Donald’s Investigation

31/01/2022 - Shivangi is asked by Robert to investigate allegations on Donald about downloading's non-work related files to his external drive - authorize to seize or view entire computer if necessary.

Seized Donald's drive from work station.

7/02/2022 - Attached the disk to forensics workstation Ubuntu 20.04 for imaging

Identified suspected drive as sdb on forensic station, size is 102MiB, 2 partitions found each approximately half the drive. One FAT (sdb1) and one NTFS (sdb2).

Verified the presence of disk

- shivangi@ubuntu:~$ lshw -class disk -businfo:

  Bus info Device Class Description

  ==========

  scsi@32:0.0.0 /dev/sda disk 21GB VMware Virtual S

  scsi@32:0.1.0 /dev/sdb disk 106MB VMware Virtual S

  scsi@3:0.0.0 /dev/cdrom disk VMware SATA CD01

  /dev/cdrom disk

Details about the disk

- shivangi@ubuntu:~$ fdisk -l /dev/sdb:

  Disk /dev/sdb: 102 MiB, 106954752 bytes, 208896 sectors

  Disk model: VMware Virtual S

  Units: sectors of 1 * 512 = 512 bytes

  Sector size (logical/physical): 512 bytes / 512 bytes

  I/O size (minimum/optimal): 512 bytes / 512 bytes

  Disklabel type: dos

  Disk identifier: 0x536b9e19

  Device Boot Start End Sectors Size Id Type

/dev/sdb1 128 102527 102400 50M c W95 FAT32 (LBA)

/dev/sdb2 102528 202879 100352 49M 7 HPFS/NTFS/exFAT

Extra space is noted at the end of the drive as well as starting of reserved space.

For next imaging step to perform and store, moving to the donalds investigation file.

- shivangi@ubuntu:~$ cd Documents/Donald-investigation/

The whole disk and the partitions are captured and compressed.

whole disk:

- shivangi@ubuntu:~/Documents/Donald-investigation$ dd if=/dev/sdb bs=1M | gzip > wholedrive.dd.gz

  102+0 records in

  102+0 records out

  106954752 bytes (107 MB, 102 MiB) copied, 10.0557 s, 10.6 MB/s

part 1:

- shivangi@ubuntu:~/Documents/Donald-investigation$ dd if=/dev/sdb1 bs=1M | gzip > part1.dd.gz

  50+0 records in

  50+0 records out

  52428800 bytes (52 MB, 50 MiB) copied, 4.6425 s, 11.3 MB/s

part 2:

- shivangi@ubuntu:~/Documents/Donald-investigation$ dd if=/dev/sdb2 bs=1M | gzip > part2.dd.gz

  49+0 records in

  49+0 records out

  51380224 bytes (51 MB, 49 MiB) copied, 5.08609 s, 10.1 MB/s

The images created are hashed

- shivangi@ubuntu:~/Documents/Donald-investigation$dc3dd if=/dev/sdb hash=md5 hash=sha1 hash=sha256 hash=sha512 hlog=wholedrive.hlog | gzip > wholedrive.dc3dd.gz

dc3dd 7.2.646 started at 2022-02-07 16:34:49 -0800

compiled options:

command line: dc3dd if=/dev/sdb hash=md5 hash=sha1 hash=sha256 hash=sha512 hlog=wholedrive.hlog

device size: 208896 sectors (probed), 106,954,752 bytes

sector size: 512 bytes (probed)

106954752 bytes (102 M) copied (100%), 32 s, 3.2 M/s

input results for device `/dev/sdb':

208896 sectors in

0 bad sectors replaced by zeros

fefe366ed45fc565669f6727e2730212 (md5)

ba70db0473d92560f7bb4d3ae3ec2f3c544516de (sha1)

6f8f847371b02a6be7ef4346770c94f660003684fe8ab7b24b66cc0c2467c17a (sha256)

b8ab8a17e03c1c864a27b724acacbe80fd5bc69c732cf3d5ea6770294662b79afa550783912d8d1e90cf7b0fed30fd0310d2b9f099e4b77d34ca3b640fce368f (sha512)

output results for file `stdout':

208896 sectors out

dc3dd completed at 2022-02-07 16:35:21 -0800

The ownership of the whole disk hash log file is changed.

