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ROLL NO:12

T.Y.BSc Computer Science

PRACTICAL

Cyber Forensics

CERTIFICATE

Jan Seva Sangh's
Shri Ram College Of Commerce
(Affiliated to the University Of Mumbai)
NAAC ACCREDITED 'B' GRADE (FIRST CYCLE)

CLASS: TYCS SUBJECT: Cyber Forensics SEAT NO/ROLL NO: 12

This is to certify that the work entered in this journal is the work of

Mr./Miss Akash Lalit Mishra

Who has worked for the practical examination of Cyber Forensics

Year B.S.C (CS) semester 6th of the year 2022-2023 in the college.

Internal |Signature **External Signature**

Date:

College Stamp **Principal**

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Practical No – 1

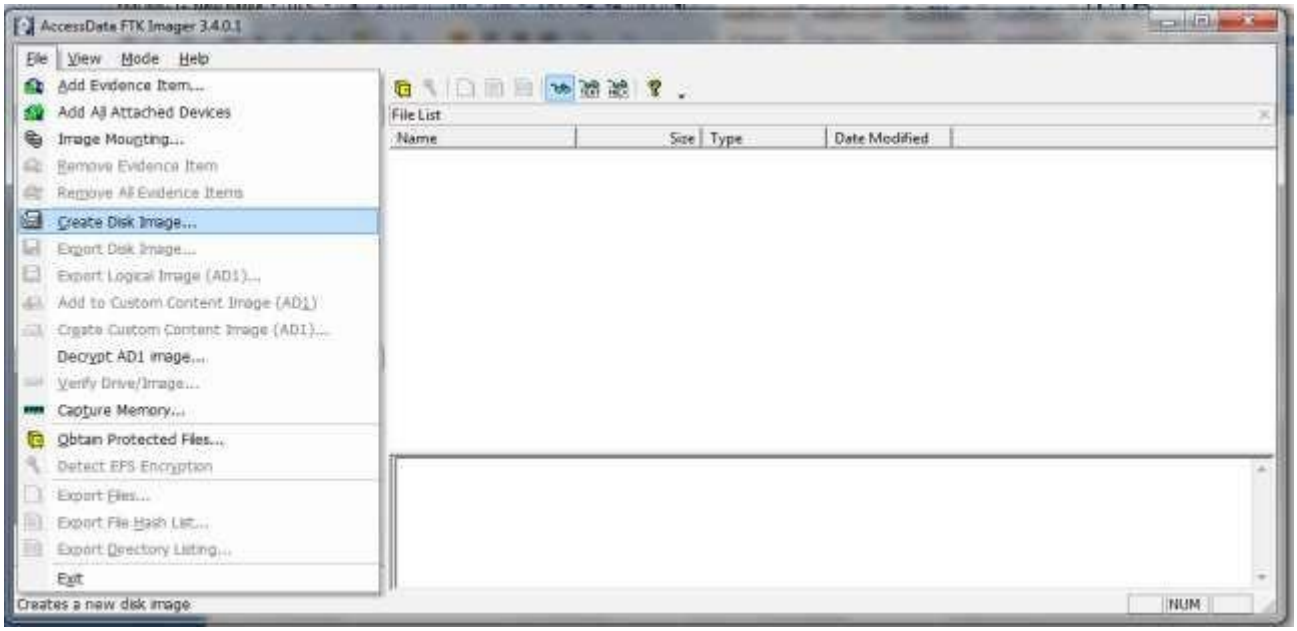
Aim: Creating a Forensic Image using FTK Imager/Encase Imager:

-Creating Forensic Image
-Check Integrity of Data
-Analyze Forensic Image

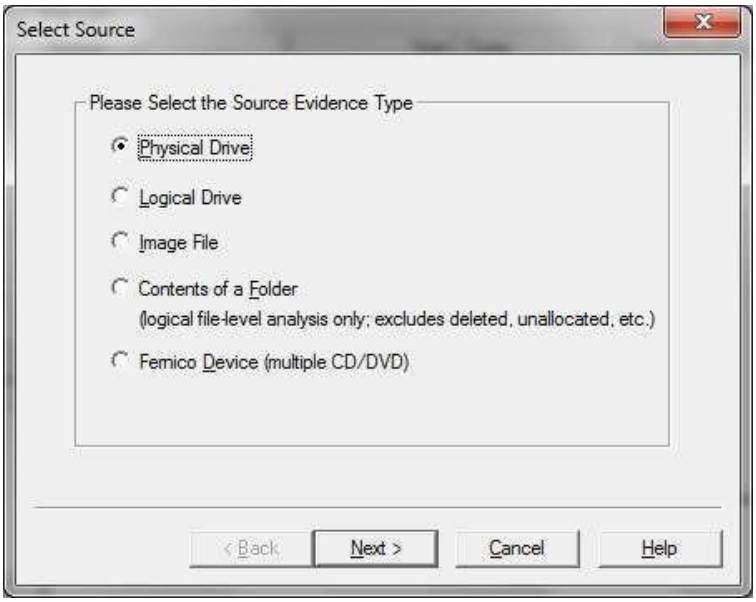
Steps:

Creating Forensic Image

1. Click File, and then Create Disk Image, or click the button on the tool bar.

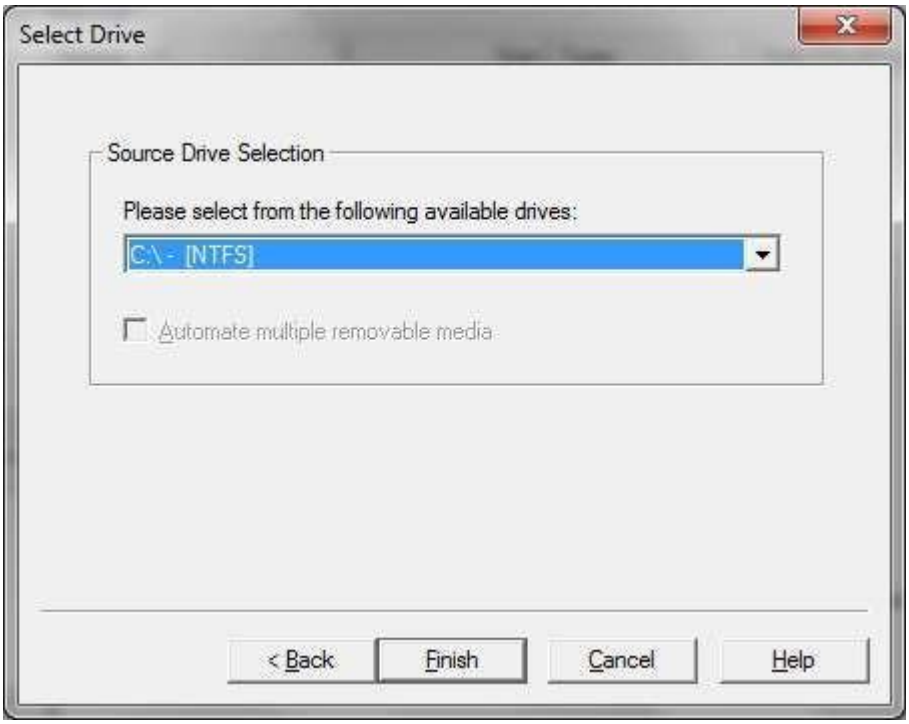


2. Select the source you want to make an image of and click Next.

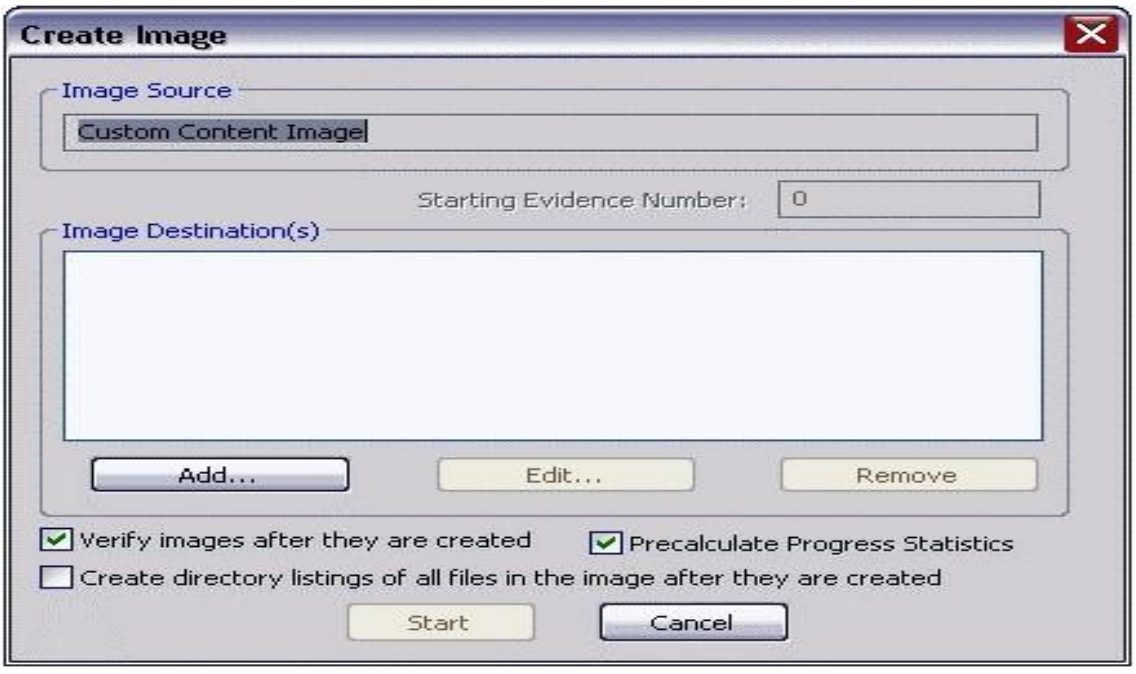


If you select Logical Drive to select a floppy or CD as a source, you can check the Automate multiple removable media box to create groups of images. Imager will automatically increment the case numbers with each image, and if something interrupts the process, you may assign case number manually.

3. Select the drive or browse to the source of the image you want, and then click Finish.



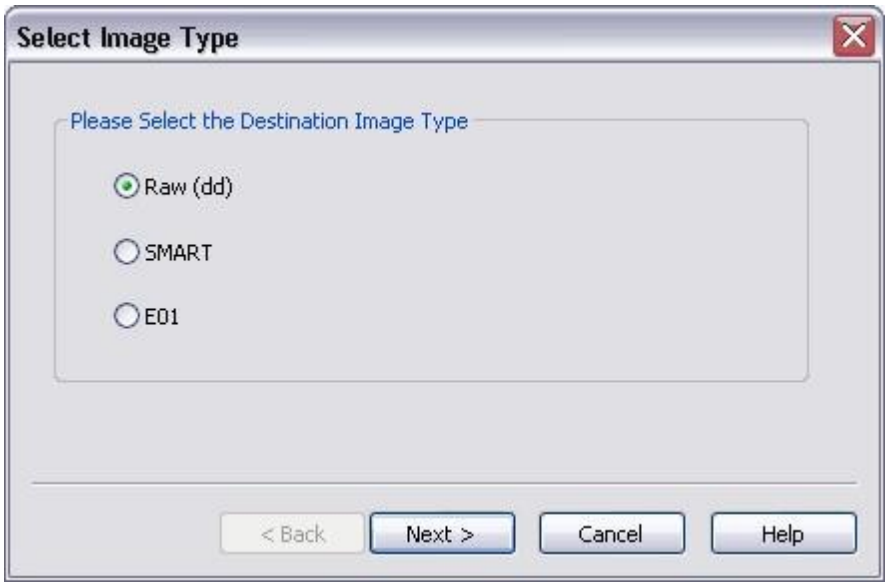
4. In the Create Image dialog, click Add.



- You can compare the stored hashes of your image content by checking the Verify images after they are created box. If a file doesn't have a hash, this option will generate one.
- You can list the entire contents of your images with path, creation dates, whether files were deleted, and other metadata. The list is saved in a tab-separated value format

5. Select the type of image you want to create, and then click Next.

Note: If you are creating an image of a CD or DVD, this step is skipped because all CD/DVD images are created in the IsoBuster CUE format.



The raw image type is not compressed. If you select the Raw (dd) type, be sure to have adequate space for the resulting image.

If you select SMART or E01 as the image type, complete the fields in the Evidence Item Information dialog, and click **Next**.

Raw (dd): This is the image format most commonly used by modern analysis tools. These raw file formatted images do not contain headers, metadata, or magic values. The raw format typically includes padding for any memory ranges that were intentionally skipped (i.e., device memory) or that could not be read by the acquisition tool, which helps maintain spatial integrity (relative offsets among data).

SMART: This file format is designed for Linux file systems. This format keeps the disk images as pure bitstreams with optional compression. The file consists of a standard 13-byte header followed by a series of sections. Each section includes its type string, a 64-bit offset to the next section, its 64-bit size, padding, and a CRC, in addition to actual data or comments, the header and footer, which contains an MD5 hash of the entire bit stream. This case if applicable.

E01: this format is a proprietary format developed by Guidance Software's EnCase. This format compresses the image file. An image with this format starts with case information in

information contains the date and time of acquisition, examiner's name, special notes and an optional password.

AFF: Advance Forensic Format (AFF) was developed by Simson Garfinkel and Basis Technology. Its latest implementation is AFF4. The goal is to create a disk image format that does not lock the user into a proprietary format that may prevent them from being able to properly analyze it.

6. In the Image Destination Folder field, type the location path where you want to save the image file, or click **Browse** to find to the desired location.

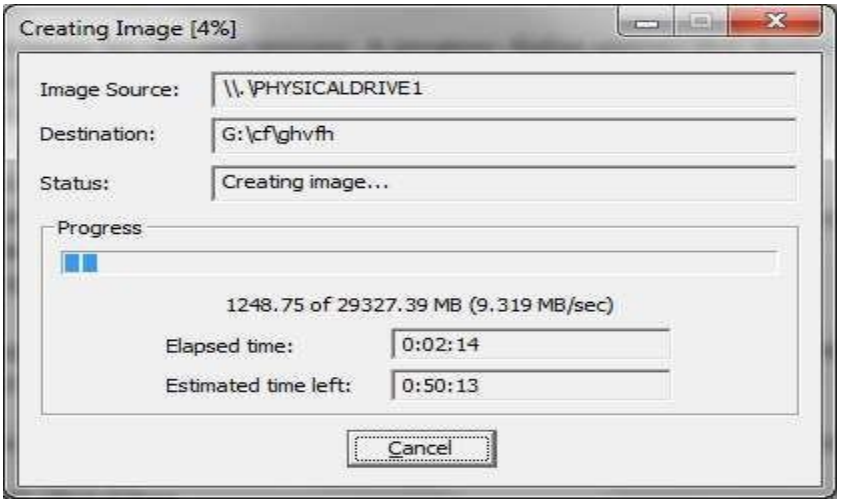
   Note: If the destination folder you select is on a drive that does not have sufficient free space to store the entire image file, FTK Imager prompts for a new destination folder when all available space has been used in the first location.

7. In the Image Filename field, specify a name for the image file but do not specify a file extension.
8. In the Image Fragment Size field, specify the maximum size in MB for each fragment of the image file. The s01 format is limited by design to sizes between 1 MB and 2047 MB (2 GB). Compressed block pointers are 31- bit numbers (the high bit is a compressed flag), which limits the size of any one segment to two gigabytes.

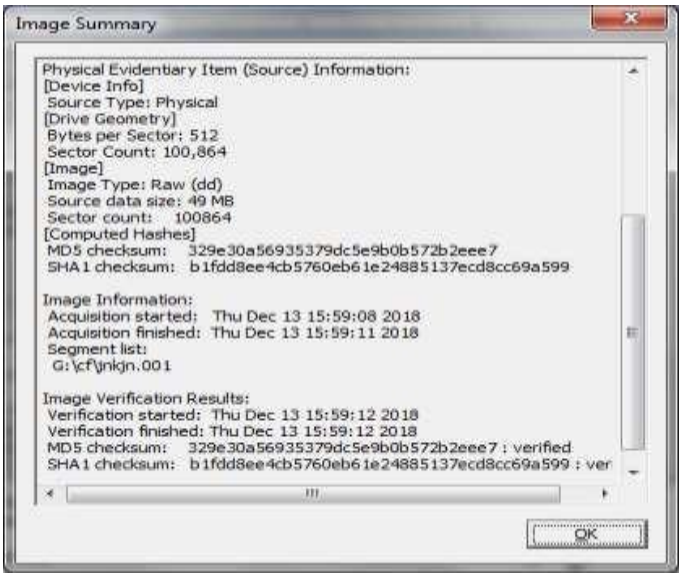
   Tip: If you want to transfer the image file to CD, accept the default fragment size of 650 MB.

9. Click **Finish**. You return to the Create Image dialog.
10. To add another image destination (i.e., a different saved location or image file type), click **Add**, and repeat steps 5– 10. To make changes to an image destination, select the destination you want to change and click **Edit.**

    To delete an image destination, select the destination and click **Remove**.
11. Click **Start** to begin the imaging process. A progress dialog appears that shows the following:
    - The source that is being imaged
    - The location where the image is being saved
    - The status of the imaging process
    - A graphical progress bar
    - The amount of data in MB that has been copied and the total amount to be copied
    - Elapsed time after the imaging process began
    - Estimated time left until the process is complete



12. After the images are successfully created, click Image Summary to view detailed file information, including MD5 and SHA1 checksums.
Note: This option is available only if you created an image file of a physical or logical drive.

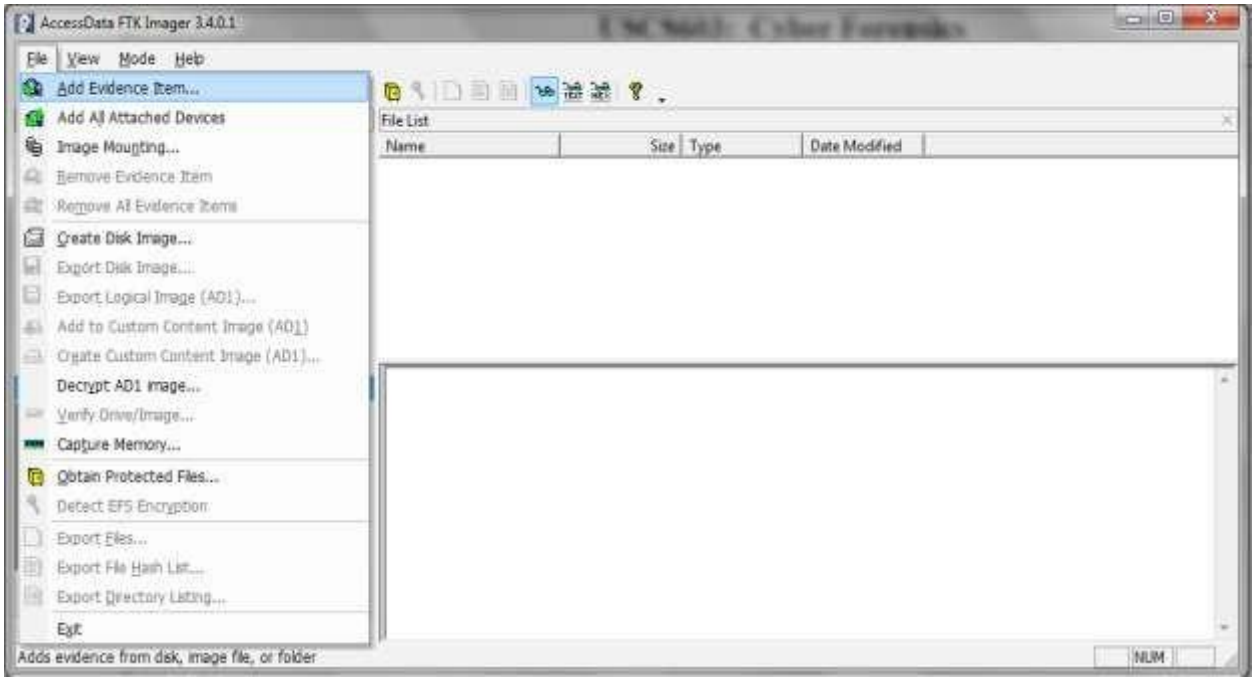


13. When finished, click **Close**

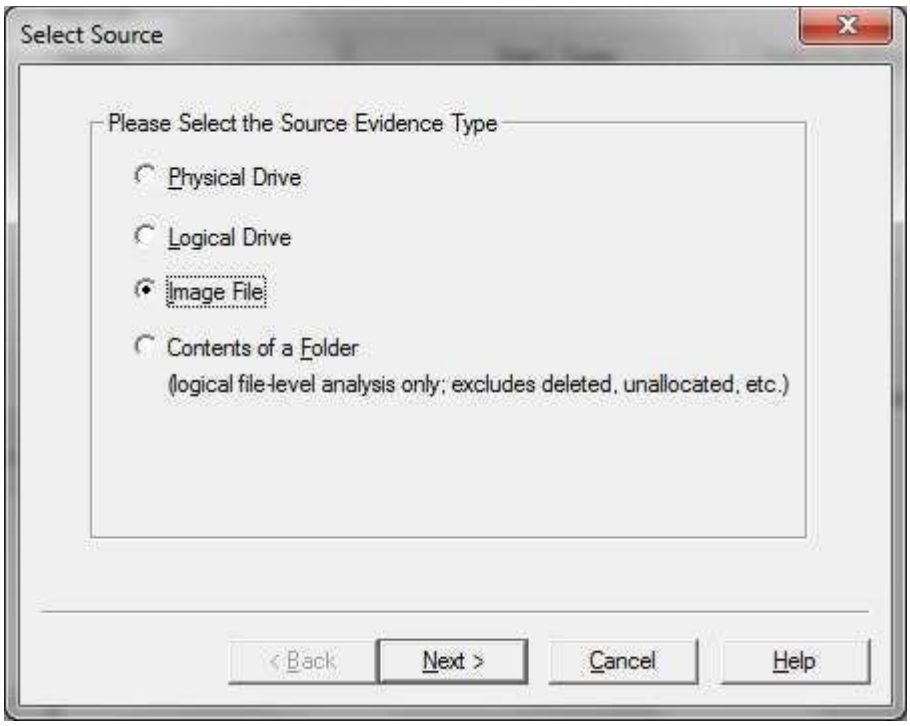
Note that the image file (*.001) as well as the image summary file from above (*.txt) have been saved onto the 'Drive'. The .001 extension may be left as is, or can be changed to .dd. The .001 extension is used due to the fact that many times the file to be imaged is very large and must be split into multiple chunks. In that case, you would have *.001, *.002, etc.

Analyze Forensic Image:

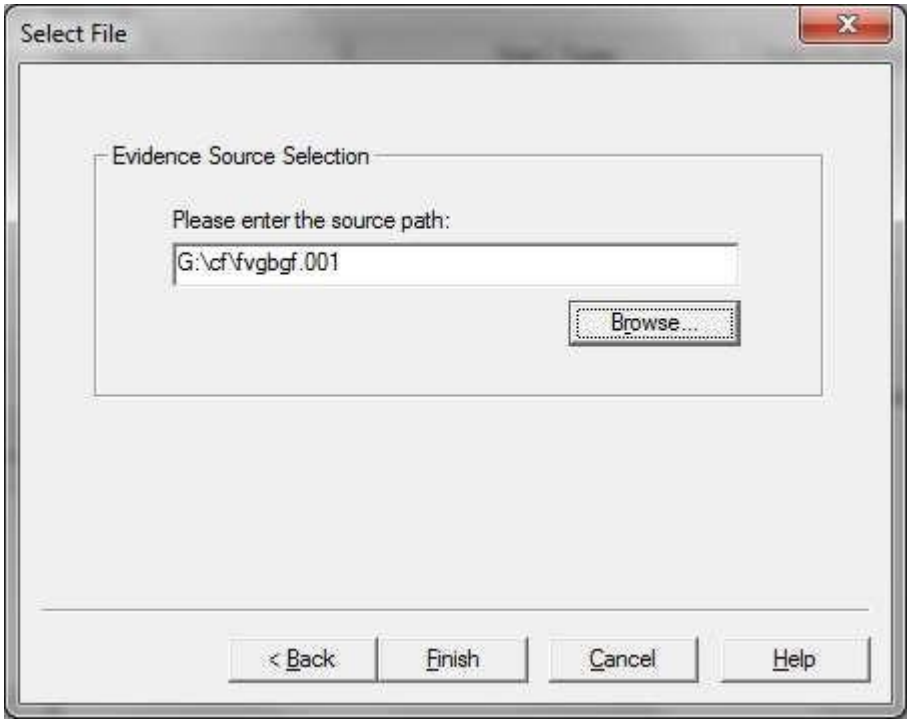
Click on Add Evidence Item to add evidence from disk, image file or folder.



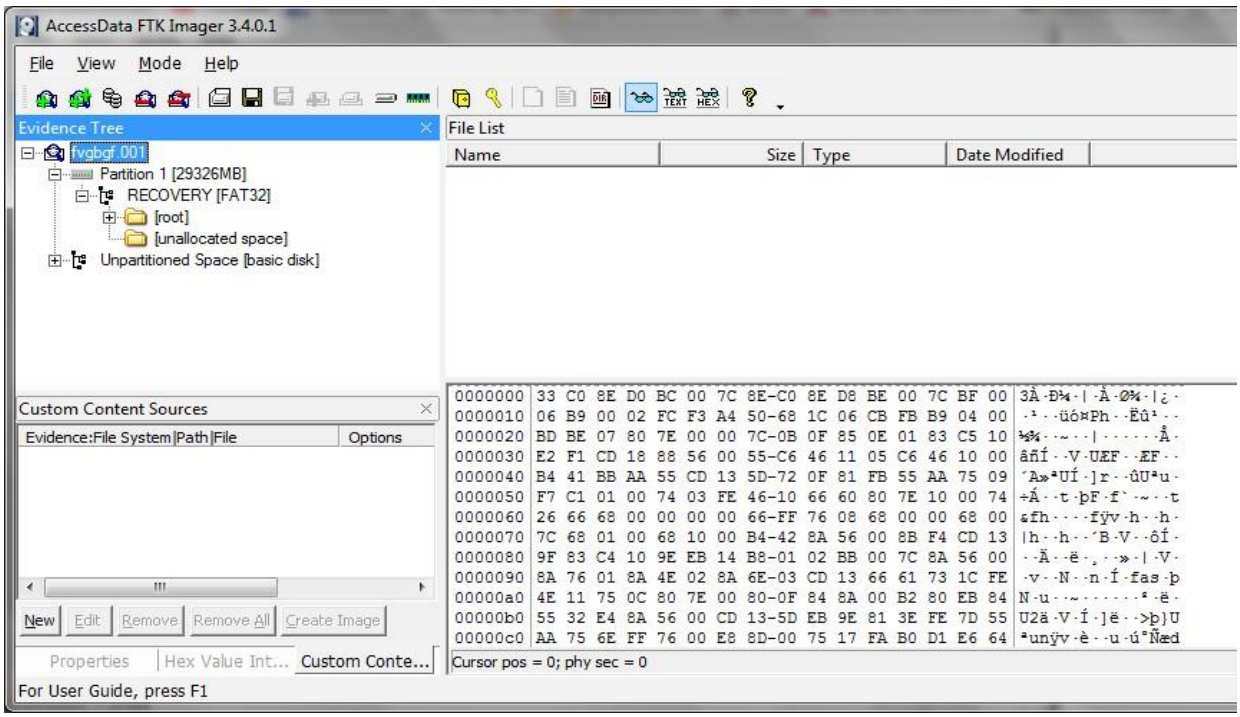
Now select the source evidence type as physical drive, logical drive or image file. We have selected image file and click on next.



Select virtual drive image & click on open option. Select the source path and click on finish.



Now select Evidence Tree and analyze the virtual disk as physical disk.



Similarly to add raw image select again add evidence item and click on image file and click on open option.

Click on finish.

Now raw image will be added as physical drive to analyze.

Practical No – 2

Aim: Data Acquisition:

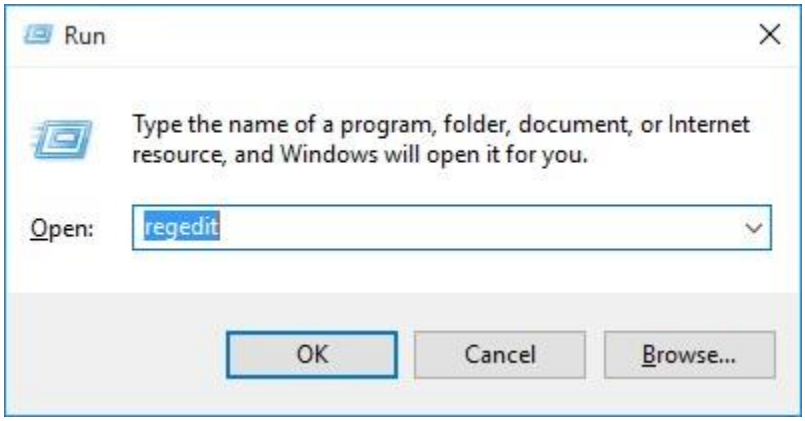
- Perform data acquisition using:

- USB Write Blocker + FTK Imager

Steps:

Enable USB Write Block in Windows 10, 8 and 7 using registry

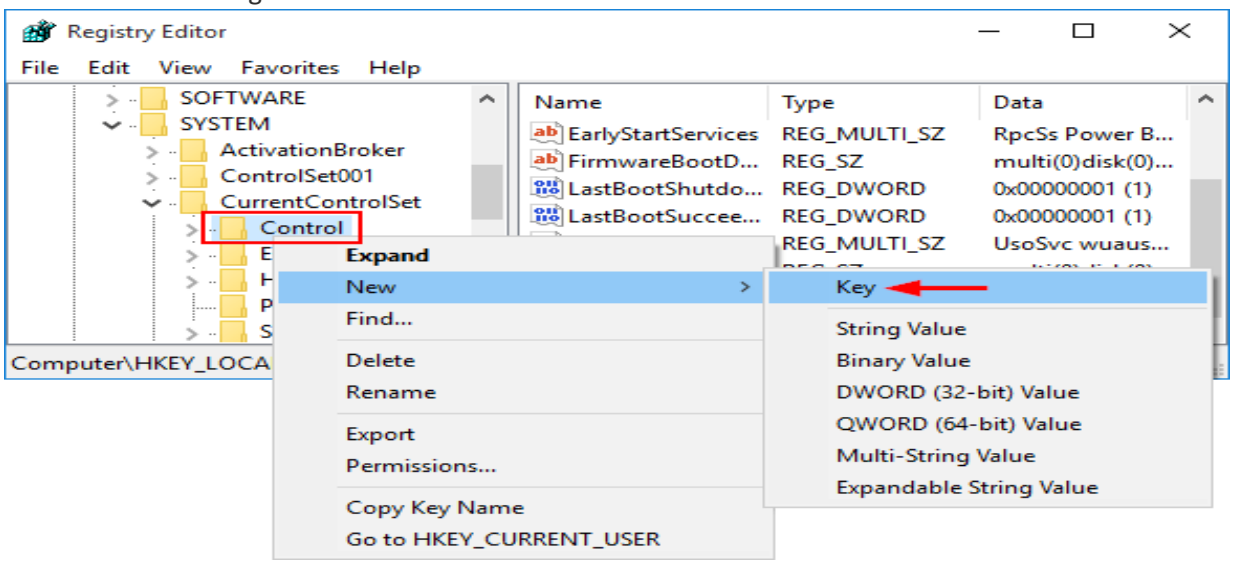
1. Press the Windows key + R to open the Run box. Type regedit and press Enter.



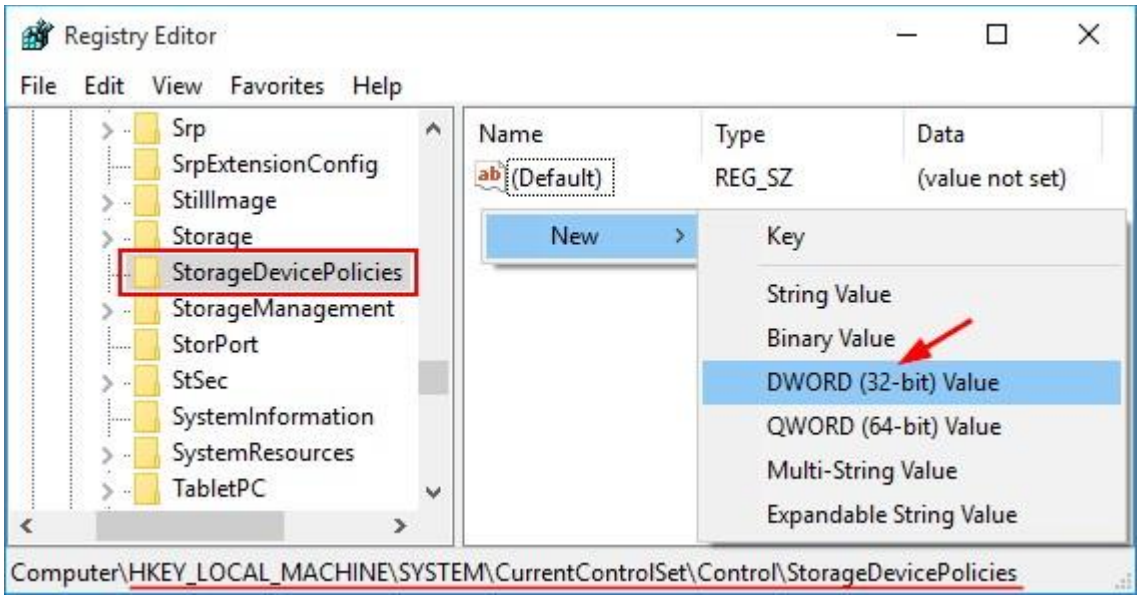
2. This will open the Registry Editor. Navigate to the following key:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control

3. Right-click on the Control key in the left pane, select New -> Key.

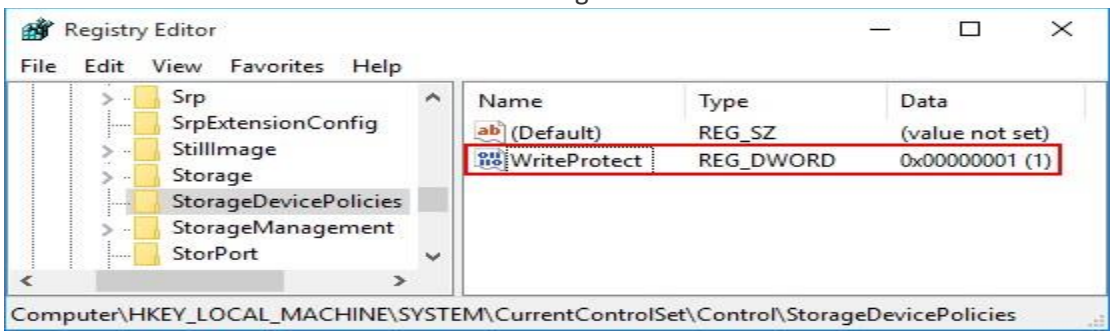
4. Name it as StorageDevicePolicies.



5. Select the StorageDevicePolicies key in the left pane, then right-click on any empty space in the right pane and select New -> DWORD (32-bit) Value. Name it WriteProtect.

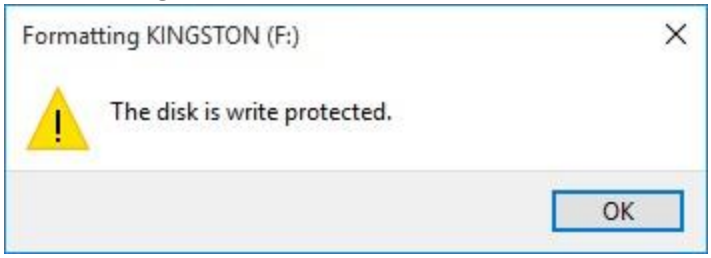


6. Double-click on WriteProtect and then change the value data from 0 to 1.



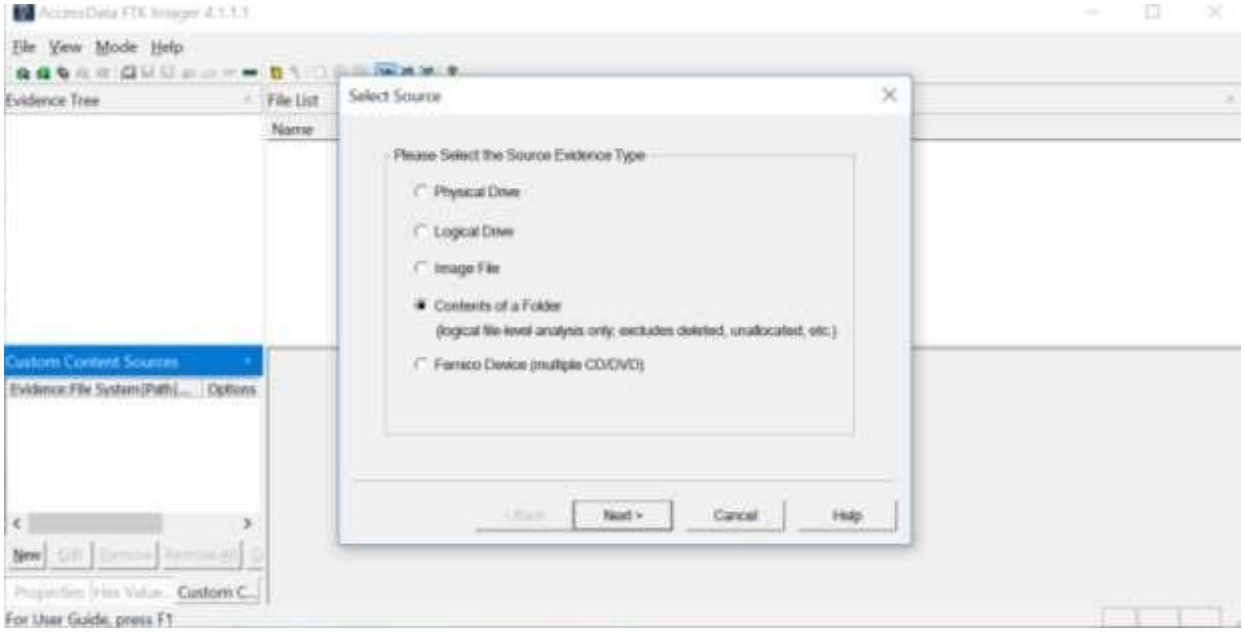
7. The new setting takes effect immediately. Every user who tries to copy / move data to USB devices or format USB drive will get the error message *"The disk is write-protected"*.

8. We can only open the file in the USB drive for reading, but it's not allowed to modify and save the changes back to USB drive.



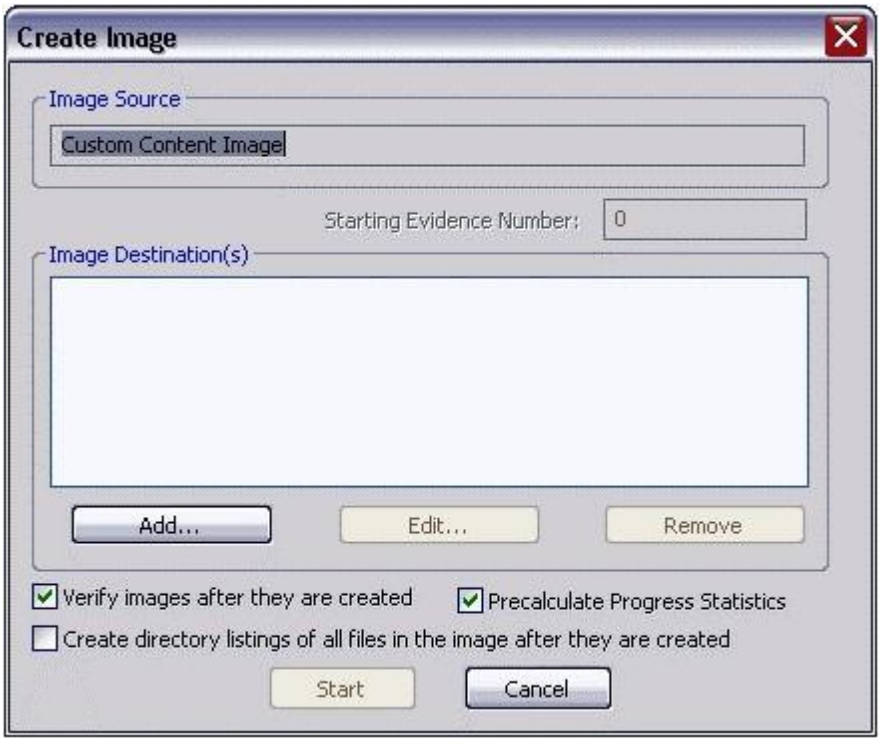
So this is how you can enable write protection to all connected USB drives. If you want to disable write protection at a later time, just open Registry Editor and set the WriteProtect value to 0.

