

0-CLONING VERSUS IMAGING

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Web location for this
presentation:

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or contact

fchao2@yahoo.com

SUMMARY

Cloning and backup are the two ways for you to create a backup of your data files and digital photos.

TOPICS

- Cloning Versus Imaging
- An Example of Cloning
- An Example of Imaging

CLONING VERSUS IMAGING

- **Cloning** means to make an exact copy of a hard drive, a Solid State Drive (SSD), a CD, a DVD, or a thumb drive onto a similar device that is the same size or larger size than the source media device

CLONING VERSUS IMAGING

(continued)

- **Imaging** means to make a copy of a the digital files and digital folders on a , a Solid State Drive (SSD), a CD, a DVD, or a thumb drive onto into another storage device as one or more files and folders that are in a proprietary format. The target files and folders are usually compressed smaller than the original source files and folders.

CLONING VERSUS IMAGING

(continued)

- In "Rescuezilla", imaging is done when you click on the "Backup" button

patreon.com/rescuezilla
Rescuezilla
The Swiss Army Knife of System Recovery



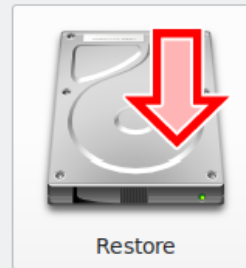
Welcome

Select an Option

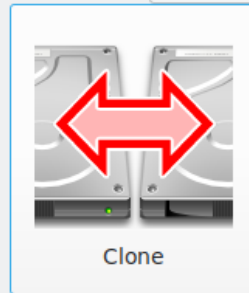
Easily create a backup image of your computer, or completely restore from one. Click an option to begin:



Backup



Restore



Clone



Verify Image

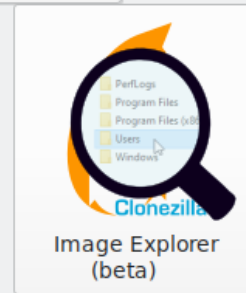


Image Explorer
(beta)

Back

Next >

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CLONING VERSUS IMAGING

(continued)

- In "Rescuezilla", cloning is done when you click on the "Clone" button

patreon.com/rescuezilla
Rescuezilla
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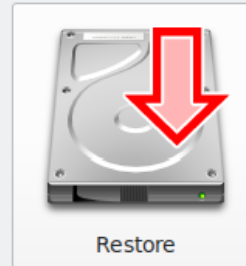
Welcome

Select an Option

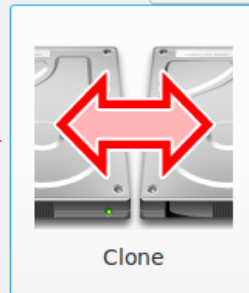
Easily create a backup image of your computer, or completely restore from one. Click an option to begin:



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Restore



Clone



Verify Image

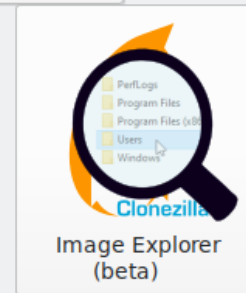
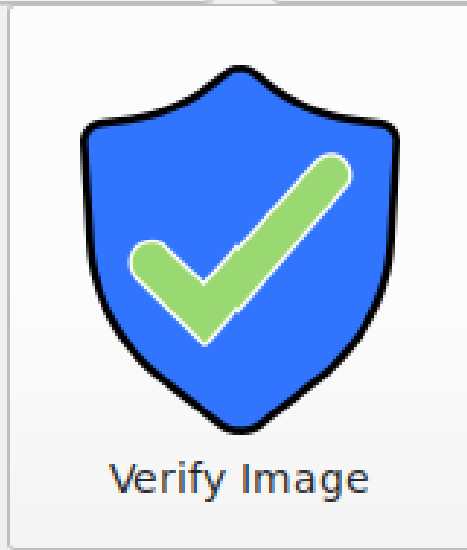
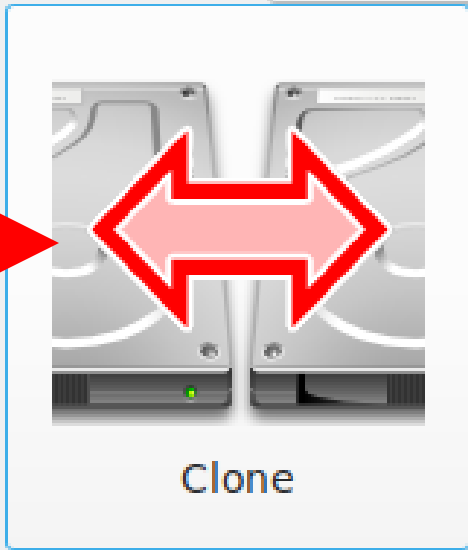
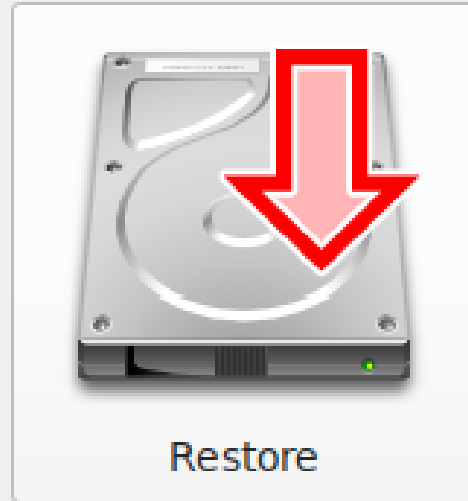
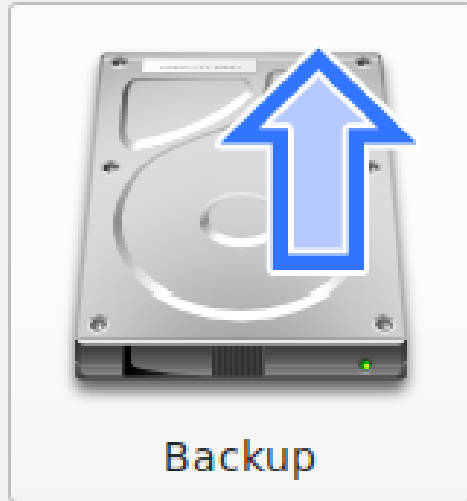


Image Explorer
(beta)

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CLONING VERSUS IMAGING

(continued)

- A "clone" has to reside on a single, unique storage device (i.e. a single hard drive, a single Solid State Drive, a single USB flash drive, a single CD, a single DVD, etc.)
- "Images" are proprietary files and folders, more than one "image" can reside on a single storage device

EXAMPLES OF A **CLONED** DISK

- The cloned disk can be used as a drop-in replacement for the original source disk if the original source disk fails or if the original source disk is infected by malware.

A cloned disk can be used by any computer operating system as a source of data files and digital photos just by attaching it.

EXAMPLES OF A **CLONED** DISK

(continued)

- A cloned disk can be used by any other computer operating system as a source of data files and digital photos just by attaching it, since a cloned disk has all files and partitions in their native format.

EXAMPLES OF A **CLONED** DISK

(continued)

- For example, if you attach a cloned hard drive or solid state drive from a Windows.. computer to a Linux computer, your Linux computer can probably access the digital files and photos on the cloned solid state drive.

Ditto for a macOS computer.

EXAMPLES OF A **CLONED** DISK

(continued)

- If you are running a distribution of Linux, your original source disk will look like a mirror image of the cloned disk.

