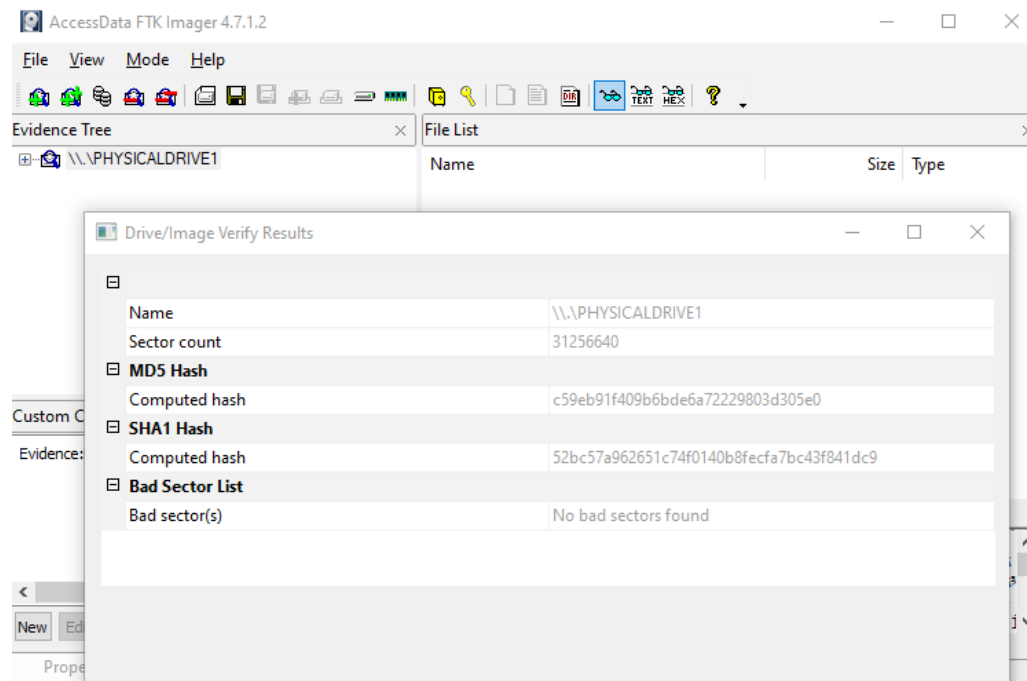
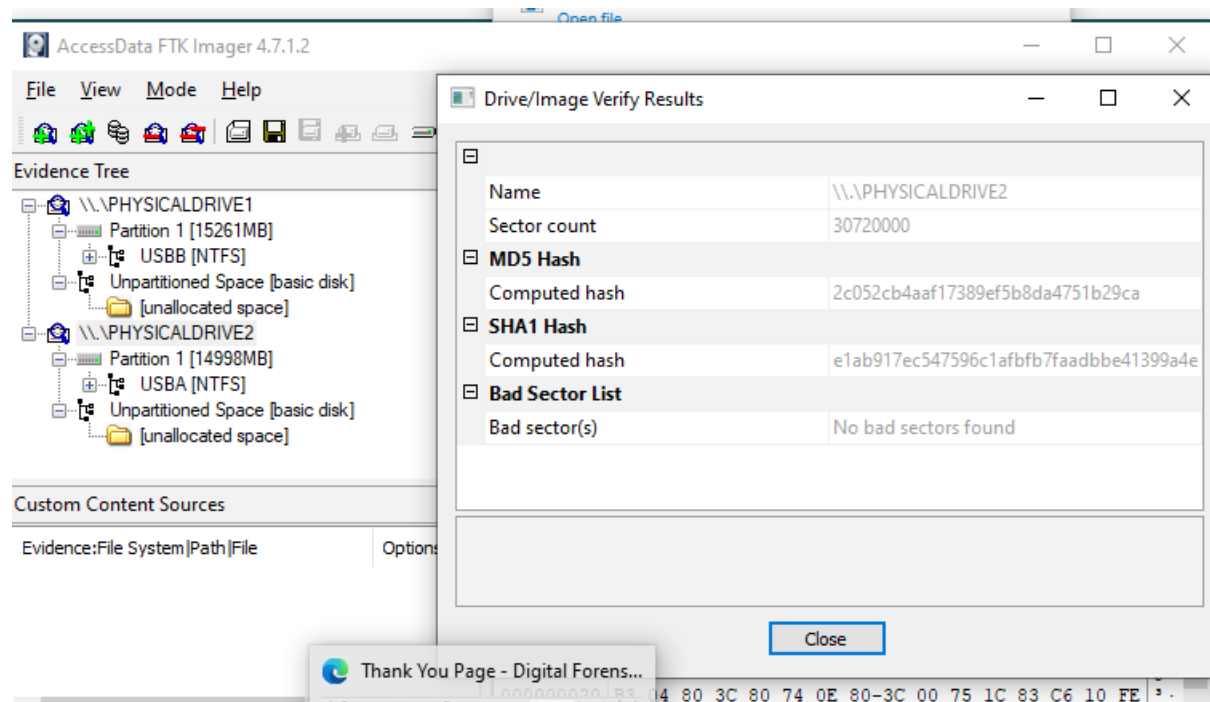