- shivangi@ubuntu:~/Documents/Donald-investigation$ sudo chown shivangi wholedrive.hlog

  shivangi@ubuntu:~/Documents/Donald-investigation$ ls -l

  total 26204

  -rw-rw-r-- 1 shivangi shivangi 2136 Feb 7 20:42 activities.txt

  -rw-rw-r-- 1 shivangi shivangi 4392281 Feb 7 16:26 part1.dd.gz

  -rw-rw-r-- 1 shivangi shivangi 4543381 Feb 7 16:26 part2.dd.gz

  -rw-rw-r-- 1 shivangi shivangi 8939694 Feb 7 16:35 wholedrive.dc3dd.gz

  -rw-rw-r-- 1 shivangi shivangi 8939694 Feb 7 16:22 wholedrive.dd.gz

  -rw-r--r-- 1 shivangi root 597 Feb 7 16:35 wholedrive.hlog

Generated sha256 hash for the whole drive image file.

- shivangi@ubuntu:~/Documents/Donald-investigation$ gunzip < wholedrive.dd.gz|sha256sum > wholedrive.sha256

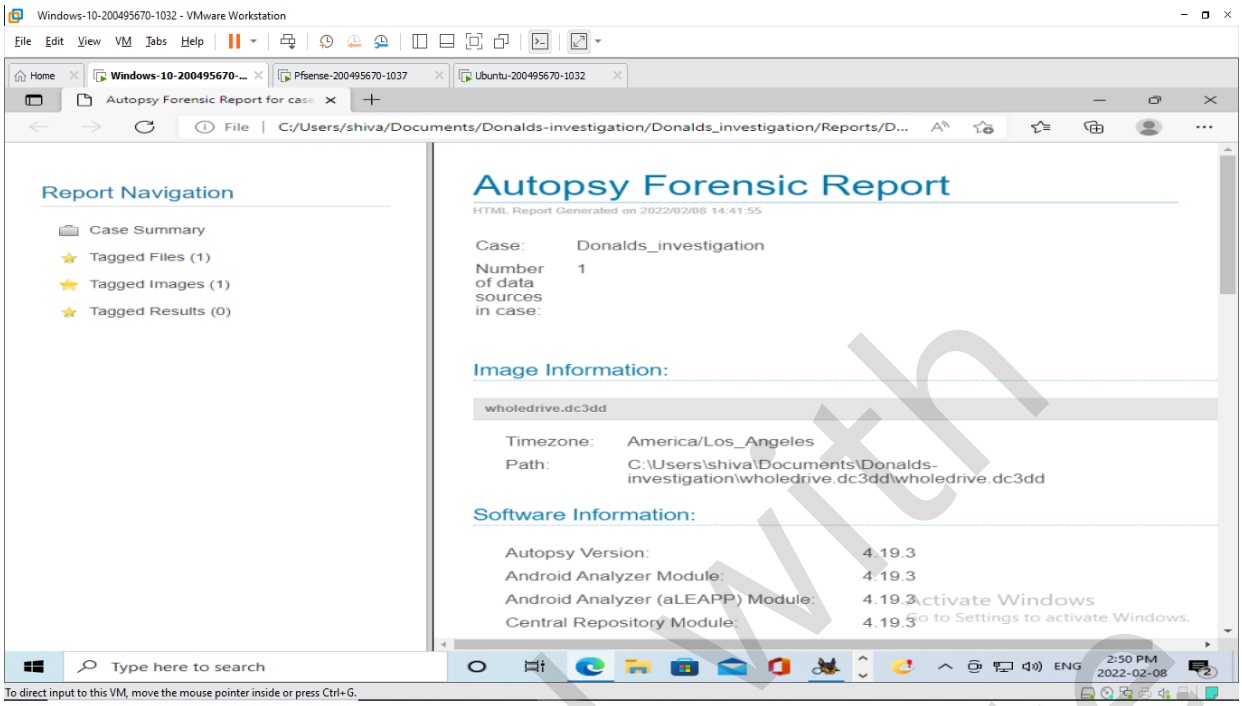
Finding image of Clint Eastwood in Donald's drive.