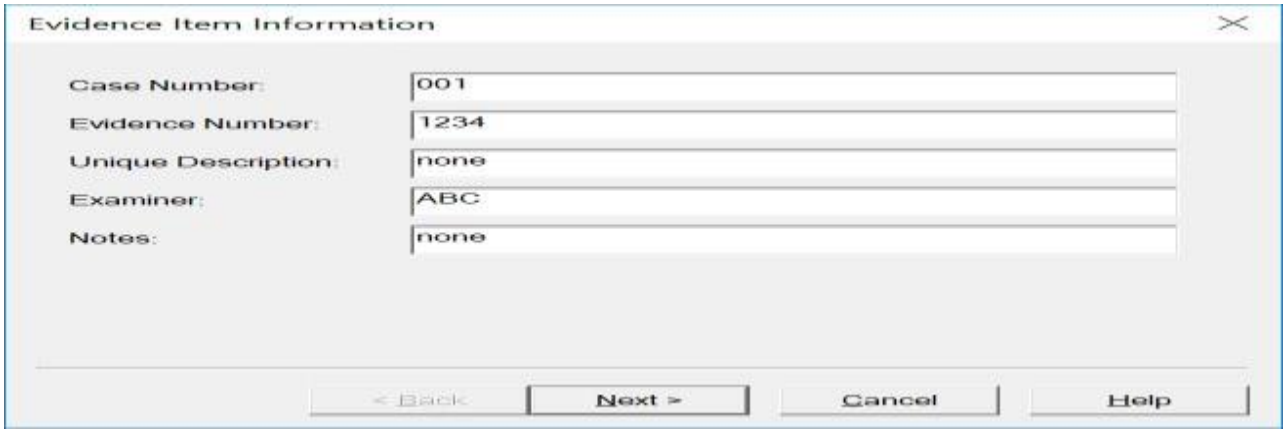
9. Now Create image of the USB drive using FTK imager



10. Select the USB drive folder by browsing and click next & Finish

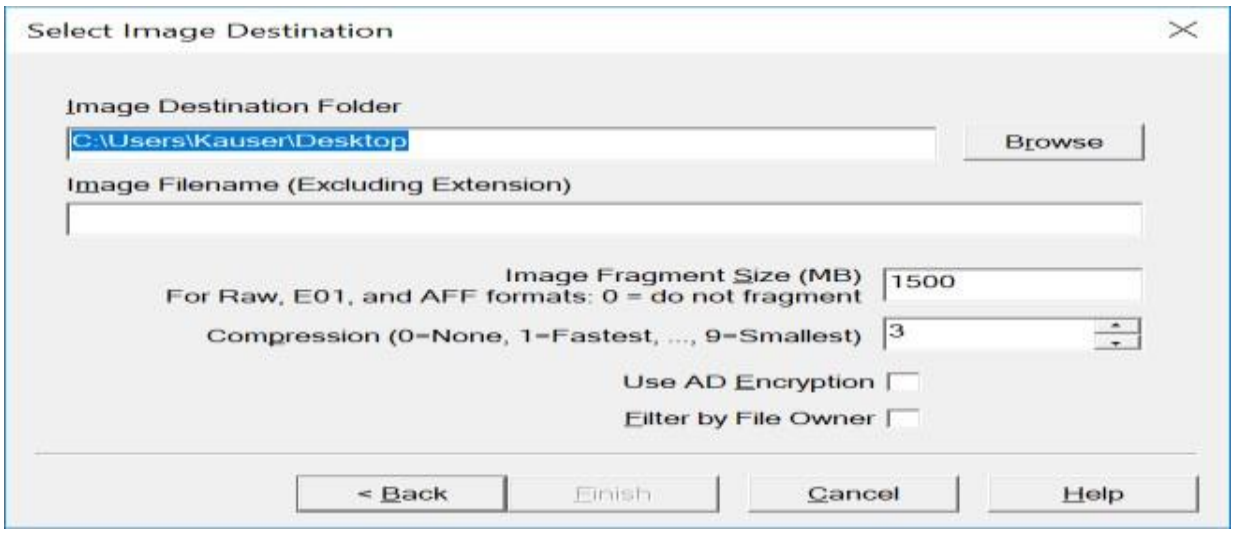
11.In the Create Image dialog, click Add.

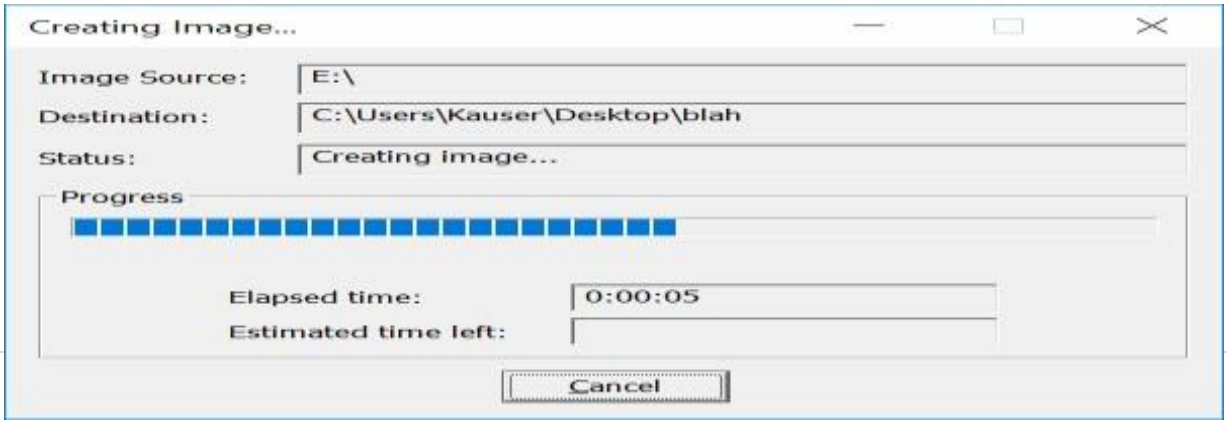




- You can compare the stored hashes of your image content by checking the Verify images after they are created box. If a file doesn't have a hash, this option will generate one.
- You can list the entire contents of your images with path, creation dates, whether files were deleted, and other metadata. The list is saved in a tab-separated value format

Select the type of image you want to create, and then click Next





Practical No – 3

Aim: Forensics Case Study:

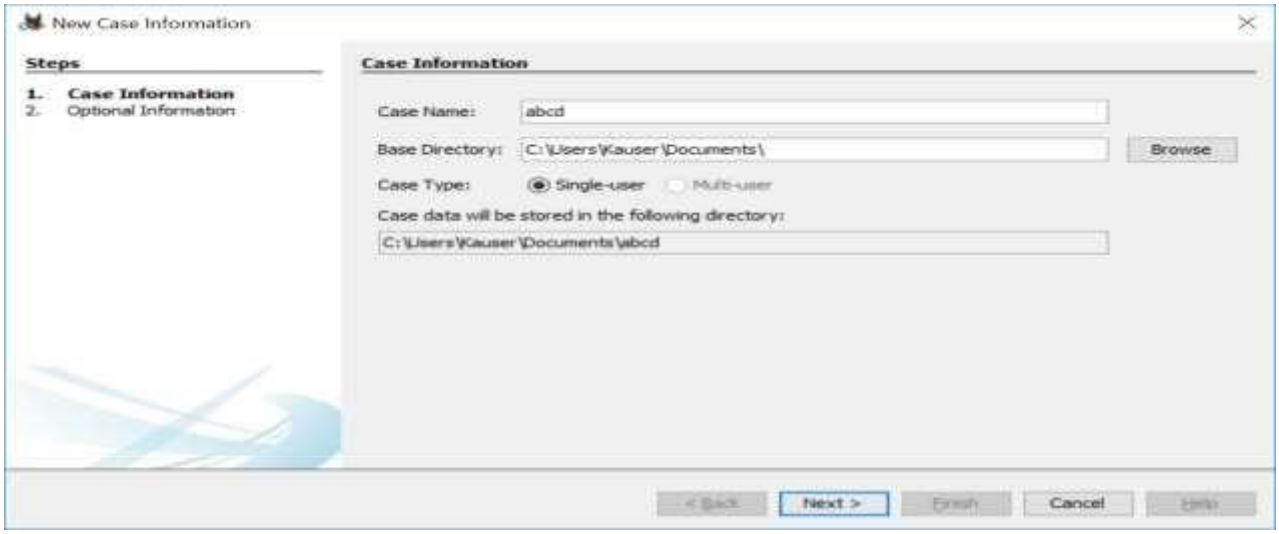
- Solve the Case study (image file) provide in lab using Autopsy

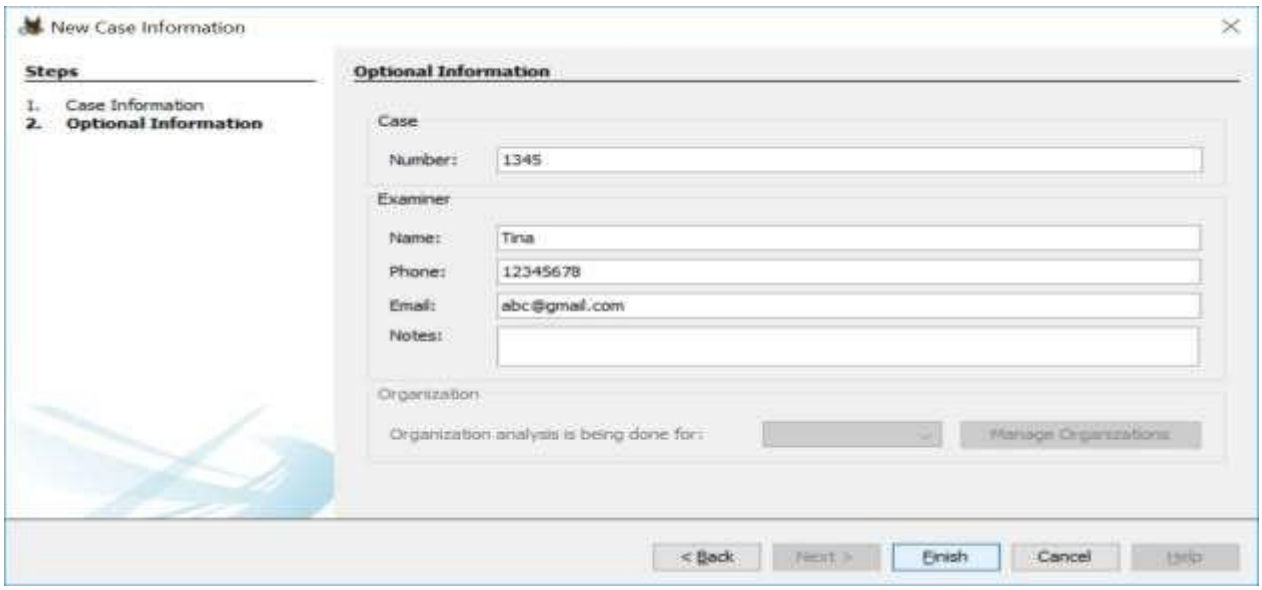
Steps:

1. Start Autopsy

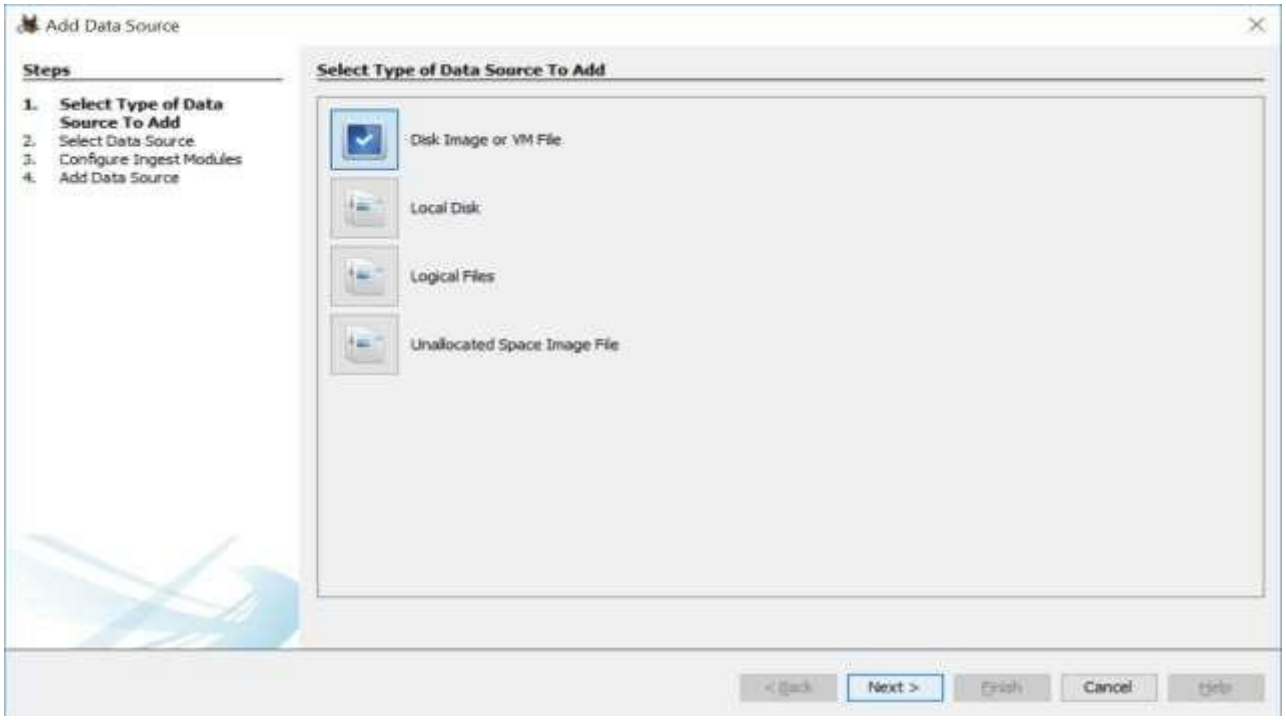
2. Select New Case

3. Enter Case Information and Base Directory & click on finish

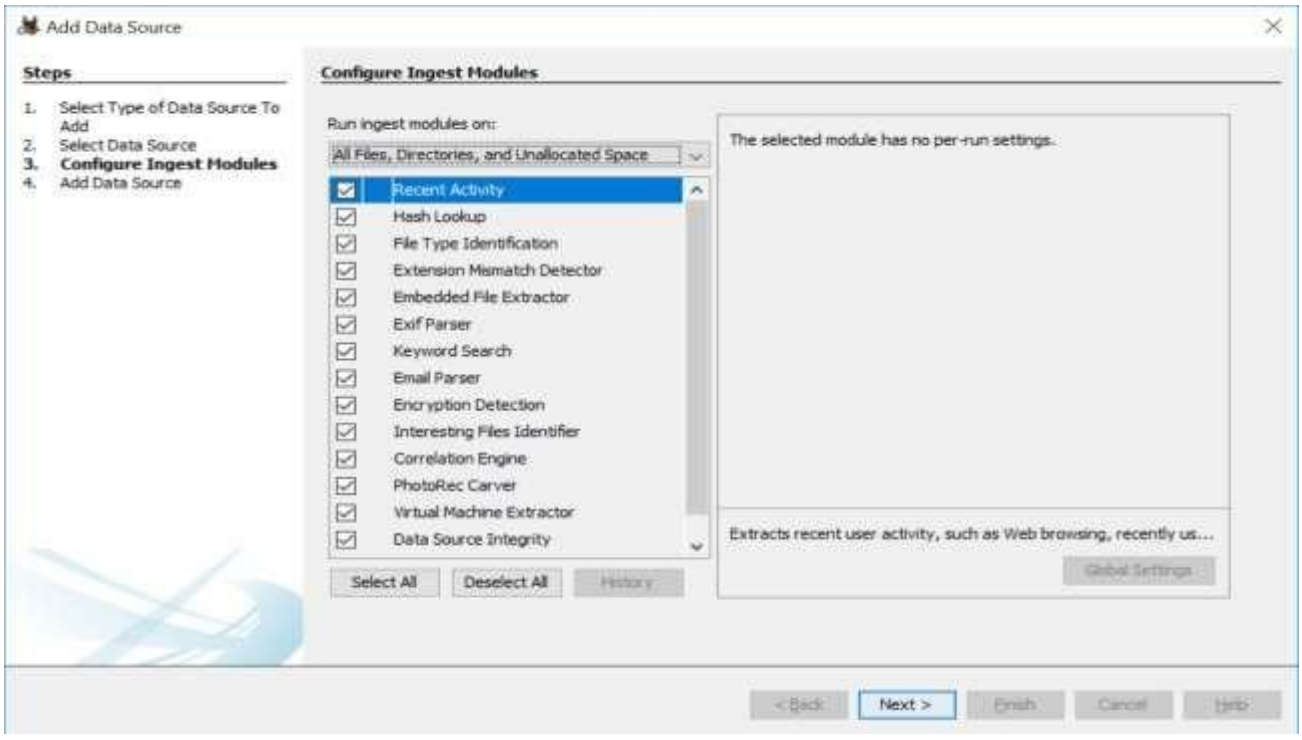




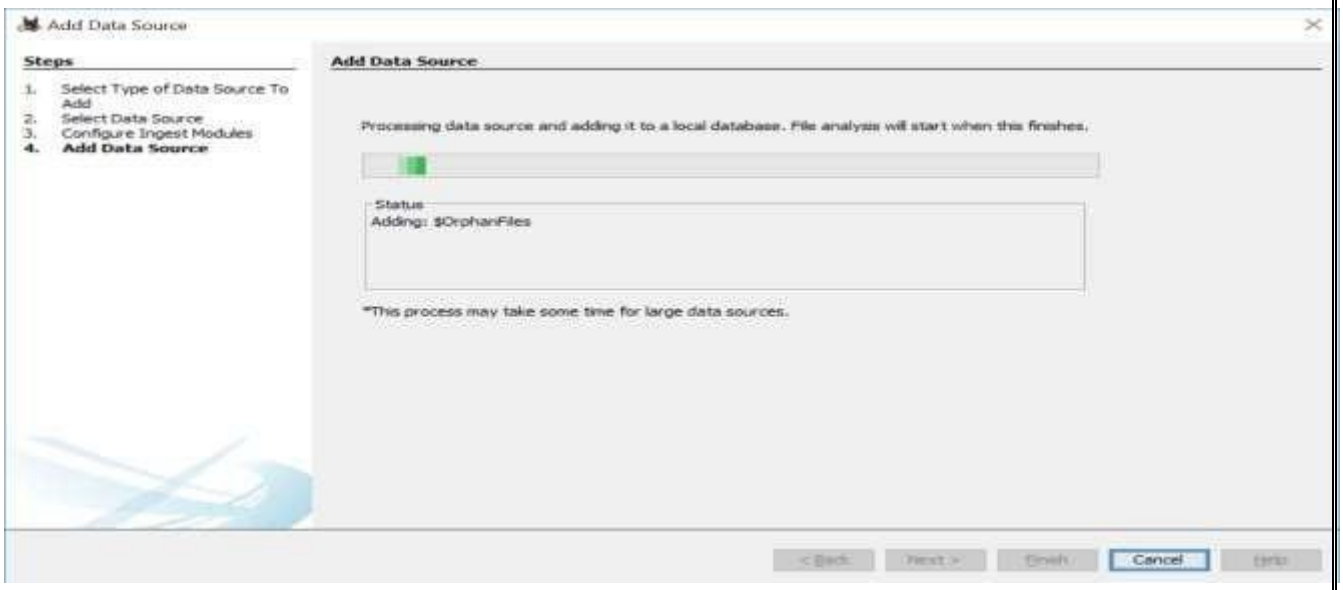
4. Select the type of Data Source that has to be added



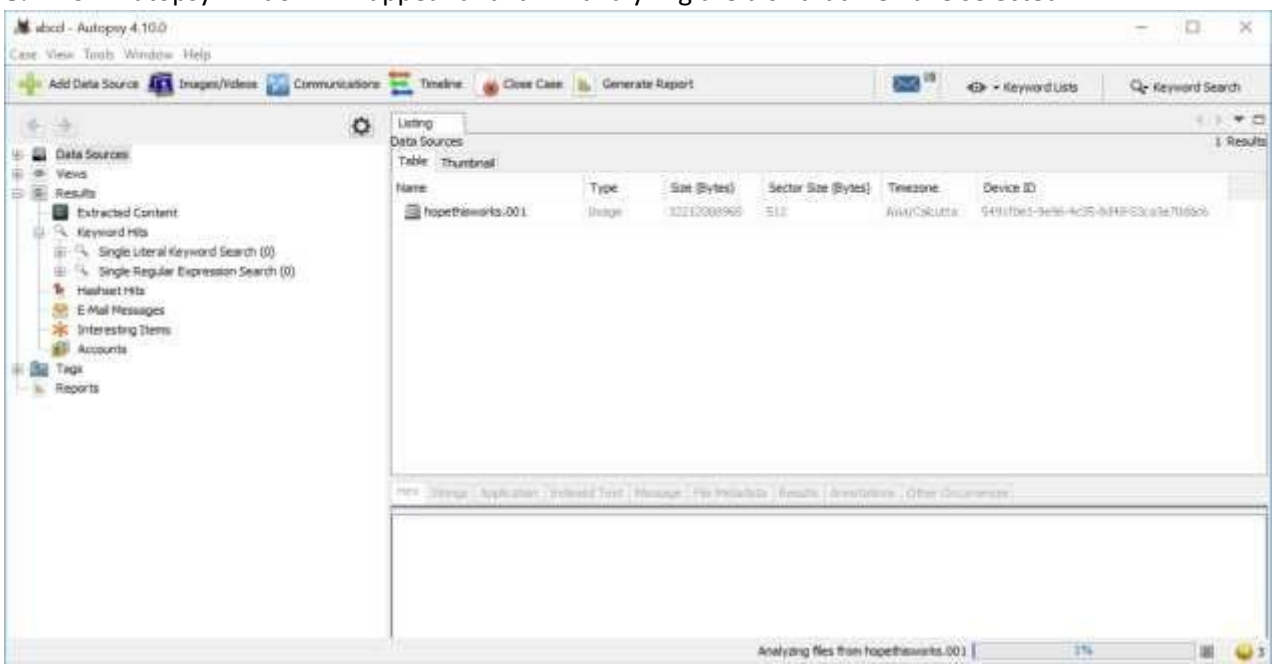
5. Select Data Source(here a previously made image file of a USB is selected) 6. Select all ingest modules



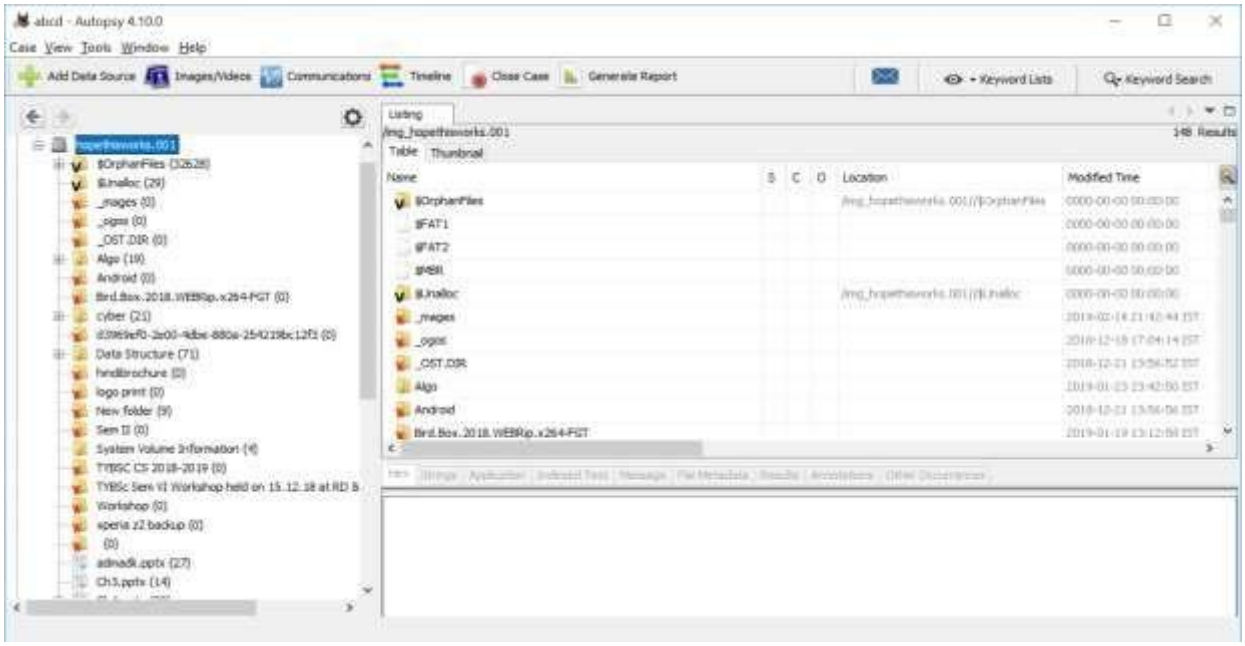
7.Wait for Data source to process and be added to local database. Click Finish



8. Now Autopsy window will appear and it will analyzing the disk that we have selected

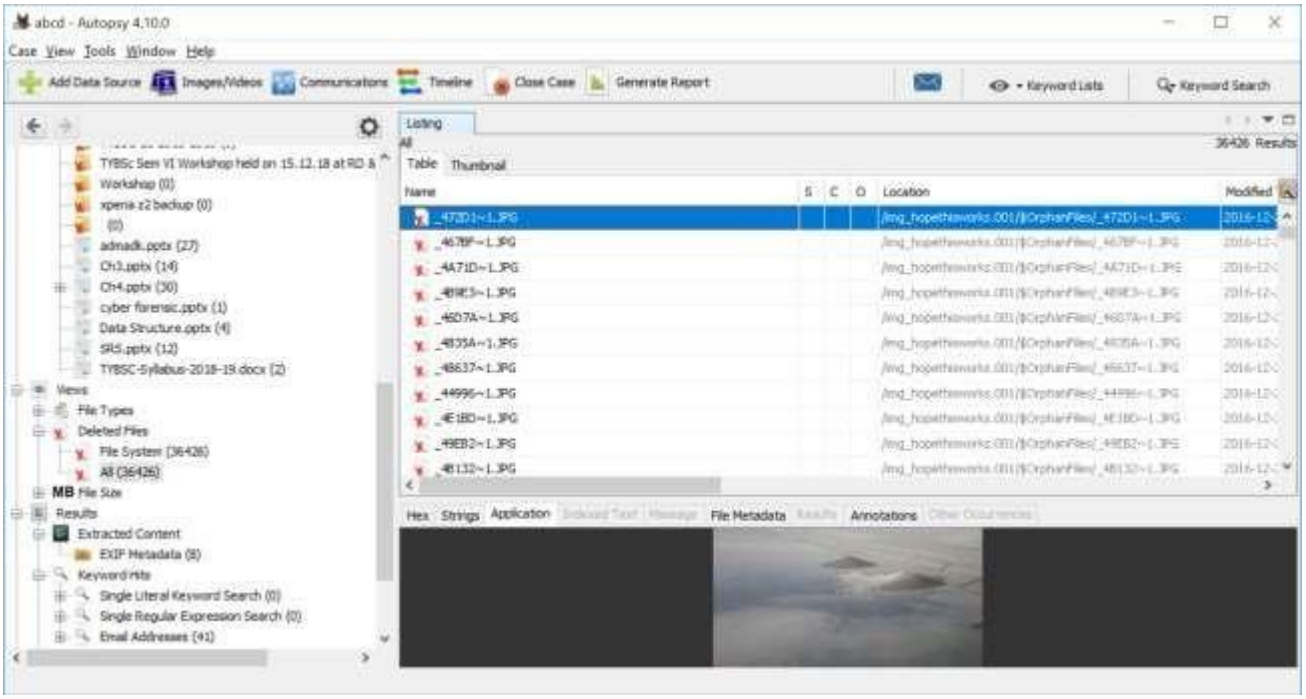


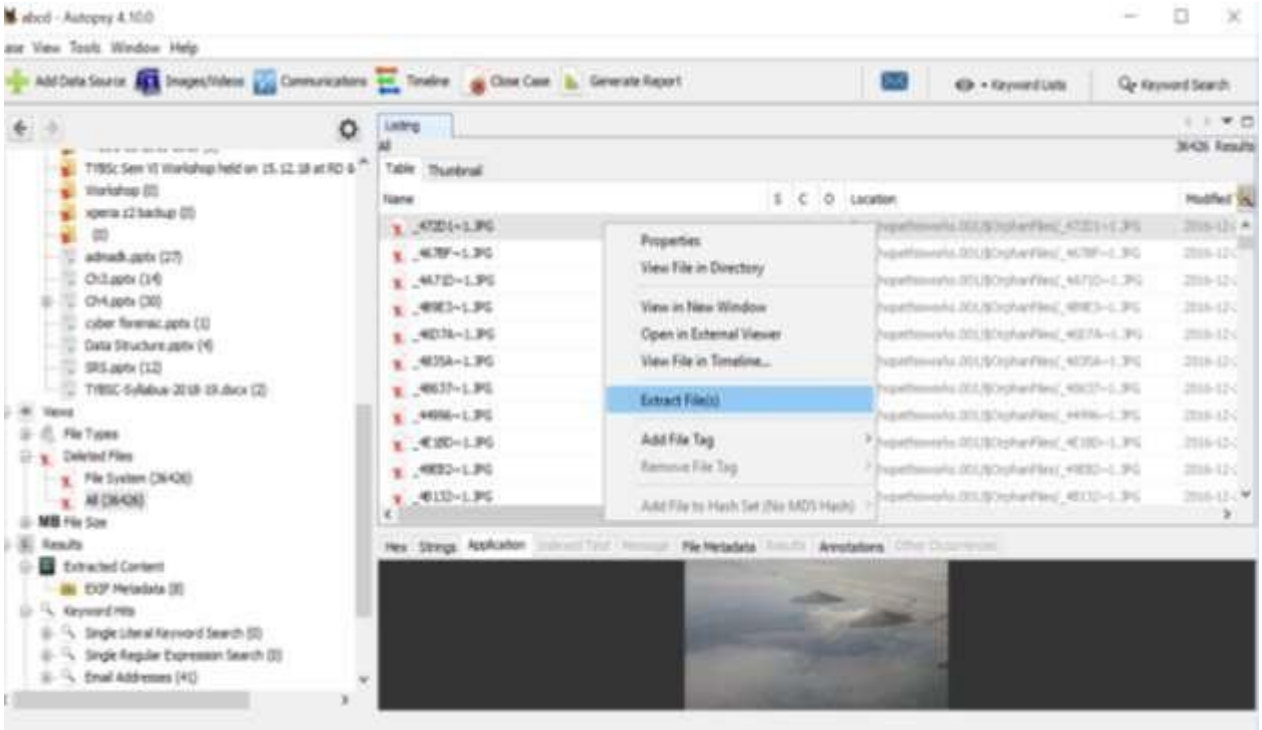
9. All files will appear in table tab select any file to see the data.



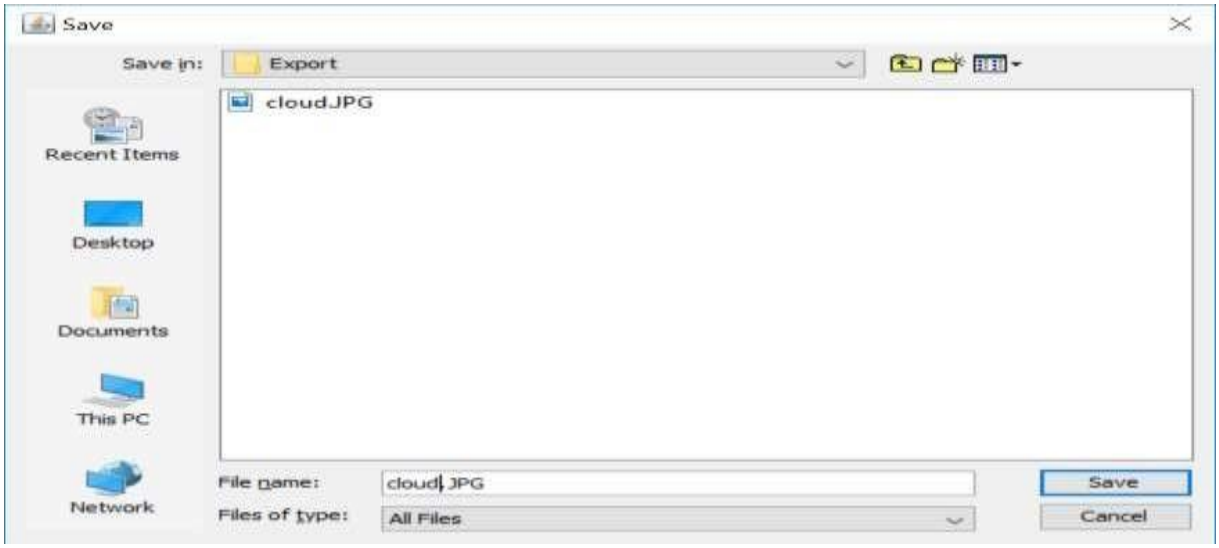
10. Expand the tree from left side panel to view the files and then expand the deleted files node

11. To recover the file, go to view node-> Deleted Files node , here select any file and right click on it than select Extract Files option.

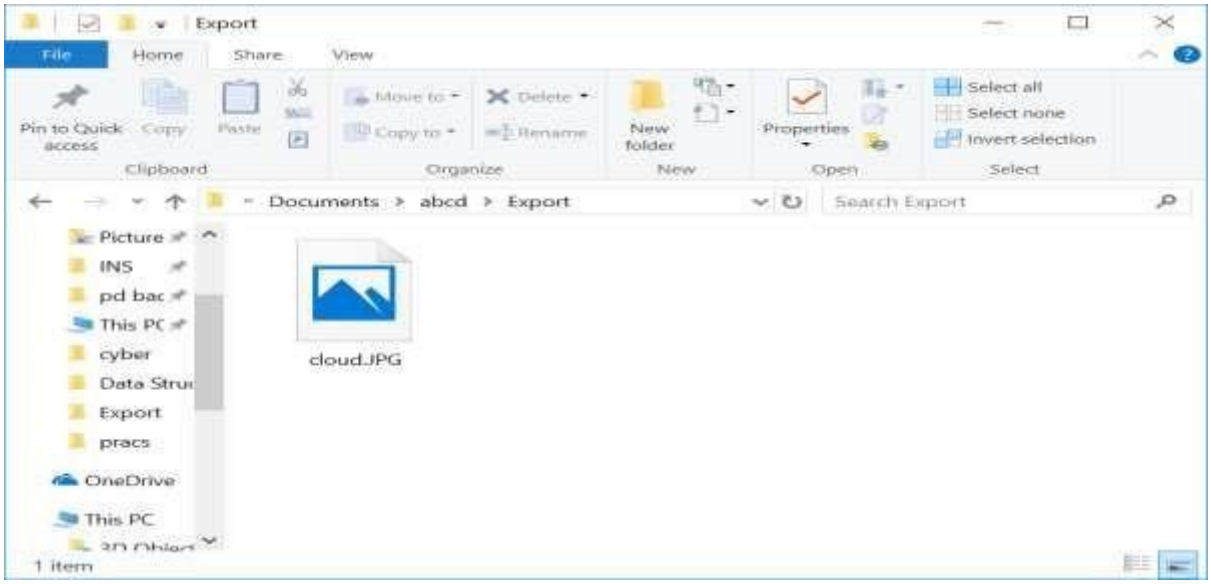


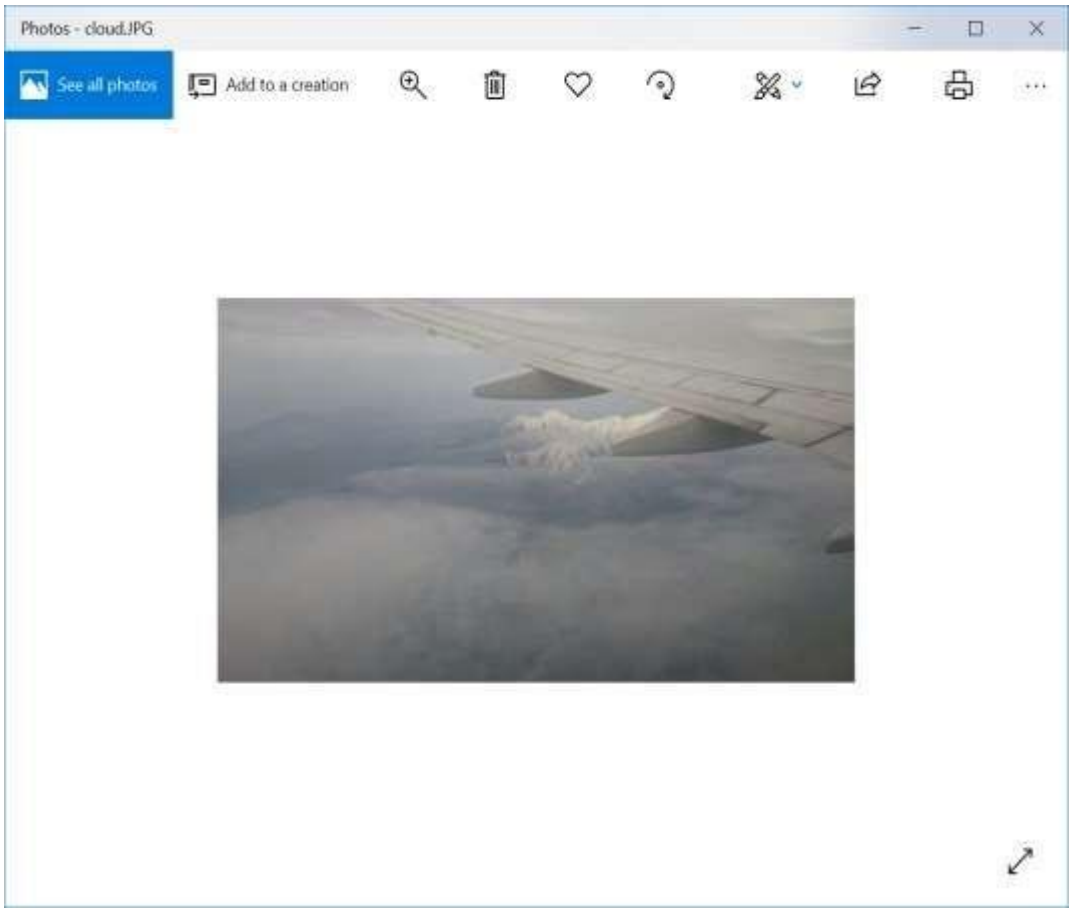


12. By default Export folder is choose to save the recovered file.

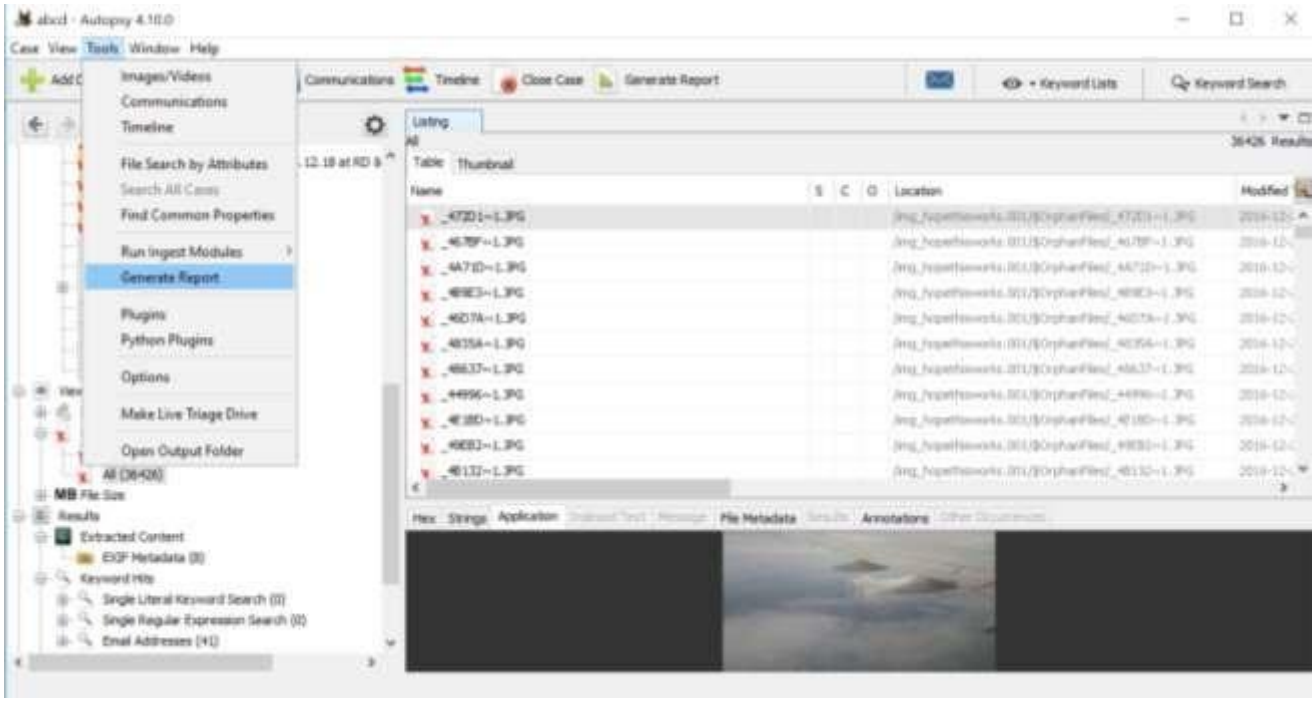


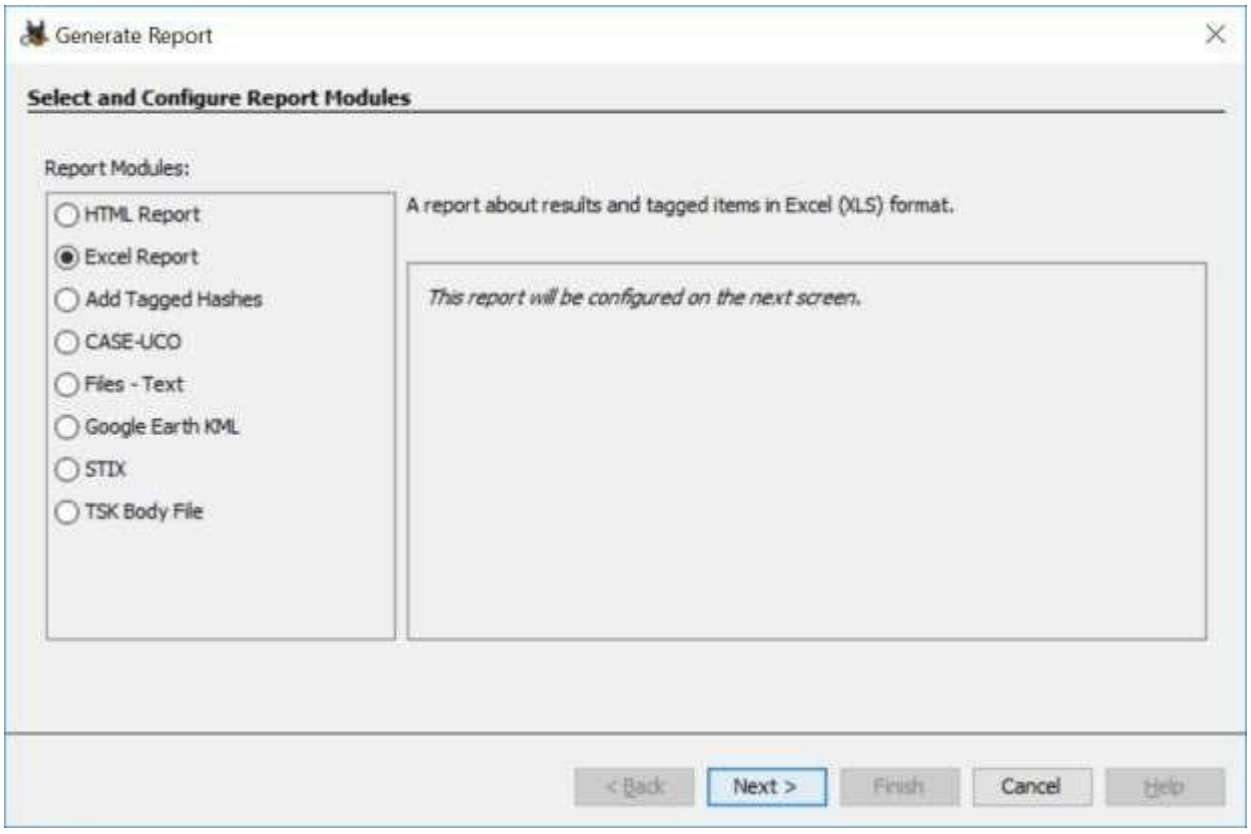
13. Now go to the Export Folder to view Recover file.