In this example, the original source disk is shown on top and the clone disk is shown below it:

/dev/sdb - GParted

GPARTED Edit View Device Partition Help

/dev/sdb (460.00 GiB) v

/dev/sdb2
237.50 GiB

unallocated
222.00 GiB

Partition	Name	File System	Size	Used	Unused	Flags
/dev/sdb1	EFI System Partition	fat32	512.00 MiB	7.09 MiB	504.91 MiB	boot, esp
/dev/sdb2		ext4	237.50 GiB	15.94 GiB	221.55 GiB	
unallocated		unallocated	222.00 GiB	---	---	

0 operations pending

/dev/sda - GParted

GPARTED Edit View Device Partition Help

/dev/sda (666.00 GiB) v

/dev/sda2
237.50 GiB

unallocated
428.00 GiB

Partition	Name	File System	Size	Used	Unused	Flags
/dev/sda1	EFI System Partition	fat32	512.00 MiB	7.09 MiB	504.91 MiB	boot, esp
/dev/sda2		ext4	237.50 GiB	15.94 GiB	221.55 GiB	
unallocated		unallocated	428.00 GiB	---	---	

0 operations pending

EXAMPLES OF A **CLONED** DISK

(continued)

- If you are running a distribution of Windows, your original source disk will also look like a mirror image of the cloned disk.

In this example, the original source disk is shown on top and the clone disk is shown below it:

Disk Management

File Action View Help

Volume	Layout	Type	File System	Status	Capacity	Free Spa...	% Free
(C:)	Simple	Basic	NTFS	Healthy (B...	298.78 GB	269.34 GB	90 %
(Disk 0 partition 1)	Simple	Basic		Healthy (R...	499 MB	499 MB	100 %
(Disk 0 partition 2)	Simple	Basic		Healthy (E...	99 MB	99 MB	100 %
(Disk 0 partition 5)	Simple	Basic		Healthy (R...	636 MB	636 MB	100 %
(Disk 1 partition 1)	Simple	Basic		Healthy (R...	499 MB	499 MB	100 %
(Disk 1 partition 2)	Simple	Basic		Healthy (E...	99 MB	99 MB	100 %
(Disk 1 partition 5)	Simple	Basic		Healthy (R...	636 MB	636 MB	100 %

Disk 0 Basic 299.98 GB Online						
	499 MB Healthy (Recovery P	99 MB Healthy (EFI S:	(C) 298.78 GB NTFS Healthy (Boot, Page File, Crash Dump, Basic		636 MB Healthy (Recovery Pa	
Disk 1 Basic 599.98 GB Offline <i>i</i>						
	499 MB Healthy (Reco	99 MB Healthy (E	298.78 GB		636 MB Healthy (Recov	300.00 GB Unallocated

Unallocated
 Primary partition

EXAMPLES OF A **CLONED** DISK

(continued)

- If you click on the white "i" in the blue circle:

Disk Management

File Action View Help

Volume	Layout	Type	File System	Status	Capacity	Free Spa...	% Free
(C:)	Simple	Basic	NTFS	Healthy (B...	298.78 GB	269.34 GB	90 %
(Disk 0 partition 1)	Simple	Basic		Healthy (R...	499 MB	499 MB	100 %
(Disk 0 partition 2)	Simple	Basic		Healthy (E...	99 MB	99 MB	100 %
(Disk 0 partition 5)	Simple	Basic		Healthy (R...	636 MB	636 MB	100 %
(Disk 1 partition 1)	Simple	Basic		Healthy (R...	499 MB	499 MB	100 %
(Disk 1 partition 2)	Simple	Basic		Healthy (E...	99 MB	99 MB	100 %
(Disk 1 partition 5)	Simple	Basic		Healthy (R...	636 MB	636 MB	100 %

Disk 0

Basic
299.98 GB
Online

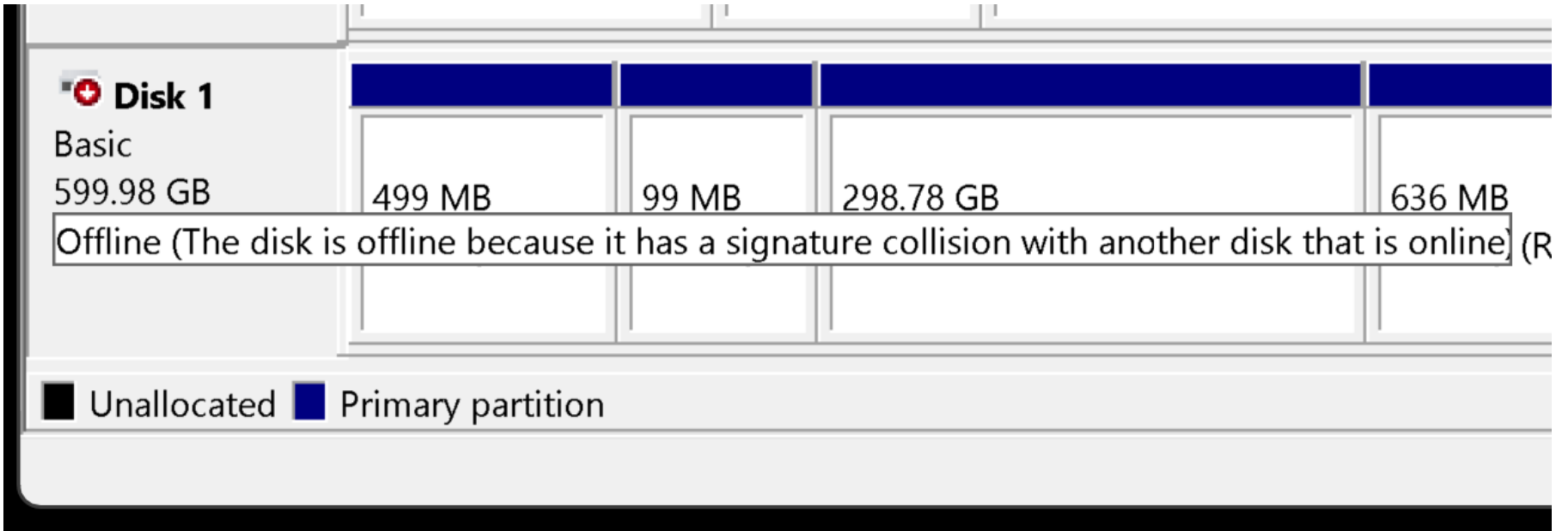
499 MB Healthy (Recovery P	99 MB Healthy (EFI S:	(C:) 298.78 GB NTFS Healthy (Boot, Page File, Crash Dump, Basic	636 MB Healthy (Recovery Pa
-------------------------------	--------------------------	--	--------------------------------

Disk 1

Basic
599.98 GB
Offline i

499 MB Healthy (Reco	99 MB Healthy (E	298.78 GB	636 MB Healthy (Recov	300.00 GB Unallocated
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■ Unallocated ■ Primary partition



EXAMPLES OF AN **IMAGED** DISK

- If you are running a distribution of Windows.., your original source disk will be stored as a proprietary image on the image folder.
In this example, the original source disk is shown on top and the clone disk is shown below it:

Disk Management

File Action View Help

Volume	Layout	Type	File System	Status	Capacity	Free Spa...	% Free
(C:)	Simple	Basic	NTFS	Healthy (B...	298.78 GB	270.27 GB	90 %
(Disk 0 partition 1)	Simple	Basic		Healthy (R...	499 MB	499 MB	100 %
(Disk 0 partition 2)	Simple	Basic		Healthy (E...	99 MB	99 MB	100 %
(Disk 0 partition 5)	Simple	Basic		Healthy (R...	636 MB	636 MB	100 %
(Disk 1 partition 1)	Simple	Basic		Healthy (R...	499 MB	499 MB	100 %
(Disk 1 partition 2)	Simple	Basic		Healthy (E...	99 MB	99 MB	100 %
(Disk 1 partition 5)	Simple	Basic		Healthy (R...	636 MB	636 MB	100 %
image-target (Z:)	Simple	Basic	NTFS	Healthy (B...	959.98 GB	939.82 GB	98 %
Rescuezilla (D:)	Simple	Basic	CDFS	Healthy (P...	1.12 GB	0 MB	0 %

