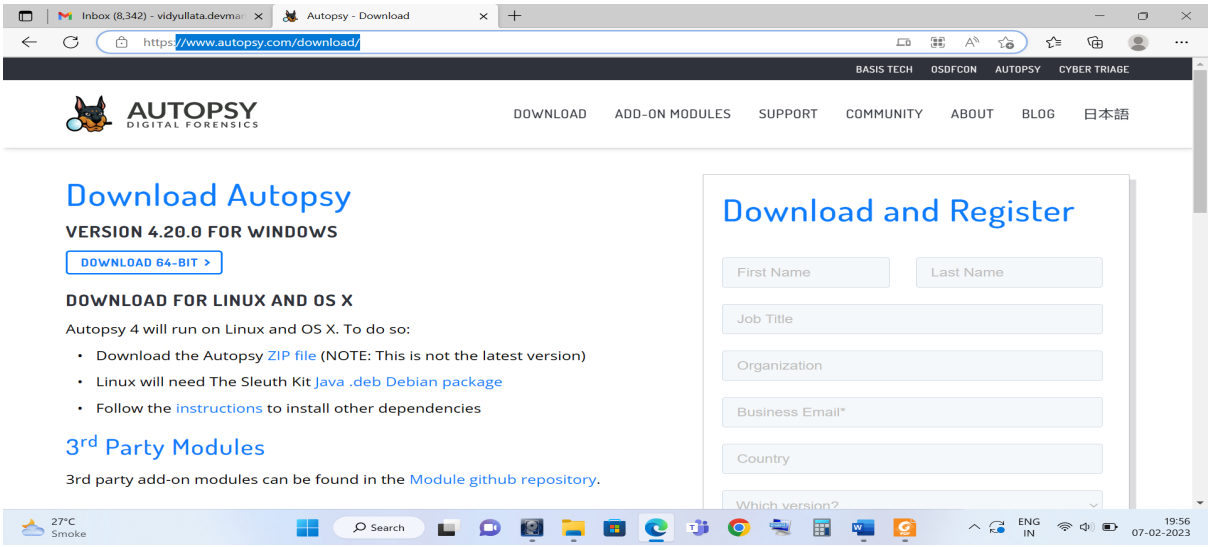
Files that are "deleted" remain on the storage medium until overwritten. This means that if the suspect deleted evidence files, until they are overwritten by the file system, they remain available to us to recover.

In this lab, we will be using the open-source The Sleuth Kit (TSK) for identifying and recovering deleted files. The Sleuth Kit was first developed for Linux, but has now been ported for Windows, so we will be using it with our Windows examination system. A GUI interface was developed for TSK named Autopsy that we will be using in this tutorial.

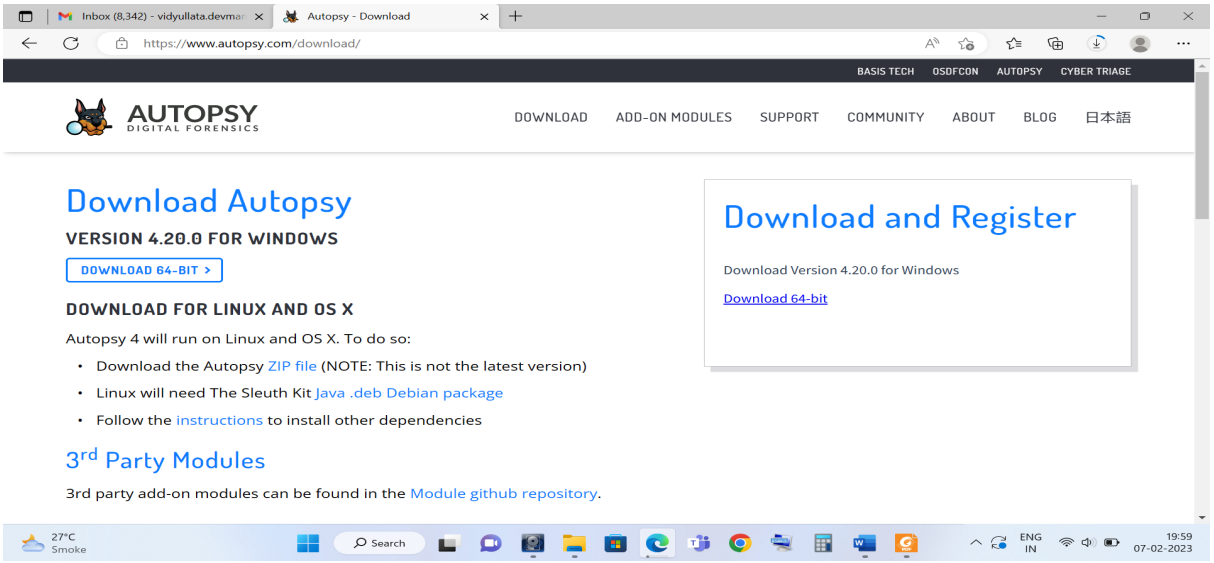
AUTOPSY Installation:

http://www.autopsy.com/download/

1. Select download for Windows

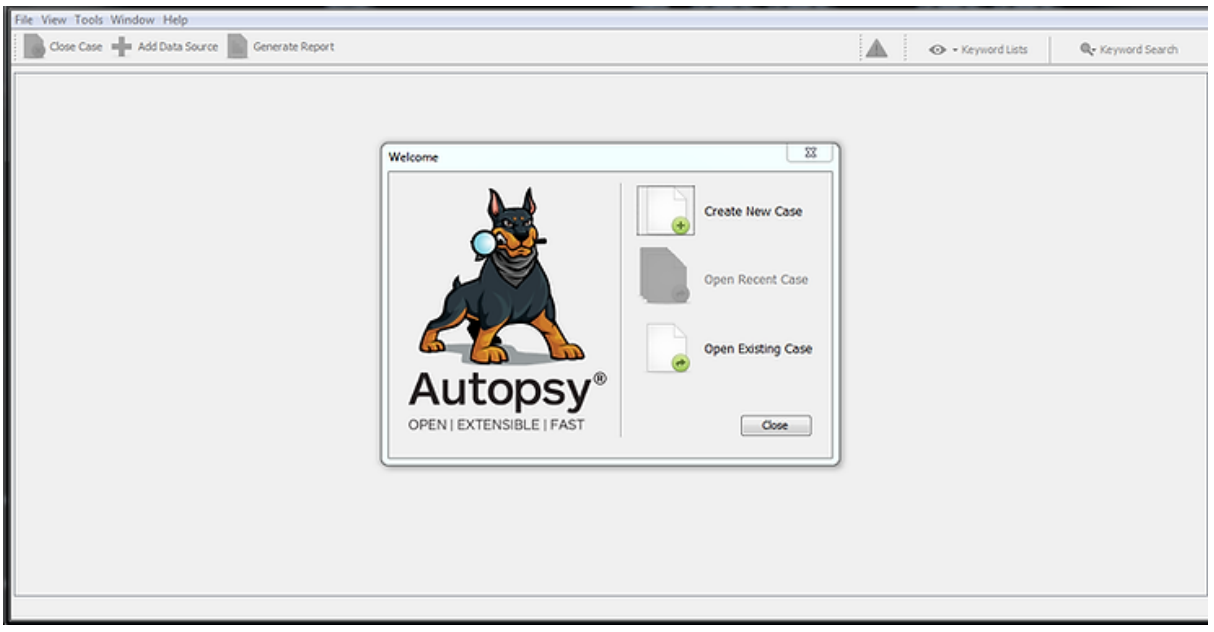


2. Fill the form & submit
3. Download 64 bit & install



File Recovery Steps:

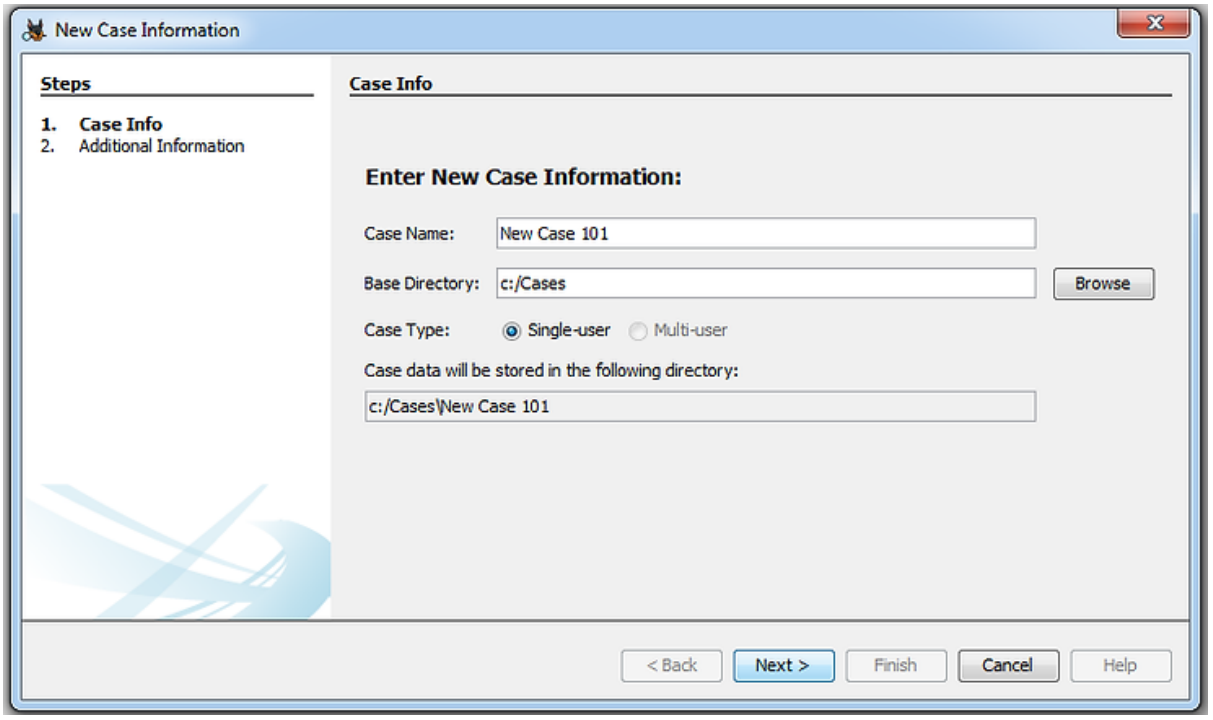
1. Install Autopsy on your system.



After installing Autopsy then starting it, you will be greeted with a screen similar to the above.

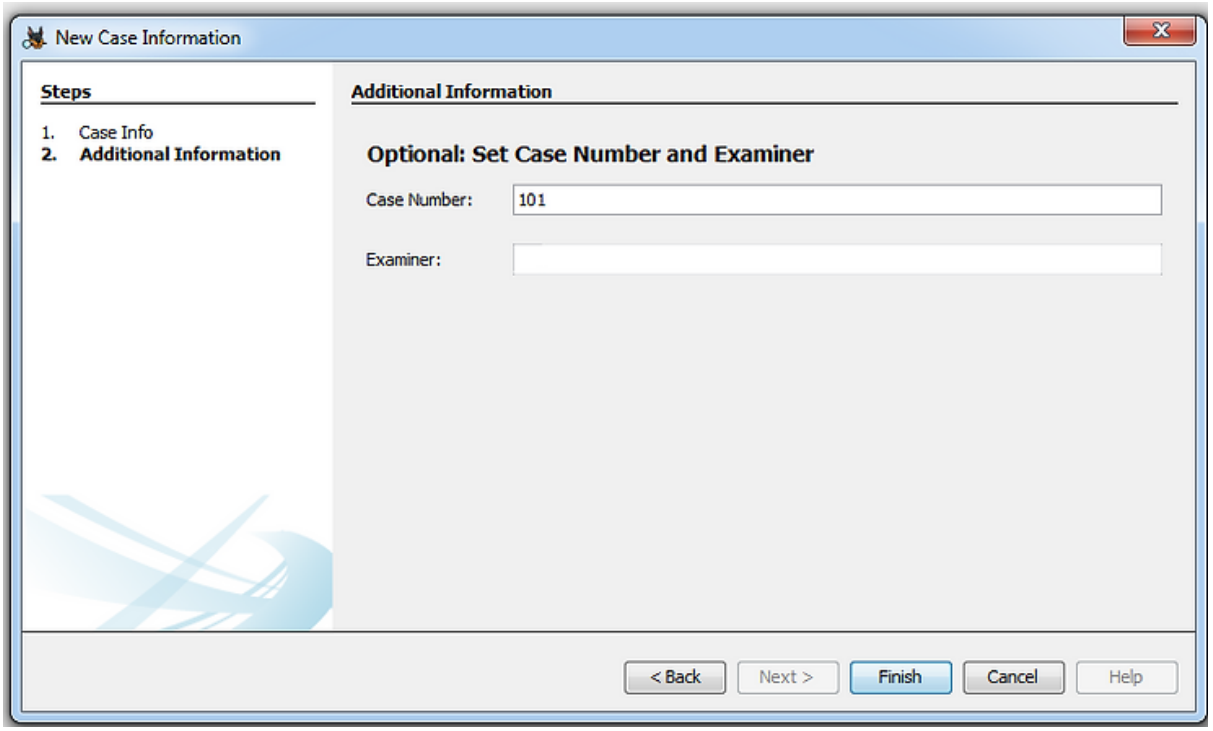
2. Click "**Create New Case**".