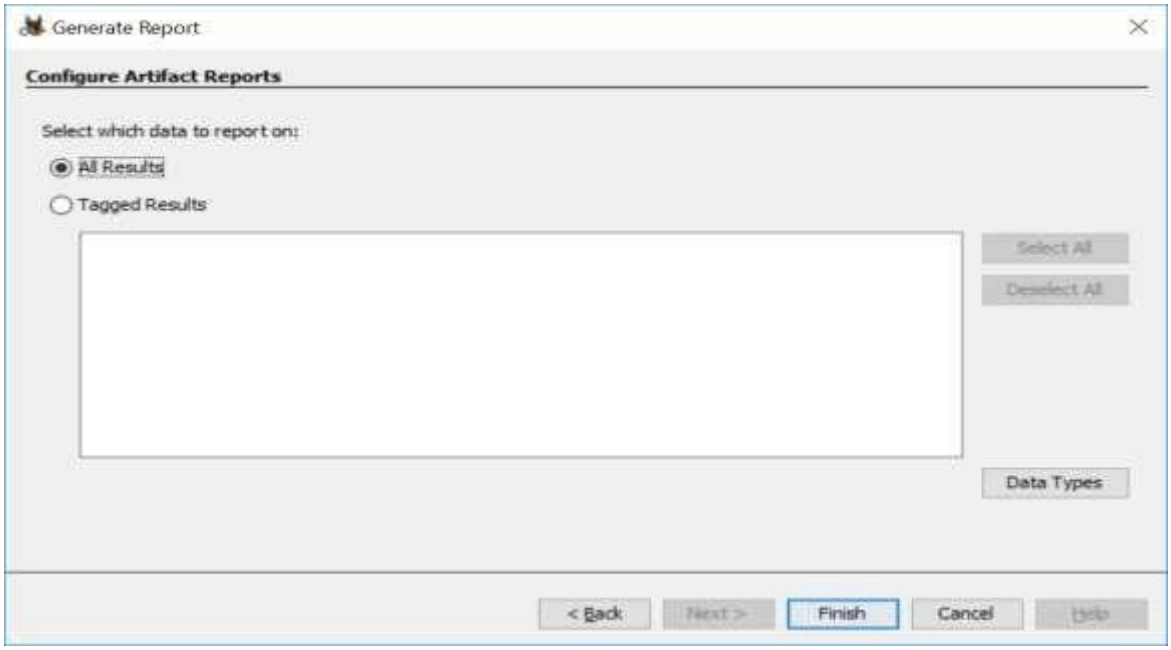


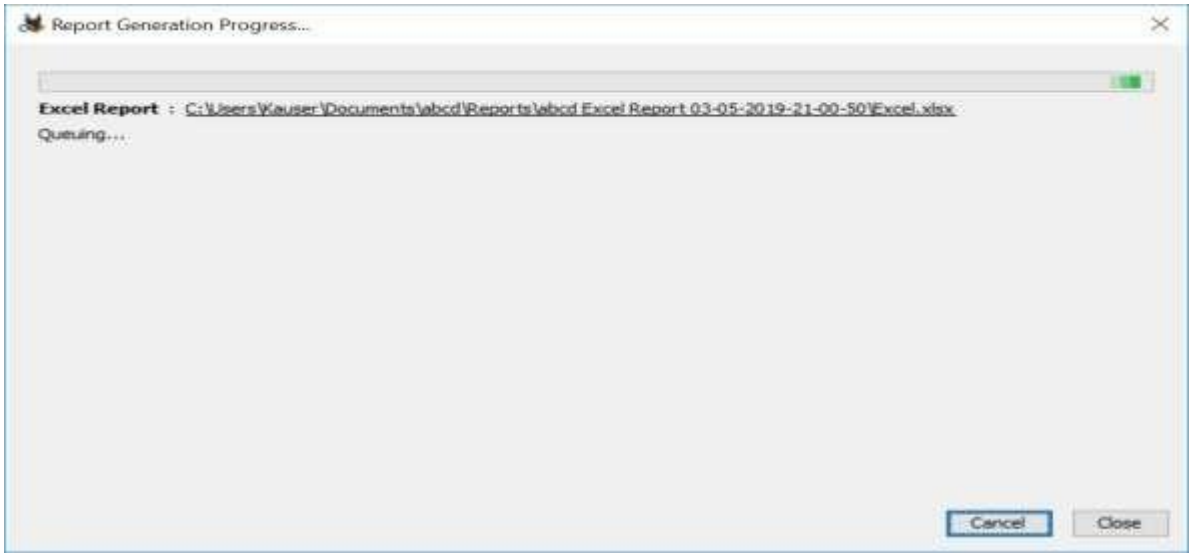
14. Click on Generate Report from autopsy window and Select the Excel format and click on next

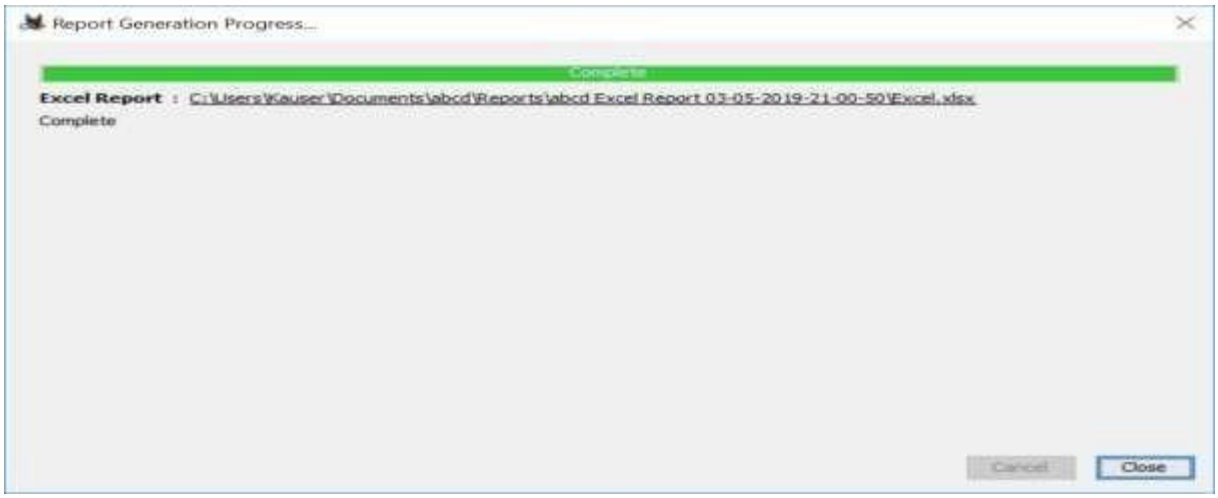




15. Click Finish after selecting All Results

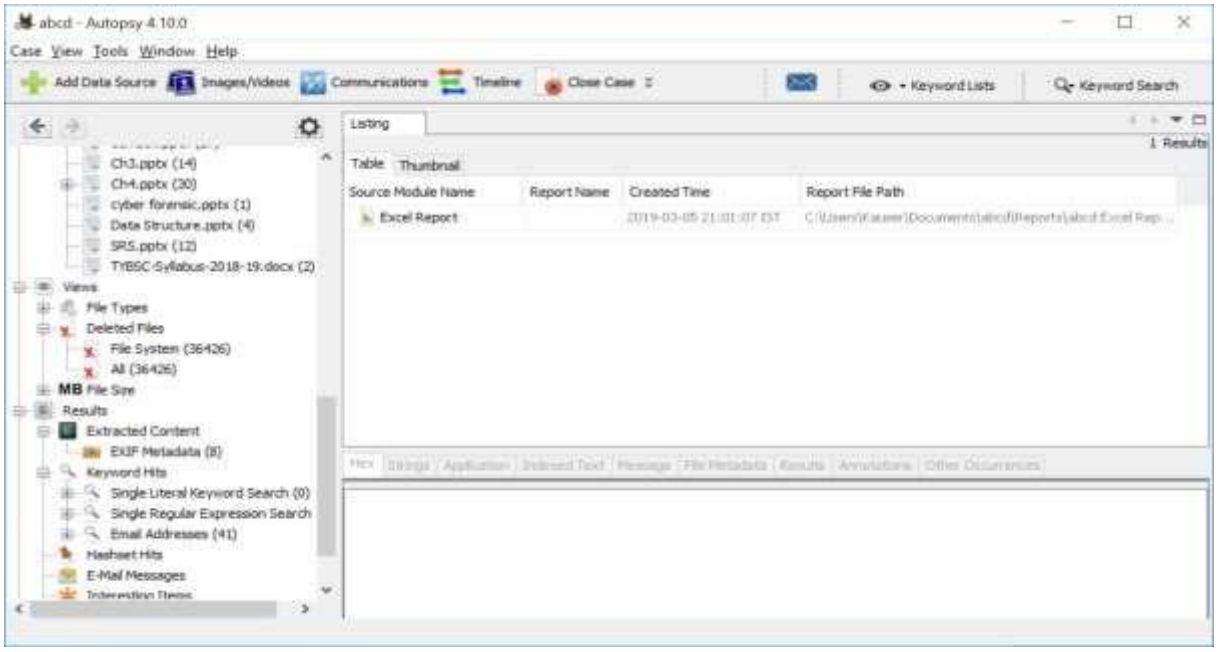


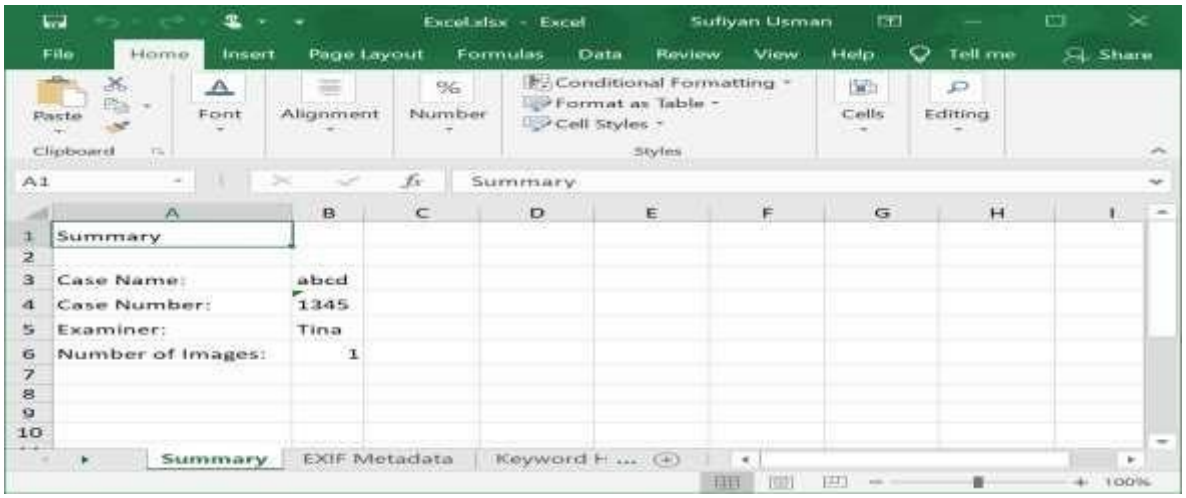


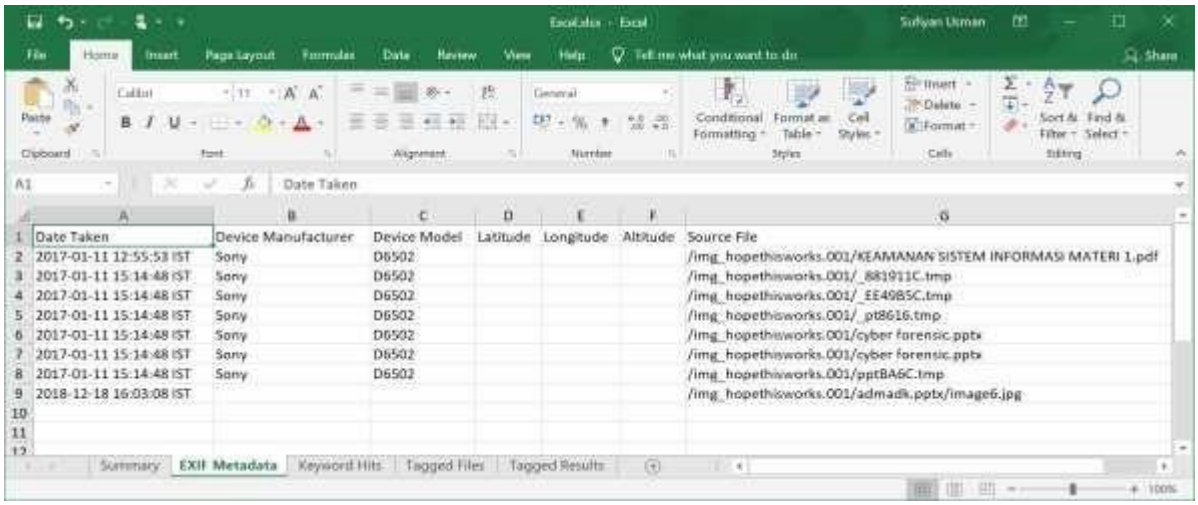


Now Report is Generated So click on close Button, We can see the Report on Report Node.

Double click on the excel file and open it to view the report







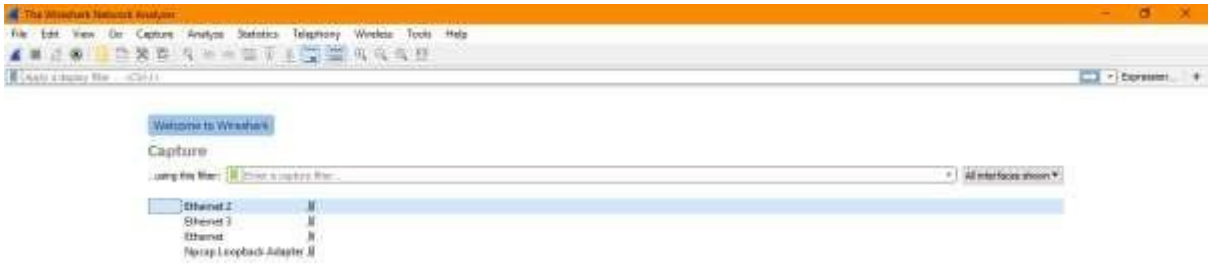
Practical No – 4

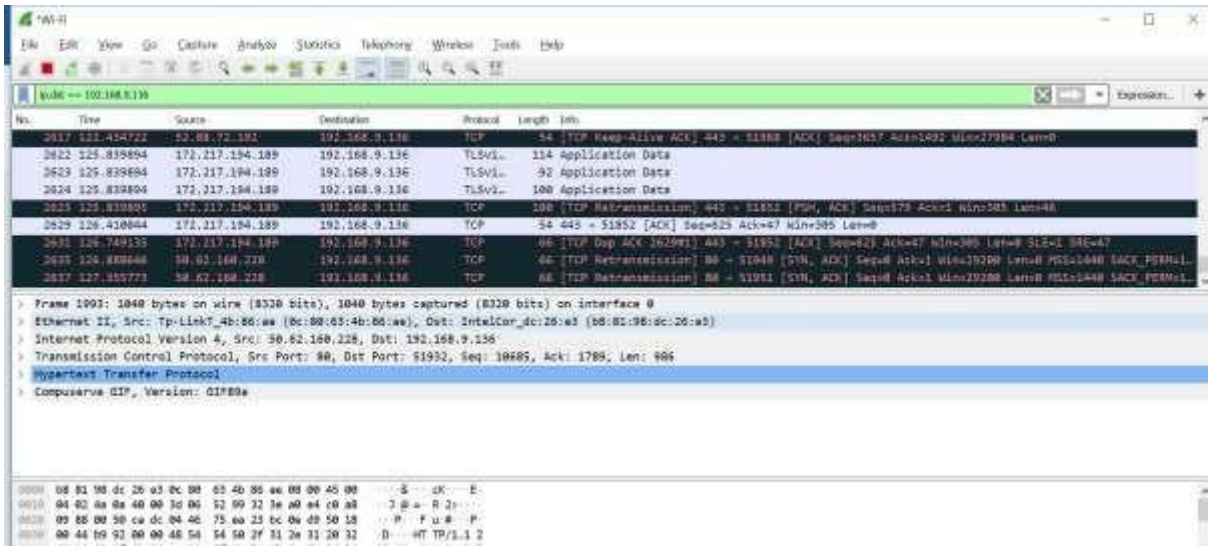
Aim: Capturing and analyzing network packets using Wireshark (Fundamentals):

- **Identification the live network**
- **Capture Packets**
- **Analyze the captured packets**

Steps:

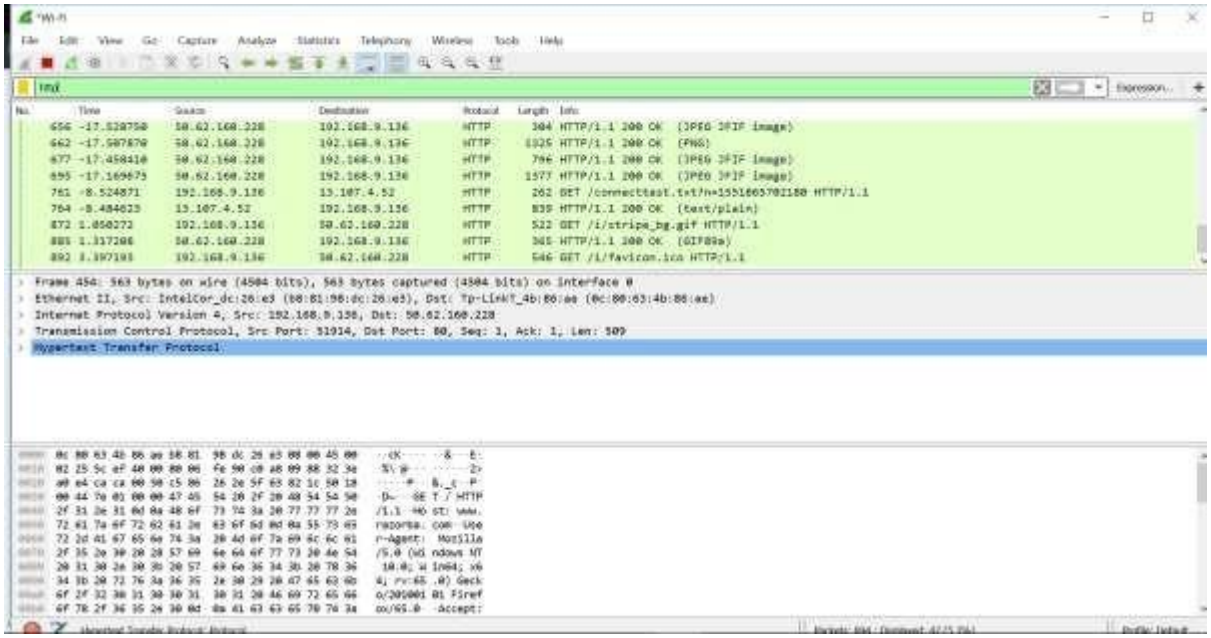
1. Open Wireshark and click on Ethernet.



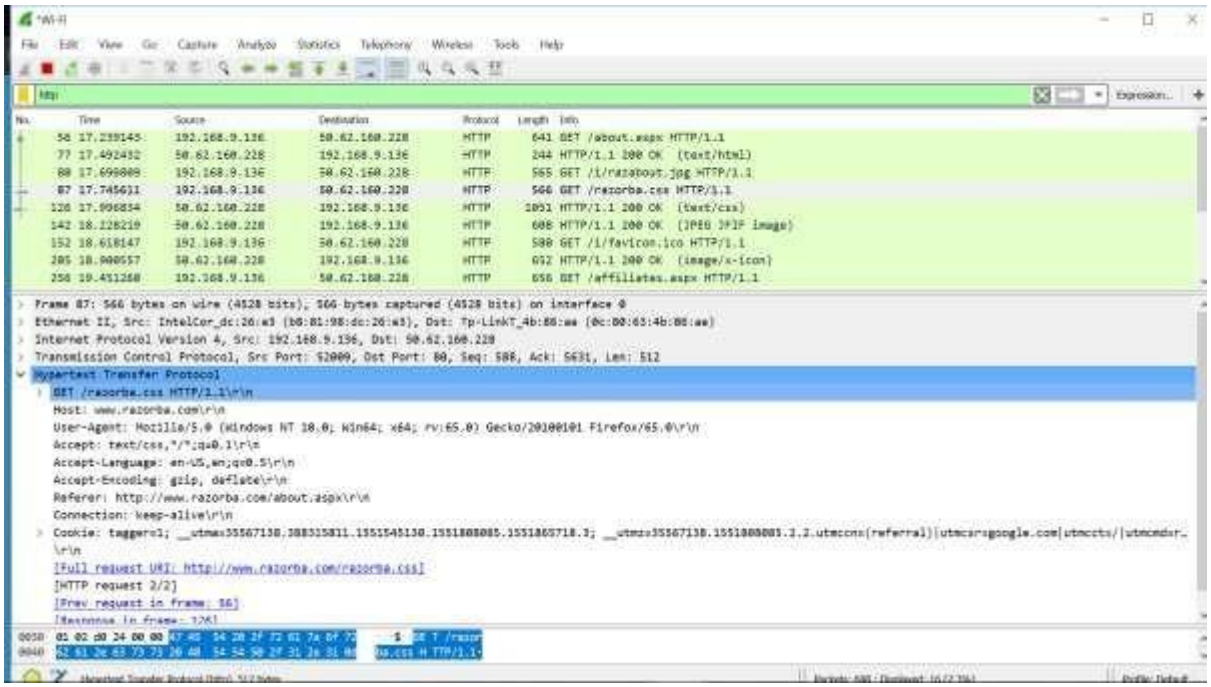


2. Now go on browser and open any unsecured website i.e www.razorba.com and perform some activity on the website.

3. Now come back to Wireshark and enter http in the search bar.



4. Now click on the get request and see the details.



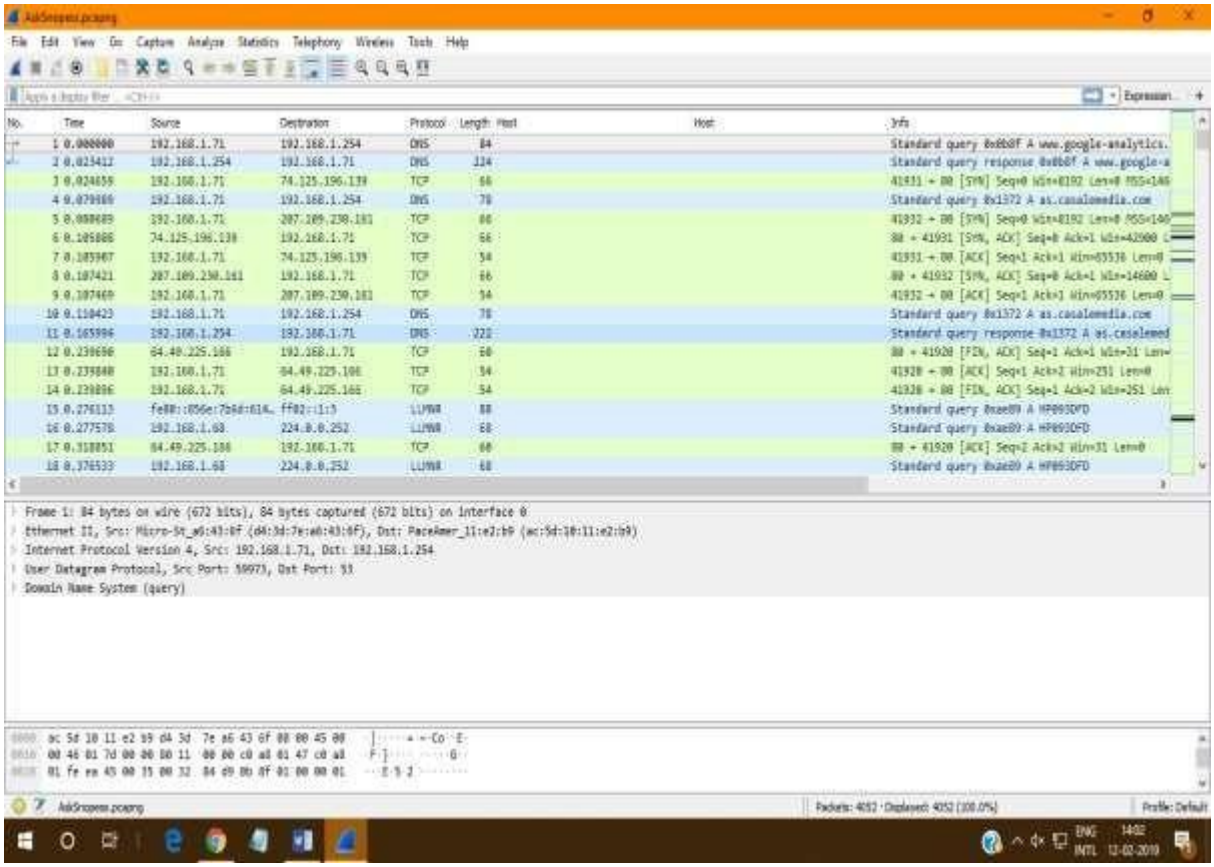
Practical No – 5

Aim: Analyze the packets provided in lab and solve the questions using Wireshark:
-What web server software is used by www.snopes.com?
-About what cell phone problem is the client concerned?
-According to Zillow, what instrument will Ryan learn to play?
-How many web servers are running Apache?
-What hosts (IP addresses) think that jokes are more entertaining when they are explained?

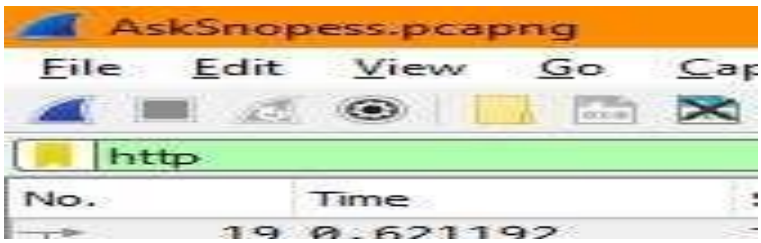
Steps:

- What web server software is used by www.snopes.com?

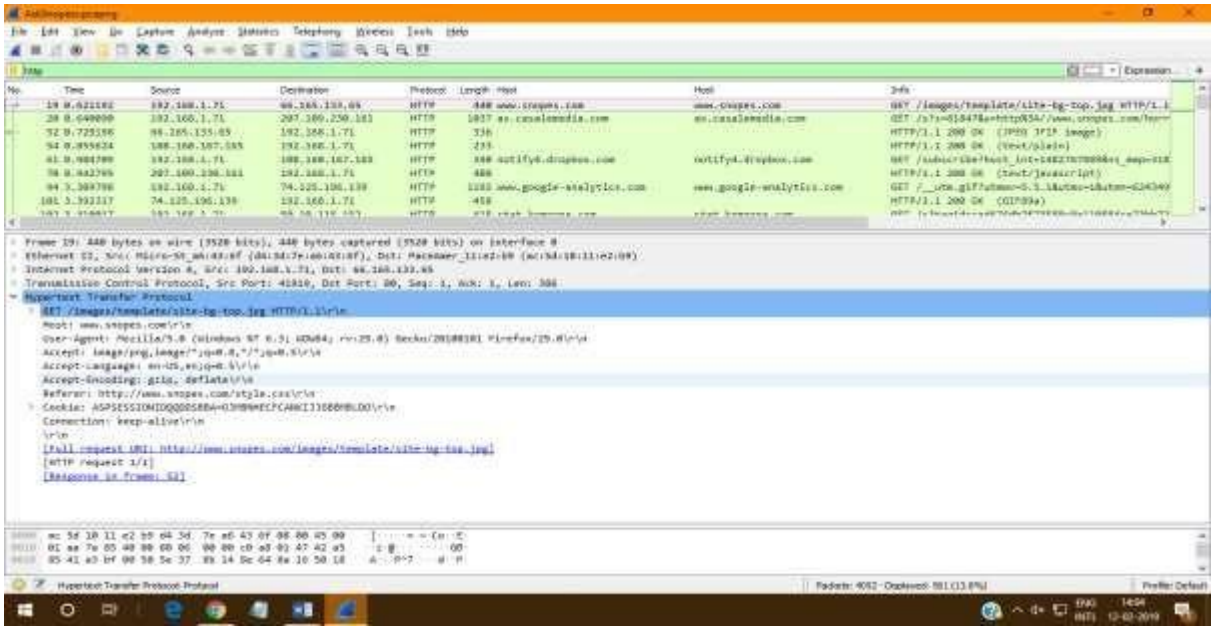
1. Open the AskSnopess file



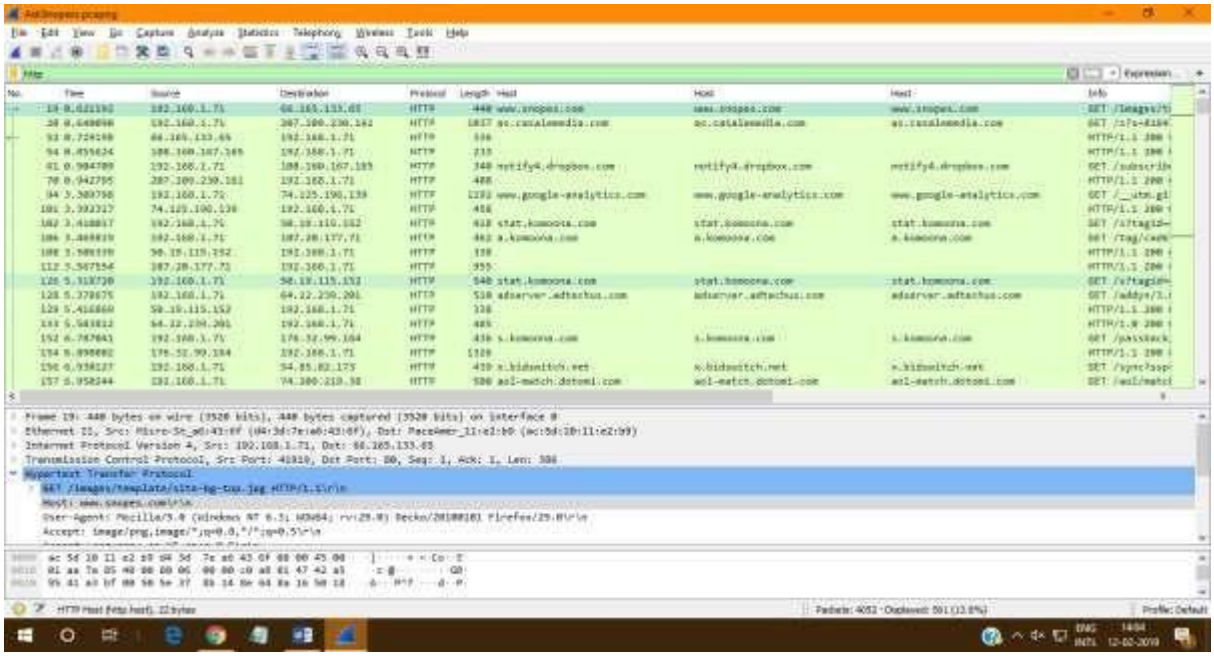
2. In the display filter type http.



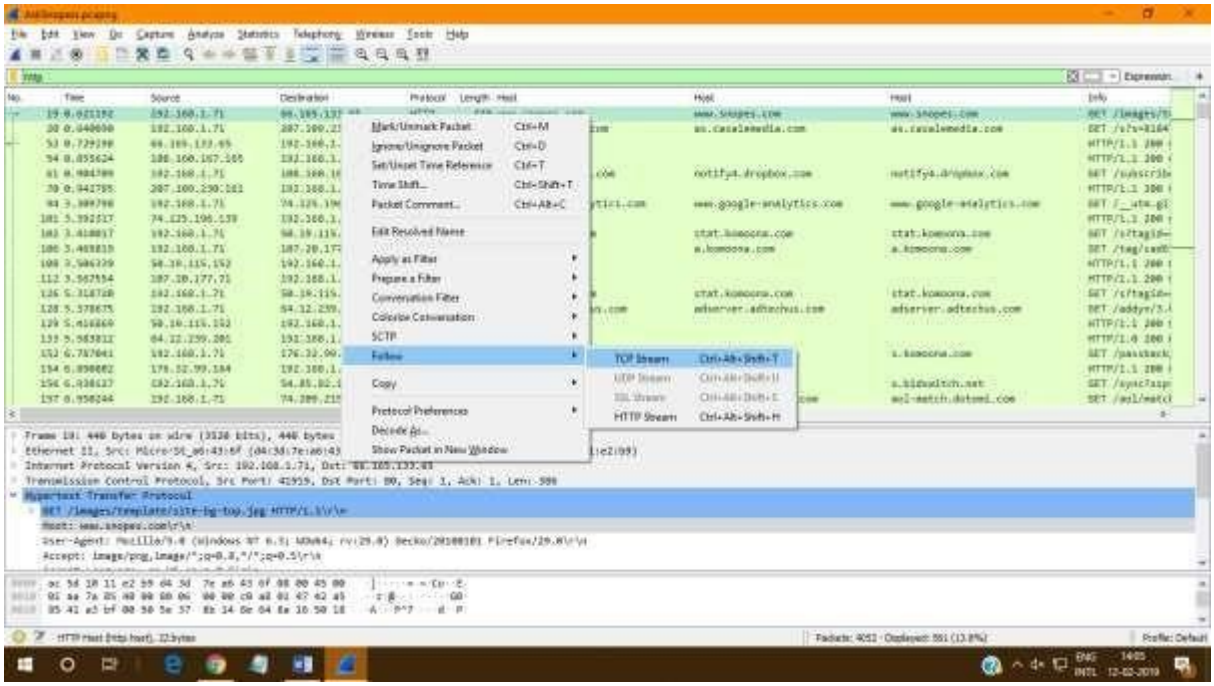
3. In the second panel expand the hypertext transfer protocol.