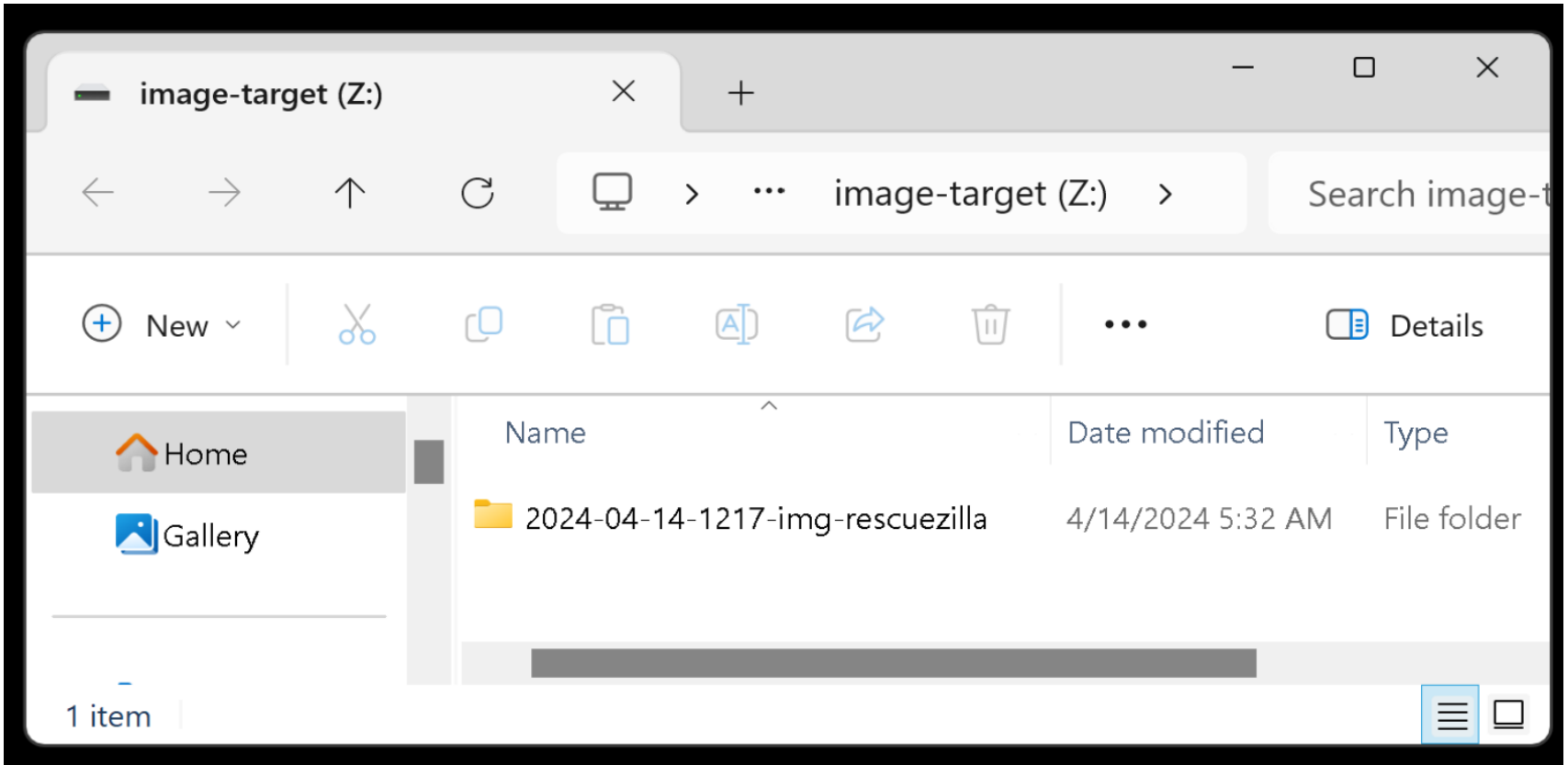
Disk 2
Basic
959.98 GB
Online

image-target (Z:)
959.98 GB NTFS
Healthy (Basic Data Partition)

CD-ROM 0
DVD
1.12 GB
Online

Rescuezilla (D:)
1.12 GB CDFS
Healthy (Primary Partition)

■ Unallocated ■ Primary partition



2024-04-14-1217-img-rescuezi

2024-04-14-1217-img-rescuezilla

Search 2024-04-14-1

New

Sort

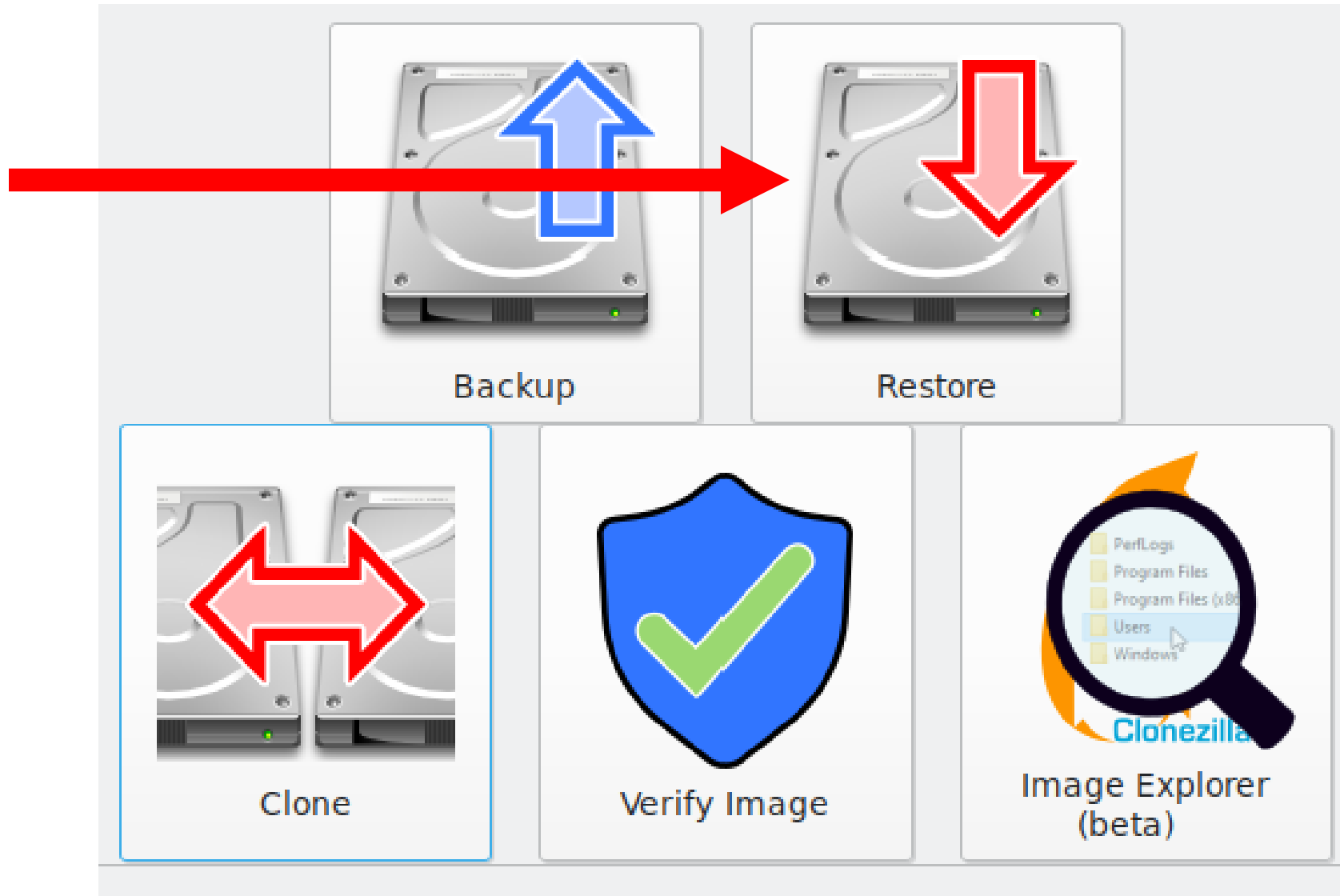
Details

Name	Date modified	Type	Size
blkdev.list	4/14/2024 5:17 AM	LIST File	1 KB
blkid.list	4/14/2024 5:17 AM	LIST File	2 KB
clonezilla-img	4/14/2024 5:32 AM	File	232 KB
dev-fs.list	4/14/2024 5:18 AM	LIST File	1 KB
disk	4/14/2024 5:18 AM	File	1 KB
efi-nvram.dat	4/14/2024 5:18 AM	DAT File	1 KB
Info-dmi.txt	4/14/2024 5:17 AM	Text Docu...	113 KB
Info-img-id.txt	4/14/2024 5:32 AM	Text Docu...	1 KB
Info-lchwh.txt	4/14/2024 5:17 AM	Text Docu...	72 KB

33 items

EXAMPLES OF AN **IMAGED** DISK (continued)

- To use an previously-created "image" of a disk in Rescuezilla or Clonezilla, you have to use the "Recover" option to "restore" the "image" to a blank hard drive, SSD, or flash drive.