For Windows: Failed trail

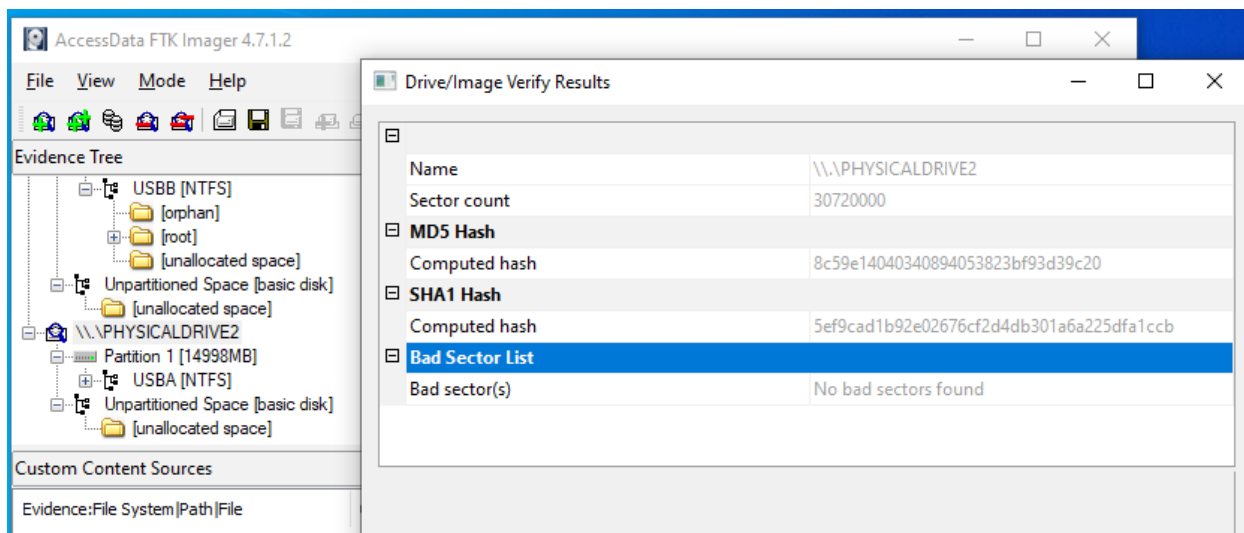
Drive 1- USBB



Drive 2 USB A



After copying the file to usbA:



Making usbA readable: I used diskpart to do it.

```

C:\> Command Prompt - diskpart

Microsoft Windows [Version 10.0.19045.2006]
(c) Microsoft Corporation. All rights reserved.

C:\> Select C:\Windows\system32\diskpart.exe

Disk attributes set successfully.

DISKPART> attributes disk set readonly

Disk attributes set successfully.

DISKPART> detail disk

VendorCo ProductCode USB Device
Disk ID: 005F5A51
Type : USB
Status : Online
Path : 0
Target : 0
LUN ID : 0
Location Path : UNAVAILABLE
Current Read-only State : Yes
Read-only : Yes
Boot Disk : No
Pagefile Disk : No
Hibernation File Disk : No
Crashdump Disk : No
Clustered Disk : No

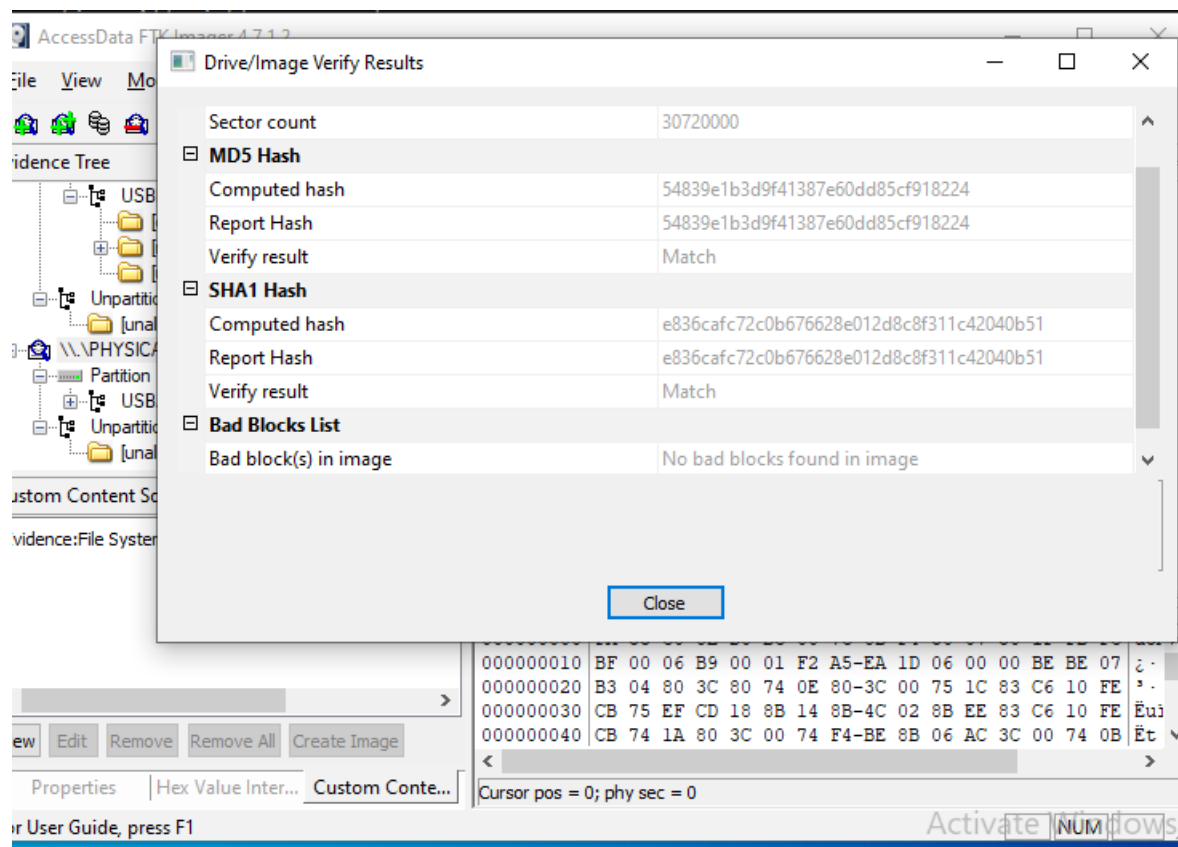
Volume ### Ltr Label Fs Type Size Status Info
-----
Volume 5 E USB NTFS Removable 14 GB Healthy

DISKPART>