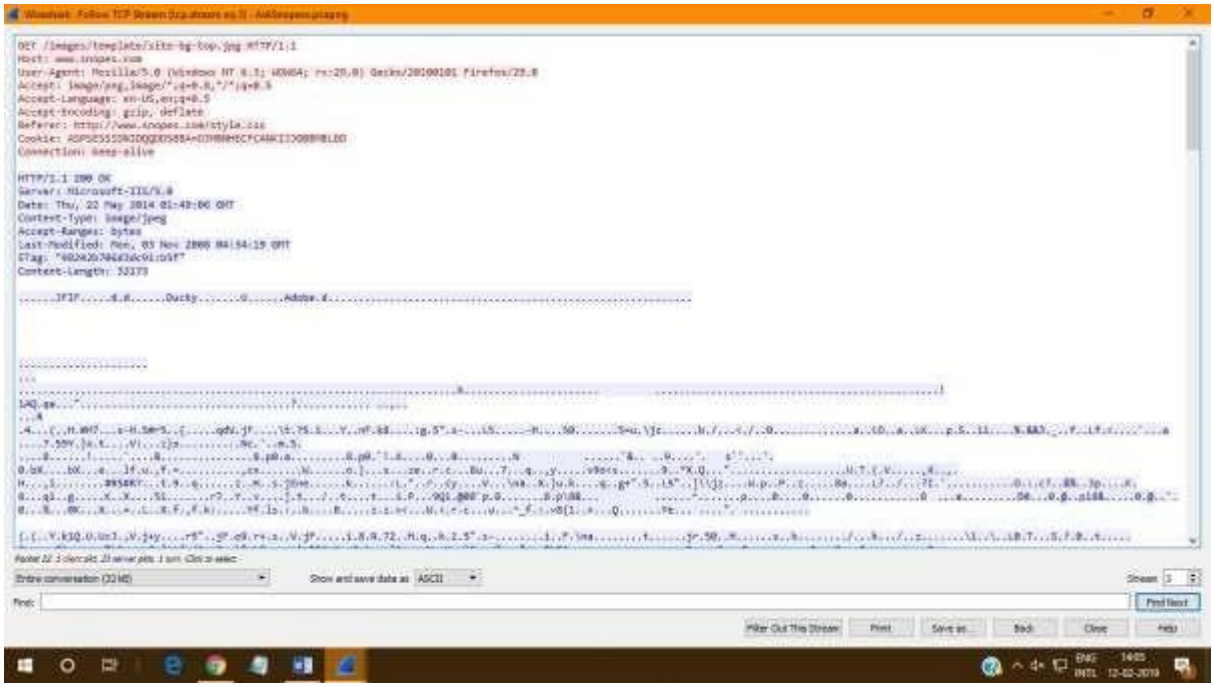
4. Click on the host name > right click> Apply as column



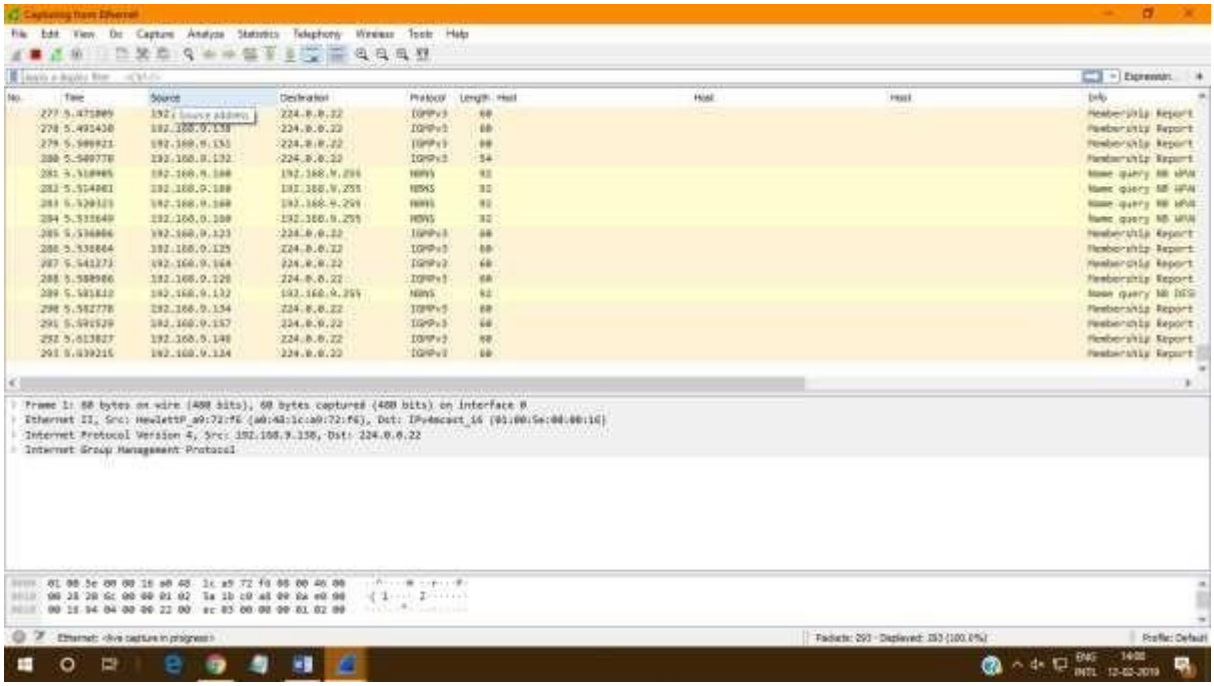
5. Click any of the http packet > right click> Follow> TCP Stream



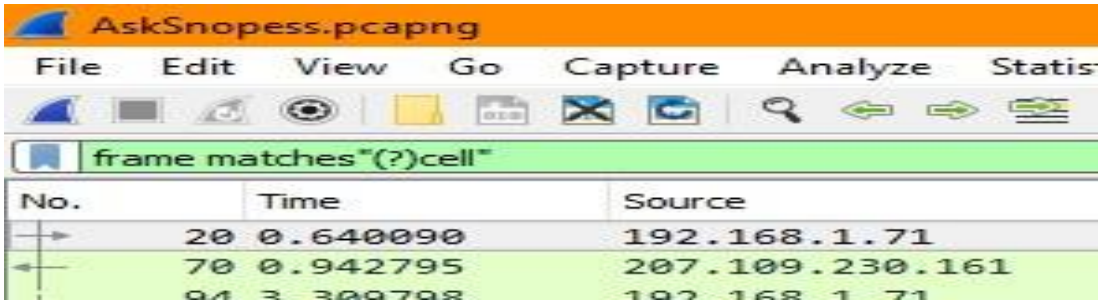
6. The webserver is Microsoft IIS/5.0

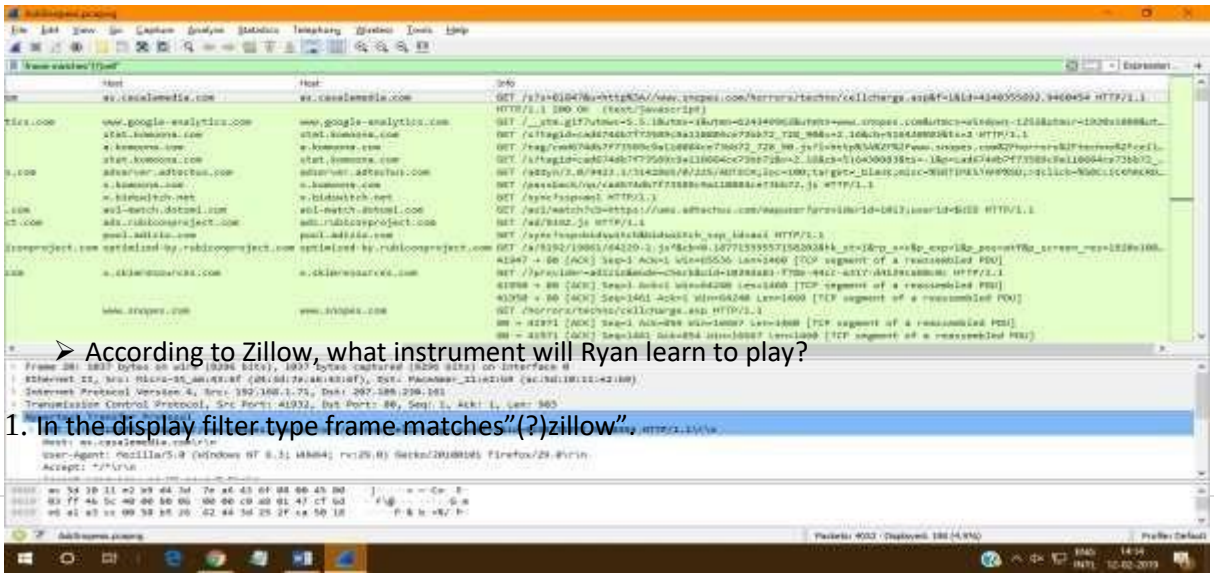


- About what cell phone problem is the client concerned?



1. In the display filter type frame matches"(?)cell".



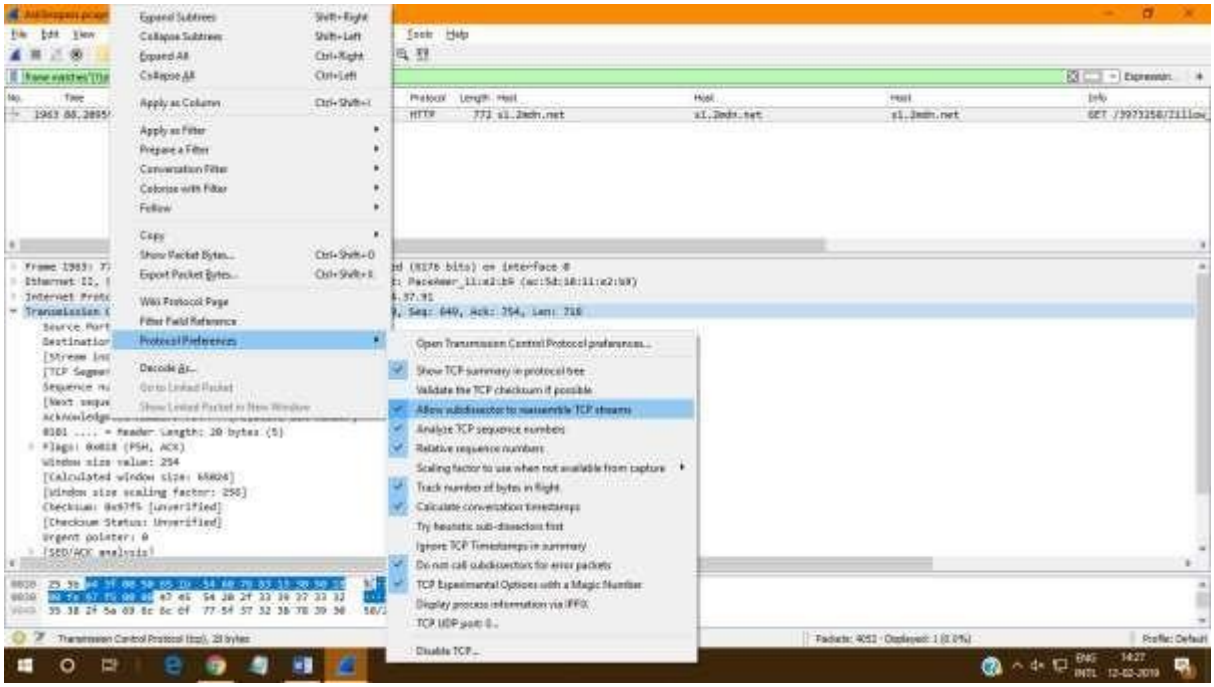


- According to Zillow, what instrument will Ryan learn to play?

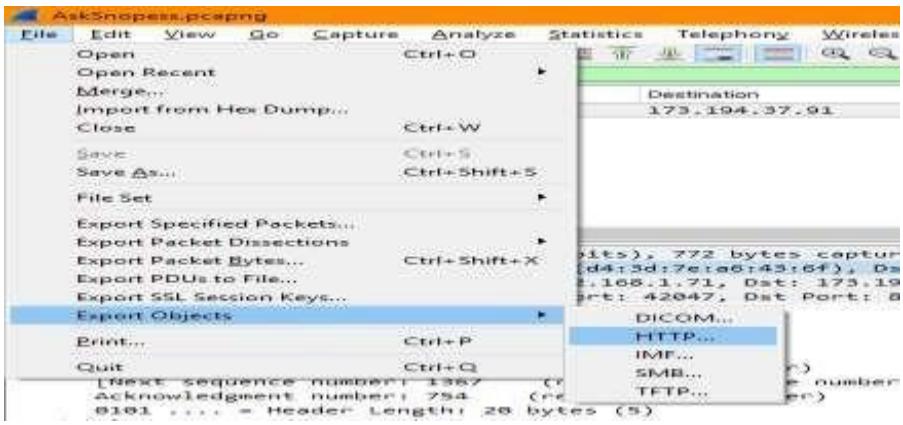
1. In the display filter type frame matches"(?)zillow".

2. In the second tab expand the transmission control protocol.

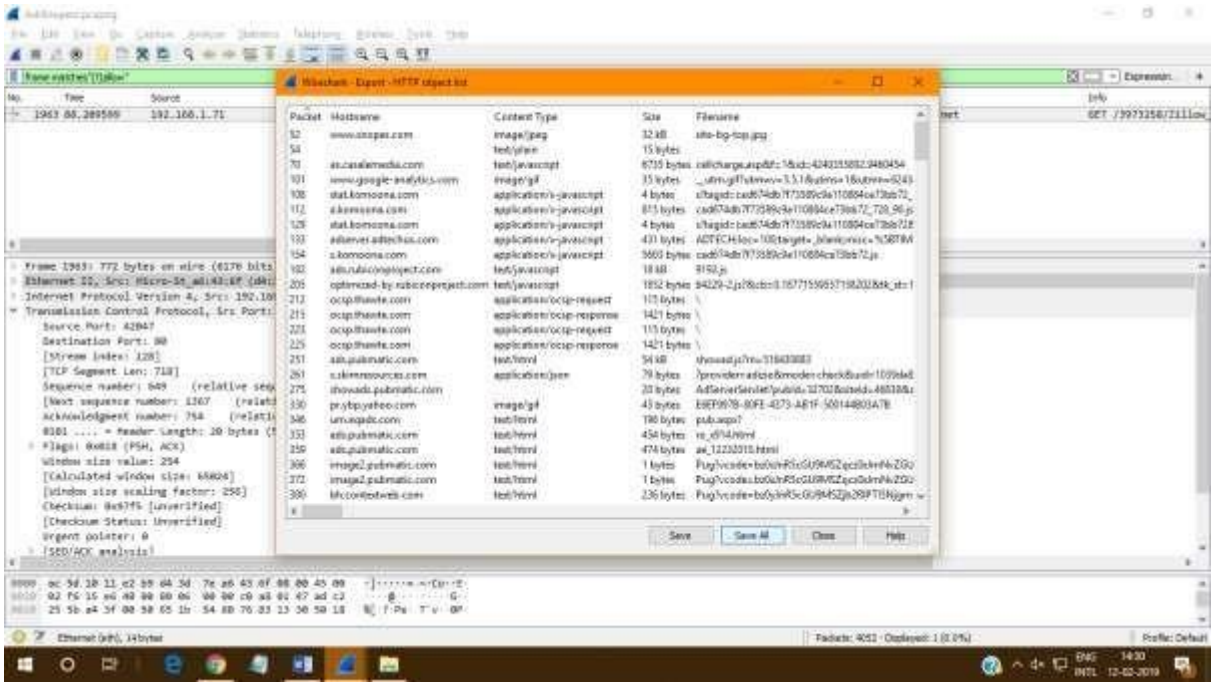
Right click on transmission control protocol > Protocol Preferences > Allow subdissector to reassemble TCP stream.



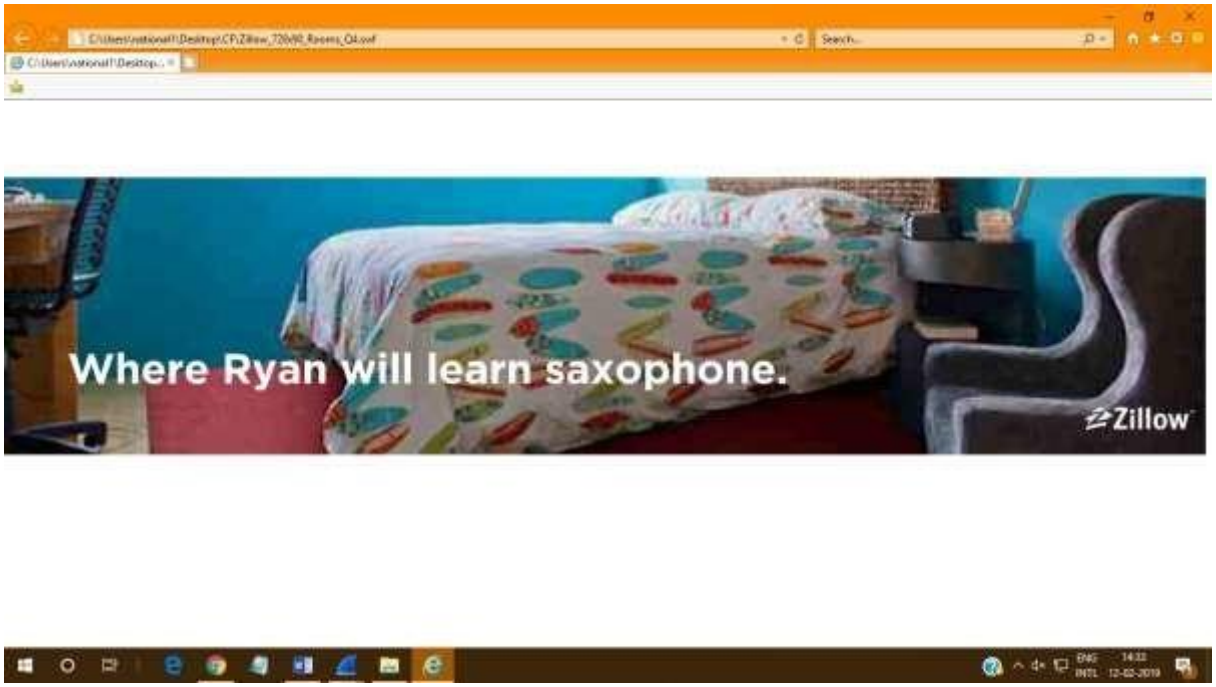
3. Click on file > Export objects > HTTP.



4. Click on Save all.

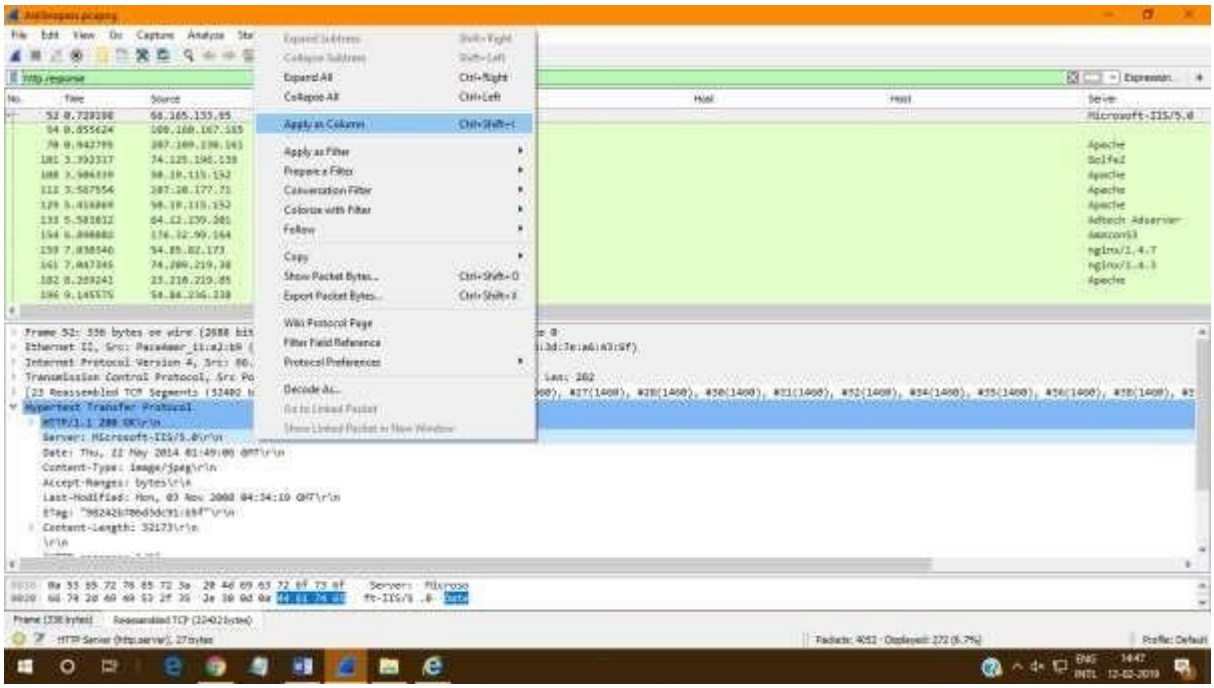


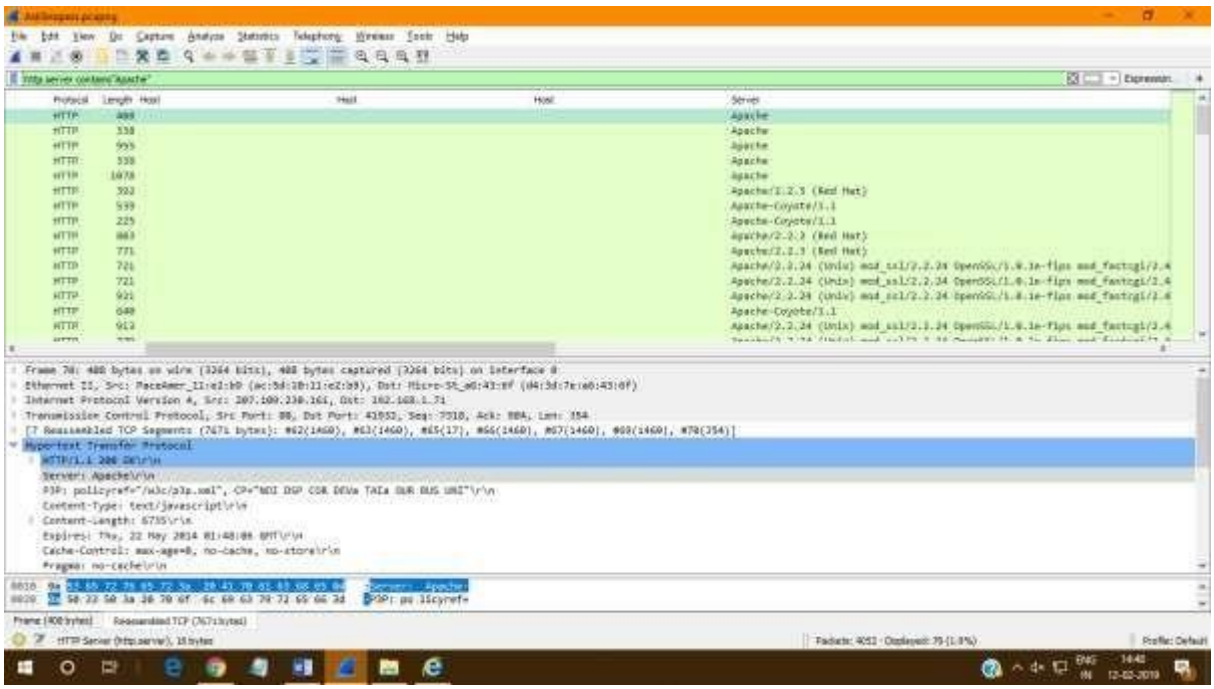
5. Run the saved file and you will get the result.



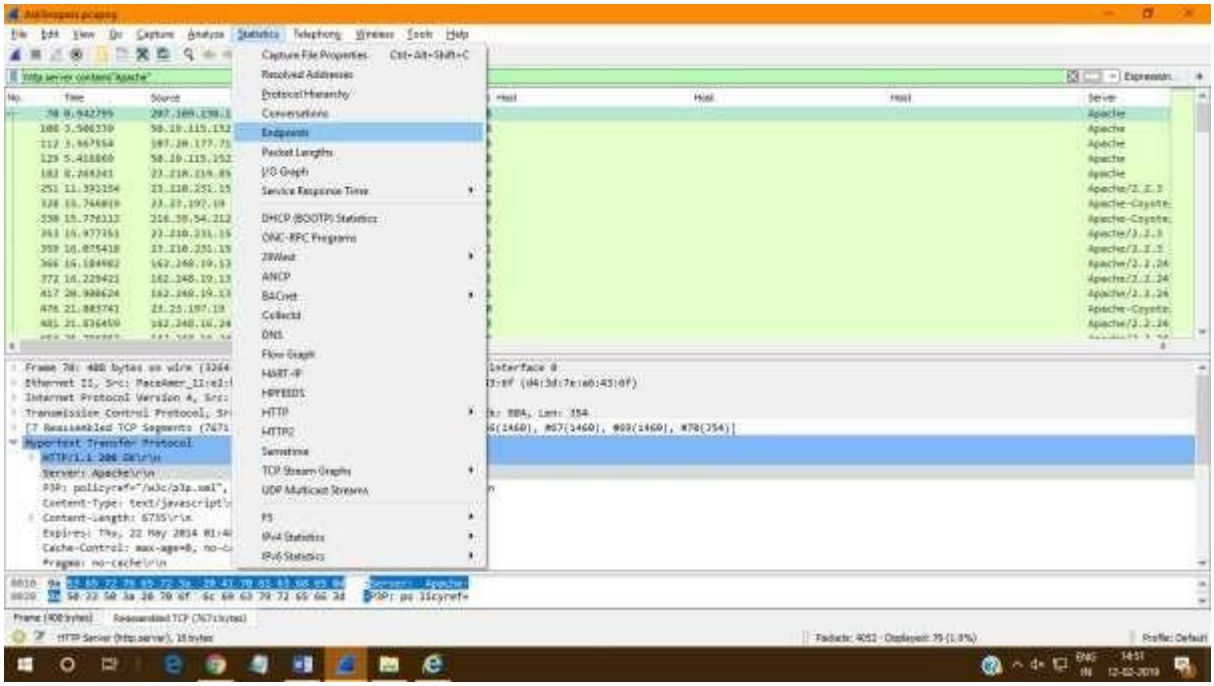
- How many web servers are running Apache?

1. Right click on HTTP > Apply as column.

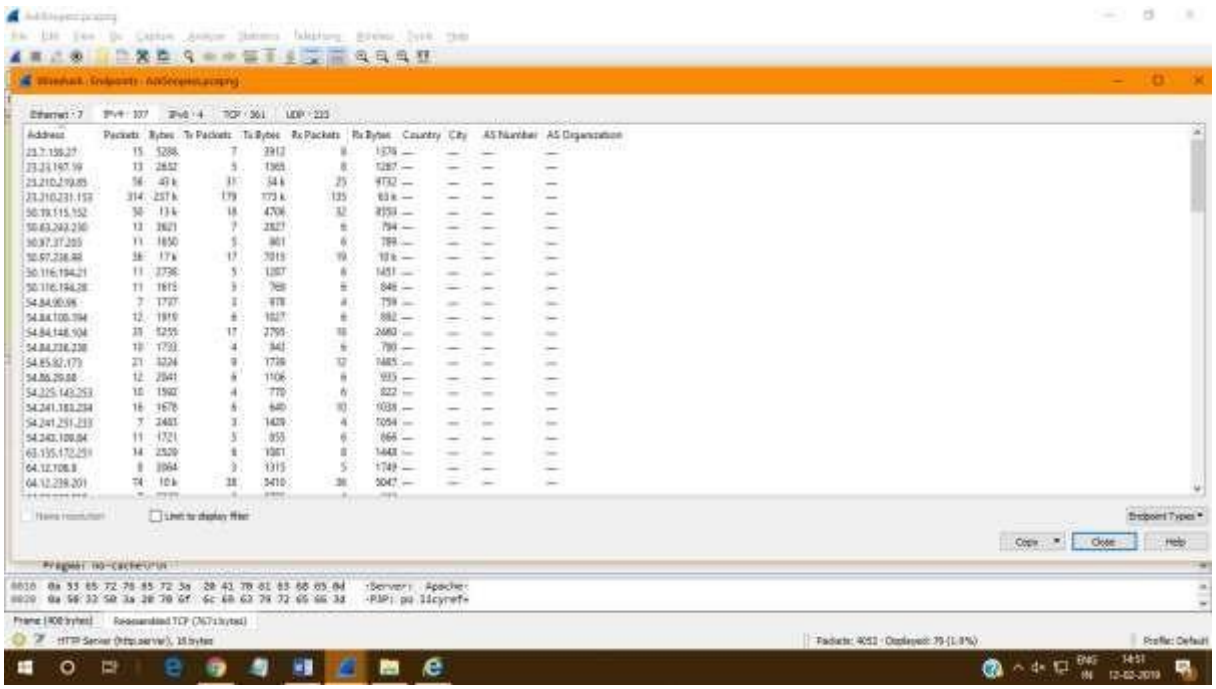




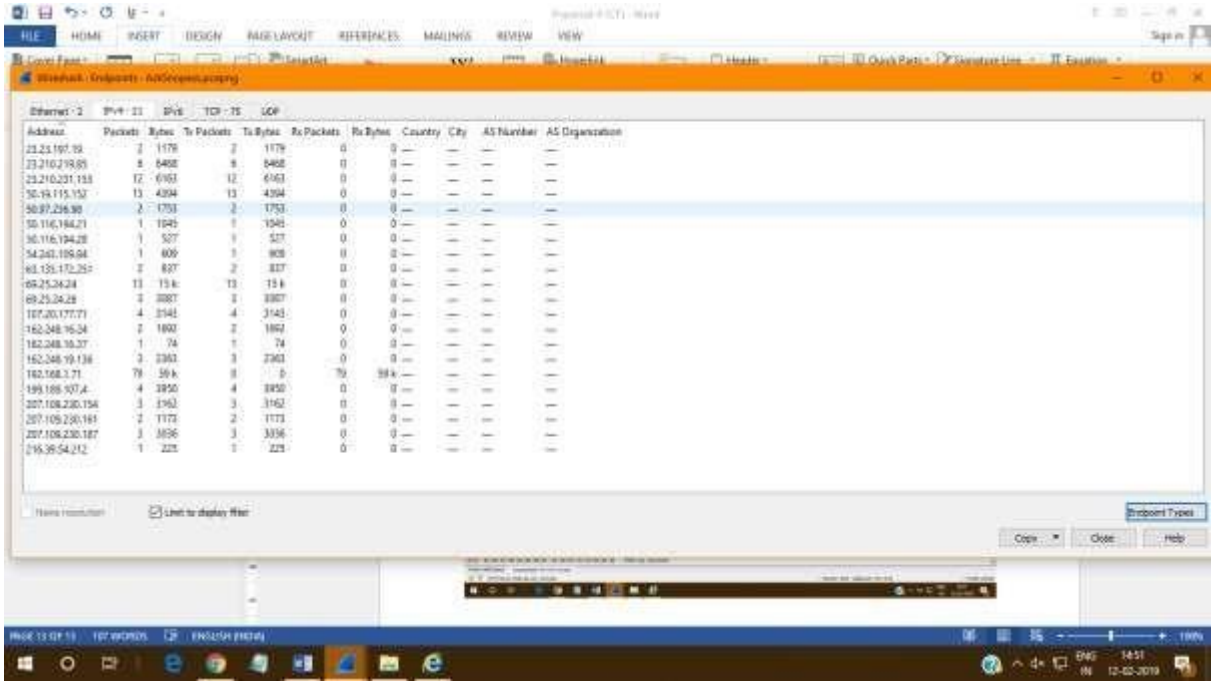
2. Click on Statistics > Endpoints.



3. Click the check box.

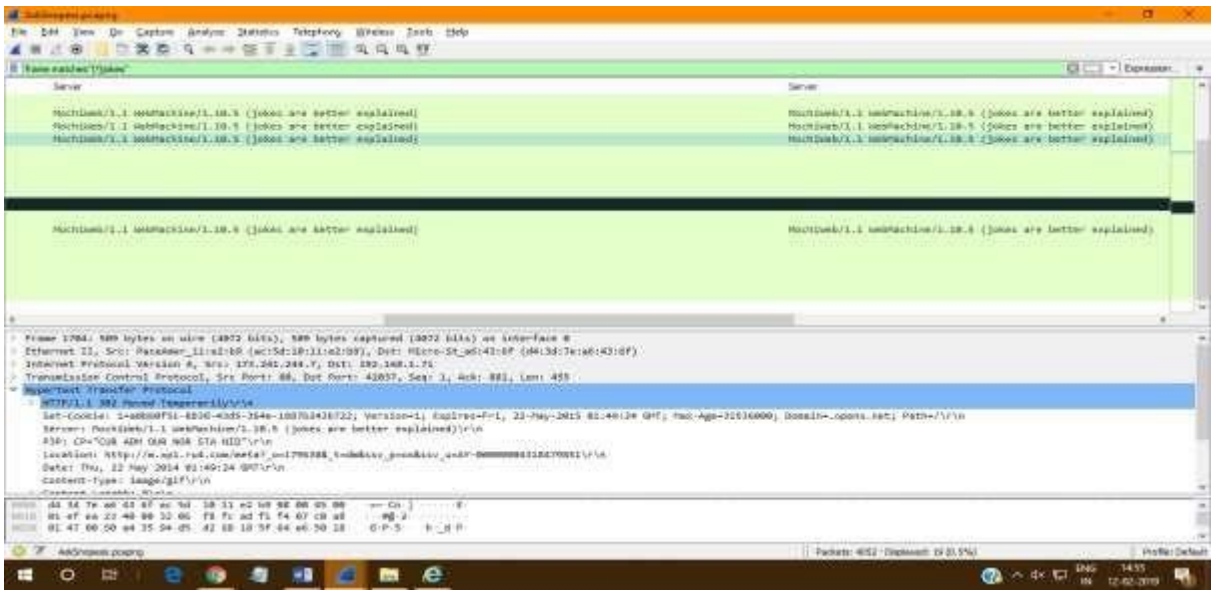


4. Beside IPv4 the number 21 shows that there are 21 web servers running on apache.



- What hosts (IP addresses) think that jokes are more entertaining when they are explained?

1. In the display filter type frame matches"(?)jokes".



Practical No – 6

Aim: Using Sysinternals tools for Network Tracking and Process Monitoring:

-Check Sysinternals tools

-Monitor Live Processes

-Capture RAM-Capture

-TCP/UDP packets

-Monitor Hard Disk

-Monitor Virtual Memory

-Monitor Cache Memory

Steps:

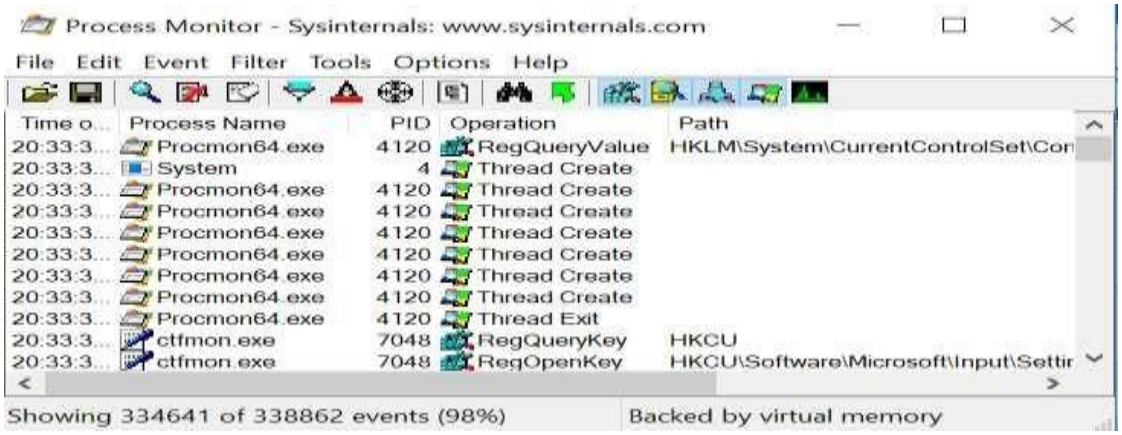
1) Check Sysinternals tools

Windows Sysinternals tools are utilities to manage, diagnose, troubleshoot, and monitor a Microsoft Windows environment

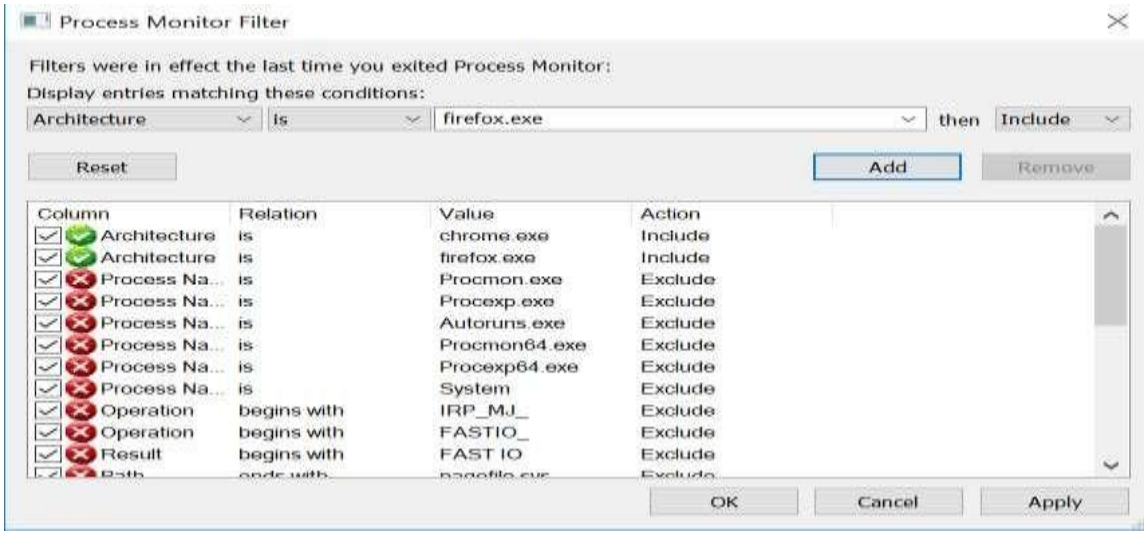
The following are the categories of Sysinternals Tools:

- File and Disk Utilities
- Networking Utilities
- Process Utilities
- Security Utilities
- System Information Utilities
- Miscellaneous Utilities

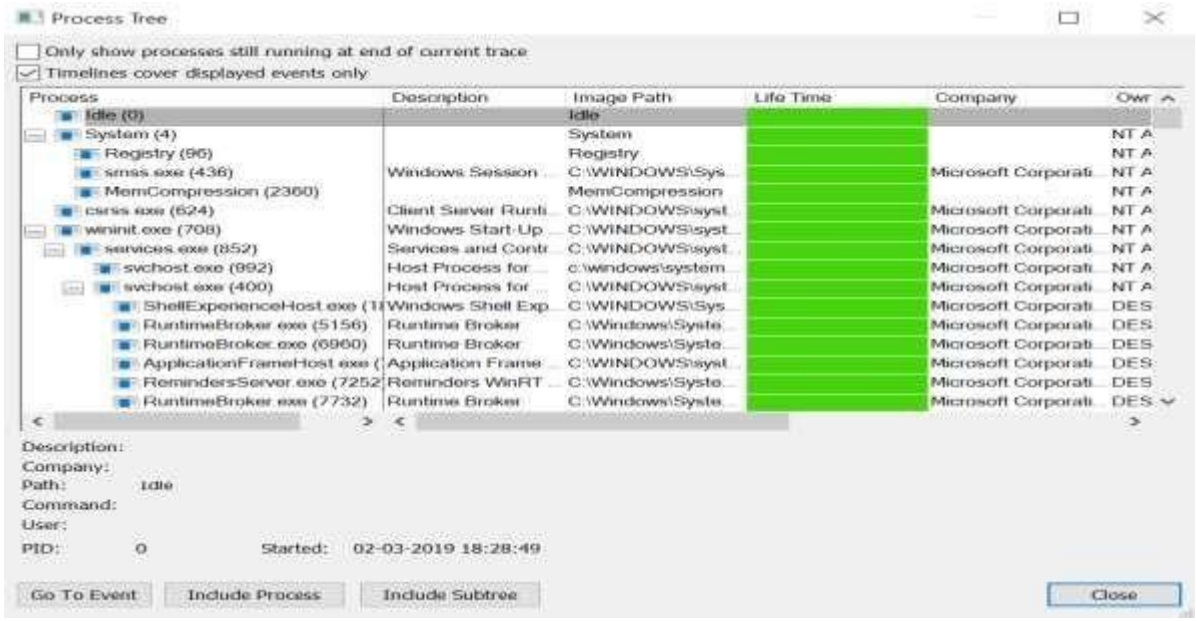
2) Monitor Live Processes (Tool: ProcMon)



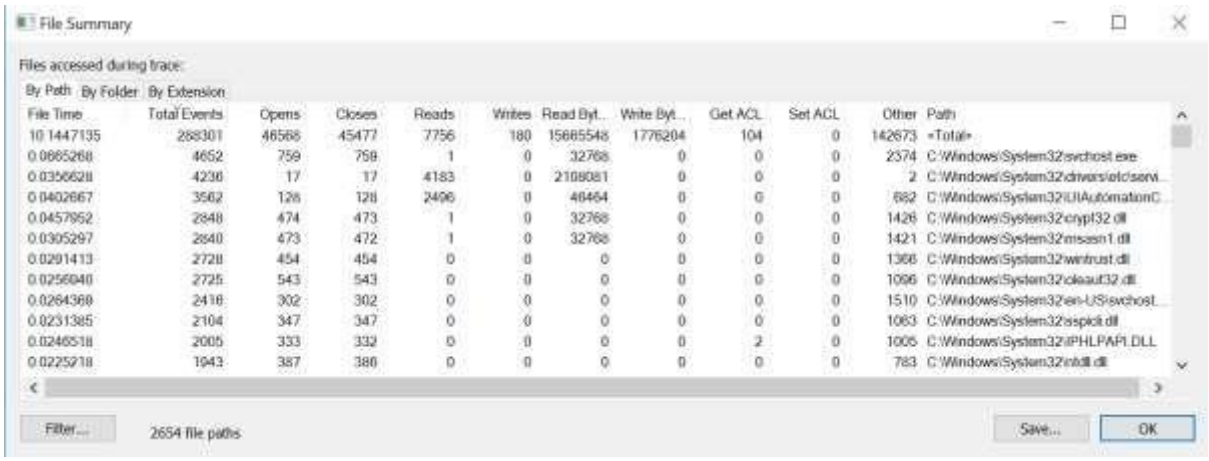
Click on filter > Process monitor filter



Click on tools > Process tree

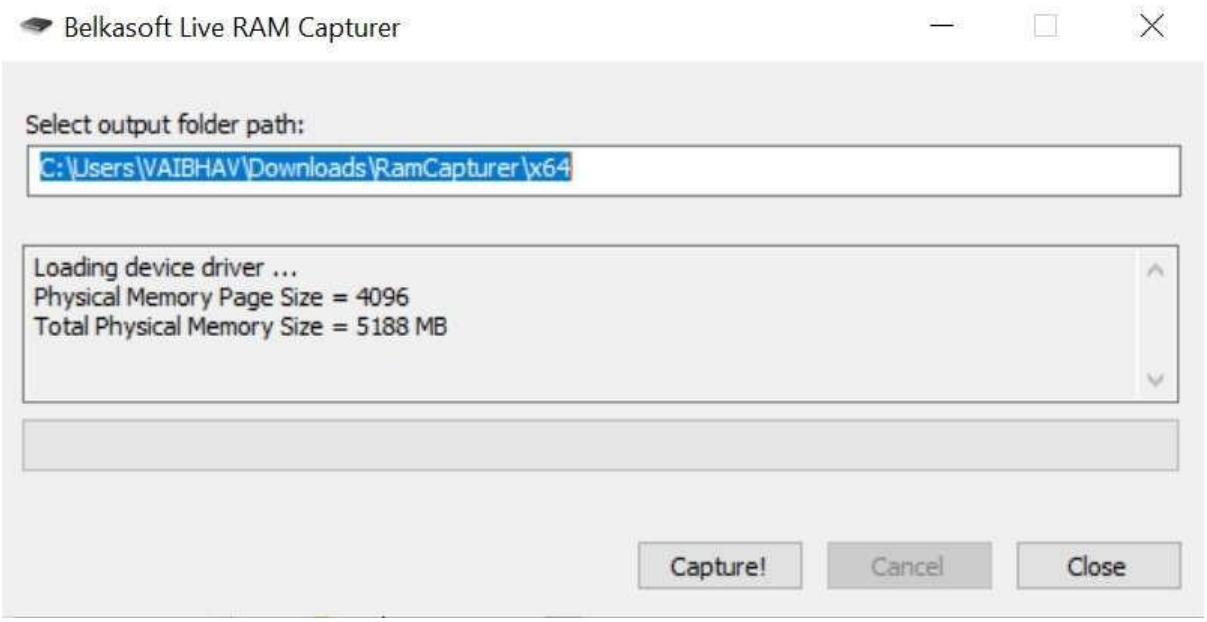


Click on filter > File summary

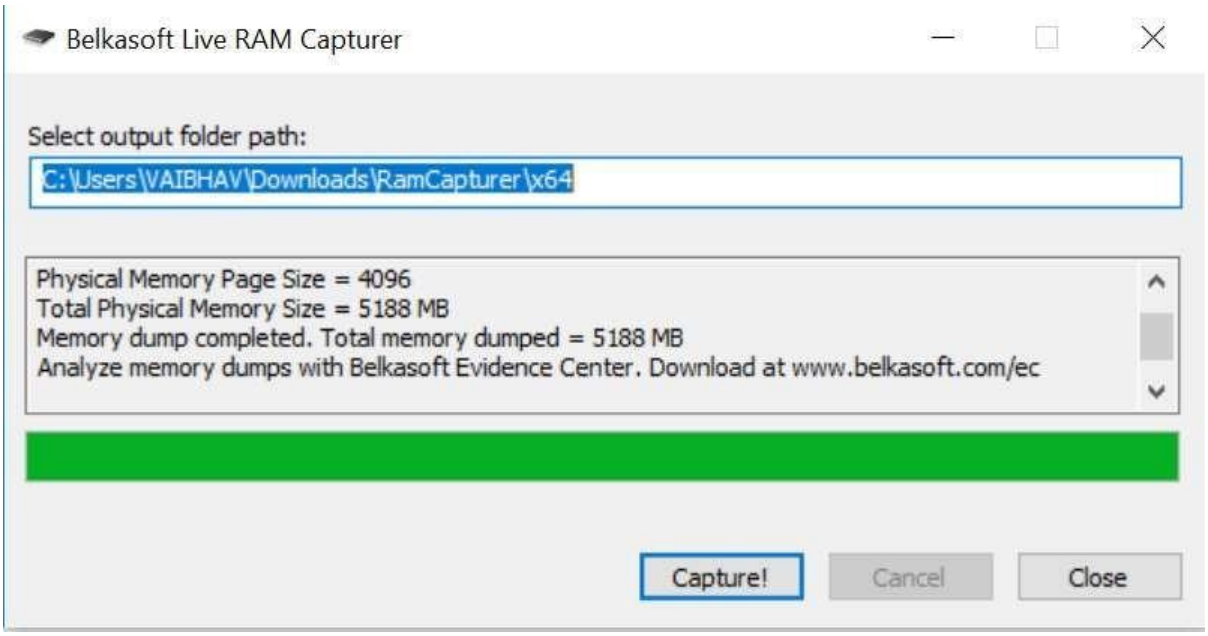


3) Capture RAM (Tool: RAMCapture) Open the

Ramcapture tool.