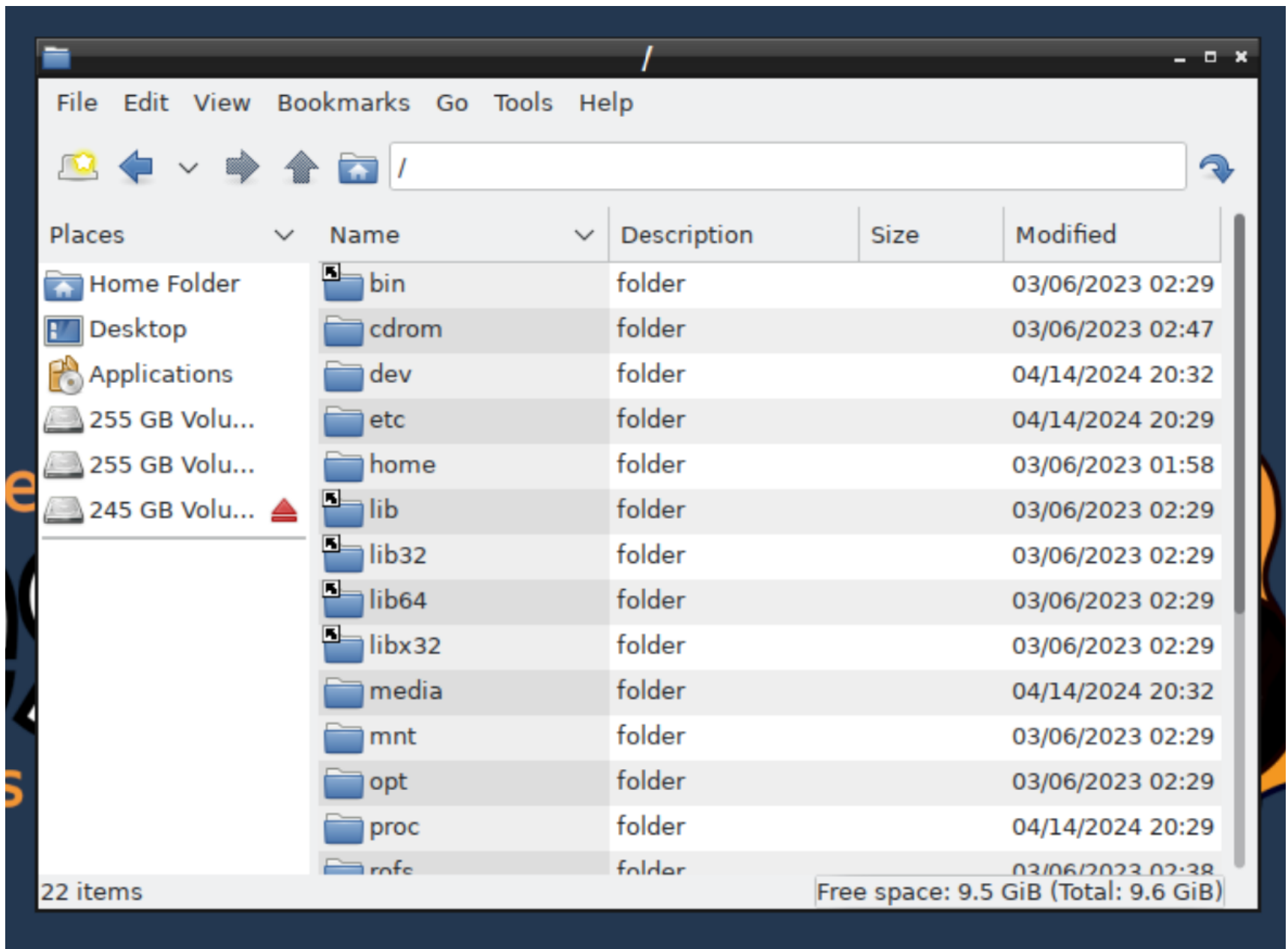
EXAMPLES OF AN **IMAGED** DISK (continued)

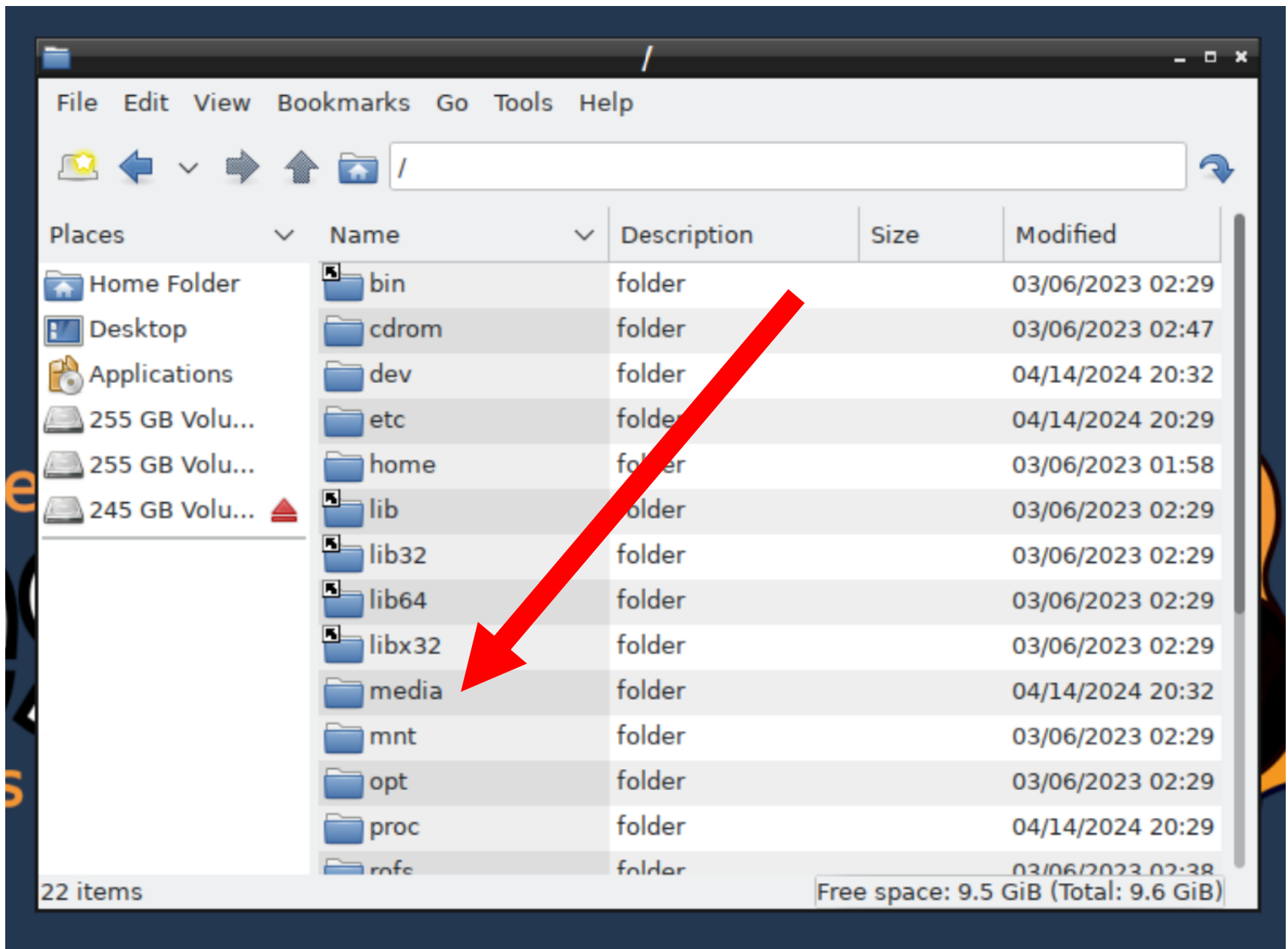
- If you are running a distribution of Linux, the "image files" inside the "image target" hard drive or Solid State Drive will be located at the target drive at a folder such as "2024-04-07-2232-img-rescuezilla"