```

Cloning to usbb now:

Part-1



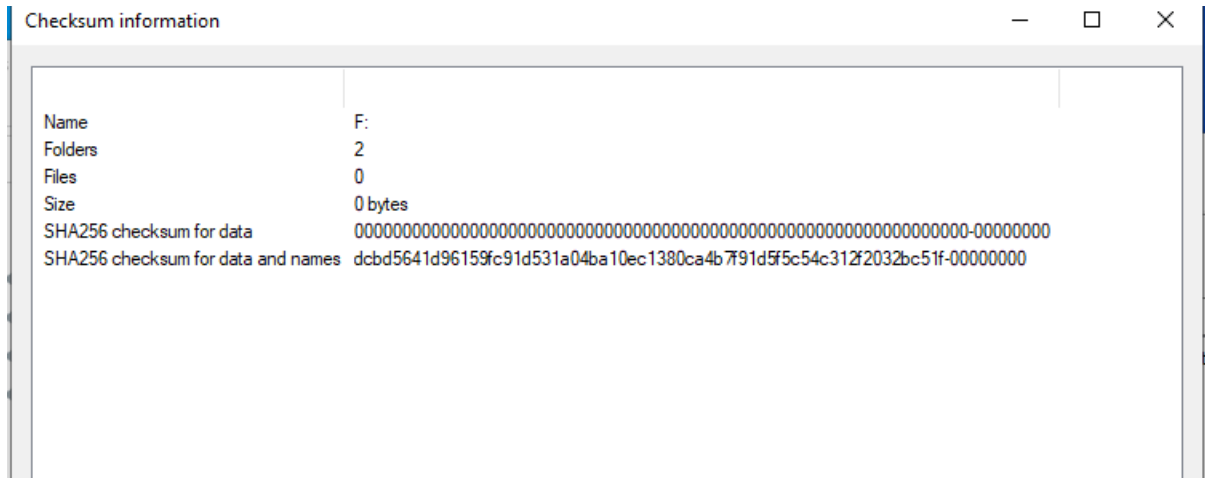
After copying the hash value

Result Failed to get the hash values same:

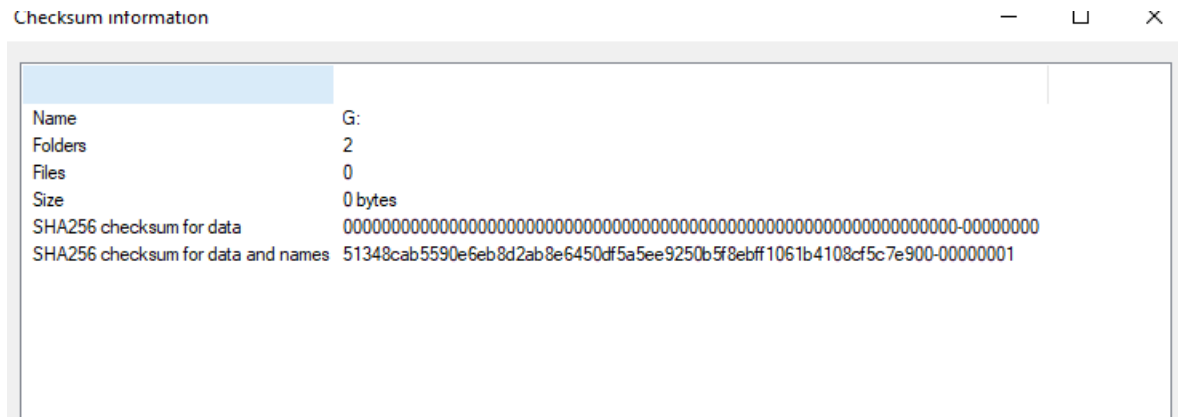
Try Nth time:

Using 7zip – check sum of drives with no data:

USBA- drive F



USBB- drive G



Adding the text file and doing check-sum

| Checksum information | |
|------------------------------------|--|
| Name | F: |
| Folders | 2 |
| Files | 1 |
| Size | 20 bytes |
| SHA256 checksum for data | ff55539089c4b149f83f55a7b7189957595bb8414e12d82fb3b9815a42df8589 |
| SHA256 checksum for data and names | ef6925ede5469b2751064432aeb2a81730b90239bb98b149cfd18d2e0bfacd5-00000000 |

Making it write protected using diskpart

```

C:\Windows\system32\diskpart.exe
VOLUME      - Shift the focus to a volume. For example, type VOLUME C: to select drive C.
VDISK        - Shift the focus to a virtual disk. For example, type VDISK 1 to select the first virtual disk.

DISKPART> select disk 2

Disk 2 is now the selected disk.

DISKPART> attributes disk
Current Read-only State : No
Read-only               : No
Boot Disk               : No
Pagefile Disk           : No
Hibernation File Disk   : No
Crashdump Disk          : No
Clustered Disk          : No

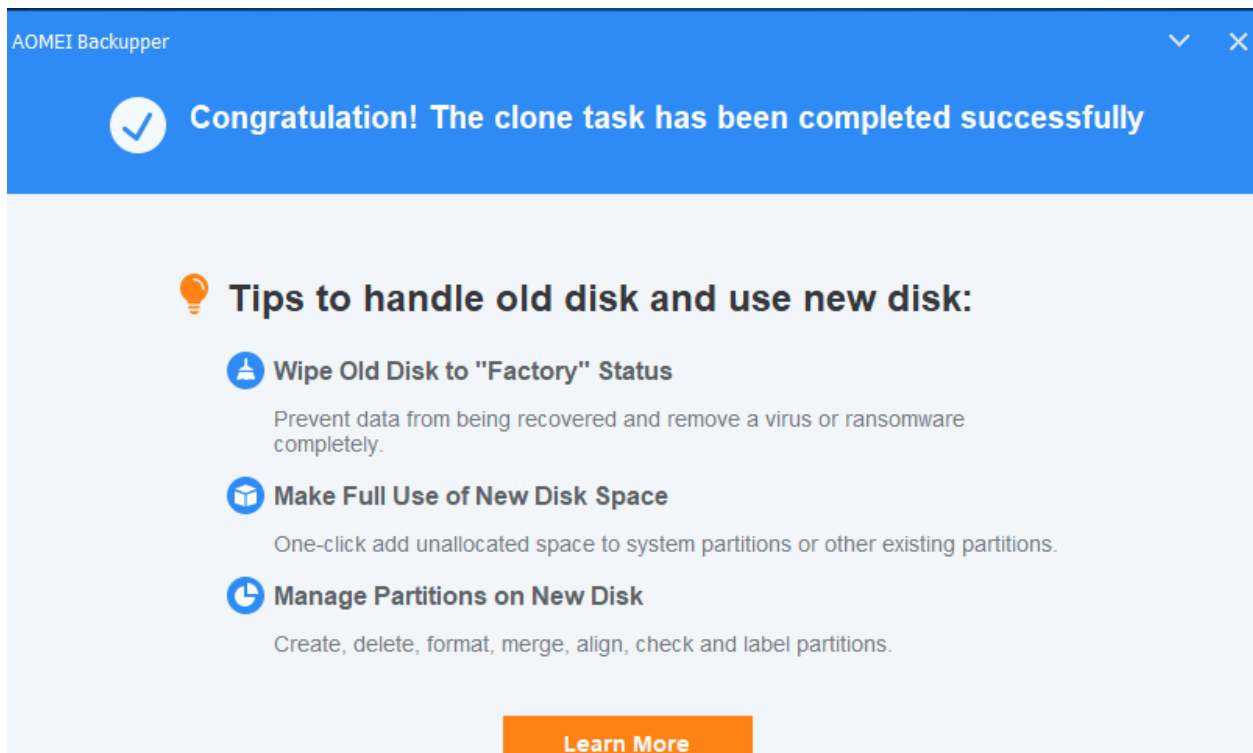
DISKPART> attributes disk set readonly
Disk attributes set successfully.

DISKPART> attributes disk
Current Read-only State : Yes
Read-only               : Yes
Boot Disk               : No
Pagefile Disk           : No
Hibernation File Disk   : No
Crashdump Disk          : No
Clustered Disk          : No

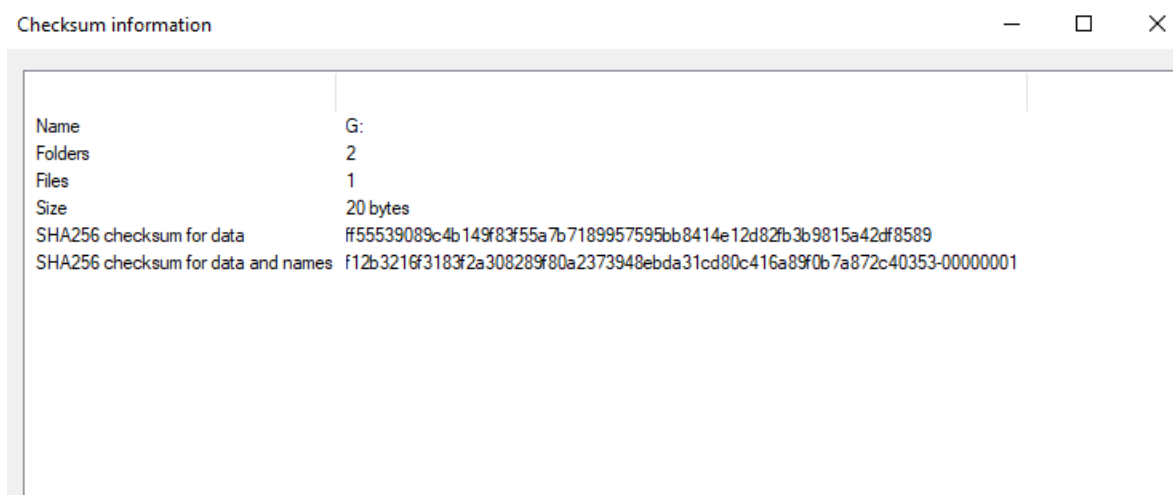
DISKPART>