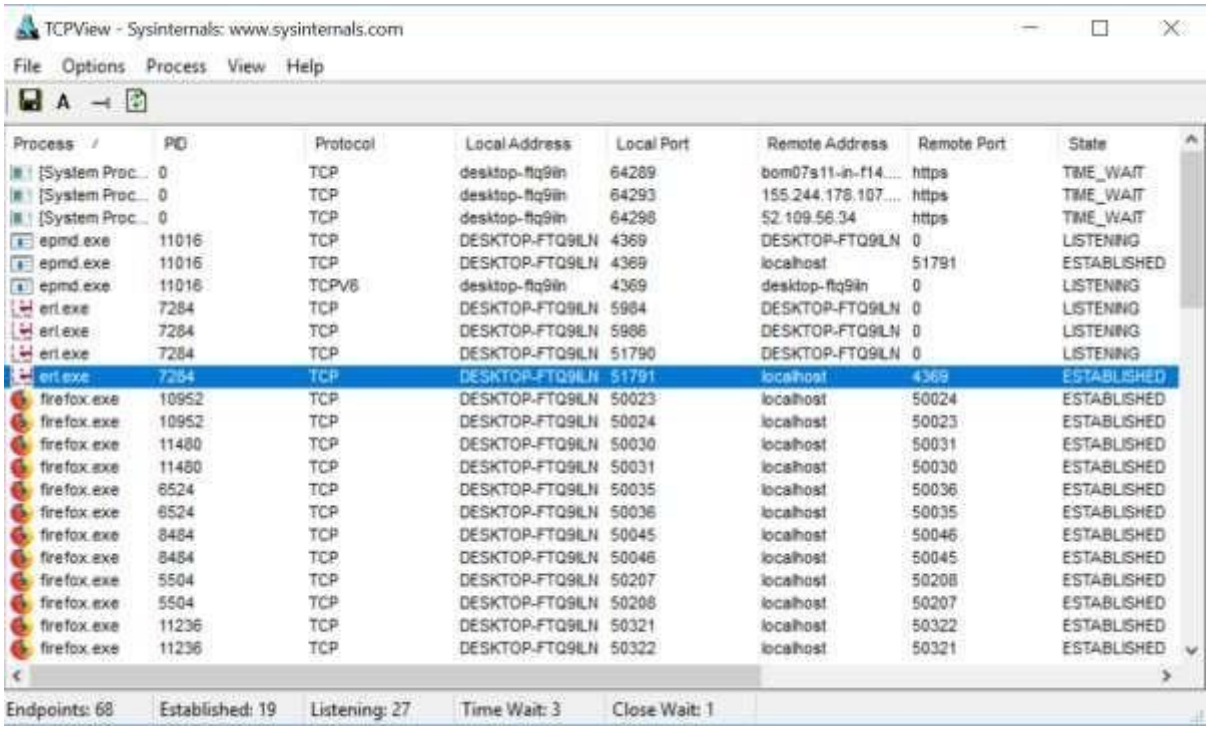


Click on capture.

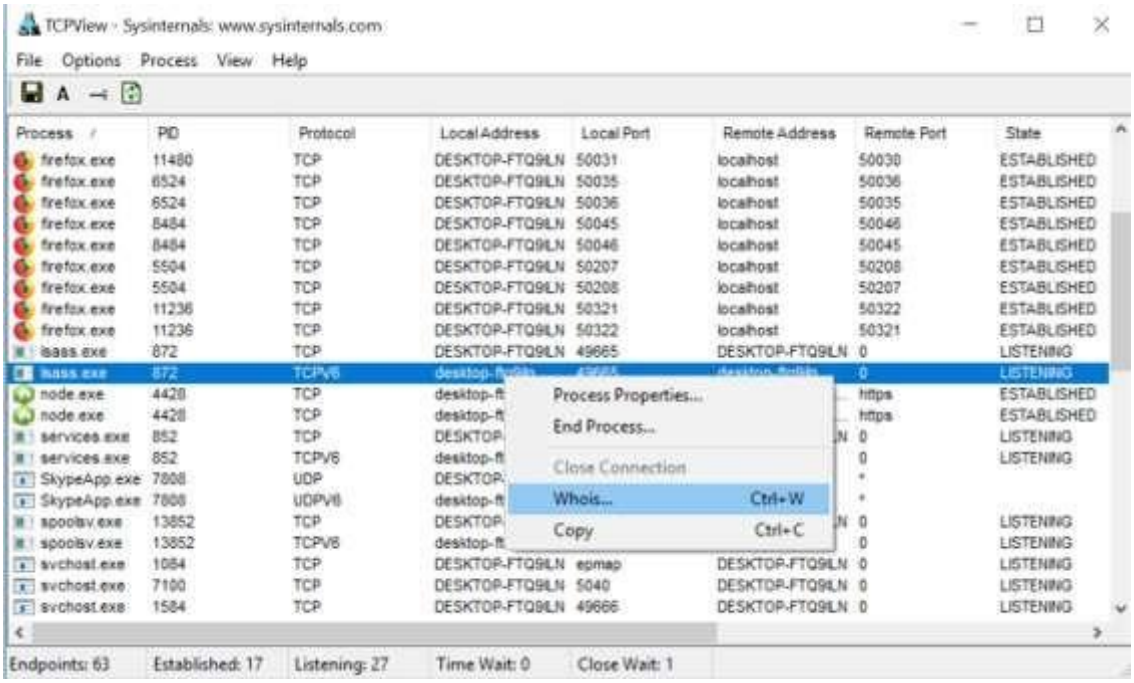


4) Capture TCP/UDP packets (Tool: TcpView) Open

the Tcpview tool.

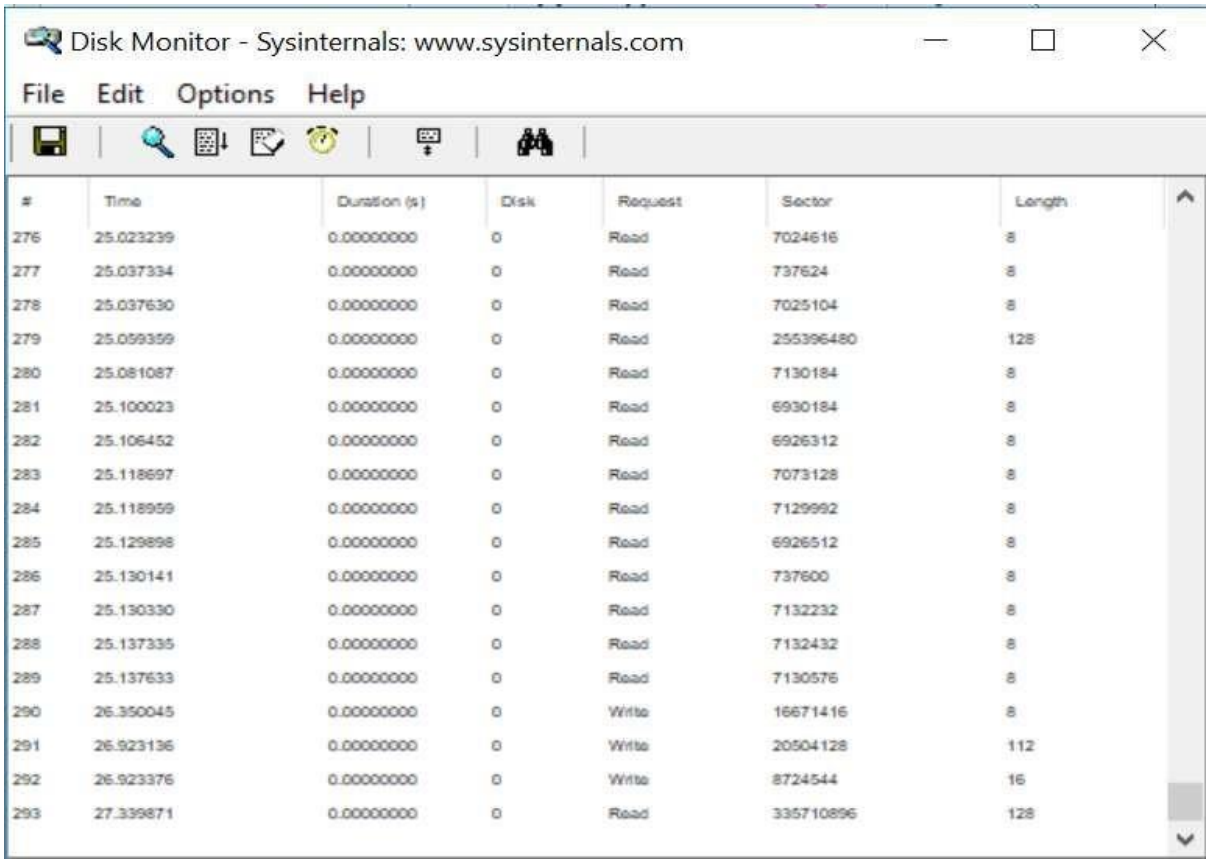


Right click on any packet > whois



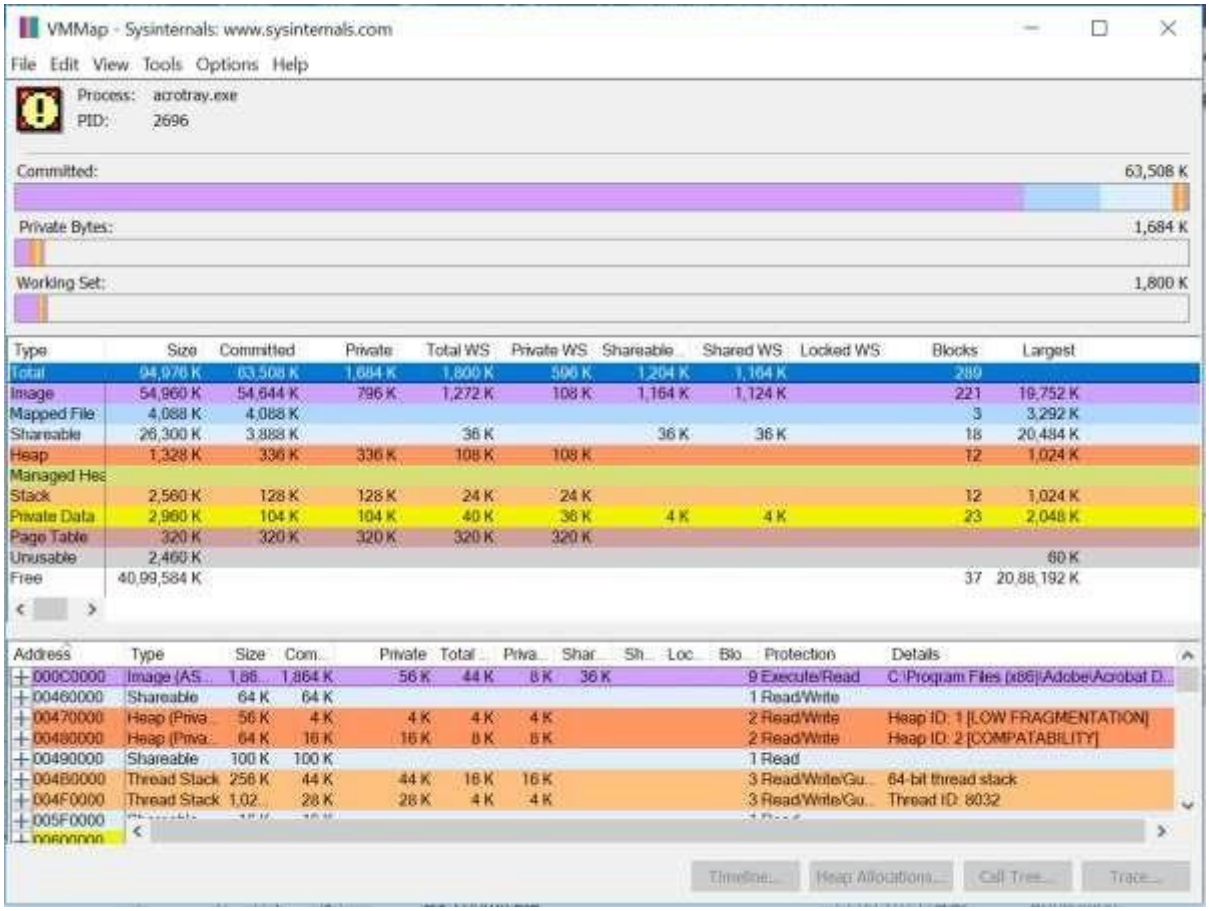
5) Monitor Hard Disk (Tool: DiskMon) Open the

Diskmon tool.

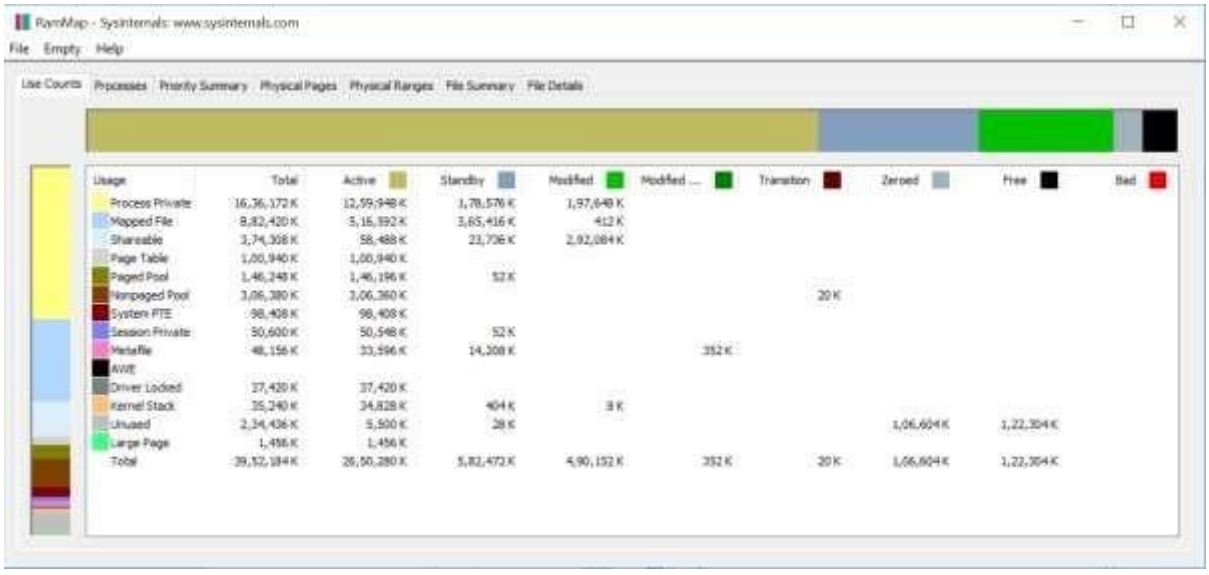


#	Time	Duration (s)	Disk	Request	Sector	Length
276	25.023239	0.00000000	0	Read	7024616	8
277	25.037334	0.00000000	0	Read	737624	8
278	25.037630	0.00000000	0	Read	7025104	8
279	25.059359	0.00000000	0	Read	255396480	128
280	25.081087	0.00000000	0	Read	7130184	8
281	25.100023	0.00000000	0	Read	6930184	8
282	25.106452	0.00000000	0	Read	6926312	8
283	25.118697	0.00000000	0	Read	7073128	8
284	25.118959	0.00000000	0	Read	7129992	8
285	25.129898	0.00000000	0	Read	6926512	8
286	25.130141	0.00000000	0	Read	737600	8
287	25.130330	0.00000000	0	Read	7132232	8
288	25.137335	0.00000000	0	Read	7132432	8
289	25.137633	0.00000000	0	Read	7130576	8
290	26.350045	0.00000000	0	Write	16671416	8
291	26.923136	0.00000000	0	Write	20504128	112
292	26.923376	0.00000000	0	Write	8724544	16
293	27.339871	0.00000000	0	Read	335710896	128

6) Monitor Virtual Memory (Tool: VMMap) Open the VMMap tool.



7) Monitor Cache Memory (Tool: RAMMap) Open the RAMMap tool.

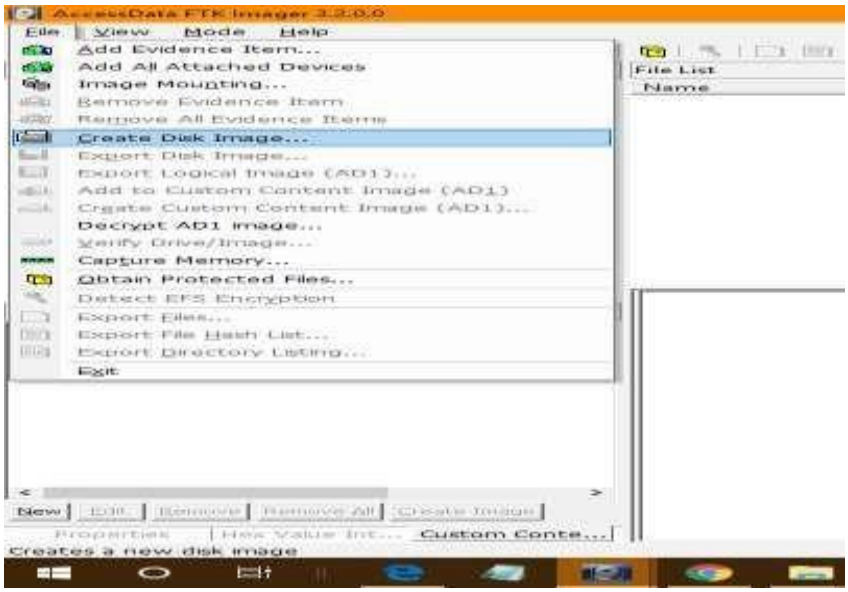


Practical No – 7

Aim: Recovering and Inspecting deleted files
-Check for Deleted Files
-Recover the Deleted Files
-Analyzing and Inspecting the recovered files

Steps:

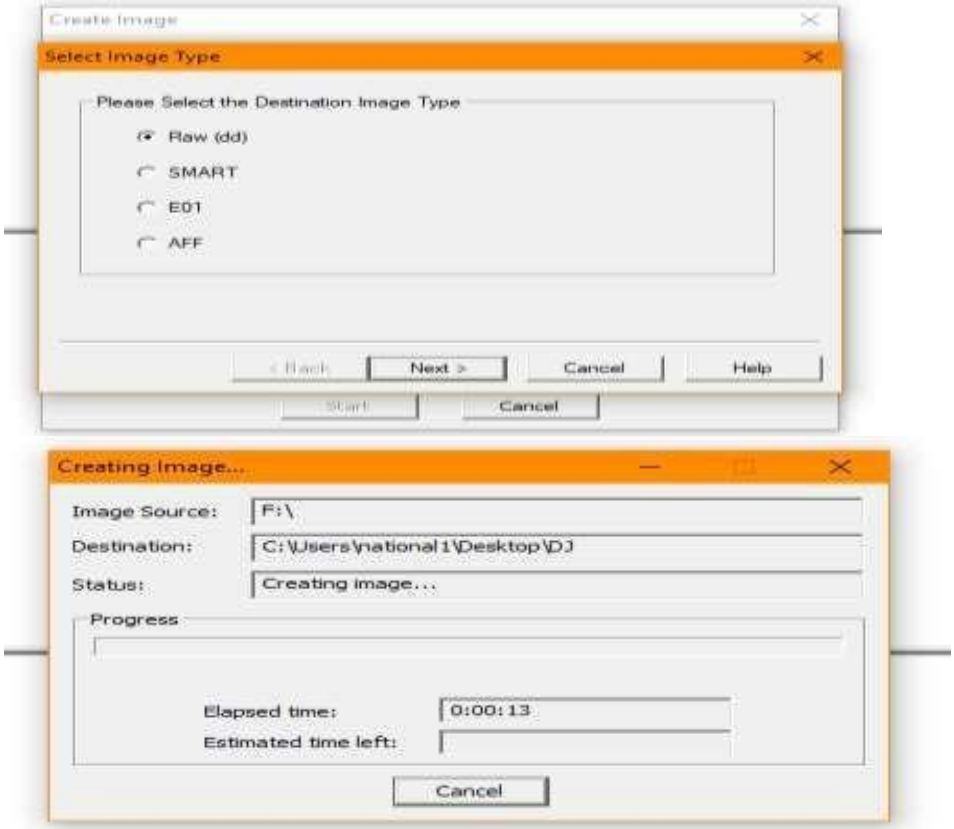
1. Open AccessData FTK Imager. Click on File > Create Disk Image.



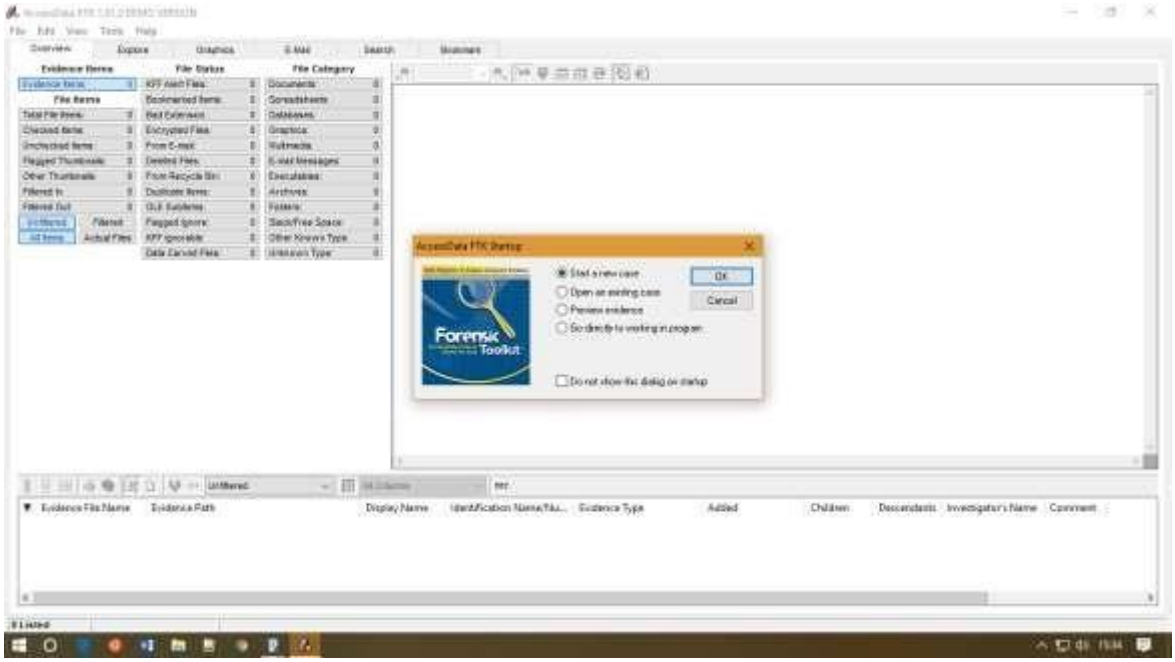
2. Type the destination path.
3. Click on Logical drive.

4. Click on Add > Browse.

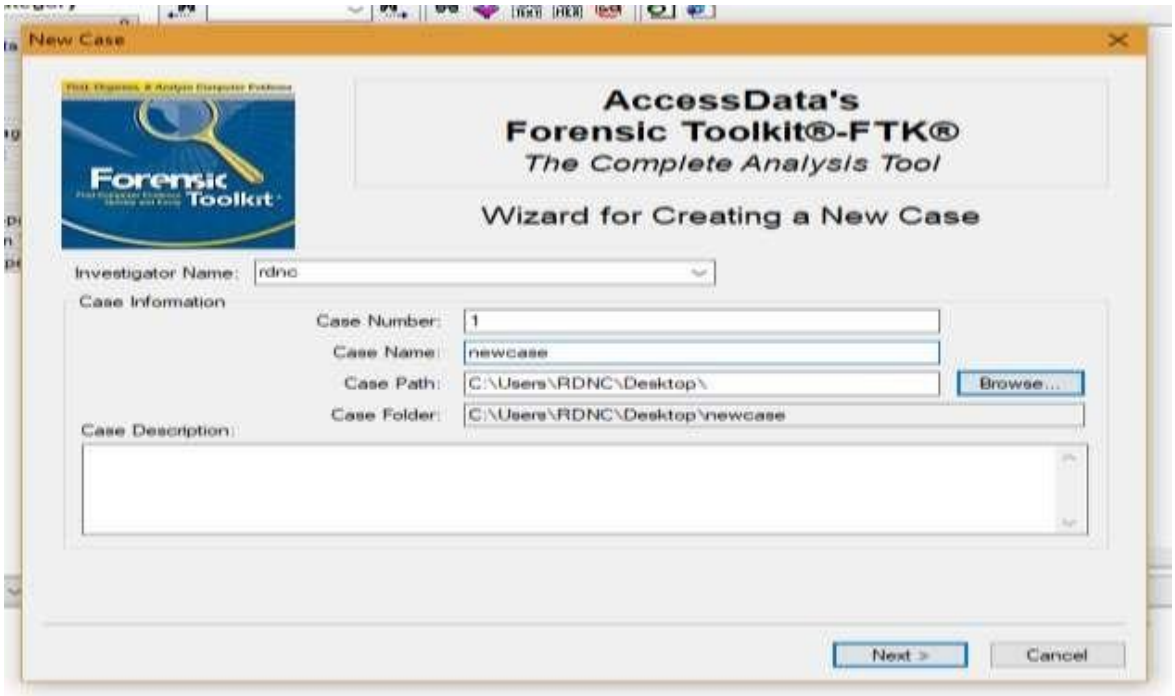
5. Select the type of data format and click next.



7. Open the Forensic toolkit and click on file > new case.

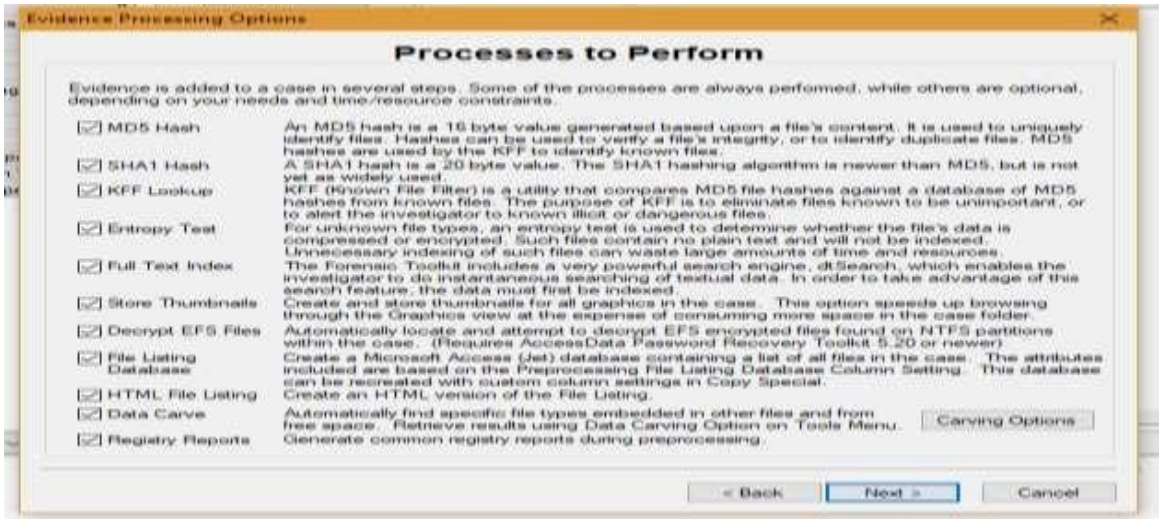


8. Enter the details and click on next.

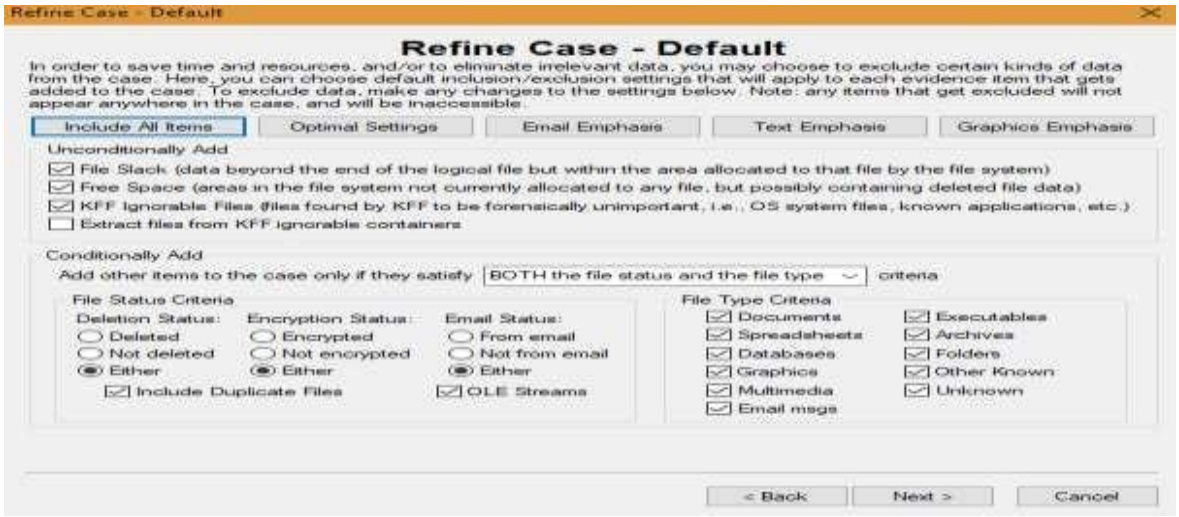


9. Click on next.

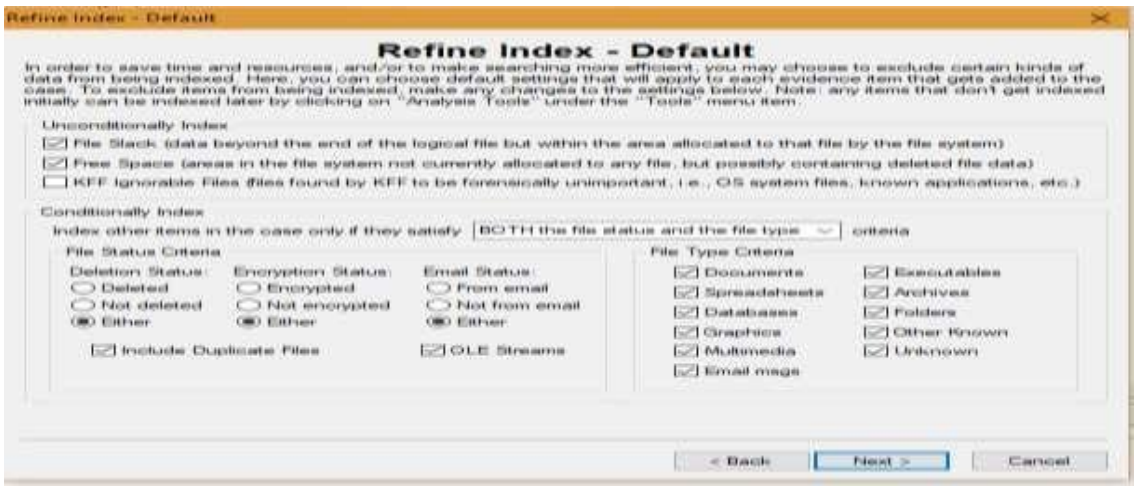
10. Click on next.



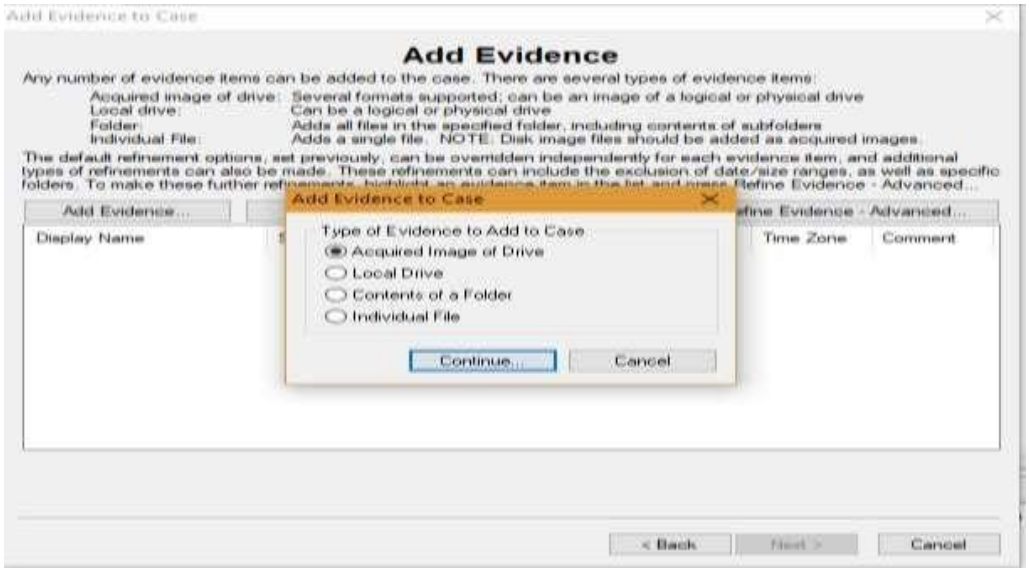
11. Click on next.



12. Click on next.



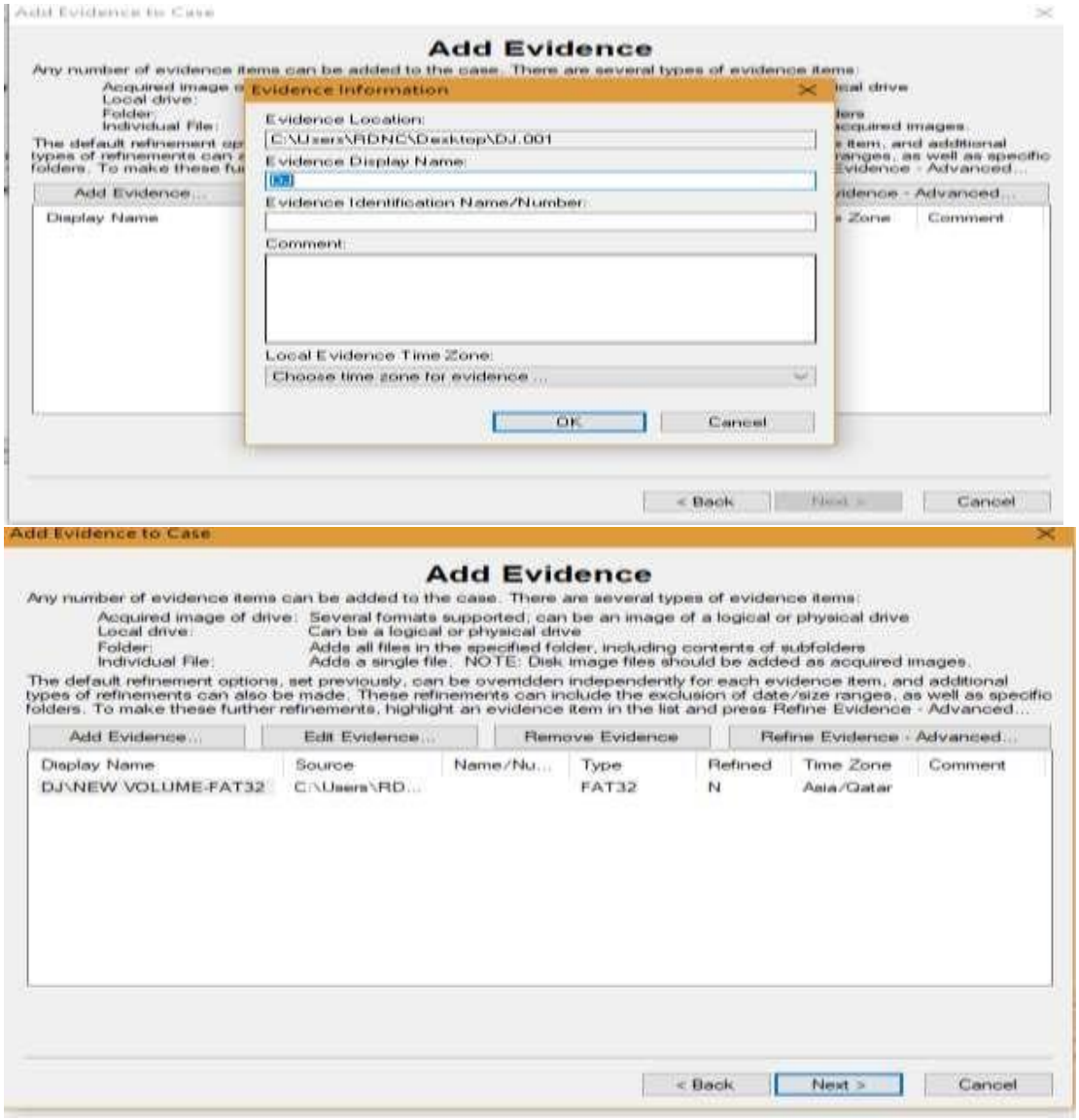
13. Click on Add Evidence > Acquired Image of Drive > Continue.