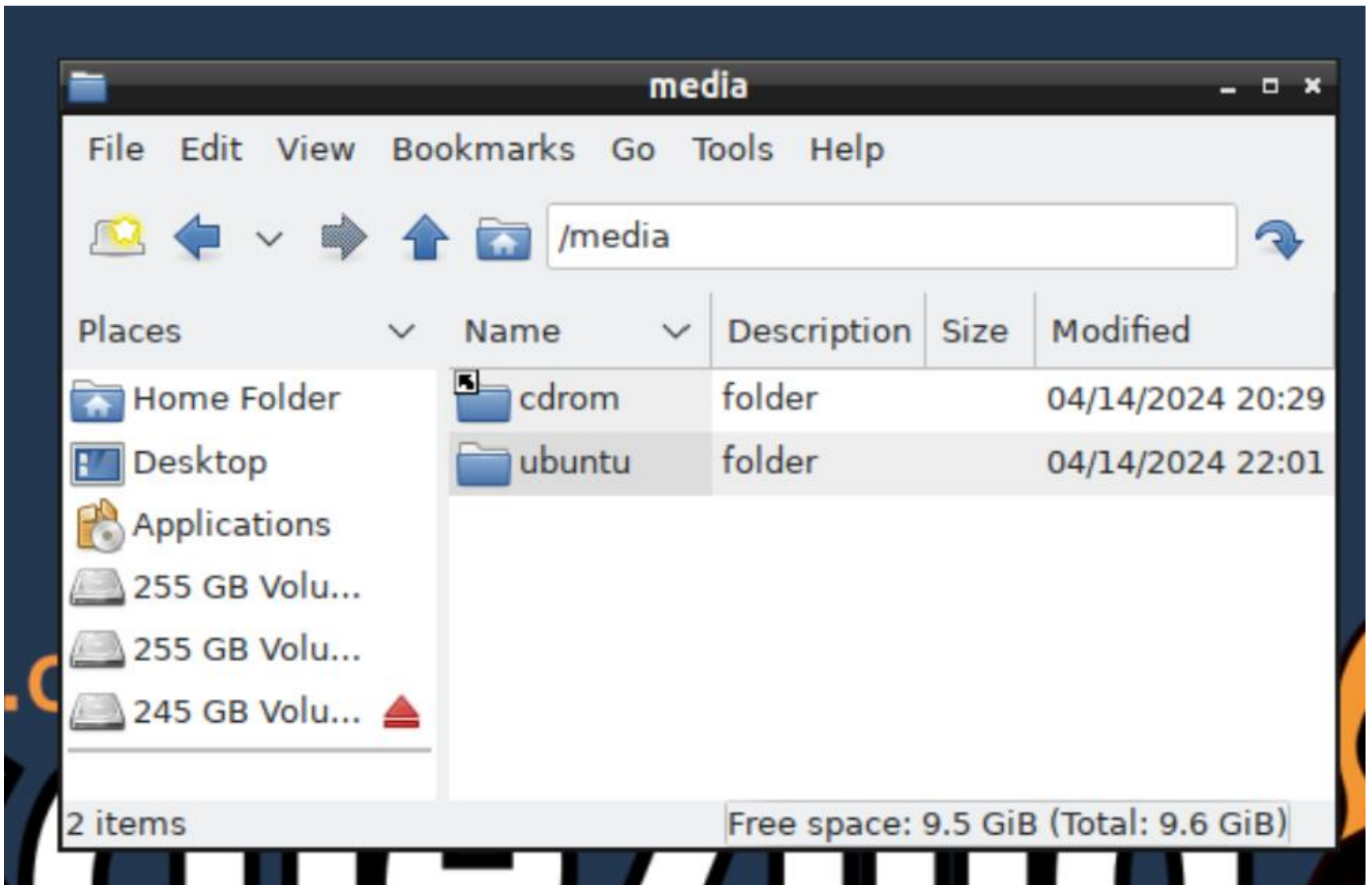
EXAMPLES OF AN **IMAGED** DISK

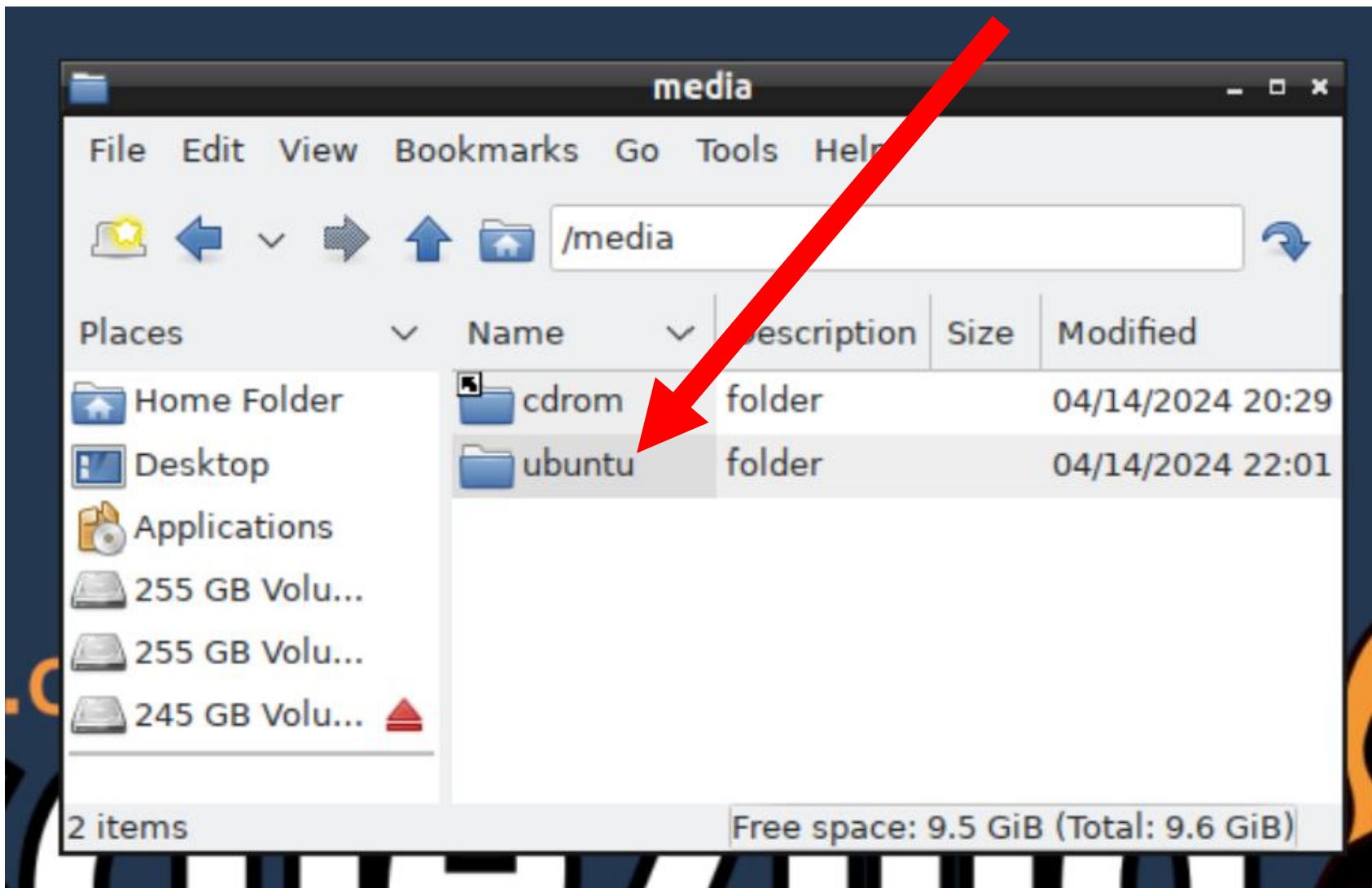
(continued)