```

Cloning it



Trying to check the hash after cloning:



Done and dusted

Result: Got the hash values same before and after cloning.

For Linux (Not Kali Linux): Parrot OS

SHA-256 Hash of USB A and USB B:

```

└─sdc2  8:34  1 13.9G 0 part
sr0     11:0  1  4.9G 0 rom
[think@parrot]~$
[think@parrot]~$ find /media/think/USBA -type f -exec sha256sum {} + | sha256sum
ebcc664212afb4356ce6b04ea0606127f2d6a2272945fc6c93a48bfa979675cb -
[think@parrot]~$
[think@parrot]~$ find /media/think/USBB -type f -exec sha256sum {} + | sha256sum
1b2b4dbddf4ed24222b41c6657a801d0347265f4bc2fa4a25b06e640b458fded -
[think@parrot]~$
[think@parrot]~$

```

They are formatted and both are empty.

Full block scan result

1.

```

sr0     11:0  1  4.9G 0 rom
[think@parrot]~$
[think@parrot]~$ sudo dd if=/dev/sdb | sha256sum
30720000+0 records in
30720000+0 records out
15728640000 bytes (16 GB, 15 GiB) copied, 1291.81 s, 12.2 MB/s
b8a9d1da9a22a1a2172d680da68deacdfd5c99bcffd1dd7a4971b33e90501bd9 -
[think@parrot]~$

```

2.

```

sr0     11:0  1  4.9G 0 rom
[think@parrot]~$
[think@parrot]~$ find /media/think/USBA -type f -exec sha256sum {} + | sha256sum
ebcc664212afb4356ce6b04ea0606127f2d6a2272945fc6c93a48bfa979675cb -
[think@parrot]~$
[think@parrot]~$ find /media/think/USBB -type f -exec sha256sum {} + | sha256sum
1b2b4dbddf4ed24222b41c6657a801d0347265f4bc2fa4a25b06e640b458fded -
[think@parrot]~$
[think@parrot]~$ sudo dd if=/dev/sdc | sha256sum
[sudo] password for think:
31256640+0 records in
31256640+0 records out
16003399680 bytes (16 GB, 15 GiB) copied, 1259.5 s, 12.7 MB/s
8eb89e04eb5cf8e33b89f8f50d2da154d34f11c17cb583b69b200da585fef810 -
[think@parrot]~$

```

After creating the file and making it one USB read only.


```

e5b0c44298f1c149a1b14c89901b92427ae41e4049b934ca493991b7852b855 -
[think@parrot]~$ find /media/think/USBA -type f -exec sha256sum {} + | sha256sum
573ab0c8cfb703a79ae81d1a4feadbfaf5e78ae2eda8ac974b072762c76ec713 -
[think@parrot]~$ find /media/think/USBB -type f -exec sha256sum {} + | sha256sum
1b2b4dbddf4ed24222b41c6657a801d0347265f4bc2fa4a25b06e640b458fded -
[think@parrot]~$ sudo e2fsck -f /dev/sdb
e2fsck 1.45.5 (2015-02-02)
/dev/sdb: clean, 1000000 inodes, 2000000 blocks
[think@parrot]~$

```

Full disk hash value after :

```

[think@parrot]~$ sudo dd if=/dev/sdc | sha256sum
[sudo] password for think:
31256640+0 records in
31256640+0 records out
16003399680 bytes (16 GB, 15 GiB) copied, 1198.24 s, 13.4 MB/s
ca2e41319848362e88f2d799f78c5b0649ed3d3492e12083dcea6651d4ac2087 -
[think@parrot]~$