When you do, you will be greeted by a new window asking you to name your new case and what directory you want to place your cases. Enter "New Case 101" and put it in the base directory of C:\Cases.



3. Now, hit **Next**.

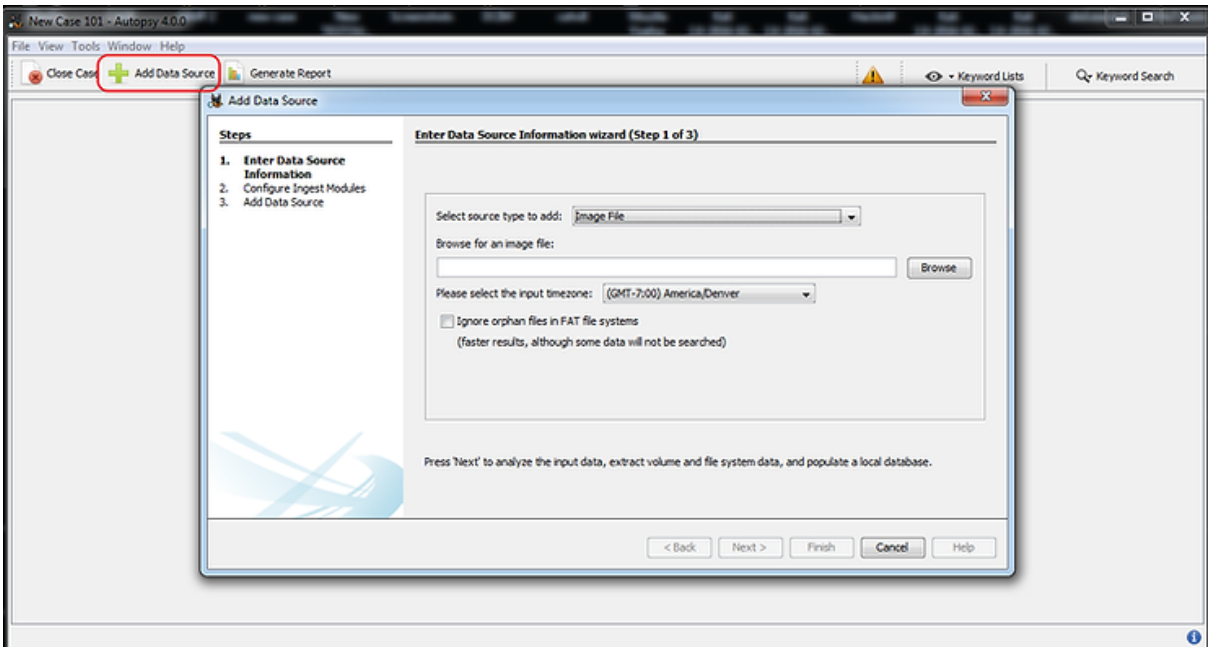
This will open another window asking you for a case number and the examiner name. Give it a case number of 101 and your name or initials for the examiner.



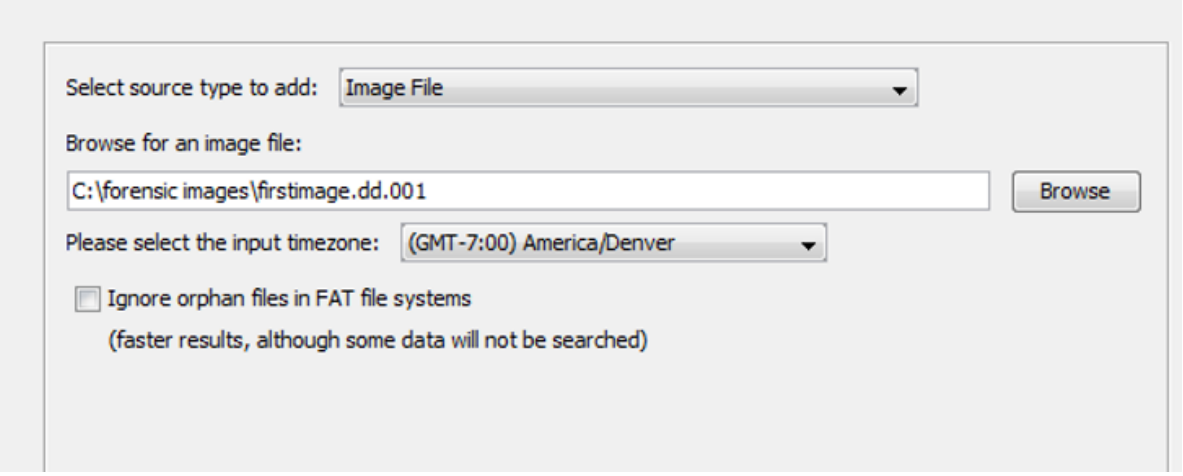
4. Click "**Finish**".

Next, click on "Add New Data in the upper left corner. When you do, a "Add Data Source" window will open. Since we will be using the image file created in the previous module, select "Image File" and then Browse for

the image file you created in Module 1. I saved mine in a directory c:\forensic images. Yours may be different.