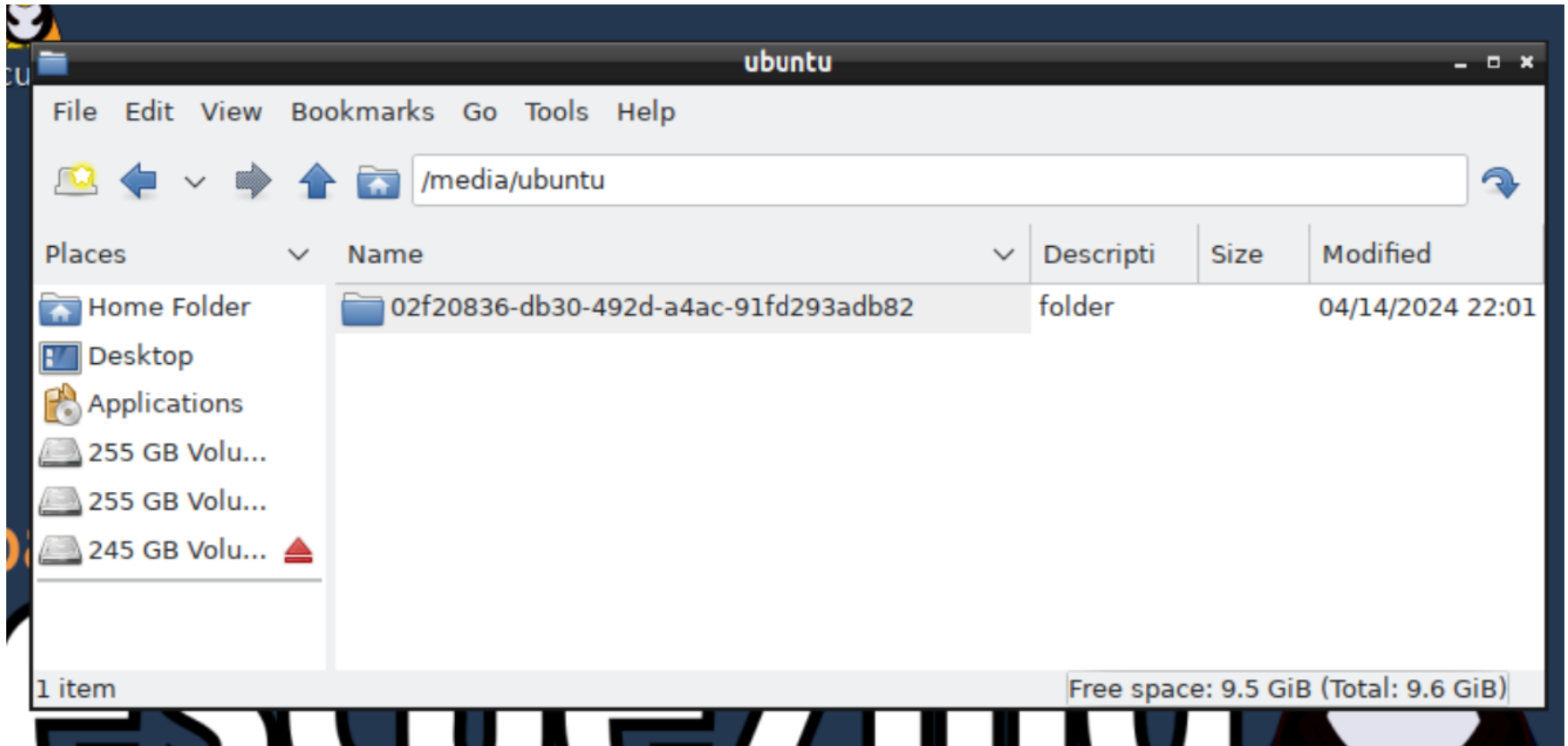
- If you are running Linux Mint, the image target hard drive will be "mounted" at the "media" folder since Linux distributions show additional hard drives or Solid State Drives as "mounted" to the "media" folder:

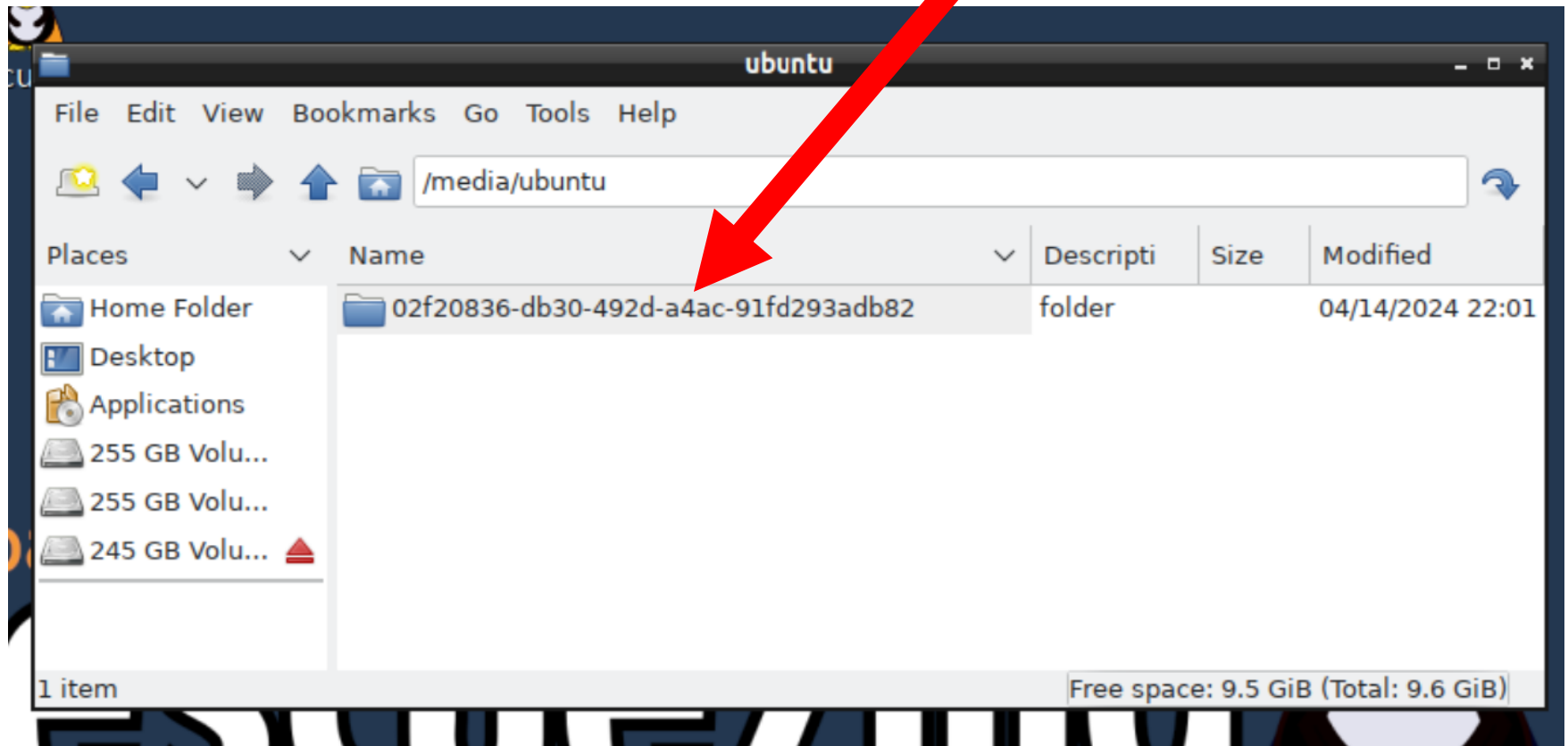


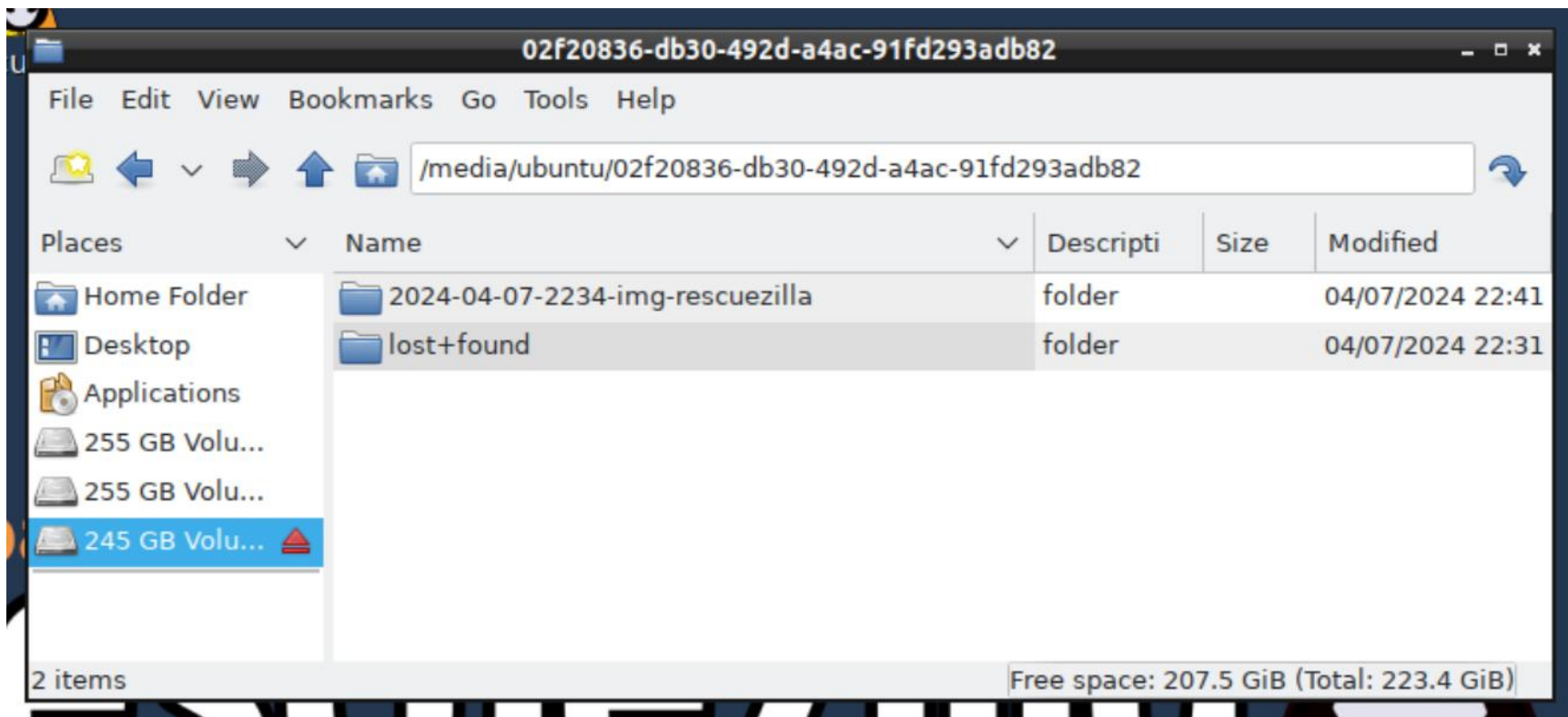


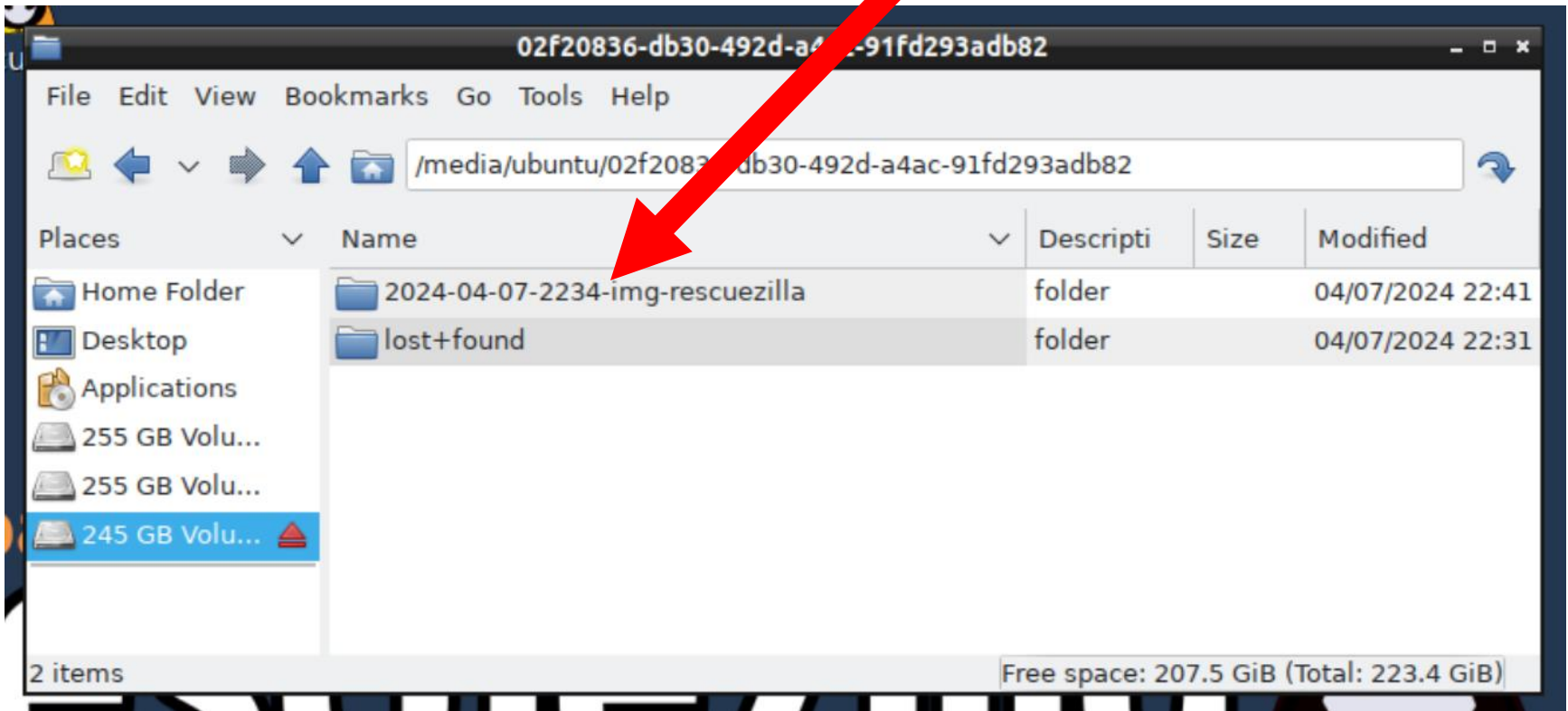