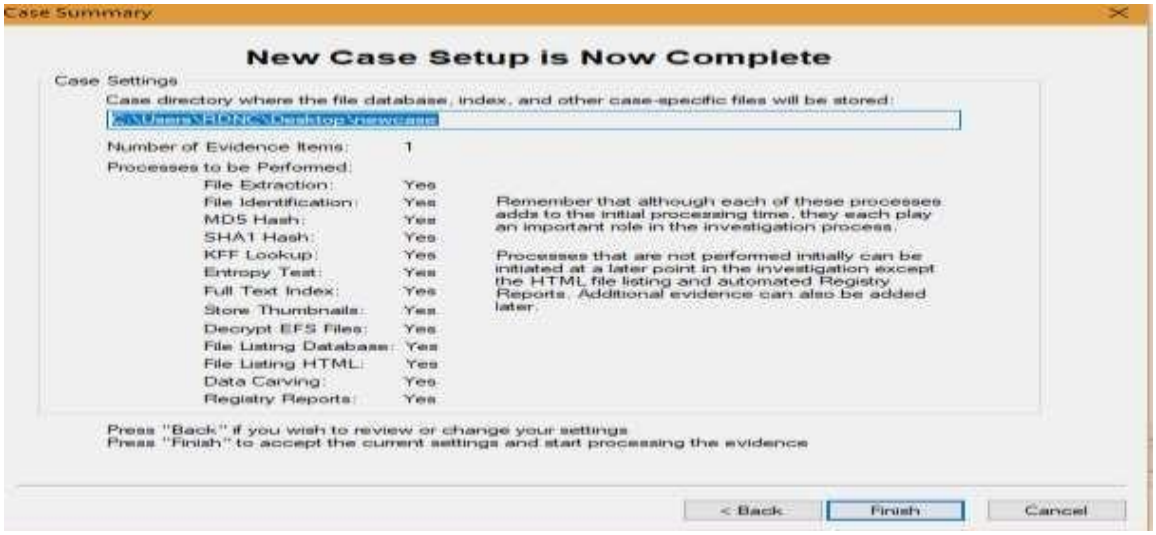
14. Select the image file.

15. Click on OK.

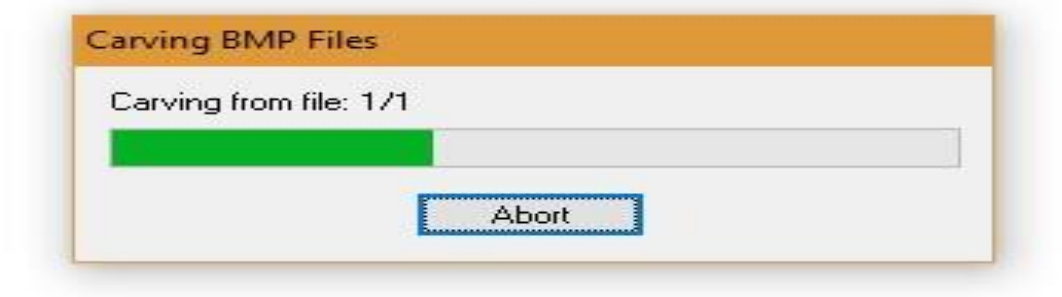
16. Click on next.



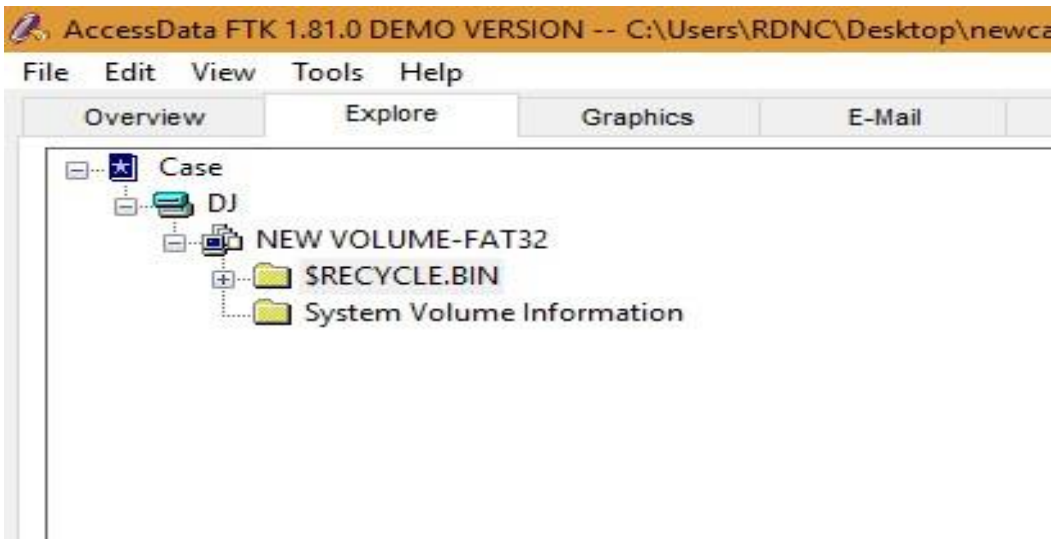
17. Click on Finish.



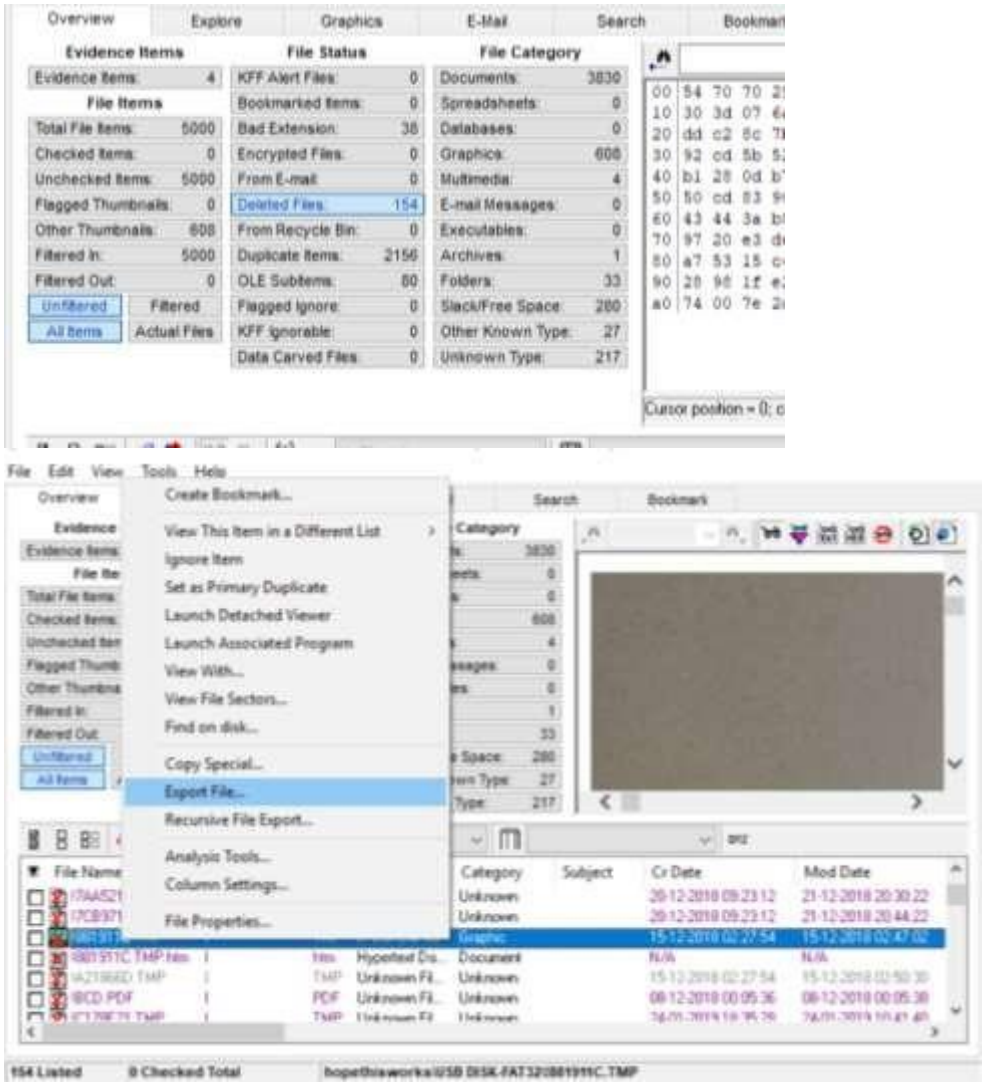
18. Files are being carving.



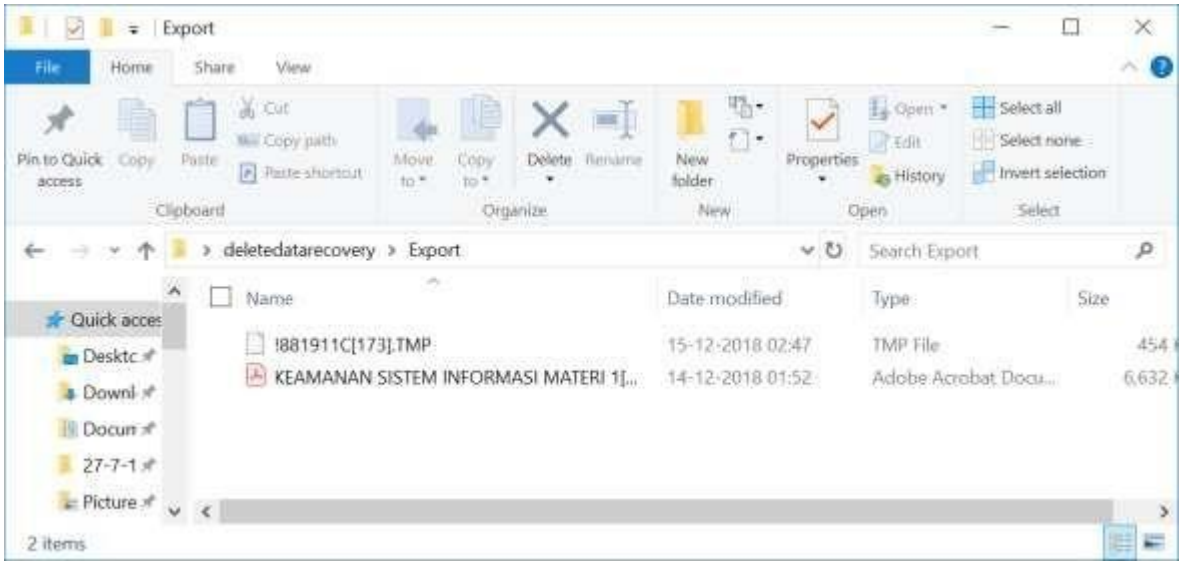
19. In the left panel you can see all the recovered files.



20.Click on the Deleted file tab-> Right click on any deleted file to export it



21.Browse and choose the destination folder to export the deleted file

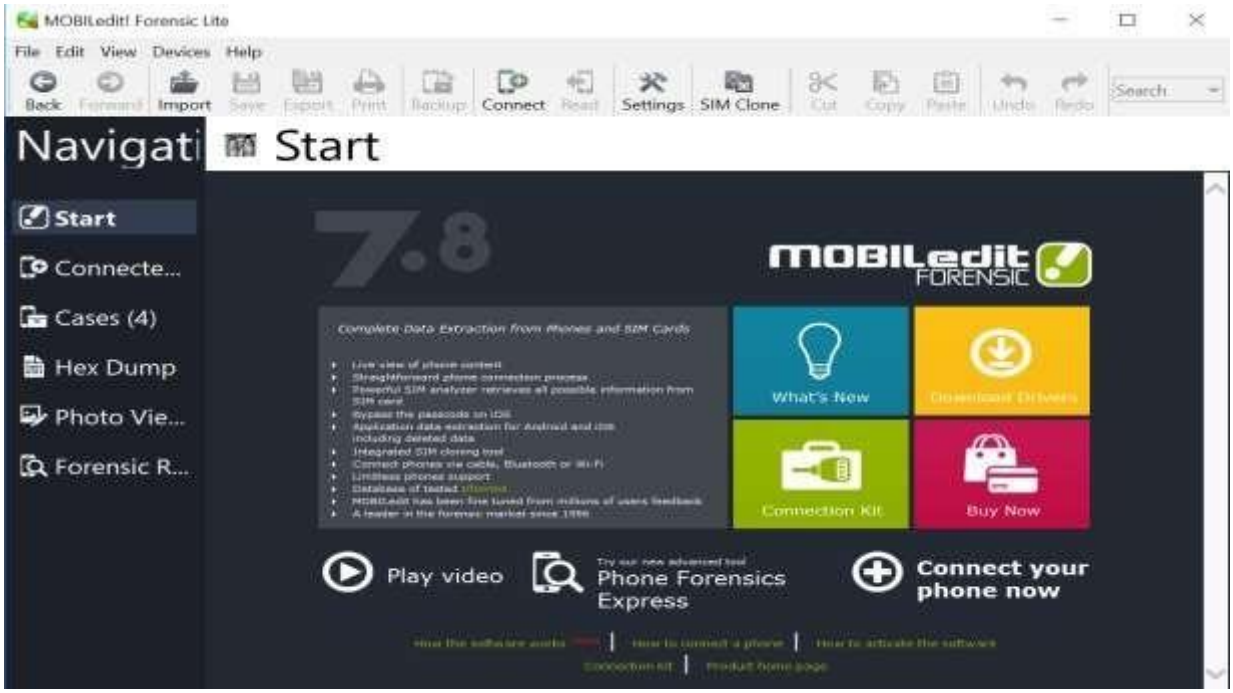

Export
File
Home
Share
View
Pin to Quick access
Copy
Paste
Cut
Copy path
Paste shortcut
Clipboard
Move to
Copy to
Delete
Rename
Organize
New folder
New
Properties
Open
Edit
History
Open
Select all
Select none
Invert selection
Select
deletedatarecovery › Export
Search Export
Quick acces
Desktc
Downl
Docum
27-7-1
Picture
Name
Date modified
Type
Size
!881911C[173].TMP
15-12-2018 02:47
TMP File
KEAMANAN SISTEM INFORMASI MATERI 1[...
14-12-2018 01:52
Adobe Acrobat Docu...
2 items

Practical No –8

Aim: Acquisition of Cell phones and Mobile devices

Steps:

1. Download mobiledit forensic tool in mobile.
2. Open Mobiledit tool in PC.

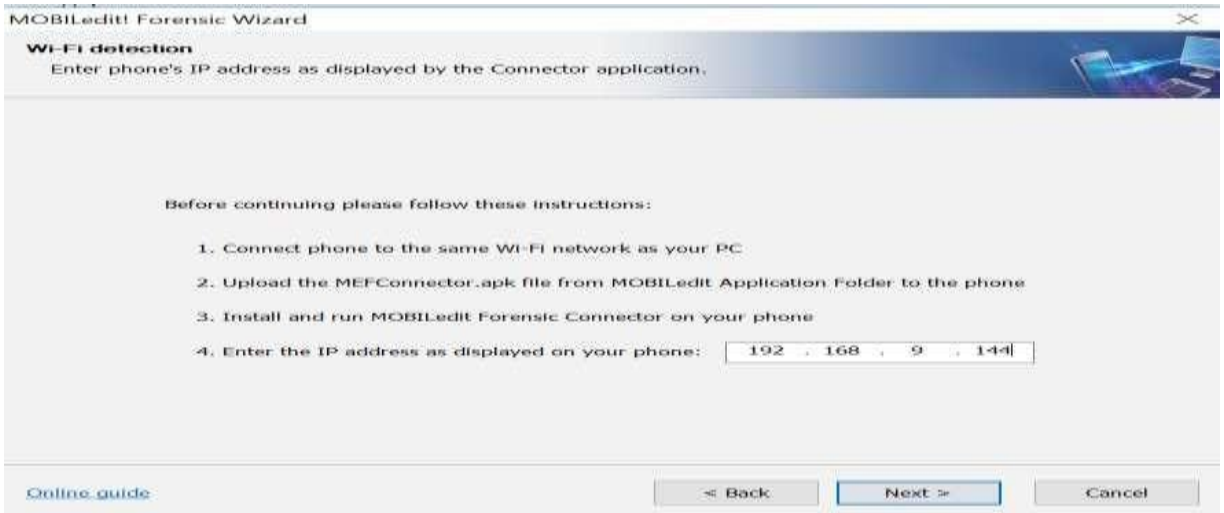


3. Click on connect.

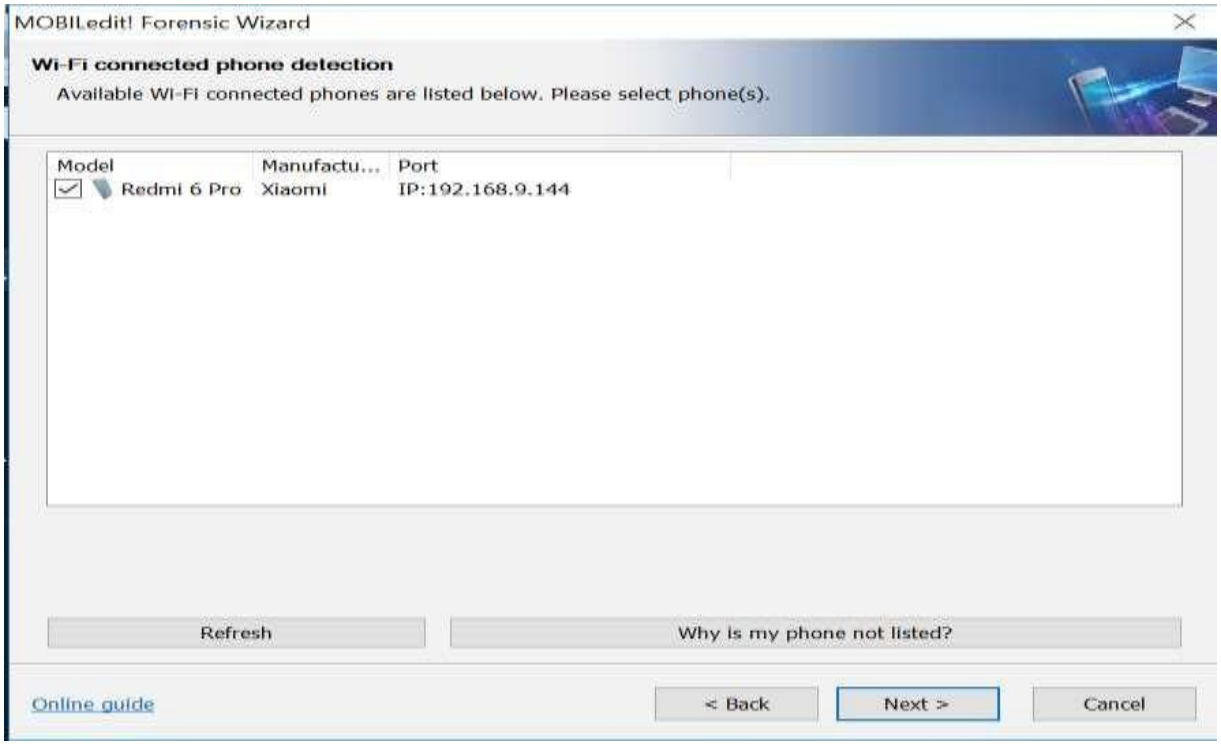
4. Connect your mobile device to the system. Click on phone > next.

5. Click the connection

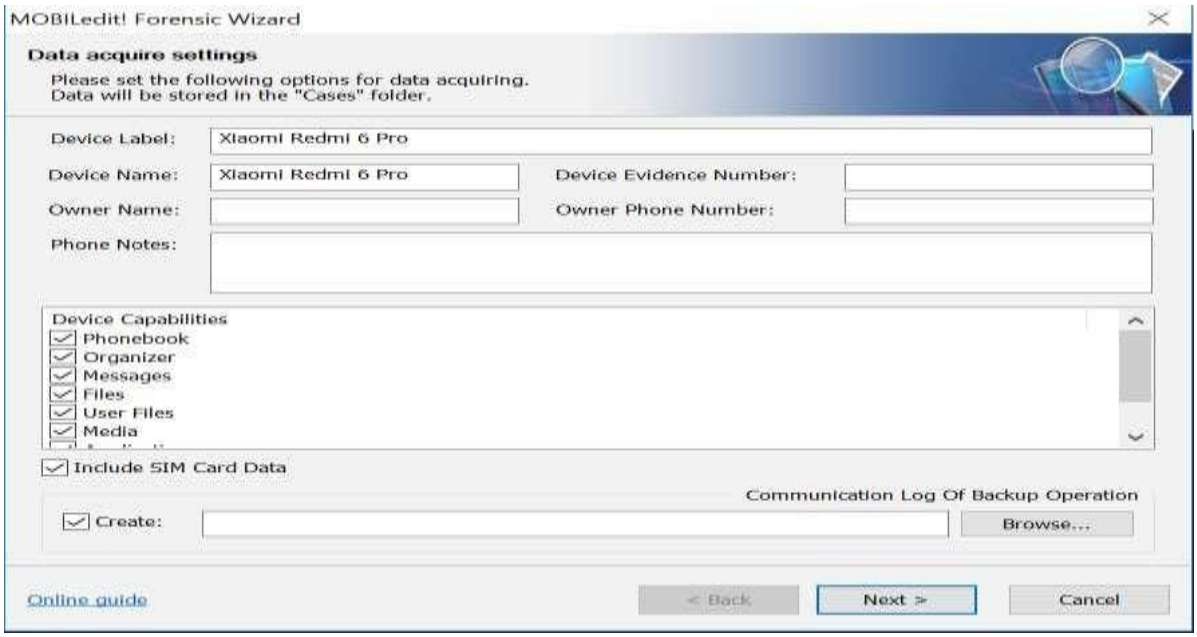
6. Open the mobiledit tool in phone and click on the type of connection (i.e Wifi) > Copy the IP address and enter it in the PC and click next.



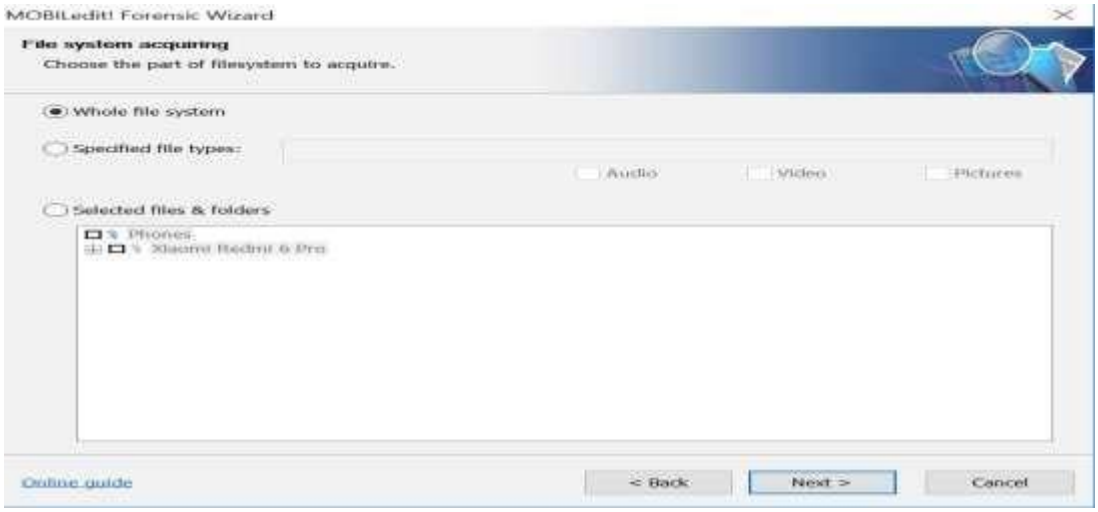
7. It shows the phone which is connected. Click on next.

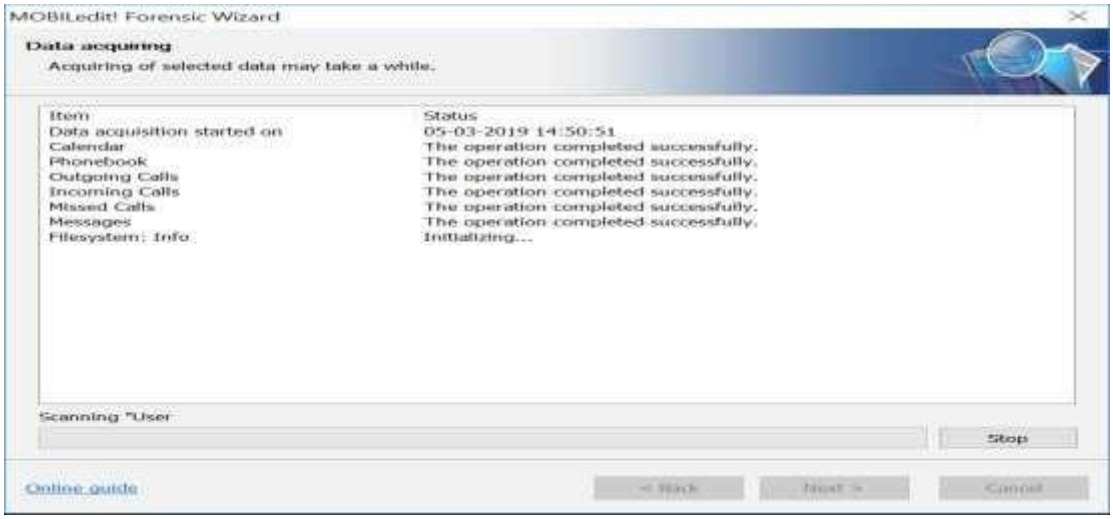


8. Click on next.

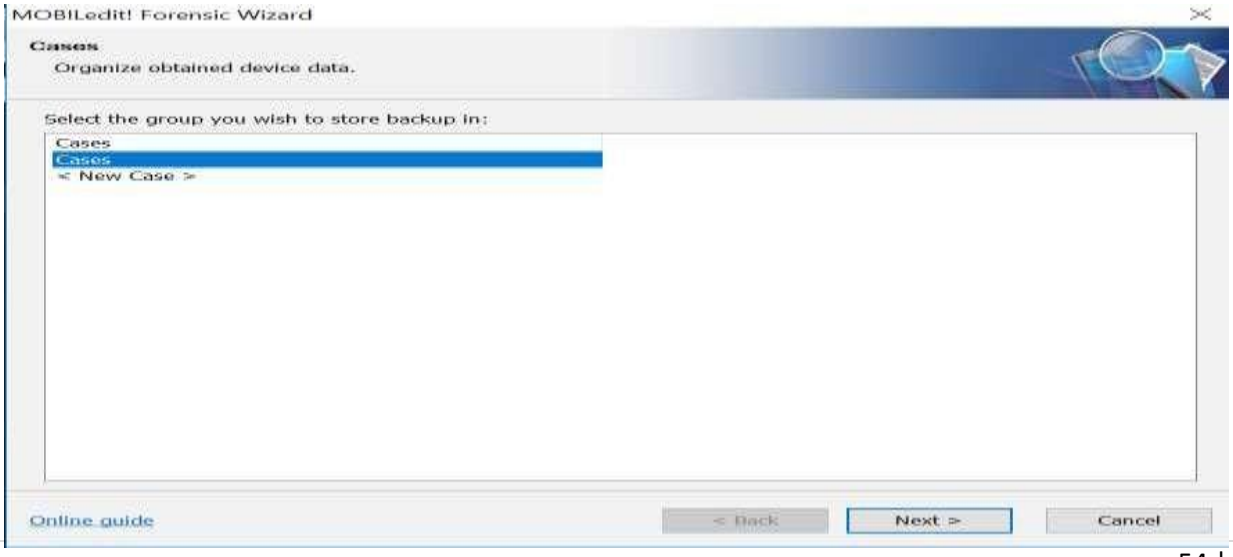


9. Click on whole system and click next.



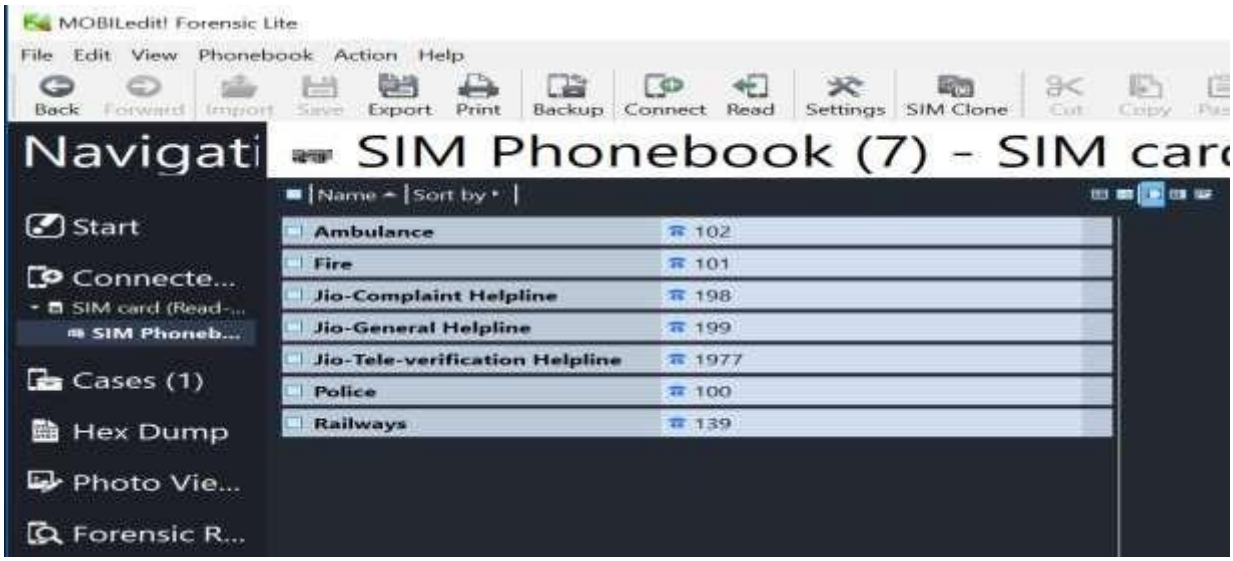


10. Click on case and click next.



11. Click on your device in the left panel.

12. You can see all the files.



Practical No – 9

Aim: Email Forensics

- **Mail Service Providers**
- **Email protocols**
- **Recovering emails**
- **Analyzing email header**

Mail Service Providers

An email service provider (ESP) is a company that offers email marketing or bulk email services. An ESP may provide tracking information showing the status of email sent to each member of an address list. ESPs also often provide the ability to segment an address list into interest groups or categories, allowing the user to send targeted information to people who they believe will value the correspondence.

Here are nine features to look for when you select your business email service:

Spam Filter - Spam messages are a huge time waster. You don't want to spend your valuable time reading them. That's why you want an email service that has a system in place to detect and filter out inbox spam.

Reliability - Your business email provider needs to be up and running when you need it. Your email should always be available. Email downtime could result in lost or unhappy customers.

Integration - Some email services work well with other business tools such as calendars, and productivity suites. If your business relies heavily on such tools, consider an email package that integrates with the other tools you already use.

Security - With email hacks being a regular news item, you want your business email provider to offer strong measures to keep your accounts secure. You need to keep your messages safe and don't want any unauthorized use of your email account.

Ease of Use - As your business grows, more of your staff members need to create and use email accounts. Reduce staff training time by selecting an email service provider that's easy to use.

Archive Capabilities - The best business email providers provide a way for you to save, store, and organize your email messages and drafts. For many businesses, keeping an accurate and well-organized record of business communication is vital.

Advanced Features - When running a small business, advanced email features such as the ability to recall sent messages or schedule tasks within email can be important. Which advanced features are most important depends on your unique business needs.

Reputation - Your business email service provider needs to have a good reputation. Remember, your email address is one of the first pieces of information prospective clients see.

Storage - When selecting an email service provider, keep in mind the amount of storage space included with your account. You don't want to run out of space.

Types of Popular Email Service Providers are as follows:

1.Gmail:

One of the most popular and best email service providers, Gmail is used for personal and business communications alike. According to statistics reported by TechCrunch in 2016, over a billion people use Gmail.

Gmail has a good reputation and includes many advanced features such as the Undo Send feature and Email Forwarding. Since this service is owned by search engine giant, Google, naturally it includes a powerful search utility and filter system.

Google has also added strengthened security measures such as two-step verification and powerful spam filters to make it less likely that your account is hacked or that you receive junk messages. Finally, it integrates cleanly with popular productivity tools including Google Calendar and Google Docs.

2. Outlook

Microsoft's Outlook.com email provider is a strong option if you're looking for the best email provider. Statistics from Microsoft show that Outlook had over 400 million users in 2016.

This popular email package has the support and resources of tech giant Microsoft behind it. Outlook.com offers advanced features such as Clutter, which finds emails that are likely of low priority and separates them from your inbox. Another advanced Outlook.com feature is the ability to Undelete, or recover an email after you've accidentally discarded a message. Outlook integrates well with popular software including other Microsoft products.

3.iCloud Mail

iCloud email is a possible email choice if you frequently access your email package from your Apple mobile device. Apple employs several security features to make sure that your iCloud account is not compromised including two-step verification or two-factor authentication. There's also a spam filter.

4. Yahoo Mail

Yahoo! was one of the early Internet companies, dating back to 1994. Yahoo! Mail is popular with many users. In 2016, it was announced that the company was acquired by Verizon. Despite the recent changes to Yahoo! ownership, you can still sign up for a Yahoo! Mail account. Some Yahoo! Mail features you can benefit from if you choose it as your email provider include:

Auto deletion of Trash messages after 90 days

Huge storage capacity (1 TB)

Built-in web search tool, calendar, and notepad

Spam filters and SSL encryption

5. AOL Mail

AOL is another early Internet company. In the 1980s the company was known as America Online. It was purchased by Verizon in 2015. The email component of the organization remains a popular and strong service that has earned its place on this list of the best email services.

Key AOL Mail features include advanced spam filters and virus protection. It's also known for the ability to personalize your email address with the MyAddress feature that lets you select your own email domain name.

6. Zoho Mail

Although Zoho Mail has several premium levels available, there is also a free level available that allows you to have up to 25 users. For many small businesses, this will be enough—so we have included the email service on our list of the best free email providers.

With the free level of Zoho Mail, you are limited to 5 GB of storage per user. It does include antivirus protection and spam filtering. This email service integrates with other Zoho productivity tools such as calendar, tasks, and notes.

Email Protocols

E-mail Protocols are set of rules that help the client to properly transmit the information to or from the mail server

The most commonly used Email protocols on the internet - POP3, IMAP and SMTP. Each one of them has specific function and way of work.

POP3

Post Office Protocol version 3 (POP3) is a standard mail protocol used to receive emails from a remote server to a local email client. POP3 allows you to download email messages on your local computer and read them even when you are offline. Note, that when you use POP3 to connect to your email account, messages are downloaded locally and removed from the email server. This means that if you access your account from multiple locations, that may not be the best option for you. On the other hand, if you use POP3, your messages are stored on your local computer, which reduces the space your email account uses on your web server.

By default, the POP3 protocol works on two ports:

Port 110 - this is the default POP3 non-encrypted port

Port 995 - this is the port you need to use if you want to connect using POP3 securely

IMAP

The Internet Message Access Protocol (IMAP) is a mail protocol used for accessing email on a remote web server from a local client. IMAP and POP3 are the two most commonly used Internet mail protocols for retrieving emails. Both protocols are supported by all modern email clients and web servers.

While the POP3 protocol assumes that your email is being accessed only from one application, IMAP allows simultaneous access by multiple clients. This is why IMAP is more suitable for you if you're going to access your email from different locations or if your messages are managed by multiple users.

By default, the IMAP protocol works on two ports:

Port 143 - this is the default IMAP non-encrypted port

Port 993 - this is the port you need to use if you want to connect using IMAP securely

SMTP

SMTP stands for Simple Mail Transfer Protocol. It was first proposed in 1982. It is a standard protocol used for sending e-mail efficiently and reliably over the internet. Simple Mail Transfer Protocol (SMTP) is the standard protocol for sending emails across the Internet.

By default, the SMTP protocol works on three ports:

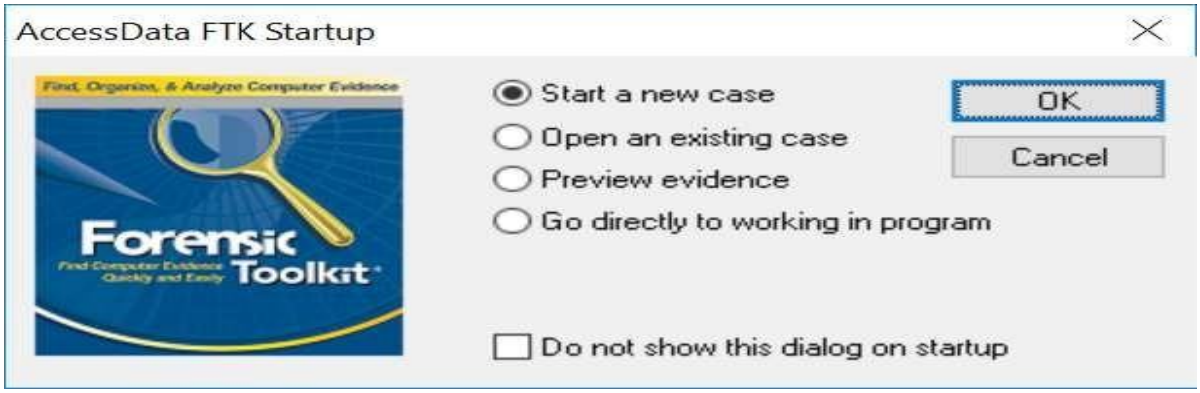
Port 25 - this is the default SMTP non-encrypted port

Port 2525 - this port is opened on all SiteGround servers in case port 25 is filtered (by your ISP for example) and you want to send non-encrypted emails with SMTP

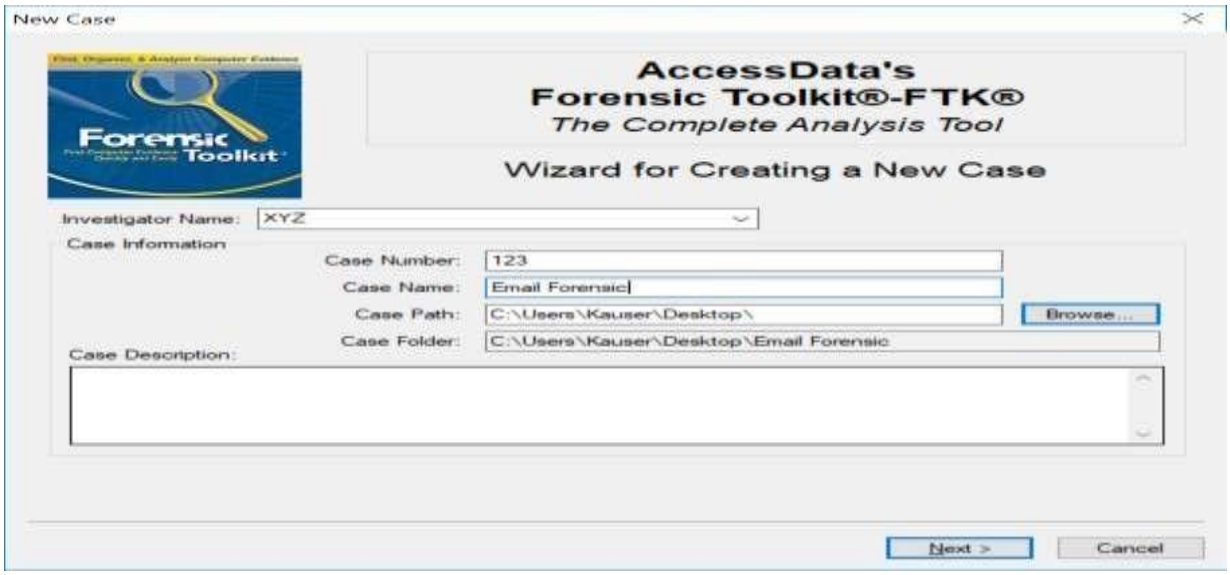
Port 465 - this is the port used if you want to send messages using SMTP securely

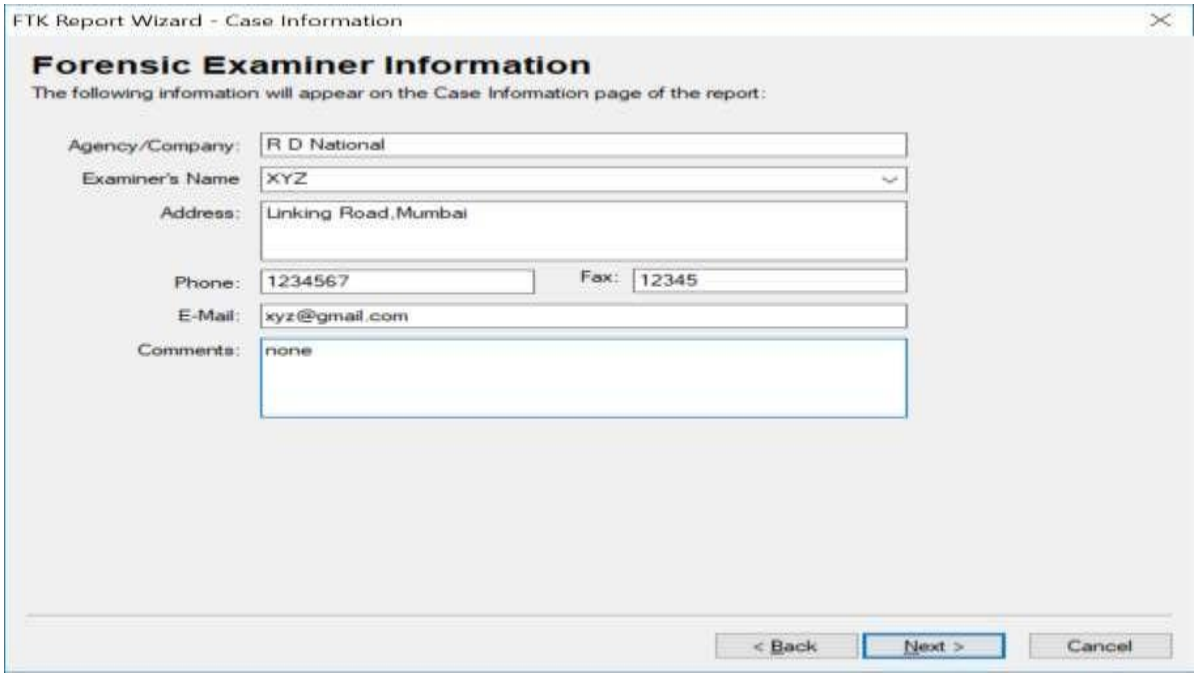
Recovering email using AccessData FTK:

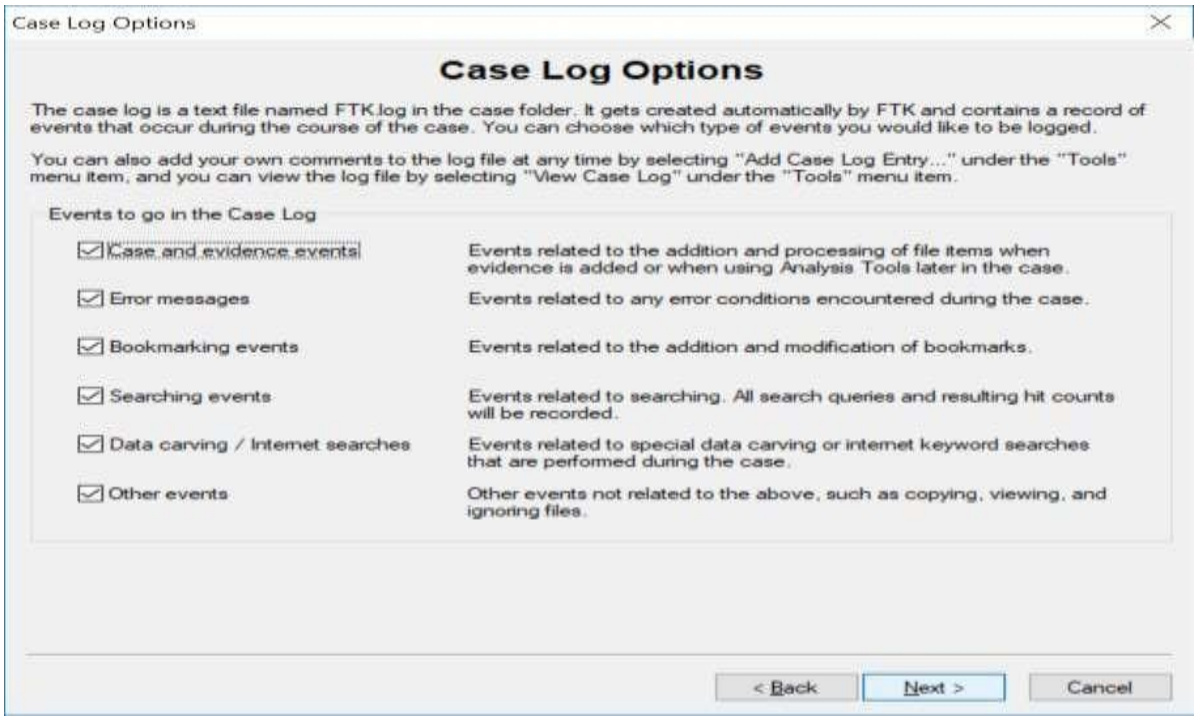
1. Start AccessData FTK by right-clicking the AccessData FTK desktop icon, clicking Run as administrator, and clicking Continue in the UAC message box (if you're using Vista). If you're prompted with a warning message and/or notification (see Figure below), click OK as needed to continue. If asked whether you want to save the existing default case, click Yes.