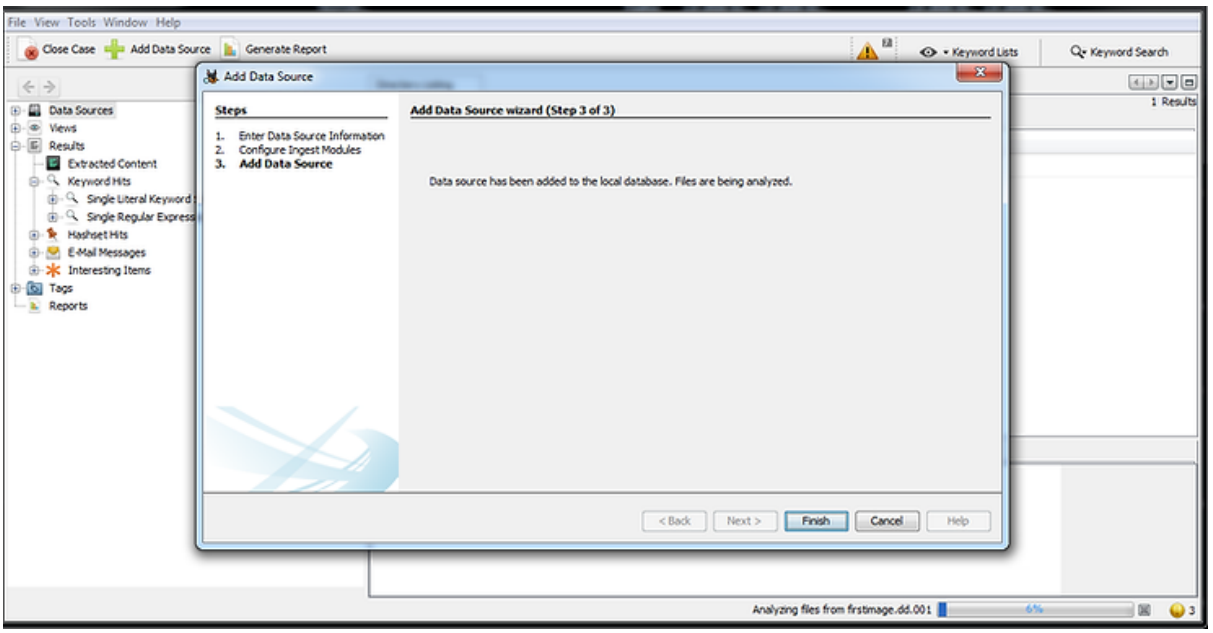


5. Now, add our first.image.dd.001 image from the first tutorial in this series.

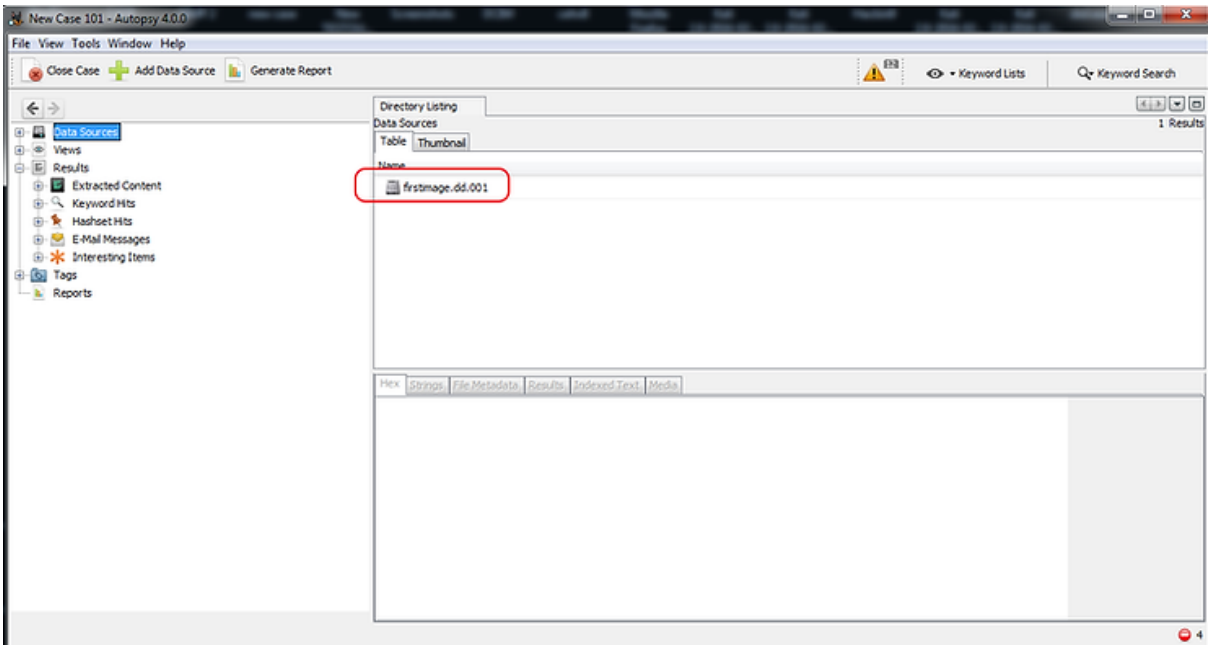


After adding the image click next and Autopsy will begin to do its analysis of the image. Eventually, you will greeted by a screen like that below.

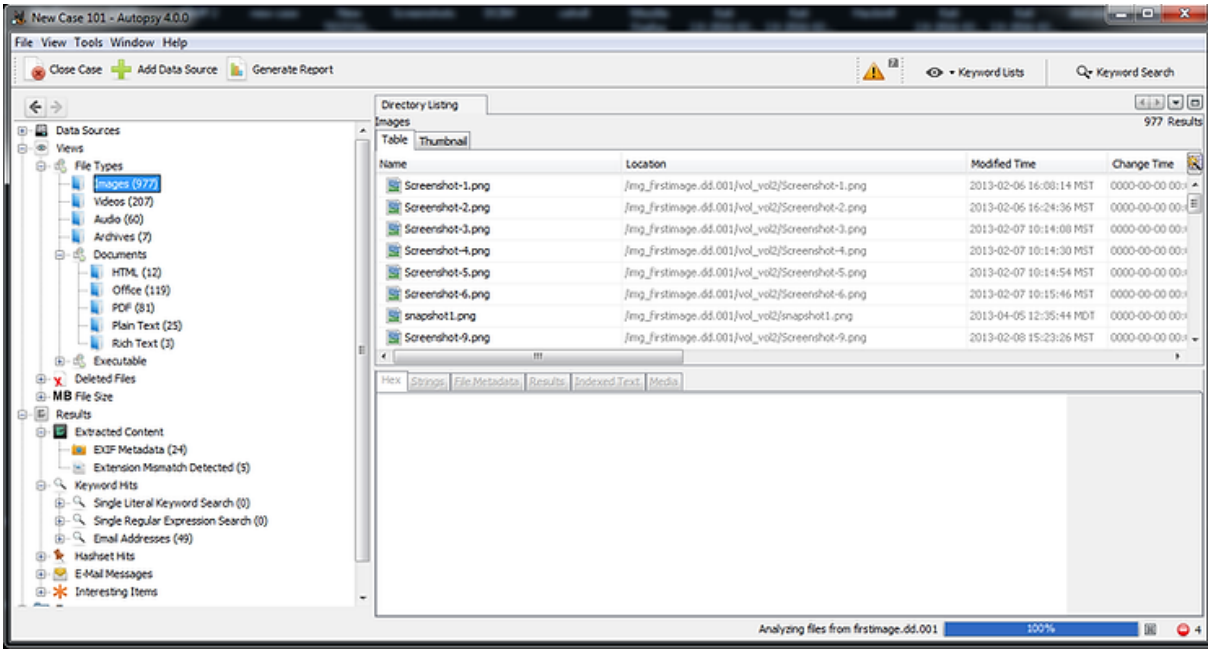
6. Click "**Finish**".