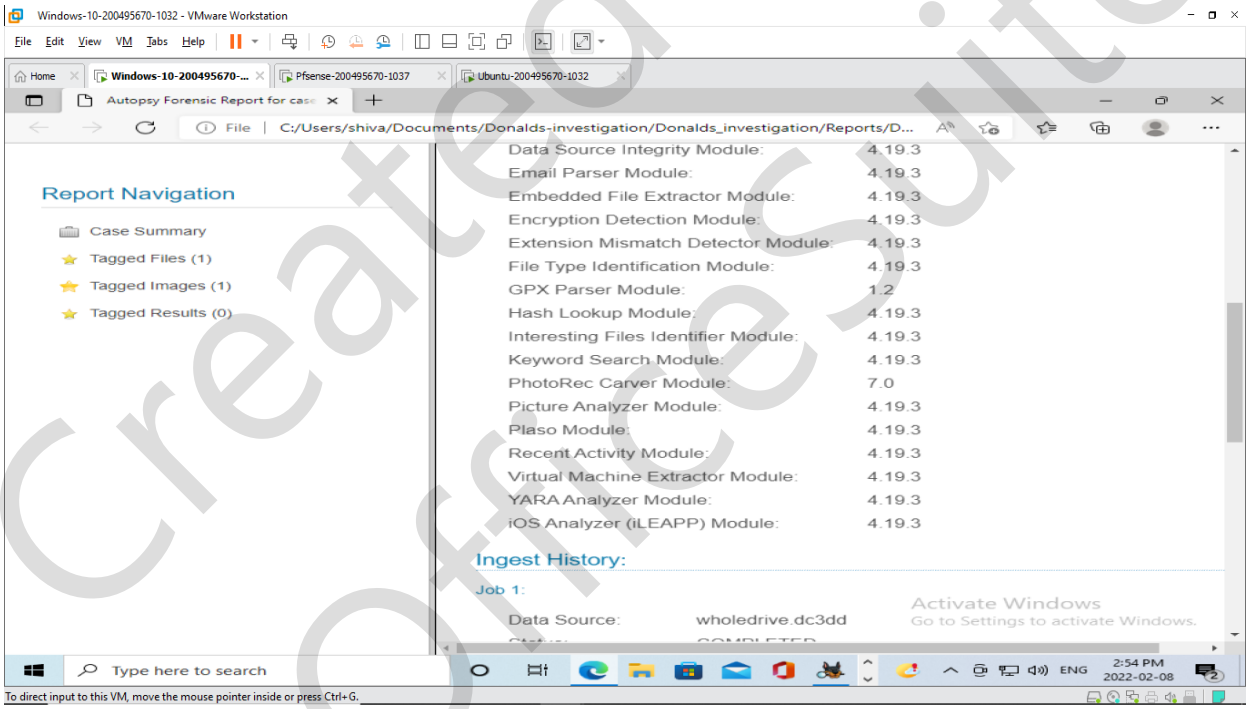
8/02/2022 The files are moved to a Windows 10 desktop for further investigation with the software

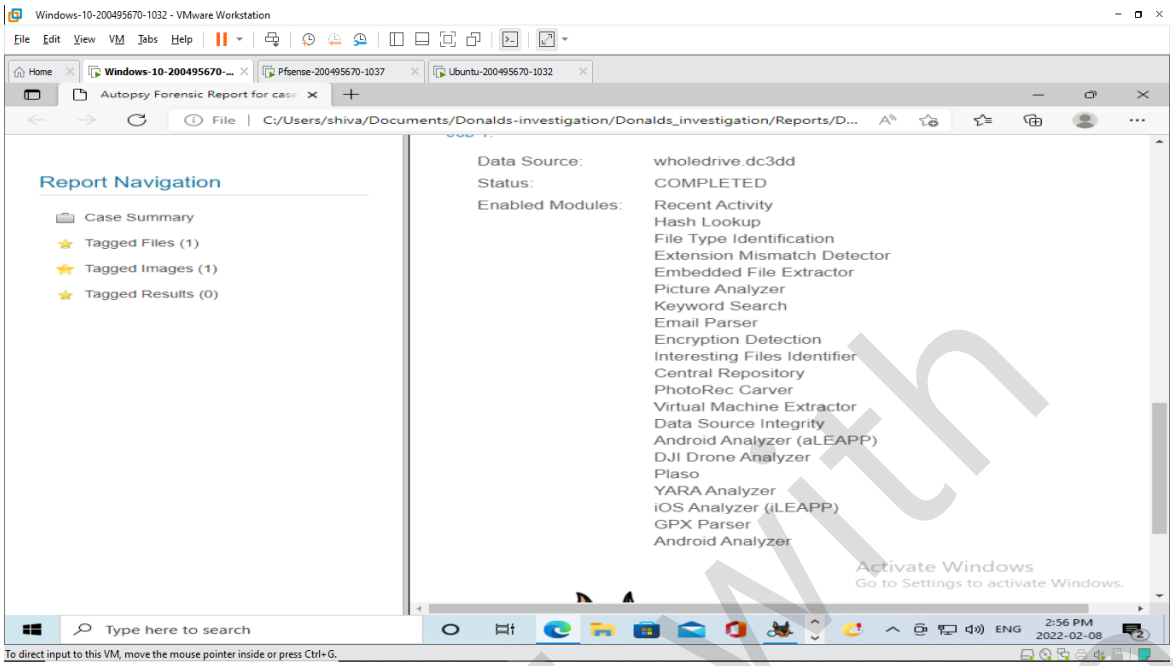
The wholedrive.dc3dd.gz decompressed on the windows desktop before inserting into Autopsy.