```

Installing clonezilla

```

Reading state information... Done
210 packages can be upgraded. Run 'apt list --upgradable' to see them.
[think@parrot]~/Desktop$ sudo apt install clonezilla
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  dialog drbl ipcalc nilfs-tools partclone partimage syslinux syslinux-common
Suggested packages:
  cifs-utils udpcast sshfs
The following NEW packages will be installed:
  clonezilla dialog drbl ipcalc nilfs-tools partclone partimage syslinux
  syslinux-common
0 upgraded, 9 newly installed, 0 to remove and 210 not upgraded.
Need to get 5,024 kB of archives.
After this operation, 18.3 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 https://deb.parrot.sh/parrot lts/main amd64 ipcalc all 0.42-2 [27.8 kB]
Get:2 https://deb.parrot.sh/parrot lts/main amd64 drbl all 2.32.10-2 [1,426 kB]
Get:3 https://deb.parrot.sh/parrot lts/main amd64 dialog amd64 1.3-20201126-1 [288 kB]
Get:4 https://deb.parrot.sh/parrot lts/main amd64 clonezilla all 3.35.2-3 [899 kB]

```

Note! sdb has no data and sdc has the file-we need to clone

```
Parrot Terminal
File Edit View Search Terminal Help

The first partition of disk /dev/sdc starts at 2048.
Saving the hidden data between MBR (1st sector, i.e. 512 bytes) and 1st partition, which might be useful for some recovery tool, by:
dd if=/dev/sdc of=/tmp/ocs_onthefly_local.qtGExV/src-hidden-data.img skip=1 bs=512 count=2047
2047+0 records in
2047+0 records out
1048064 bytes (1.0 MB, 1.0 MiB) copied, 0.144635 s, 7.2 MB/s
*****
Collecting partition /dev/sdc1 info...
Collecting partition /dev/sdc2 info...
Non-grub boot loader found on /tmp/ocs_onthefly_local.qtGExV/sdb-mbr...
The CHS value of hard drive from EDD will be used for sfdisk.
Sfdisk >= 2.26 does not support C/H/S option. Skip using C/H/S option.
*****
Will create the partition on the target machine...
*****
Destination disk is too small!
Destination disk size: 30720000 sectors (15.7 GB)
Source disk size from the image: 31256640 sectors (16.0 GB)
Program terminated!!
Press "Enter" to continue.....
[think@parrot]~[/Desktop]
$
```

Getting error now trying to reverse drives,

Changed required settings and file permissions as required:

```
[think@parrot]~[/Desktop]
$ mount | grep "/media/think/USBB"
/dev/sdb2 on /media/think/USBB type fuseblk (ro,nosuid,nodev,relatime,user_id=0,group_id=0,default_permissions,allow_other,blksize=4096,uhelper=udisks2)
[think@parrot]~[/Desktop]
$ sudo mount -o remount /media/think/USBA
[think@parrot]~[/Desktop]
$ mount | grep "/media/think/USBA"
/dev/sdc1 on /media/think/USBA type fuseblk (rw,nosuid,nodev,relatime,user_id=0,group_id=0,default_permissions,allow_other,blksize=4096,uhelper=udisks2)
[think@parrot]~[/Desktop]
$
```

Now directory has:

```

sdc2: 8.54 1 15.98 0 part
sr0:work 11:0 1 4.9G 0 rom
[think@parrot]-[~]
$find /media/think/USBA -type f -exec sha256sum {} + | sha256sum
bash: find: command not found
e3b0c44298fc1c149afb4c8996fb92427ae41e4649b934ca495991b7852b855 -
[think@parrot]-[~]
$find /media/think/USBA -type f -exec sha256sum {} + | sha256sum
573ab0c8cfb703a79ae81d1a4feadbfa5e78ae2eda8ac974b072762c76ec713 -
[think@parrot]-[~]
$find /media/think/USBB -type f -exec sha256sum {} + | sha256sum
1b2b4dbddf4ed24222b41c6657a801d0347265f4bc2fa4a25b06e640b458fded -
[think@parrot]-[~]
$find /media/think/USBA -type f -exec sha256sum {} + | sha256sum
ebcc664212afb4356ce6b04ea0606127f2d6a2272945fc6c93a48bfa979675cb -
[think@parrot]-[~]
$find /media/think/USBB -type f -exec sha256sum {} + | sha256sum
cf729ca855e8df5d4bf4aa0a56015170cc820ddd737431ea91f6348c85b92d88 -
[think@parrot]-[~]
$

```

Full drive hash:

```

[think@parrot]-[~]
$sudo dd if=/dev/sdb | sha256sum
[sudo] password for think:

30720000+0 records in
30720000+0 records out
15728640000 bytes (16 GB, 15 GiB) copied, 1248.27 s, 12.6 MB/s
689756efb817f599c88103ae722be993cf7f7af7f9c65daad93c2631ec8a74d2 -
[think@parrot]-[~]

```

Now copying again using clonezilla

Sdb has data now

```
done!
*****
Device /dev/sdc1 is not a FAT partition.
Skip updating syslinux on that.
Device /dev/sdc2 is not a FAT partition.
Skip updating syslinux on that.
*****
Running: ocs-install-grub -s sdc auto
The grub directory is NOT found. Maybe it does not exist (so other boot manager
exists) or the file system is not supported in the kernel. Skip running grub
tall.
*****
Try to run partclone.ntfsfixboot for NTFS boot partition if it exists. Scanning
partition(s): sdc1 sdc2...
The NTFS boot partition was not found or not among the restored partition(s)
Skip running partclone.ntfsfixboot.
*****
Checking if udevd rules have to be restored...
Now syncing - flush filesystem buffers...
Ending /usr/sbin/ocs-onthefly at 2023-11-20 13:57:17 EST...
Press "Enter" to continue.....
[think@parrot]-[~/Desktop]
$
```