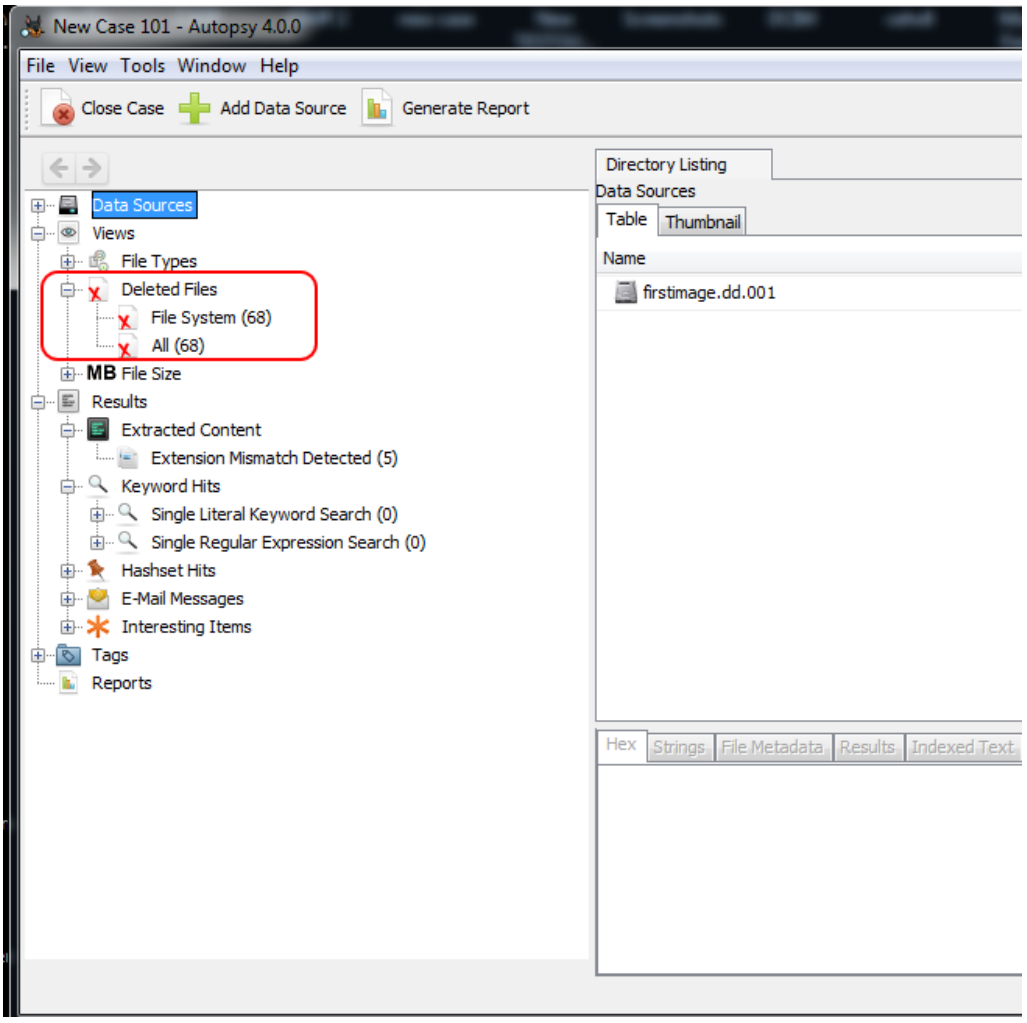
Now, you should see an interface like that below. Note that your "firstimage.dd.001" should appear as your data source.



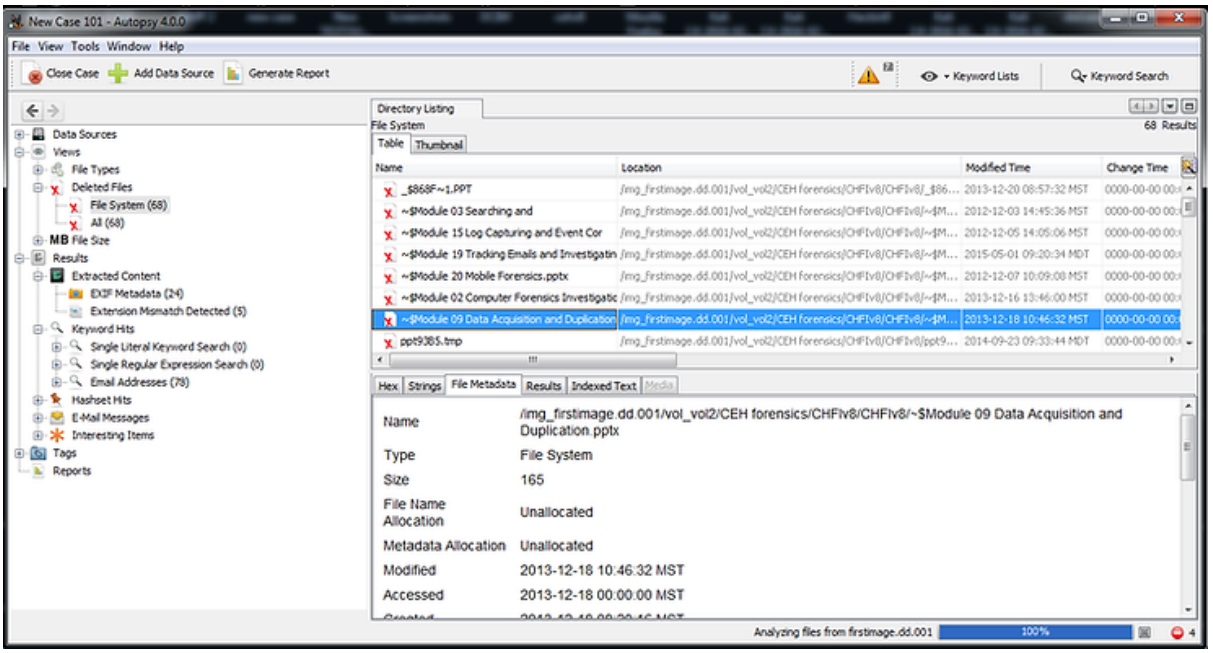
If we expand the "File Types" in the object explorer, Autopsy will display all the file types and the number of files in each category. Below you can see I clicked on the "Images" file type and Autopsy will display all the Image files.