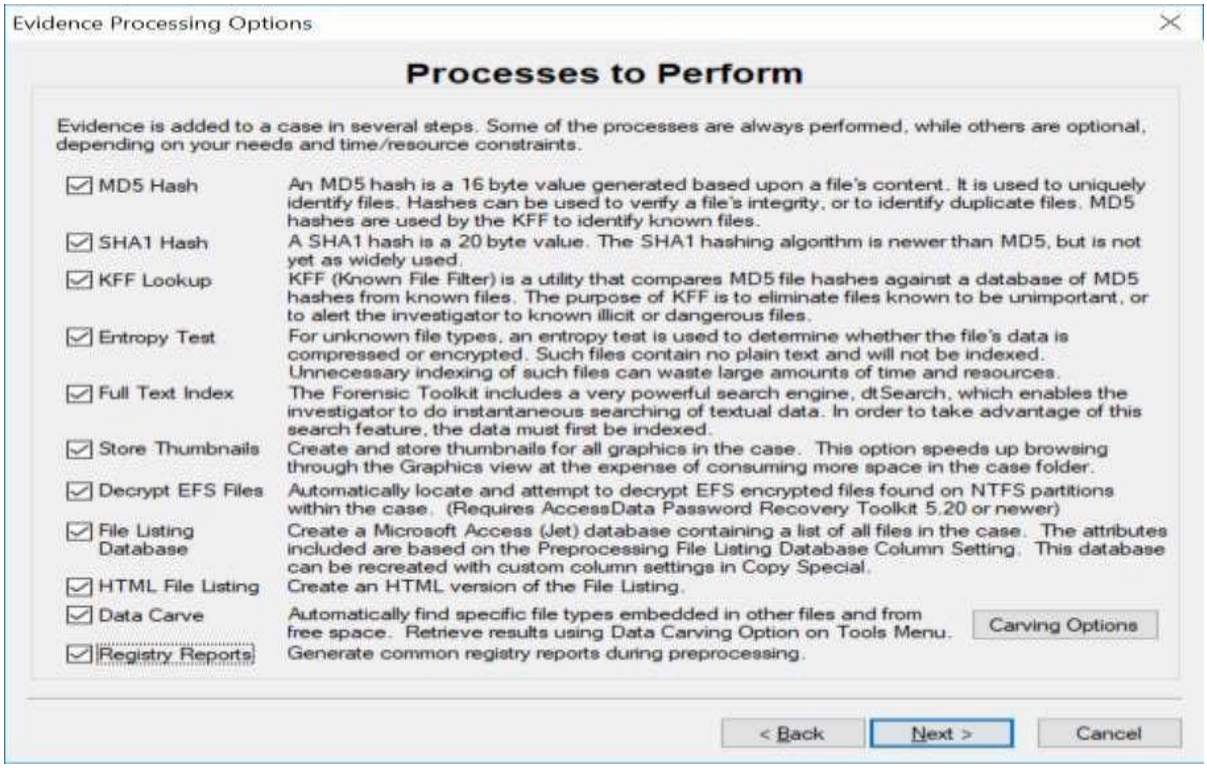


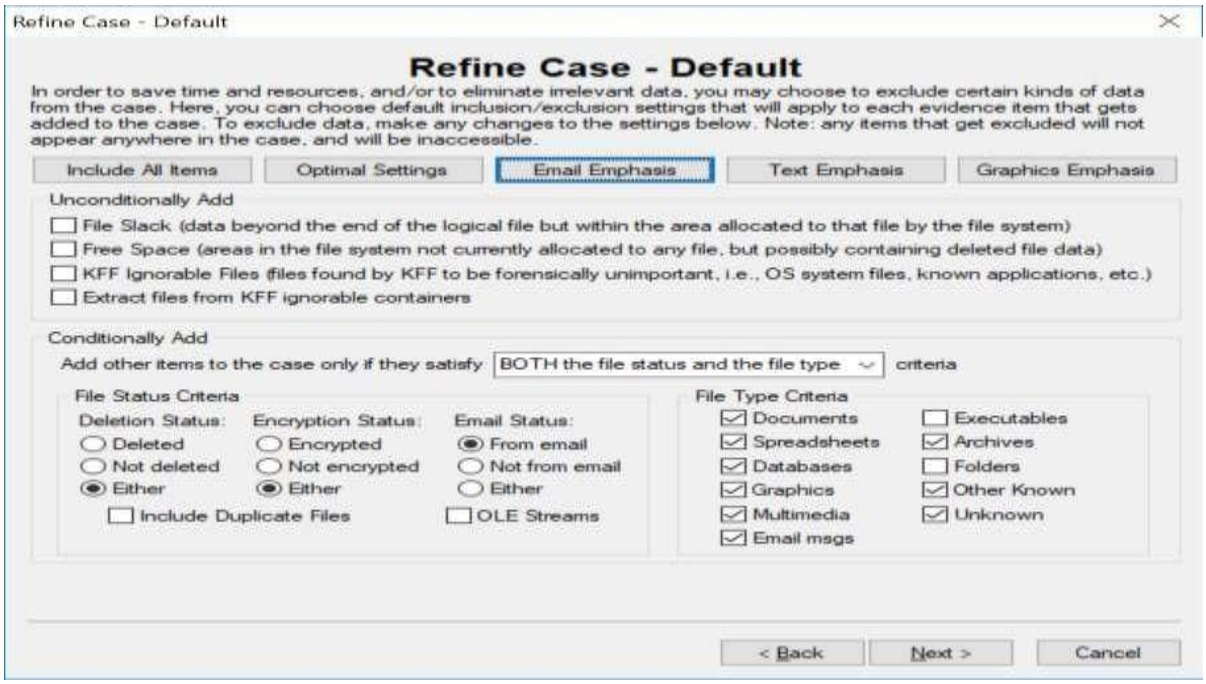
2. When the AccessData FTK Startup dialog box opens, click Start a new case, and then click OK.
3. In the New Case dialog box, type your name for the investigator name, and type the case number and case name. Click Browse, navigate to and click your work folder, click OK, and then click Next.
4. In the Case Information dialog box, enter your investigator information, and then click Next.
5. Click Next until you reach the Refine Case - Default dialog box, shown in Figure below.
6. Click the Email Emphasis button, and then click Next.
7. Click Next until you reach the Add Evidence to Case dialog box, and then click the Add Evidence button.
8. In the Add Evidence to Case dialog box, click the Individual File option button (see Figure below), and then click Continue.
9. In the Select File dialog box, navigate to your work folder, click the Jim_shu's.pst file, and then click Open.
10. In the Evidence Information dialog box, click OK.

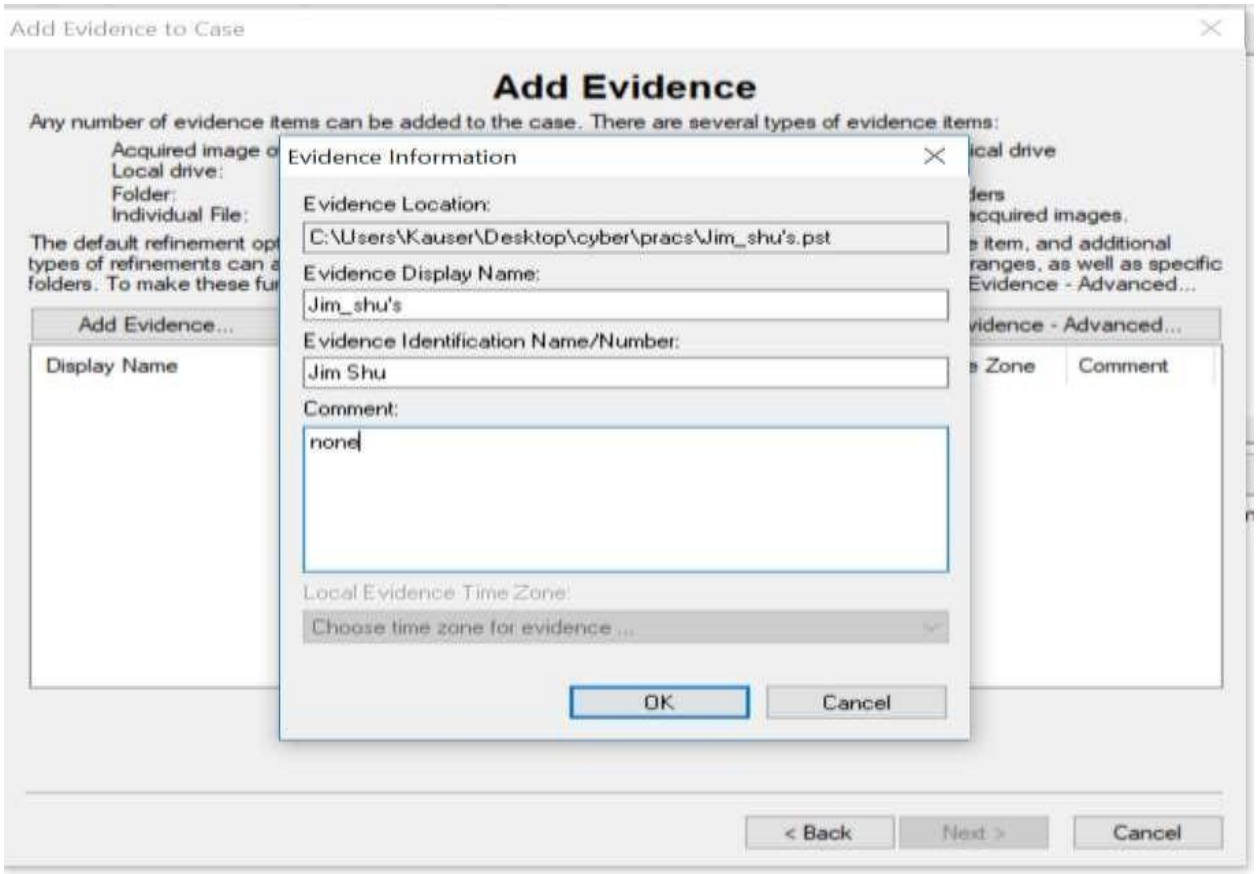


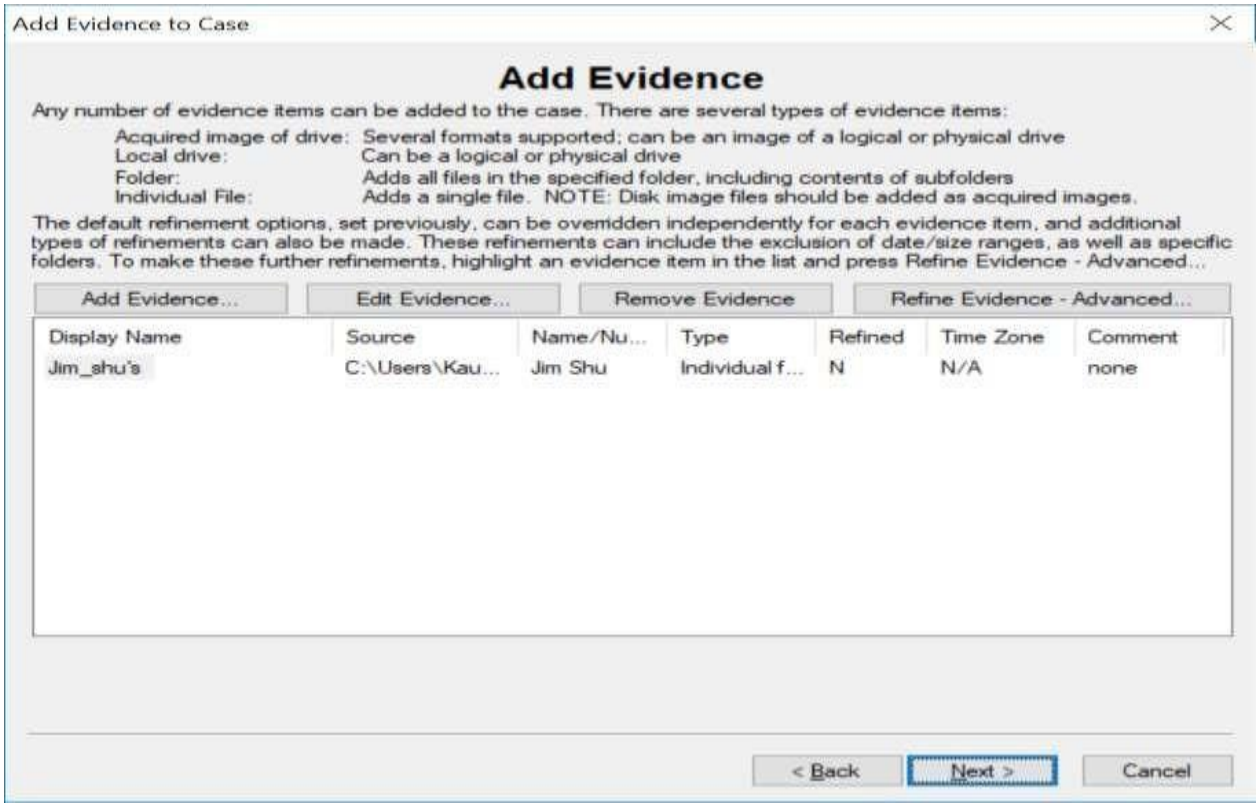

FTK Report Wizard - Case Information
Forensic Examiner Information
The following information will appear on the Case Information page of the report:
Agency/Company: R D National
Examiner's Name: XYZ
Address: Linking Road,Mumbai
Phone: 1234567
Fax: 12345
E-Mail: xyz@gmail.com
Comments: none
< Back
Next >
Cancel

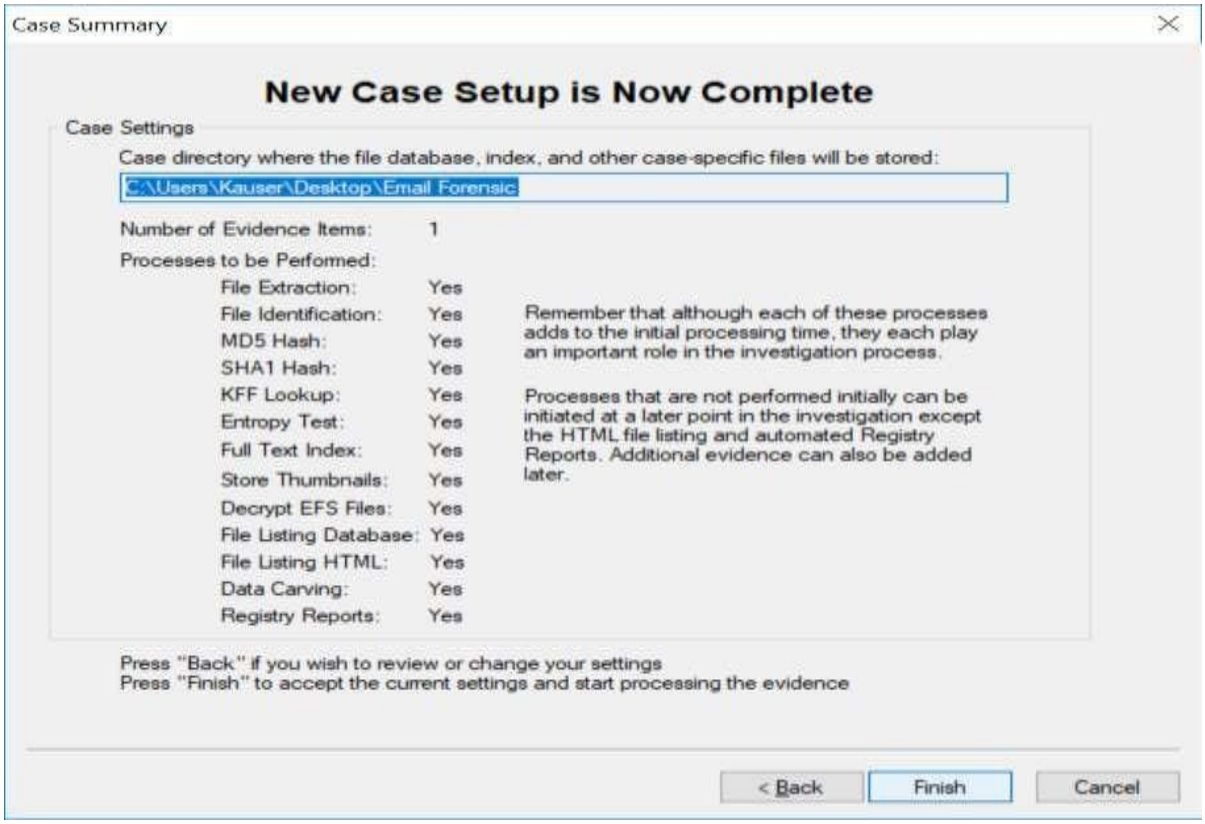

Case Log Options
Case Log Options
The case log is a text file named FTK.log in the case folder. It gets created automatically by FTK and contains a record of events that occur during the course of the case. You can choose which type of events you would like to be logged.
You can also add your own comments to the log file at any time by selecting "Add Case Log Entry..." under the "Tools" menu item, and you can view the log file by selecting "View Case Log" under the "Tools" menu item.
Events to go in the Case Log
Case and evidence events
Events related to the addition and processing of file items when evidence is added or when using Analysis Tools later in the case.
Error messages
Events related to any error conditions encountered during the case.
Bookmarking events
Events related to the addition and modification of bookmarks.
Searching events
Events related to searching. All search queries and resulting hit counts will be recorded.
Data carving / Internet searches
Events related to special data carving or internet keyword searches that are performed during the case.
Other events
Other events not related to the above, such as copying, viewing, and ignoring files.
< Back
Next >
Cancel

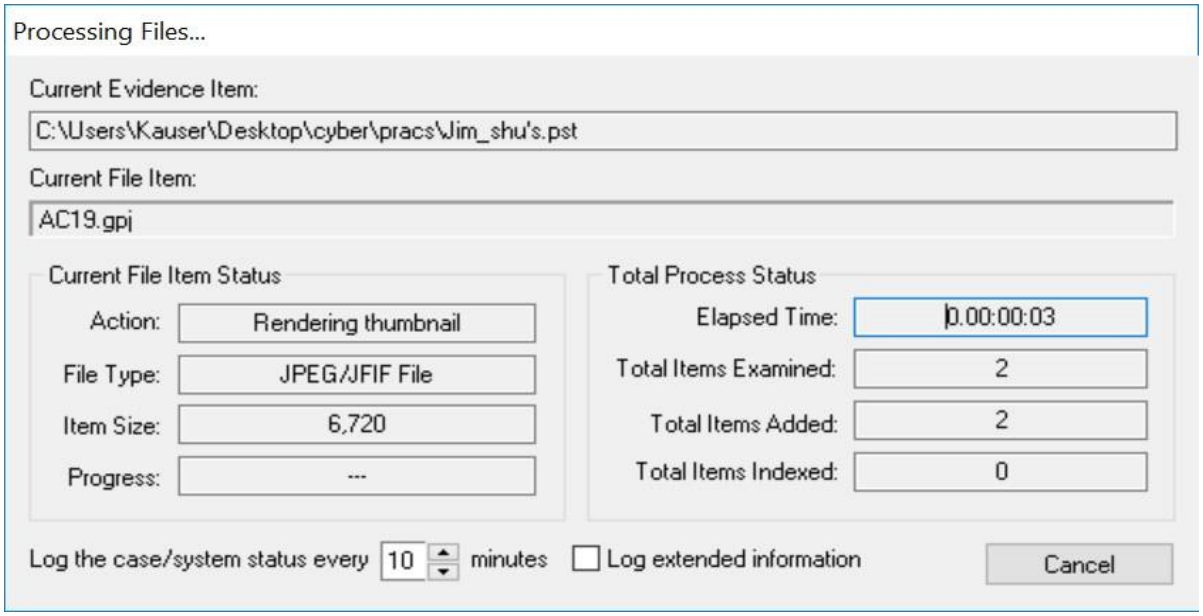

Evidence Processing Options
Processes to Perform
Evidence is added to a case in several steps. Some of the processes are always performed, while others are optional, depending on your needs and time/resource constraints.
MD5 Hash
An MD5 hash is a 16 byte value generated based upon a file's content. It is used to uniquely identify files. Hashes can be used to verify a file's integrity, or to identify duplicate files. MD5 hashes are used by the KFF to identify known files.
SHA1 Hash
A SHA1 hash is a 20 byte value. The SHA1 hashing algorithm is newer than MD5, but is not yet as widely used.
KFF Lookup
KFF (Known File Filter) is a utility that compares MD5 file hashes against a database of MD5 hashes from known files. The purpose of KFF is to eliminate files known to be unimportant, or to alert the investigator to known illicit or dangerous files.
Entropy Test
For unknown file types, an entropy test is used to determine whether the file's data is compressed or encrypted. Such files contain no plain text and will not be indexed. Unnecessary indexing of such files can waste large amounts of time and resources.
Full Text Index
The Forensic Toolkit includes a very powerful search engine, dtSearch, which enables the investigator to do instantaneous searching of textual data. In order to take advantage of this search feature, the data must first be indexed.
Store Thumbnails
Create and store thumbnails for all graphics in the case. This option speeds up browsing through the Graphics view at the expense of consuming more space in the case folder.
Decrypt EFS Files
Automatically locate and attempt to decrypt EFS encrypted files found on NTFS partitions within the case. (Requires AccessData Password Recovery Toolkit 5.20 or newer)
File Listing Database
Create a Microsoft Access (Jet) database containing a list of all files in the case. The attributes included are based on the Preprocessing File Listing Database Column Setting. This database can be recreated with custom column settings in Copy Special.
HTML File Listing
Create an HTML version of the File Listing.
Data Carve
Automatically find specific file types embedded in other files and from free space. Retrieve results using Data Carving Option on Tools Menu.
Carving Options
Registry Reports
Generate common registry reports during preprocessing.
< Back
Next >
Cancel


Refine Case - Default
Refine Case - Default
In order to save time and resources, and/or to eliminate irrelevant data, you may choose to exclude certain kinds of data from the case. Here, you can choose default inclusion/exclusion settings that will apply to each evidence item that gets added to the case. To exclude data, make any changes to the settings below. Note: any items that get excluded will not appear anywhere in the case, and will be inaccessible.
Include All Items
Optimal Settings
Email Emphasis
Text Emphasis
Graphics Emphasis
Unconditionally Add
File Slack (data beyond the end of the logical file but within the area allocated to that file by the file system)
Free Space (areas in the file system not currently allocated to any file, but possibly containing deleted file data)
KFF Ignorable Files (files found by KFF to be forensically unimportant, i.e., OS system files, known applications, etc.)
Extract files from KFF ignorable containers
Conditionally Add
Add other items to the case only if they satisfy BOTH the file status and the file type criteria
File Status Criteria
Deletion Status: Deleted Not deleted Either
Encryption Status: Encrypted Not encrypted Either
Email Status: From email Not from email Either
Include Duplicate Files
OLE Streams
File Type Criteria
Documents
Spreadsheets
Databases
Graphics
Multimedia
Email msgs
Executables
Archives
Folders
Other Known
Unknown
< Back
Next >
Cancel


Add Evidence to Case
Add Evidence
Any number of evidence items can be added to the case. There are several types of evidence items:
Evidence Information
Evidence Location:
C:\Users\Kauser\Desktop\cyber\pracs\Jim_shu's.pst
Evidence Display Name:
Jim_shu's
Evidence Identification Name/Number:
Jim Shu
Comment:
none
Local Evidence Time Zone:
Choose time zone for evidence ...
OK
Cancel
Add Evidence...
Display Name
Comment
< Back
Next >
Cancel

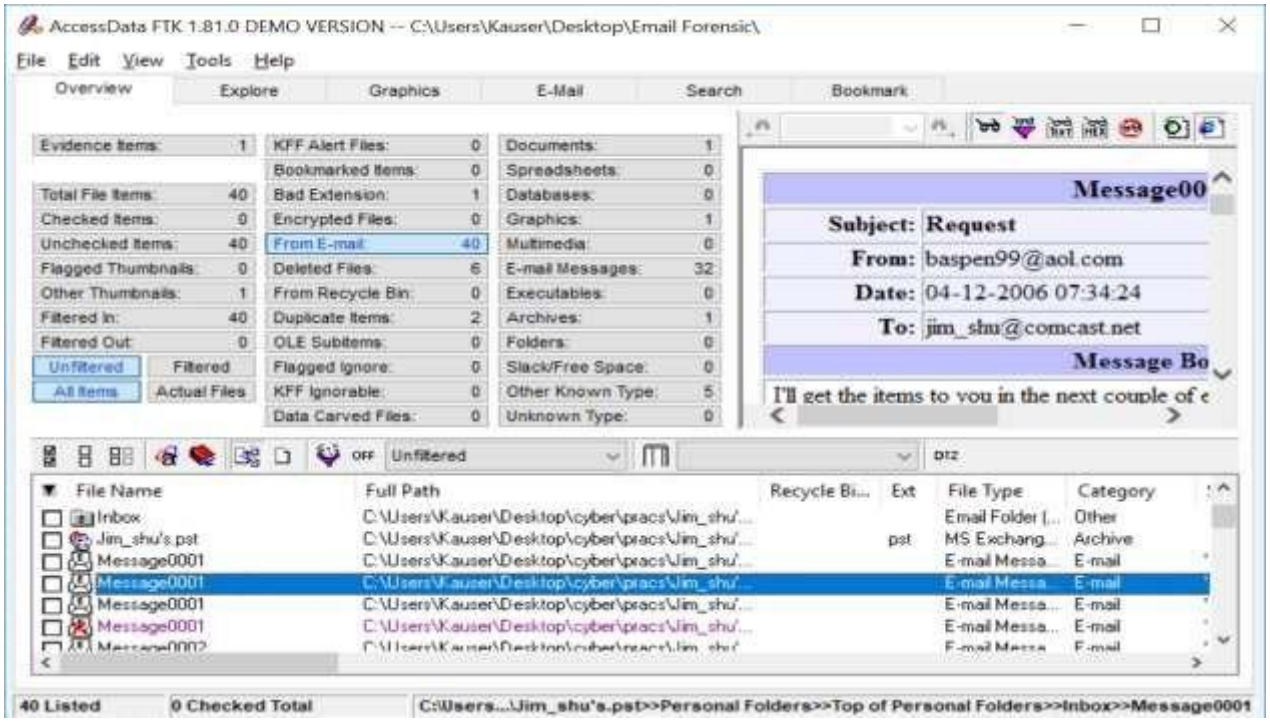

Add Evidence to Case
Add Evidence
Any number of evidence items can be added to the case. There are several types of evidence items:
Acquired image of drive: Several formats supported; can be an image of a logical or physical drive
Local drive: Can be a logical or physical drive
Folder: Adds all files in the specified folder, including contents of subfolders
Individual File: Adds a single file. NOTE: Disk image files should be added as acquired images.
The default refinement options, set previously, can be overridden independently for each evidence item, and additional types of refinements can also be made. These refinements can include the exclusion of date/size ranges, as well as specific folders. To make these further refinements, highlight an evidence item in the list and press Refine Evidence - Advanced...
Add Evidence...
Edit Evidence...
Remove Evidence
Refine Evidence - Advanced...
Display Name
Source
Name/Nu...
Type
Refined
Time Zone
Comment
Jim_shu's
C:\Users\Kau...
Jim Shu
Individual f...
N
N/A
none
< Back
Next >
Cancel





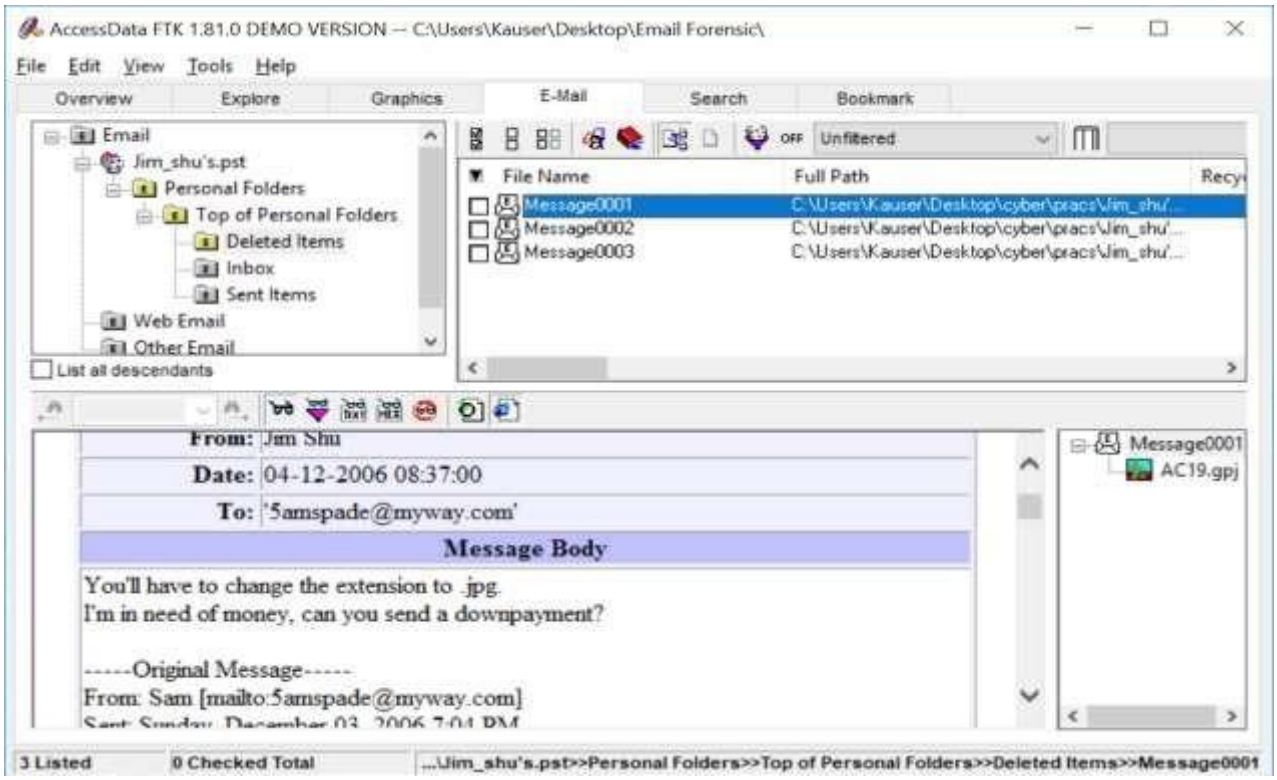
11. When the Add Evidence to Case dialog box opens, click Next. In the Case summary dialog box, click Finish.

12. When FTK finishes processing the file, in the main FTK window, click the E-mail Messages button, and then click the Full Path column header to sort the records (see Figure below).