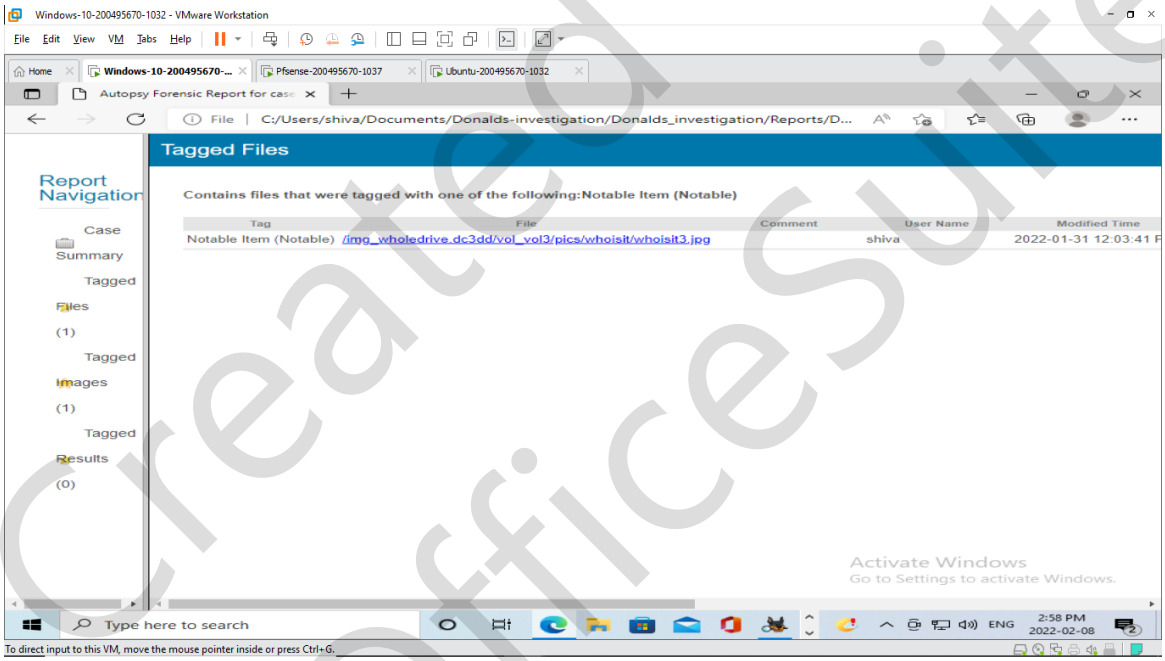
The following image of Clint Eastwood was found under the name whoisit3.jpg