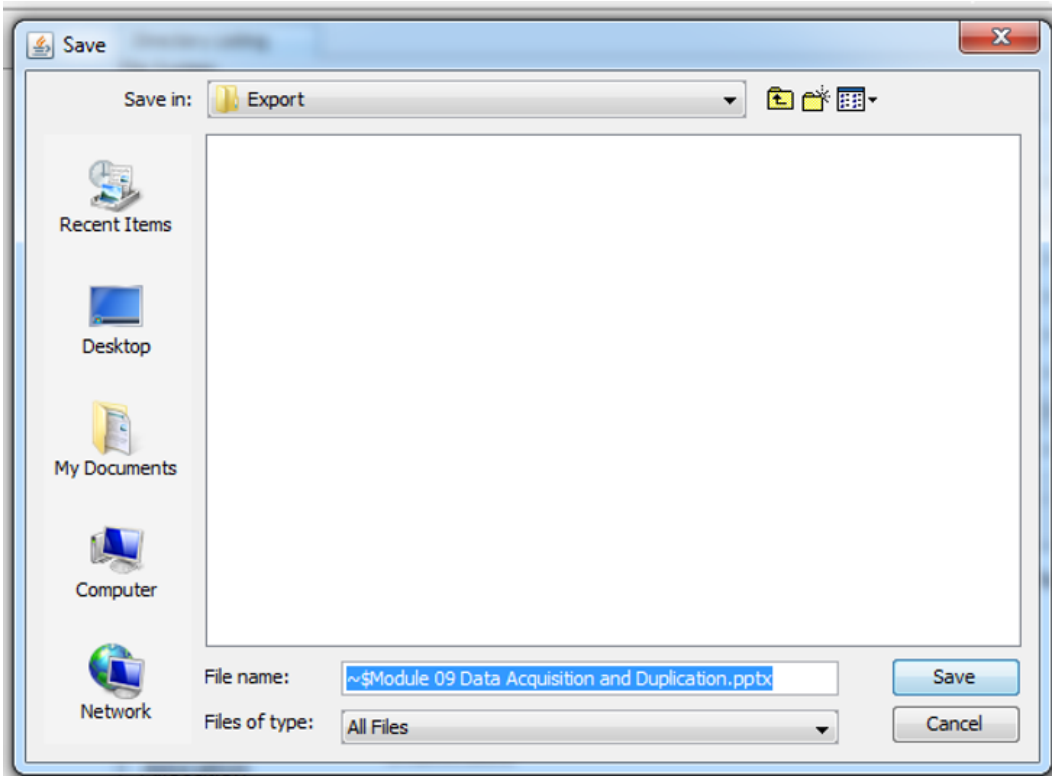
A little further below in the object explorer, we can see a File Type named "Deleted Files". When we click on it will display all the deleted files.



When we click on a deleted file, we can do some analysis in the lower right window. There you will see tabs labeled, Hex, Strings, File Metadata, Results and Indexed Text. In this case, click on the "File Metadata " tab and it will display the file's metadata including the name, type, size, modified, accessed and created (MAC).



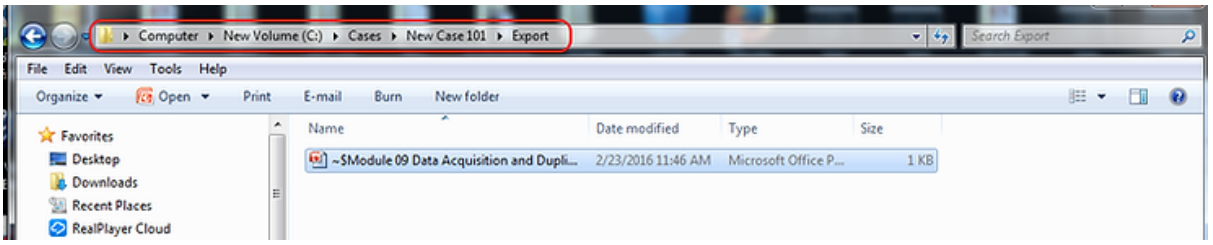
Now, to recover the deleted file,right click on the deleted file and select "Export". This will open a window like that below.



Go ahead and save the deleted file into the **Export** sub-directory.

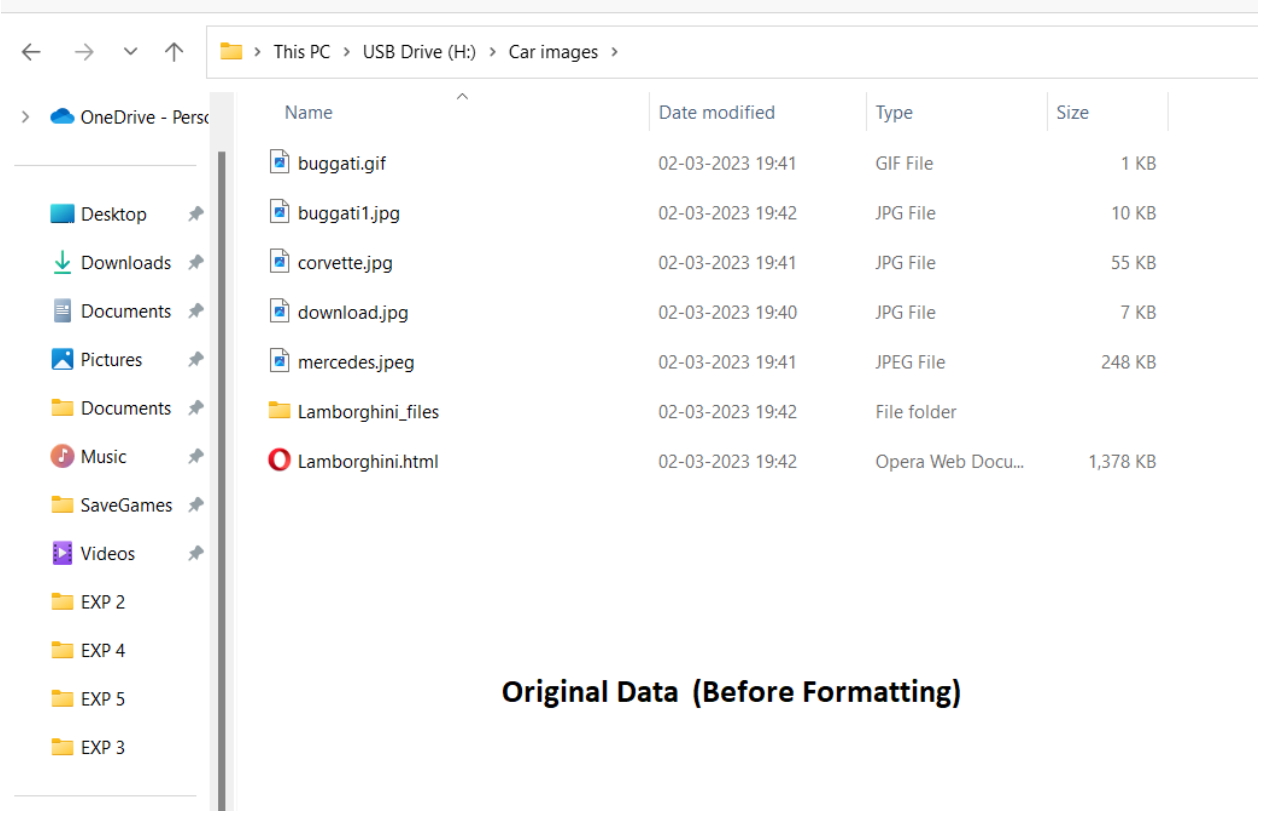
To find the exported/deleted file, navigate to;