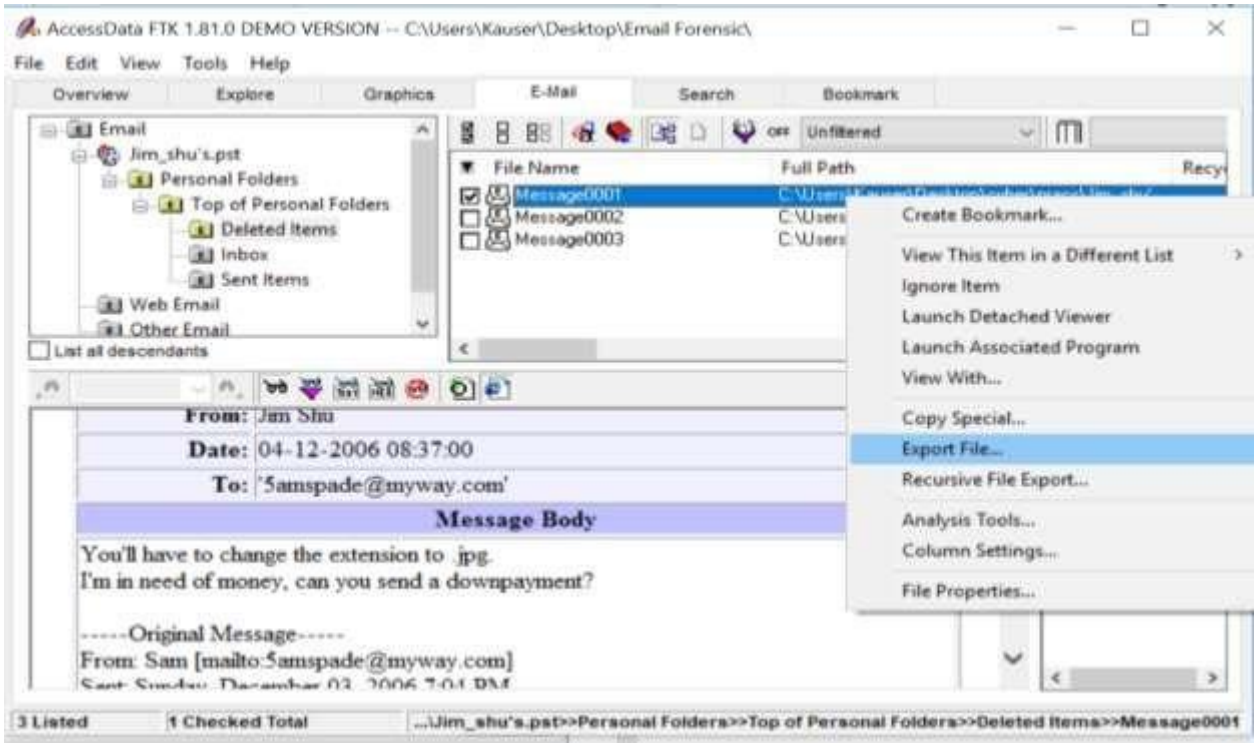


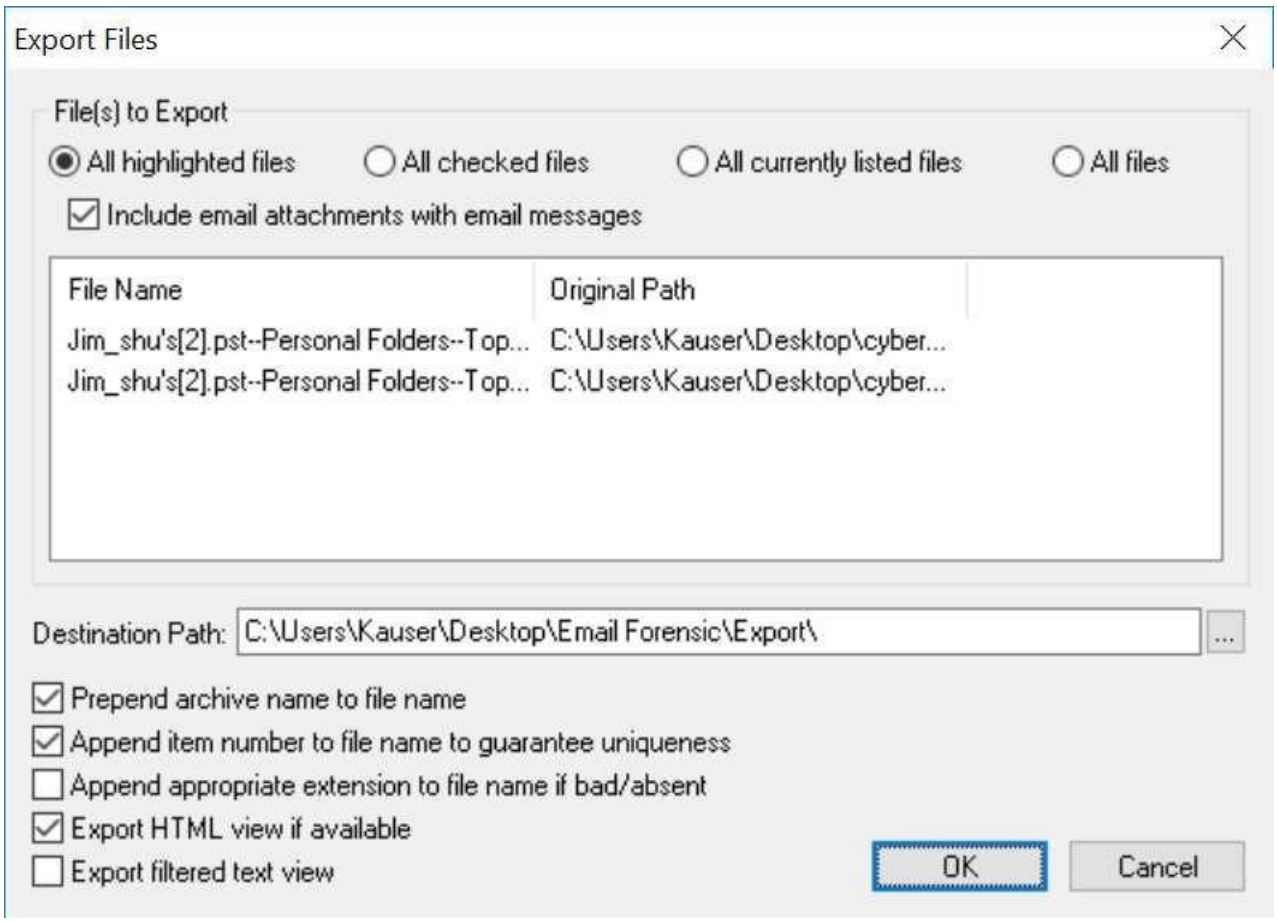
- For email recovery follow following steps:

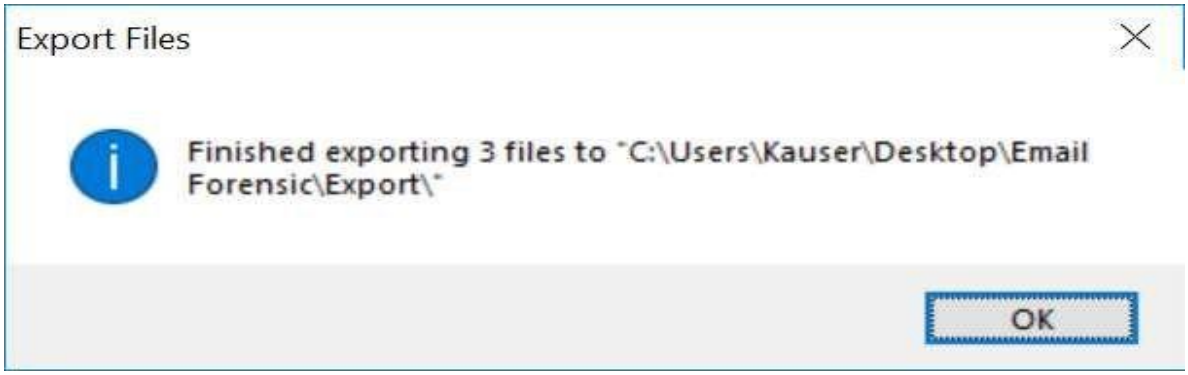
1. Click the E-Mail tab. In the tree view, click to expand all folders, and then click the Deleted Items folder



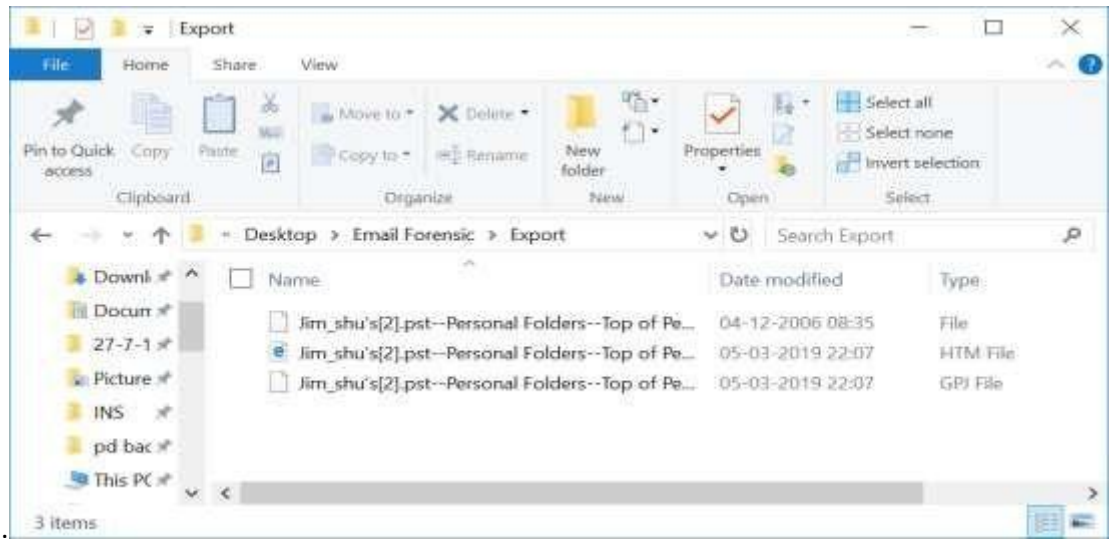
2. Right-click Message0010 in the File List pane and click Export File. In the Export Files dialog box, click OK

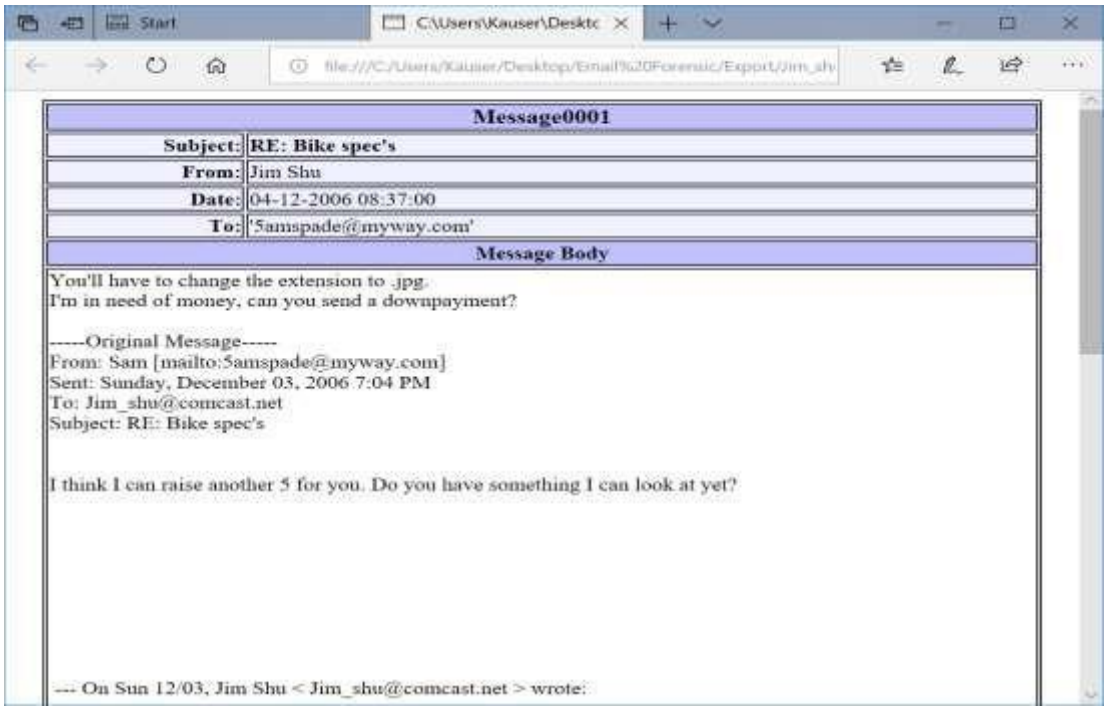

AccessData FTK 1.81.0 DEMO VERSION -- C:\Users\Kauser\Desktop\Email Forensic\
File Edit View Tools Help
Overview Explore Graphics E-Mail Search Bookmark
Email
Jim_shu's.pst
Personal Folders
Top of Personal Folders
Deleted Items
Inbox
Sent Items
Web Email
Other Email
List all descendants
File Name
Full Path
Message0001
Message0002
Message0003
Unfiltered
Create Bookmark...
View This Item in a Different List
Ignore Item
Launch Detached Viewer
Launch Associated Program
View With...
Copy Special...
Export File...
Recursive File Export...
Analysis Tools...
Column Settings...
File Properties...
From: Jim Shu
Date: 04-12-2006 08:37:00
To: '5amspade@myway.com'
Message Body
You'll have to change the extension to .jpg.
I'm in need of money, can you send a downpayment?
-----Original Message-----
From: Sam [mailto:5amspade@myway.com]
3 Listed
1 Checked Total
...\Jim_shu's.pst>>Personal Folders>>Top of Personal Folders>>Deleted Items>>Message0001


Export Files
File(s) to Export
All highlighted files
All checked files
All currently listed files
All files
Include email attachments with email messages
File Name
Original Path
Jim_shu's[2].pst--Personal Folders--Top...
C:\Users\Kauser\Desktop\cyber...
Jim_shu's[2].pst--Personal Folders--Top...
C:\Users\Kauser\Desktop\cyber...
Destination Path:
C:\Users\Kauser\Desktop\Email Forensic\Export\
Prepend archive name to file name
Append item number to file name to guarantee uniqueness
Append appropriate extension to file name if bad/absent
Export HTML view if available
Export filtered text view
OK
Cancel



3. Open the Export folder to view the Email Files, Open the HTML file in browser





Message0001	
Subject:	RE: Bike spec's
From:	Jim Shu
Date:	04-12-2006 08:37:00
To:	'5amspade@myway.com'
Message Body	

You'll have to change the extension to .jpg.
I'm in need of money, can you send a downpayment?

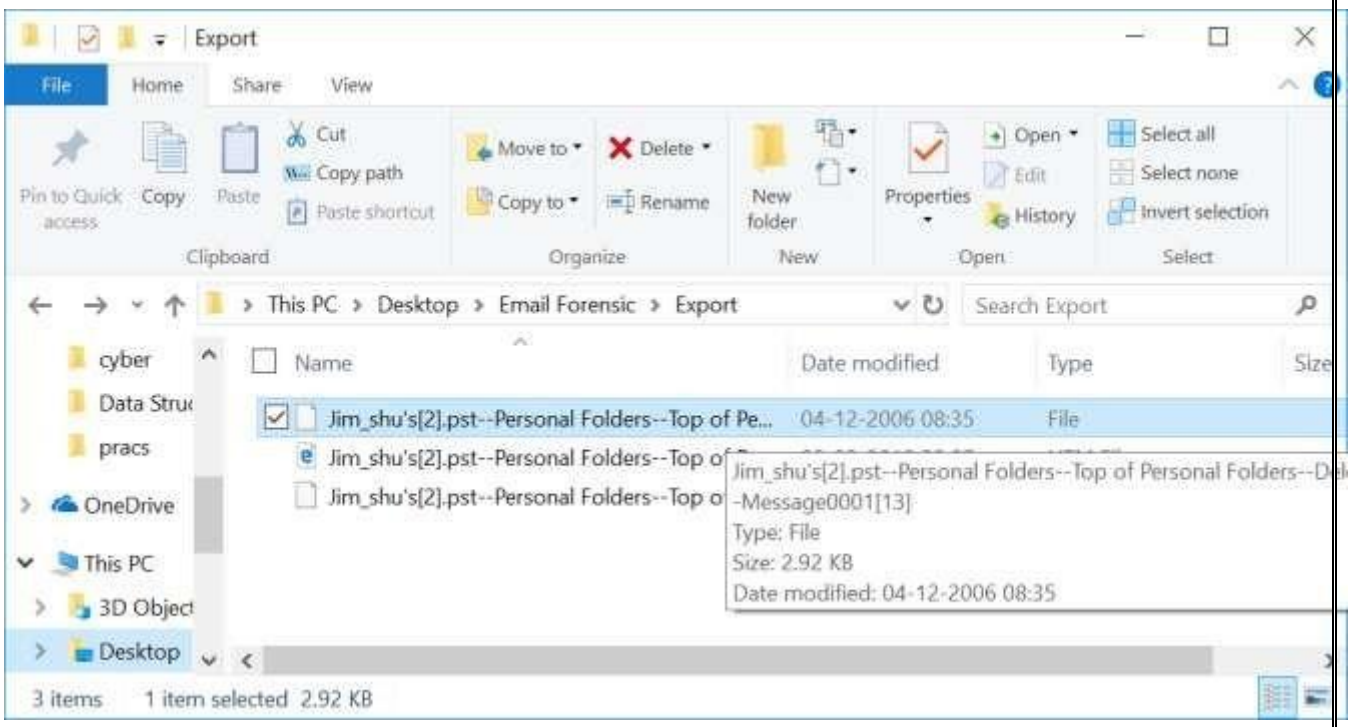
-----Original Message-----
From: Sam [mailto:5amspade@myway.com]
Sent: Sunday, December 03, 2006 7:04 PM
To: Jim_shu@comcast.net
Subject: RE: Bike spec's

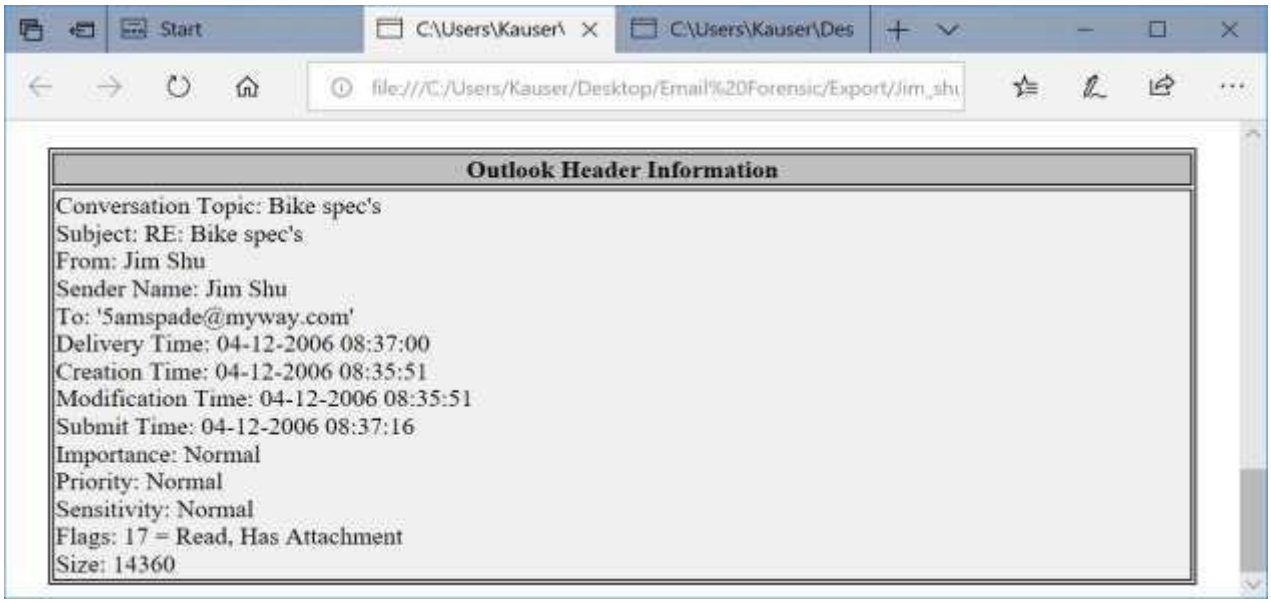
I think I can raise another 5 for you. Do you have something I can look at yet?

--- On Sun 12/03, Jim Shu < Jim_shu@comcast.net > wrote:

- For analyzing header follow following steps:

1. Right Click the file type and Rename it to HTML and open in browser to view header information





Practical No – 10

Aim: Web Browser Forensics

-Web Browser working

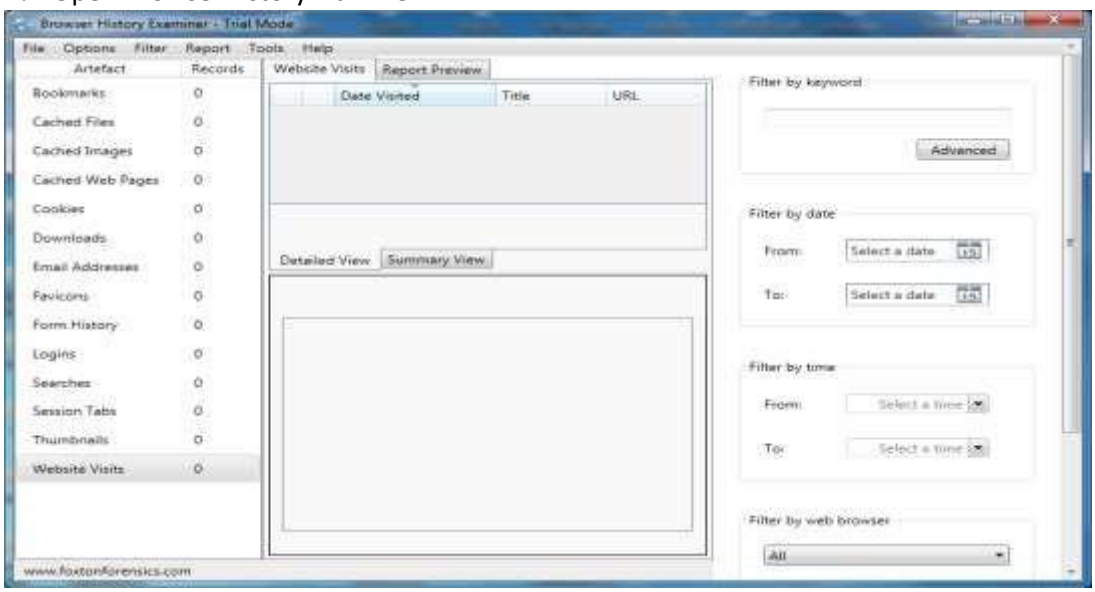
-Forensics activities on browser

-Cache / Cookies analysis

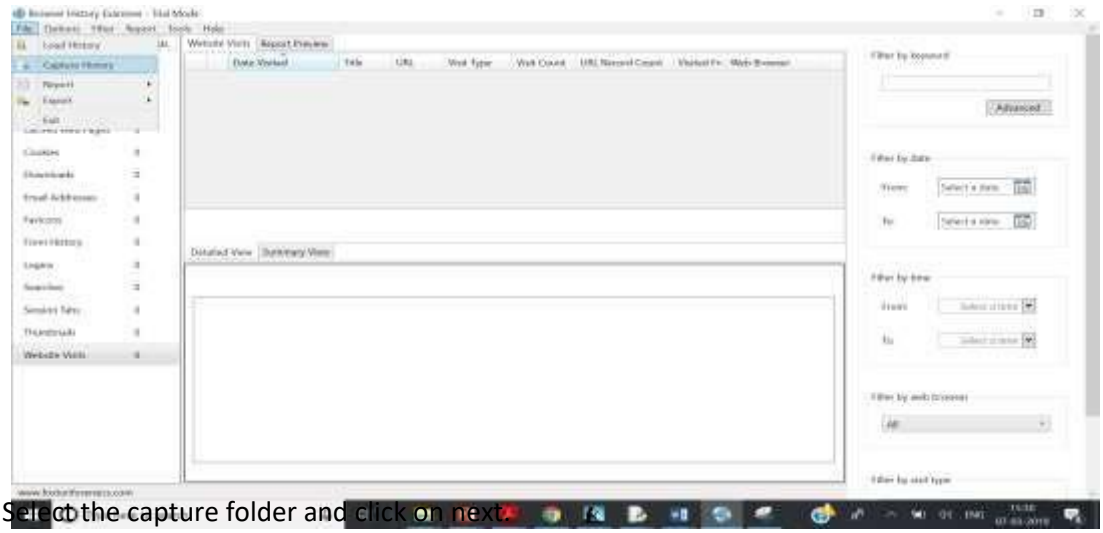
-Last Internet activity

Steps:

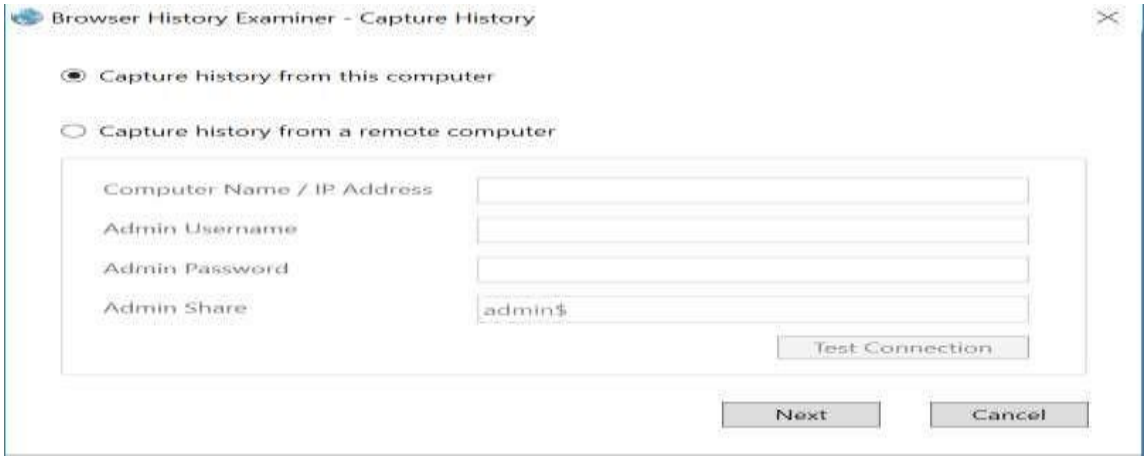
1. Open BrowserHistoryExaminer.



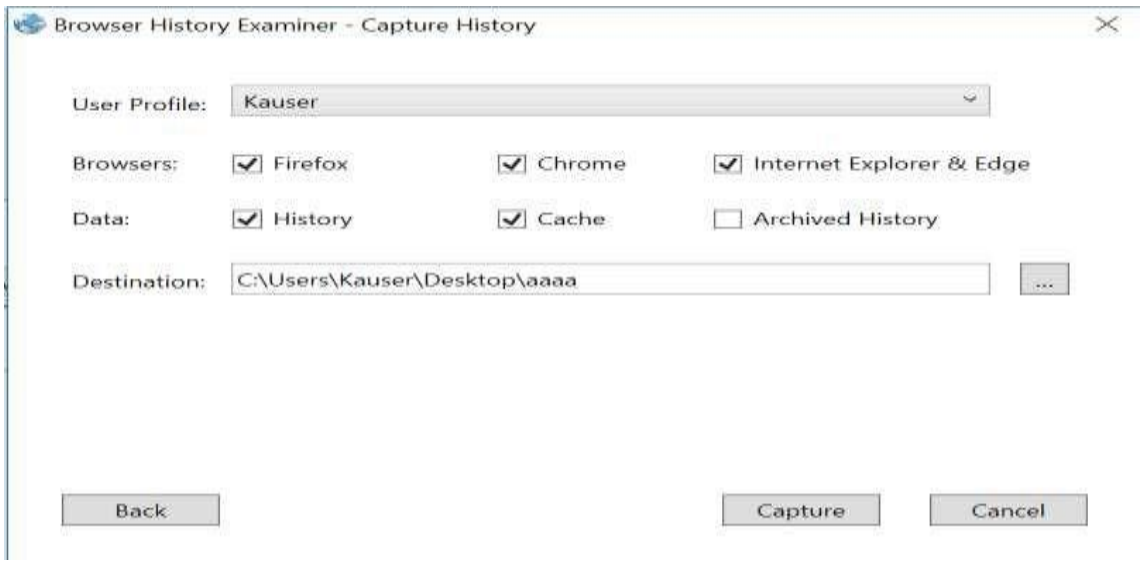
2. Click on file > Capture History.



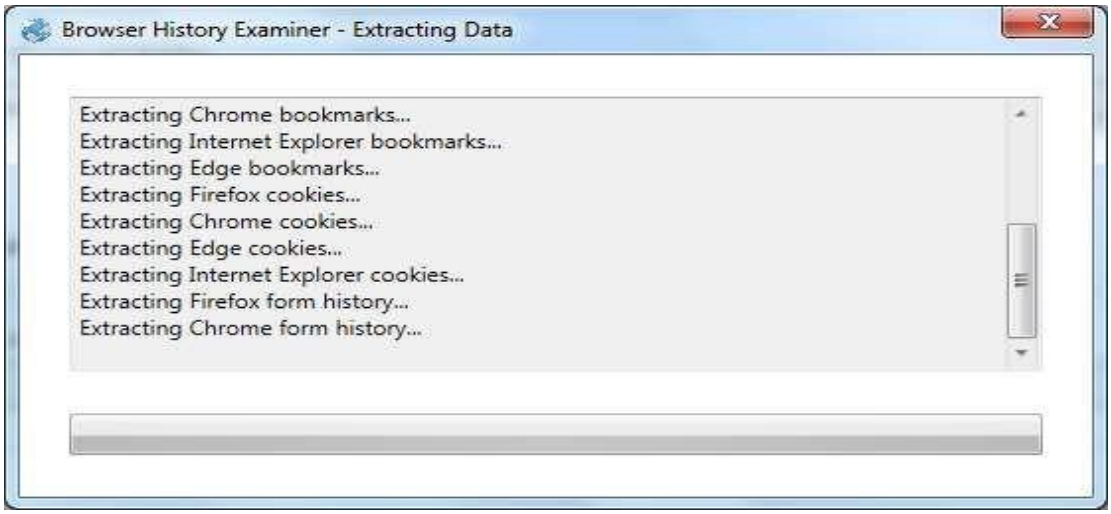
3. Select the capture folder and click on next.



4. Enter the destination to capture the data.

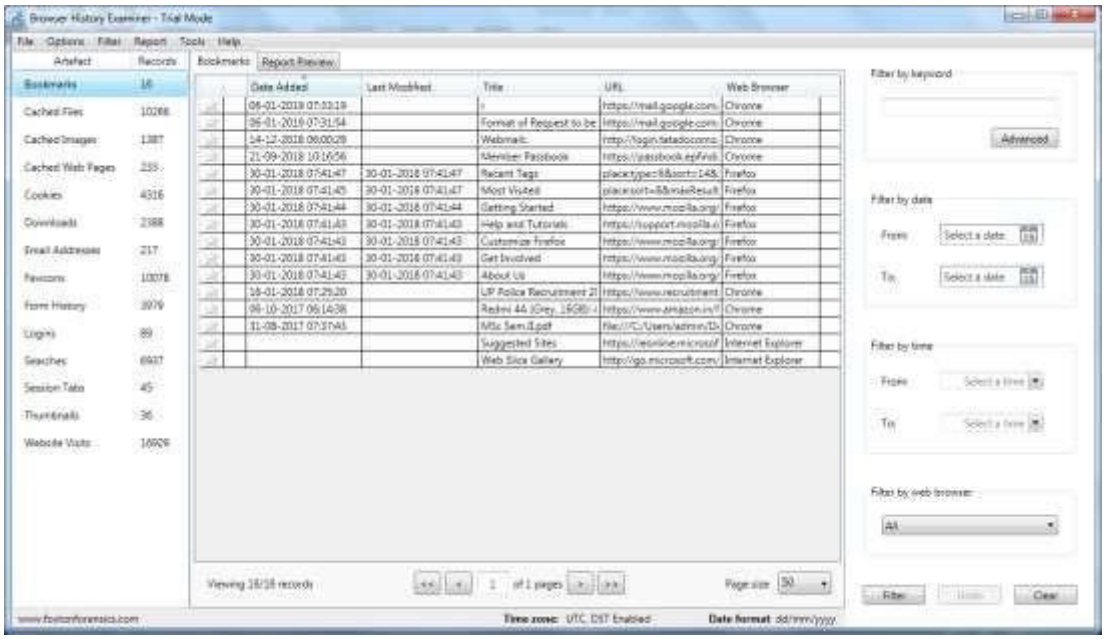


5. The History is been extracting.

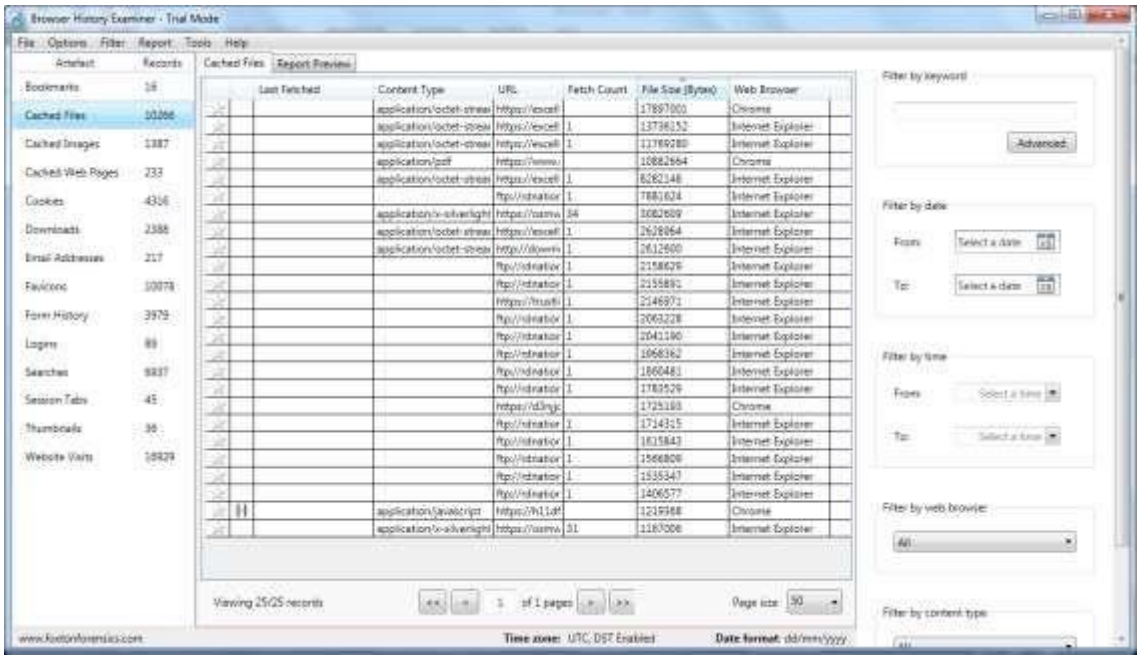


6. The data has been retrieved.

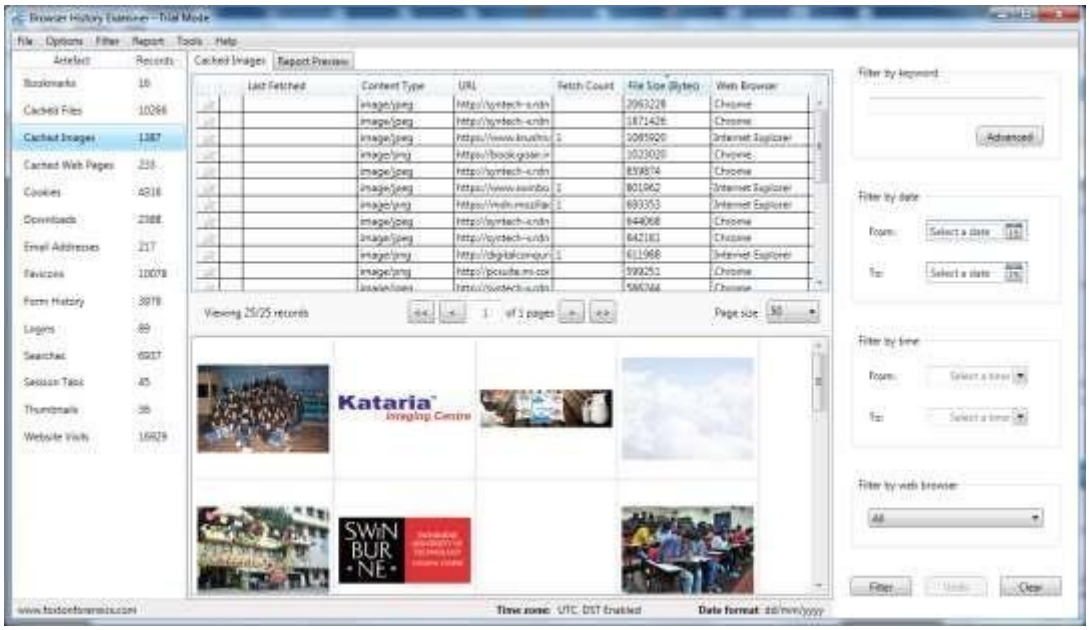
7. On the left panel click on bookmarks.



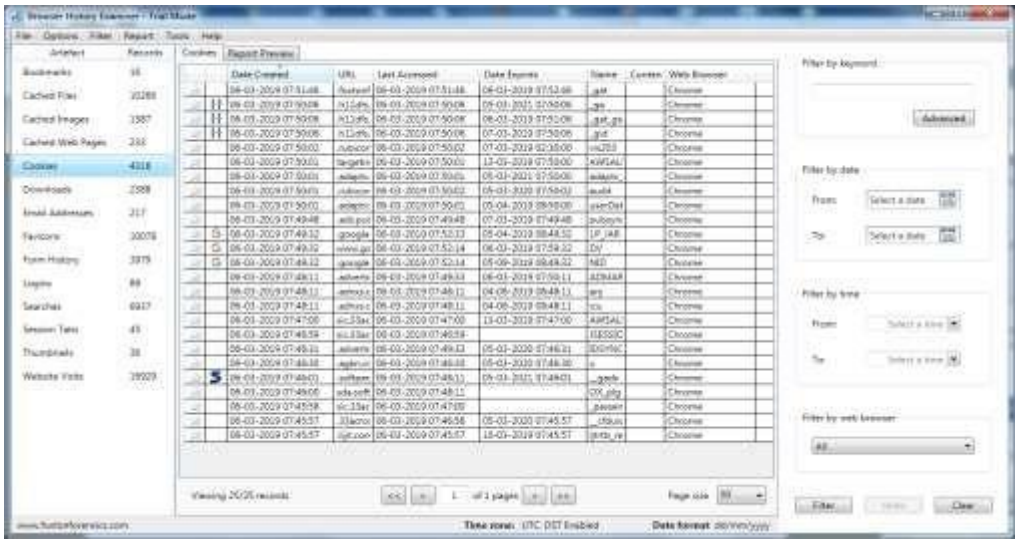
8. On the left panel click on cached files.



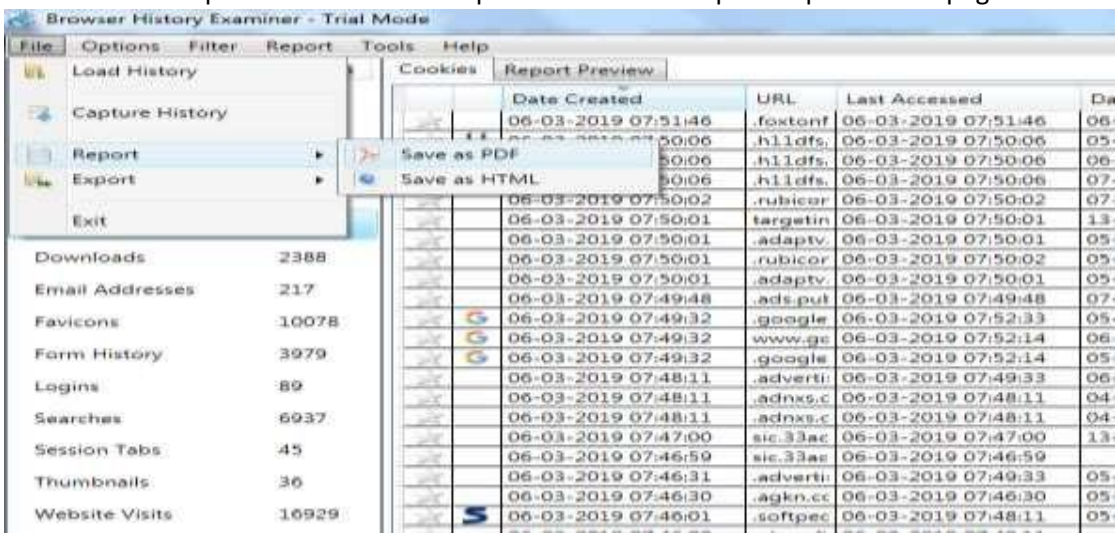
9. On the left panel click on cached images.

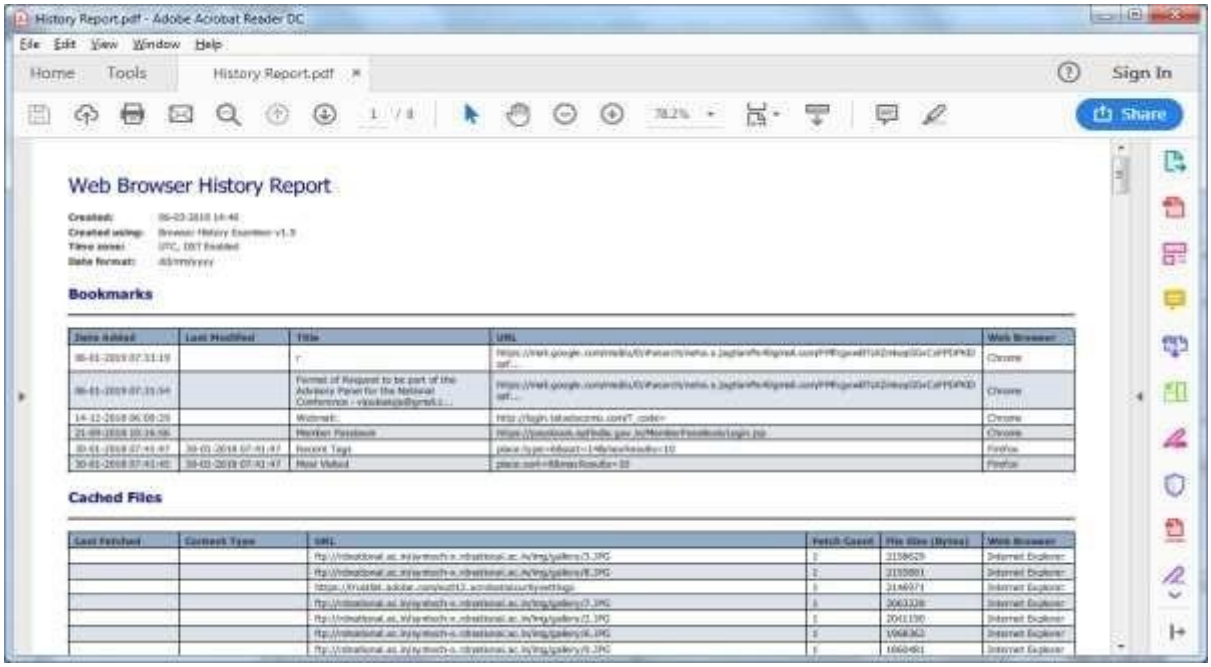


10. On the left panel click on cookies.

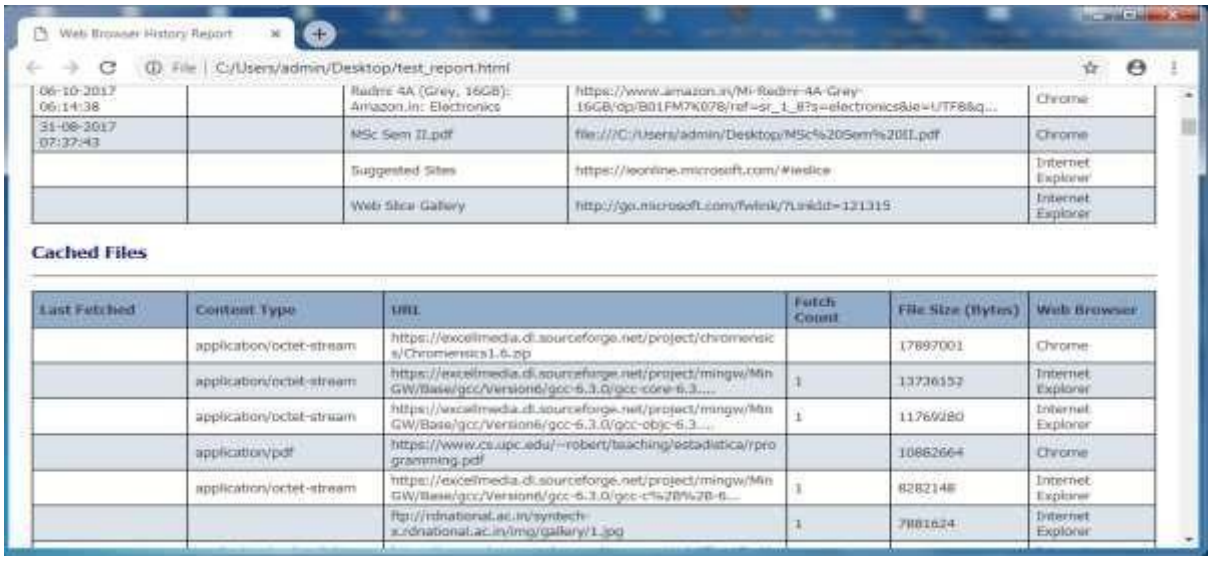


11. To Create Reports. Click on file > Report and save the report as pdf or html page.




History Report.pdf - Adobe Acrobat Reader DC
Web Browser History Report
Bookmarks
Cached Files


Browser History Examiner - Trial Mode
Web Browser History Report
Export to Excel
Export to HTML
Export to CSV
Export to XML
Export to Concordance Load File
Downloads 2388
Email Addresses 217
Favicons 10078
Form History 3979
Logins 89
Searches 6937
Session Tabs 45
Thumbnails 36
Website Visits 16929
www.foxtonforensics.com


Web Browser History Report
C:/Users/admin/Desktop/test_report.html
Cached Files