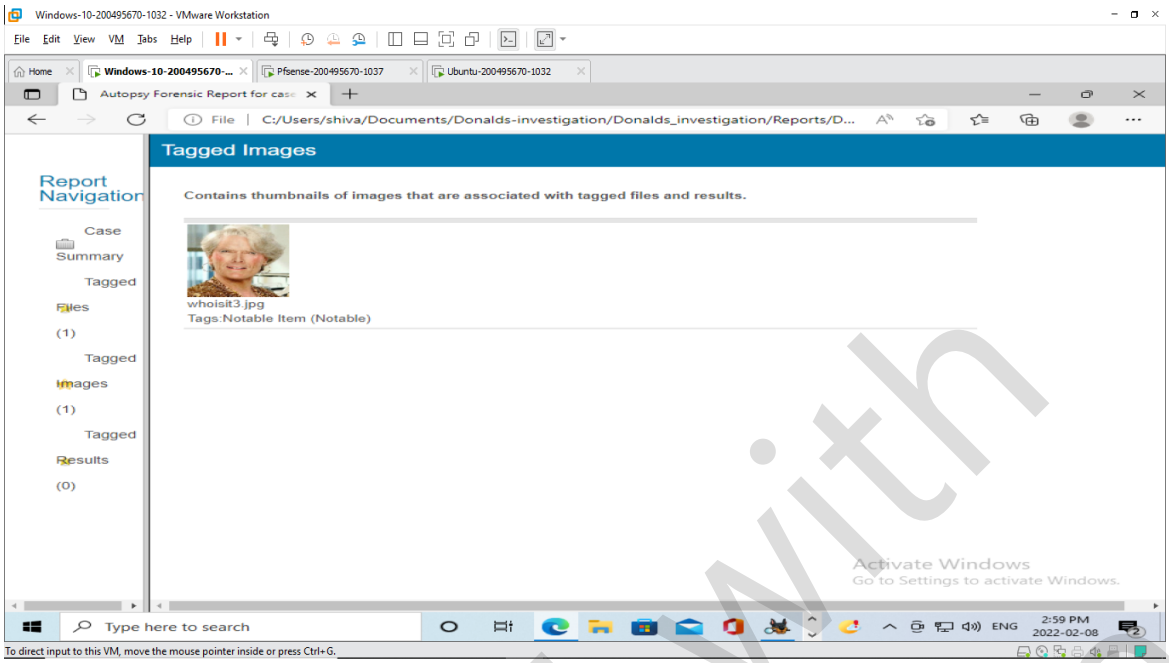
The following is the report generated by Autopsy.