C:\Cases\New Case 101\Export

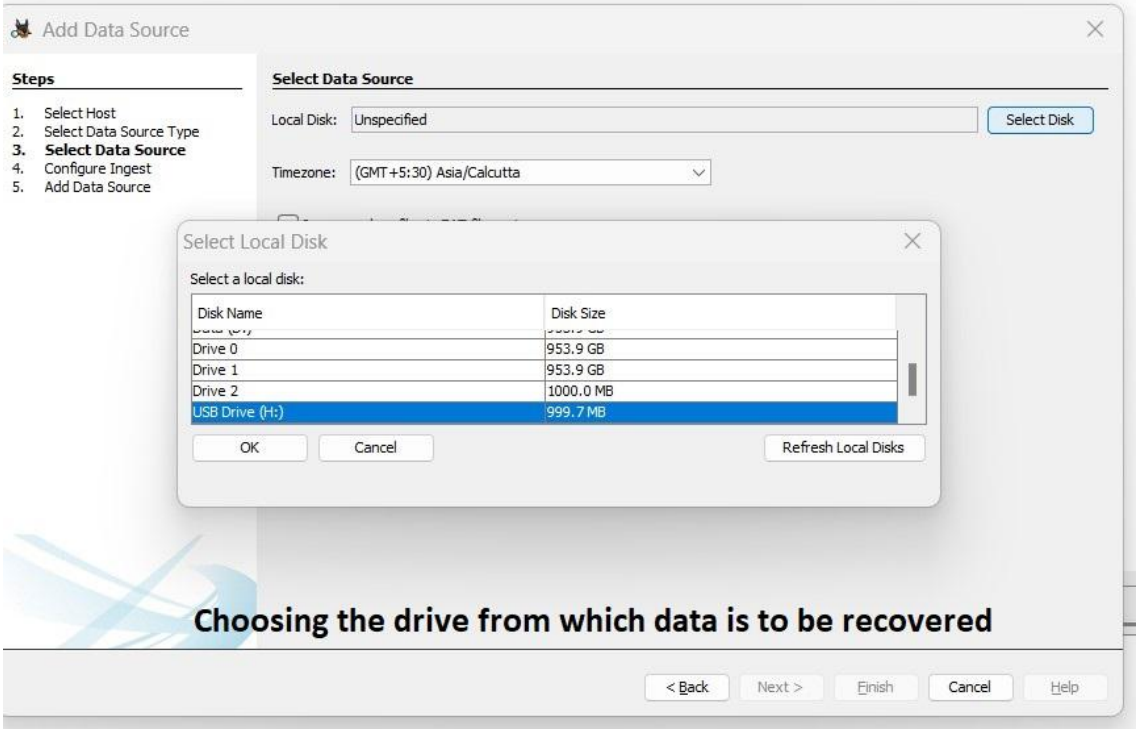


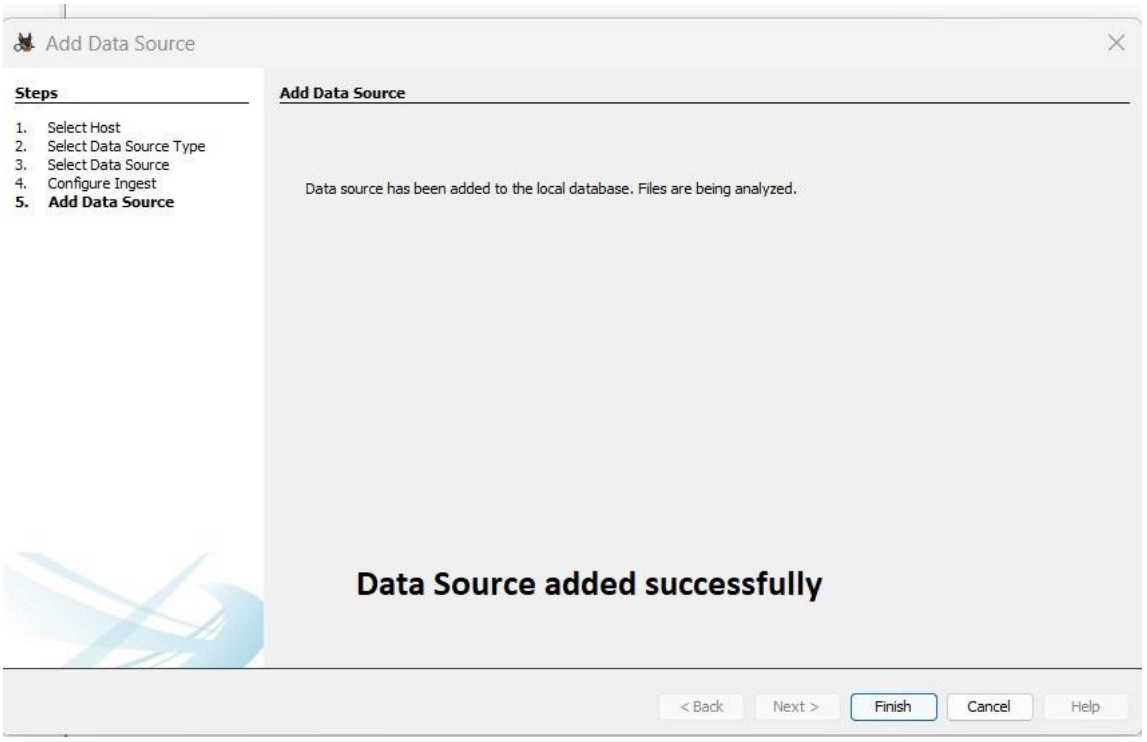
You can now double click on that file to open it in the appropriate application.