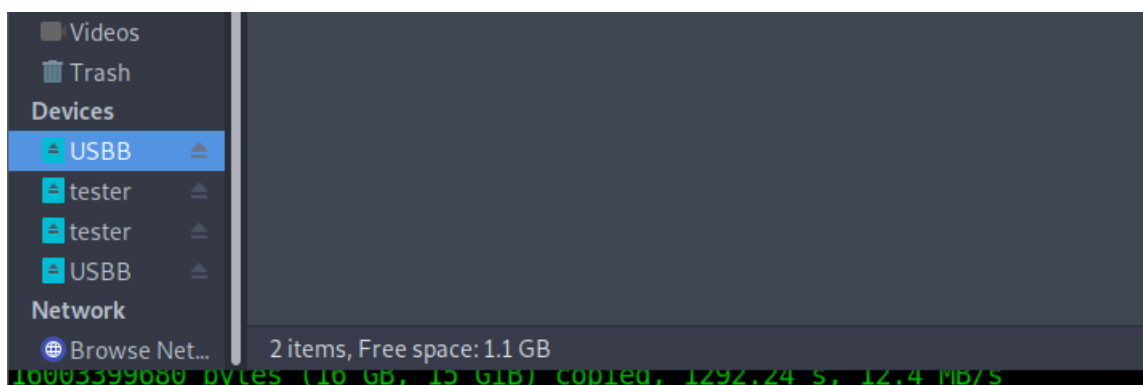
Now trying to calculate the hash value:

Disk we mad the clone:

```
sr0    11:0    1  4.9G  0 rom
[think@parrot]-[~]
$ sudo dd if=/dev/sdc | sha256sum
[sudo] password for think:
31256640+0 records in
31256640+0 records out
16003399680 bytes (16 GB, 15 GiB) copied, 1292.24 s, 12.4 MB/s
58b14533f8bb93aa055163f5280f68845c6669629b8f2106731d45cec7e5c03e -
[think@parrot]-[~]
$
[think@parrot]-[~]
$
```

Disk we copied from:

```
[think@parrot]~$ sudo dd if=/dev/sdb | sha256sum
[sudo] password for think:
30720000+0 records in
30720000+0 records out
15728640000 bytes (16 GB, 15 GiB) copied, 1310.65 s, 12.0 MB/s
689756efb817f599c88103ae722be993cf7f7af7f9c65daad93c2631ec8a74d2 -
[think@parrot]~$
```



```
└─sdc2  8:34  1  1G  0 part /media/think/USB1
sr0     11:0  1  4.9G  0 rom
[think@parrot]~$ find /media/think/tester -type f -exec sha256sum {} + | sha256sum
93f2d8bdd911859741530ed19fb403b45de8f8cc7350ae1183352e4f5688afb3 -
[think@parrot]~$ find /media/think/tester1 -type f -exec sha256sum {} + | sha256sum
d8b653d27c48e8500be01dd4ab910f2719744d203b29a467674e75c038edd27b -
[think@parrot]~$
```

After copying:

```
└─sdc2  8:34  1  1G  0 part /media/think/USB1
sr0     11:0  1  4.9G  0 rom
[think@parrot]~$ find /media/think/USB1 -type f -exec sha256sum {} + | sha256sum
cf729ca855e8df5d4bf4aa0a56015170cc820ddd737431ea91f6348c85b92d88 -
[think@parrot]~$ find /media/think/USB1 -type f -exec sha256sum {} + | sha256sum
601ef5734c31a712c102ffeaecb974ab695bd30b85211f42365f0b66568ad104 -
[think@parrot]~$
```

Using clonezilla, dd, find result: Couldn't get the hash value same.

Trying Nth time:

Empty drives: Source

```
[think@parrot]--[~/Desktop]
└─$ lsblk
NAME        MAJ:MIN RM  SIZE RO TYPE MOUNTPOINT
sda           8:0    0   20G  0 disk
└─sda1        8:1    0   20G  0 part /home
sdb           8:16    1    30M  0 disk /media/think/usbA
sr0          11:0    1   4.9G  0 rom
[think@parrot]--[~/Desktop]
└─$ sudo dd if=/dev/sdb | sha256sum
[sudo] password for think:
61440+0 records in
61440+0 records out
31457280 bytes (31 MB, 30 MiB) copied, 6.06484 s, 5.2 MB/s
b58977571dc89ebada25d4c27f46ac6cbb75aa46606b7b2c68916a94b41ac587 -
[think@parrot]--[~/Desktop]
└─$
```

Destination drive

```
[think@parrot]--[~/Desktop]
└─$ sudo dd if=/dev/sdc | sha256sum
30720000+0 records in
30720000+0 records out
15728640000 bytes (16 GB, 15 GiB) copied, 1206.18 s, 13.0 MB/s
21dedd0d5c9cbbac6941cb222bb330cbadbcbcf067ceaeb58281934ce09cef36 -
[think@parrot]--[~/Desktop]
└─$
```