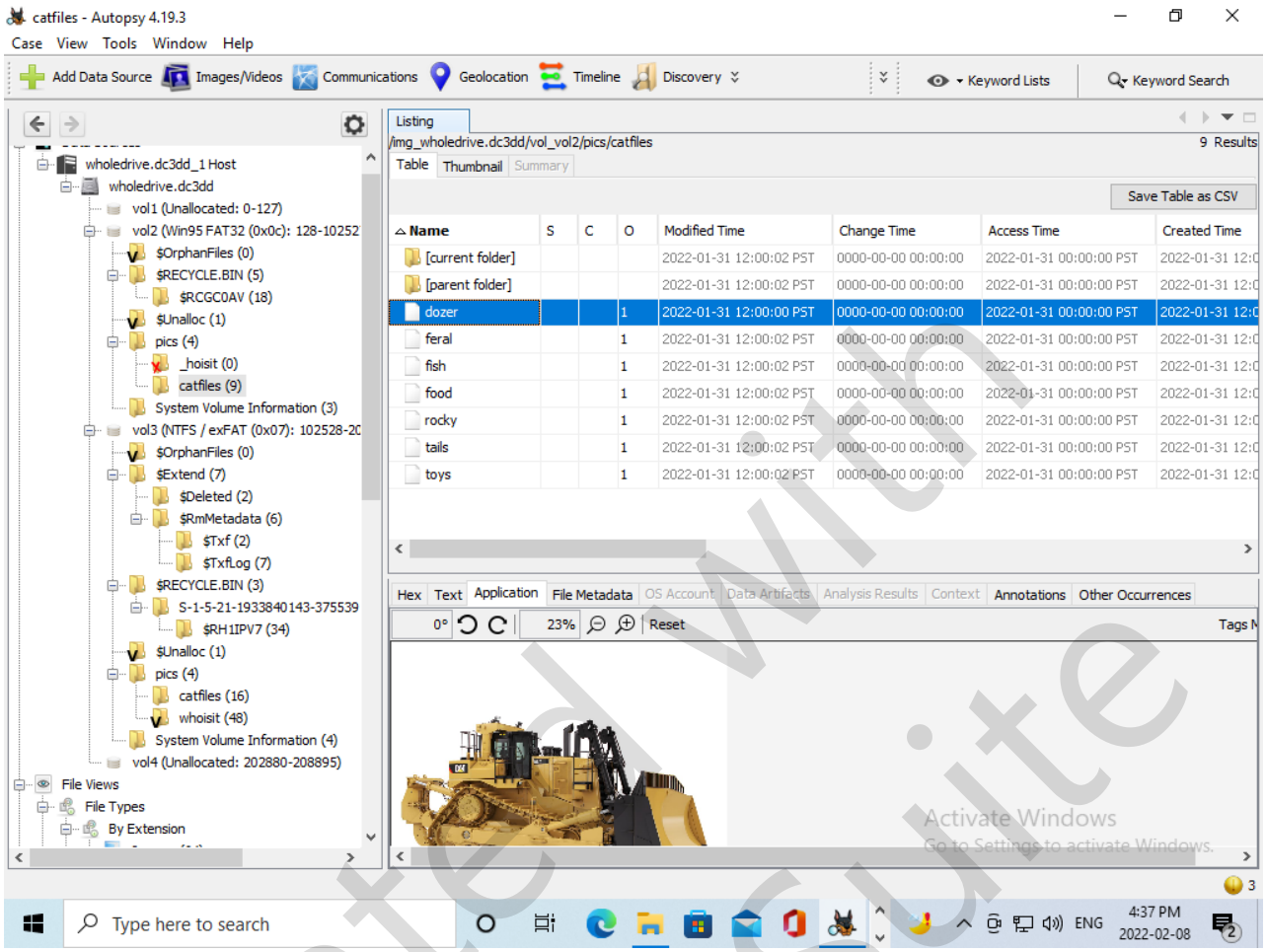


Finding Zone.identifier streams using Autopsy

8/02/2022 New case created and the image disk is uploaded to Autopsy to identify the difference between the drives.

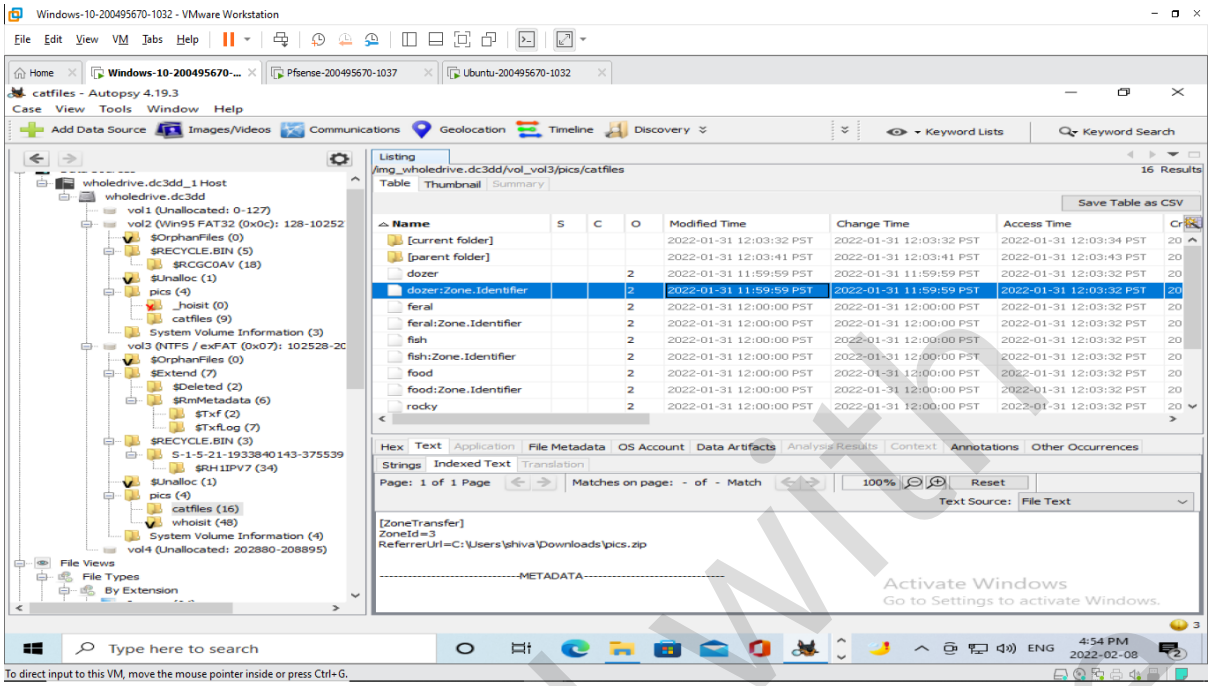
C drive is named as Volume 2 and D drive is named as Volume 3.

On collapsing the Volume 2(C drive) and navigating to catfiles folder, there are 9 files present that are of various images, parent folder and current folder .



On collapsing Volume 3(D drive) and navigating to catfiles folder, 16 files are present. These extra files have the images name along with .Zone.Identifiers.

There are 7 image files and their .zone.identifier files along with parent folder and current folder files.



Zone identifier files are generally created by the Microsoft OS when a file is downloaded for security purposes. These files get deleted when the files are deleted. This indicates that the images in Volume 2(C drive) were deleted, hence the less file count compared to Volume 3(D drive).