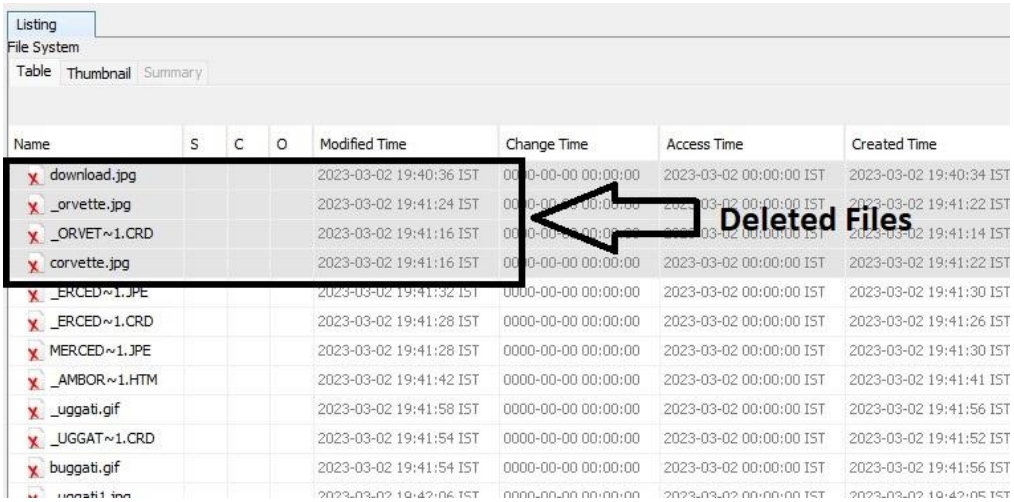
Output:

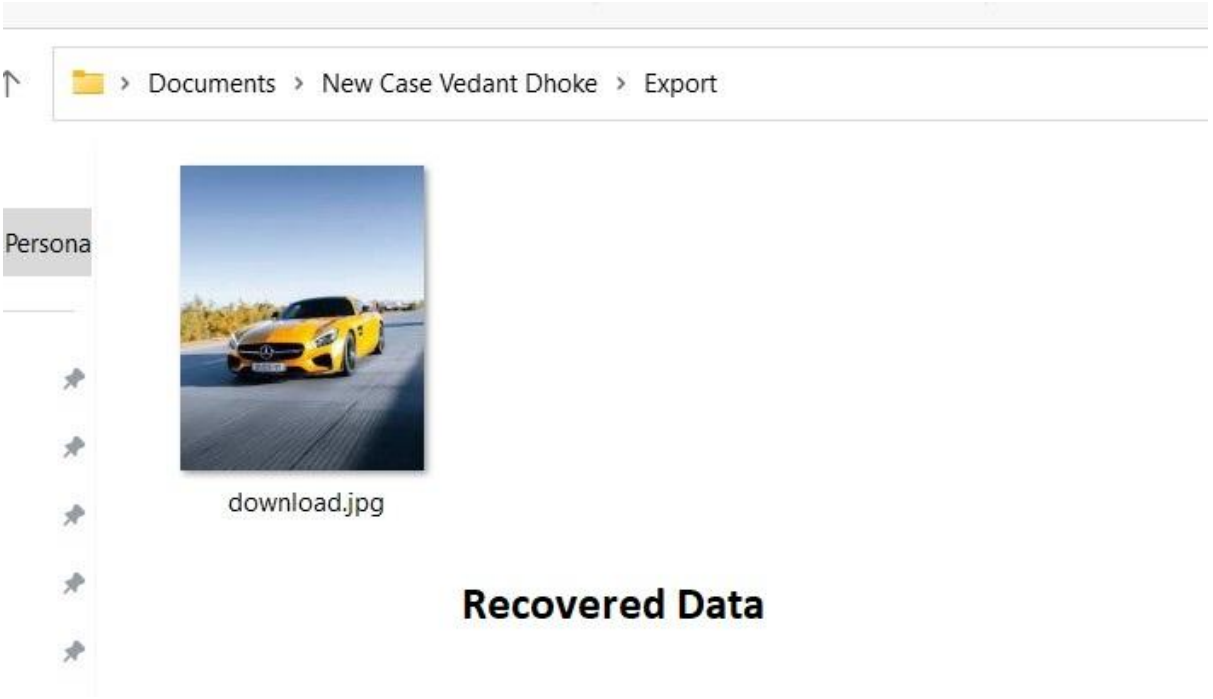


Original Data (Before Formatting)


Add Data Source
Steps
1. Select Host
2. Select Data Source Type
3. Select Data Source
4. Configure Ingest
5. Add Data Source
Select Data Source
Local Disk: Unspecified
Select Disk
Timezone: (GMT+5:30) Asia/Calcutta
Select Local Disk
Select a local disk:
Disk Name
Disk Size
Drive 0
953.9 GB
Drive 1
953.9 GB
Drive 2
1000.0 MB
USB Drive (H:)
999.7 MB
OK
Cancel
Refresh Local Disks
Choosing the drive from which data is to be recovered
< Back
Next >
Finish
Cancel
Help


Add Data Source
Steps
1. Select Host
2. Select Data Source Type
3. Select Data Source
4. Configure Ingest
5. Add Data Source
Add Data Source
Data source has been added to the local database. Files are being analyzed.
Data Source added successfully
< Back
Next >
Finish
Cancel
Help





Conclusion: In conclusion, Autopsy is a powerful digital forensics tool that can be used for file recovery. Through its analysis of digital media and identification of artifacts, Autopsy can effectively recover deleted or damaged files. Overall, Autopsy is a valuable tool for any digital forensics investigation that requires file recovery.