Now using find: when the file are empty

```
[think@parrot]--[~/Desktop]
└─$ find /media/think/usbA -type f -exec sha256sum {} + | sha256sum
451b5bf99a0eafa0e6da36be1dcf0020eb4001667762d7ea2a6e65096157cd96 -
[think@parrot]--[~/Desktop]
└─$ find /media/think/usbB -type f -exec sha256sum {} + | sha256sum
54f48504d1e4263a6e11b37c6fbb86ed545489969069de64d3c852da190c1aa9 -
[think@parrot]--[~/Desktop]
└─$
```

Sha value after adding the file:


```

sr0      11:0    1  4.9G  0 rom
[think@parrot]~[~/Desktop]
$find /media/think/usbA -type f -exec sha256sum {} + | sha256sum
0defbc1f567dc188ced0dacab88a5ae3485658fb0892619dd7051f2f6b3b73c8 -
[think@parrot]~[~/Desktop]
$ls /media/think/usbA
mydata.txt  System Volume Information
[think@parrot]~[~/Desktop]
$

```

Making it write protect

```

[think@parrot]~[~/Desktop]
$sudo mount -o remount,ro /media/think/usbA
[sudo] password for think:
[think@parrot]~[~/Desktop]
$mount | grep "/media/think/usbA"
/dev/sdb on /media/think/usbA type fuseblk (ro,nosuid,nodev,relatime,user_id=0,g
roup_id=0,default_permissions,allow_other,blksize=4096,uhelper=udisks2)
/dev/sdc2 on /media/think/usbA1 type fuseblk (rw,nosuid,nodev,relatime,user_id=0
,group_id=0,default_permissions,allow_other,blksize=4096,uhelper=udisks2)
[think@parrot]~[~/Desktop]
$

```

Cloning

```

[x]-[think@parrot]~[~/Desktop]
$sudo dd if=/dev/sdb of=/dev/sdc3 bs=32M status=progress
31457280 bytes (31 MB, 30 MiB) copied, 6 s, 5.2 MB/s
0+1 records in
0+1 records out
31457280 bytes (31 MB, 30 MiB) copied, 6.09879 s, 5.2 MB/s
[think@parrot]~[~/Desktop]
$

```

Trying to get the hash value

This is the has value with data with write protection

```
File Edit View Search Terminal Help
[think@parrot]~/media/think
$7z h -srcsha256 usbA

7-Zip [64] 16.02 : Copyright (c) 1999-2016 Igor Pavlov : 2016-05-21
p7zip Version 16.02 (locale=en_US.UTF-8,Utf16=on,HugeFiles=on,64 bits,1 CPU 12th Gen Intel(R) Core(TM) i7-12700H (906A3),ASM,AES-NI)

think's Home
Scanning
2 folders, 3 files, 125 bytes (1 KiB)

SHA256                                     Size  Name
-----
8048CF94DA3079015F422E1490545CA8CFDA62215E5547BA057276A418AC961E      37  usbA
9D126497EE5EBD15630FBDE217C603FDF29FD3704D662403399BD5A4FC56A62C      76  usbA/System Volume Information
DCCF1264156629E8C7EF0573E3220F391C998647D0CC889C1FF8CB08D8BE44D9      12  usbA/System Volume Information/WPSettings.dat
F92A4690DEF55FFF8941F1698B3D6FDEDE13BD097B88F4595E051852EDC18124      125
Folders: 2
Files: 3
Size: 125

SHA256 for data:          F92A4690DEF55FFF8941F1698B3D6FDEDE13BD097B88F4595E051852EDC18124
SHA256 for data and names: F52A2ED419089BA2E946FA683B54951C415A694A76EC1D063F4E5C4AC8298EFE

Everything is Ok
```

Data cloned drive hash value:

```
Everything is Ok
[think@parrot]~/media/think
$7z h -srcsha256 usbA1

7-Zip [64] 16.02 : Copyright (c) 1999-2016 Igor Pavlov : 2016-05-21
p7zip Version 16.02 (locale=en_US.UTF-8,Utf16=on,HugeFiles=on,64 bits,1 CPU 12th Gen Intel(R) Core(TM) i7-12700H (906A3),ASM,AES-NI)

Scanning
2 folders, 3 files, 125 bytes (1 KiB)

SHA256                                     Size  Name
-----
8048CF94DA3079015F422E1490545CA8CFDA62215E5547BA057276A418AC961E      37  usbA1
9D126497EE5EBD15630FBDE217C603FDF29FD3704D662403399BD5A4FC56A62C      76  usbA1/System Volume Information
DCCF1264156629E8C7EF0573E3220F391C998647D0CC889C1FF8CB08D8BE44D9      12  usbA1/System Volume Information/WPSettings.dat
F92A4690DEF55FFF8941F1698B3D6FDEDE13BD097B88F4595E051852EDC18124      125
Folders: 2
Files: 3
Size: 125

SHA256 for data:          F92A4690DEF55FFF8941F1698B3D6FDEDE13BD097B88F4595E051852EDC18124
SHA256 for data and names: 30A50A4B63CB4A454AF77A16A449B731D522BAD560D0994F7E58F4F2A190E4E8
```

Result: got the hash values same before and after cloning using dd command.