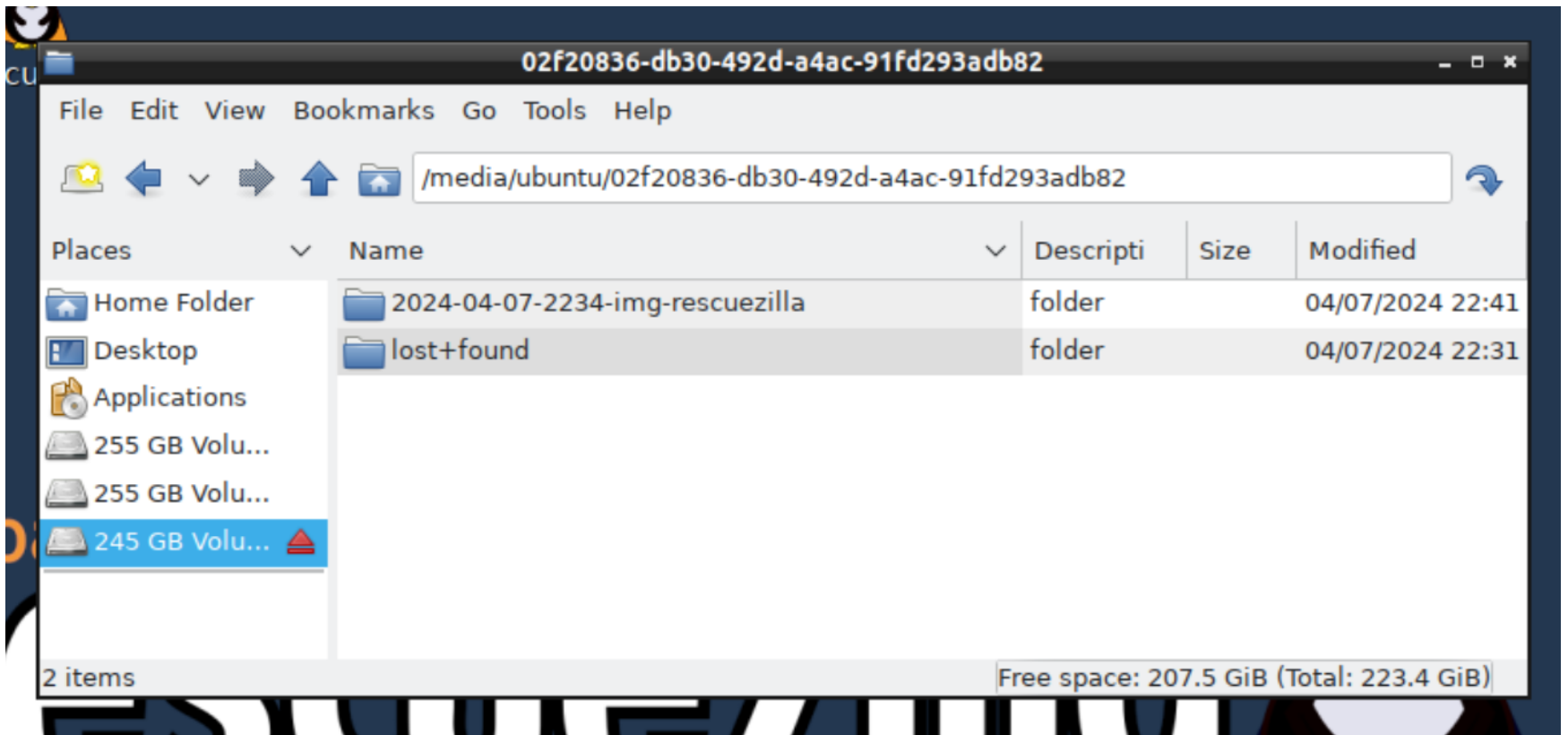


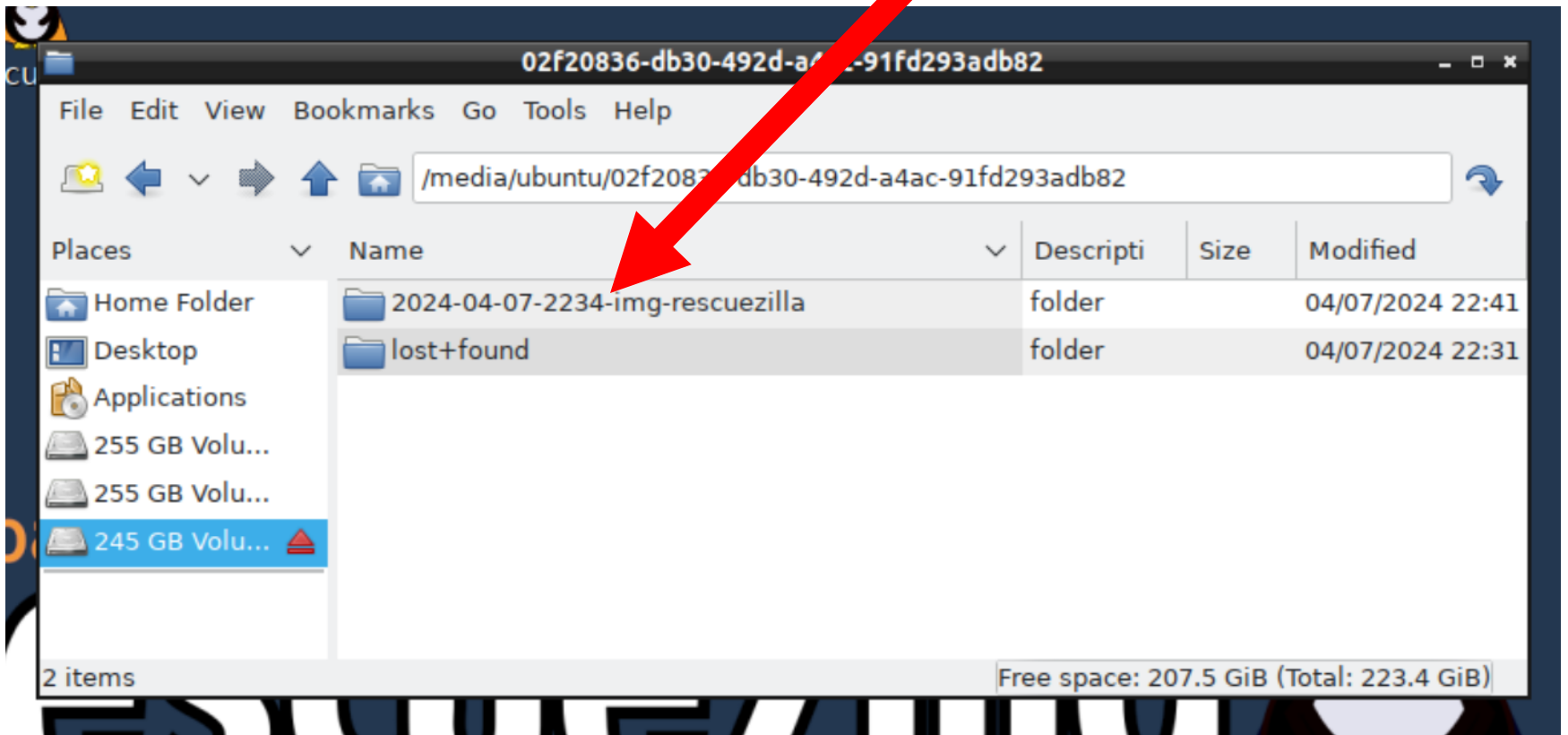


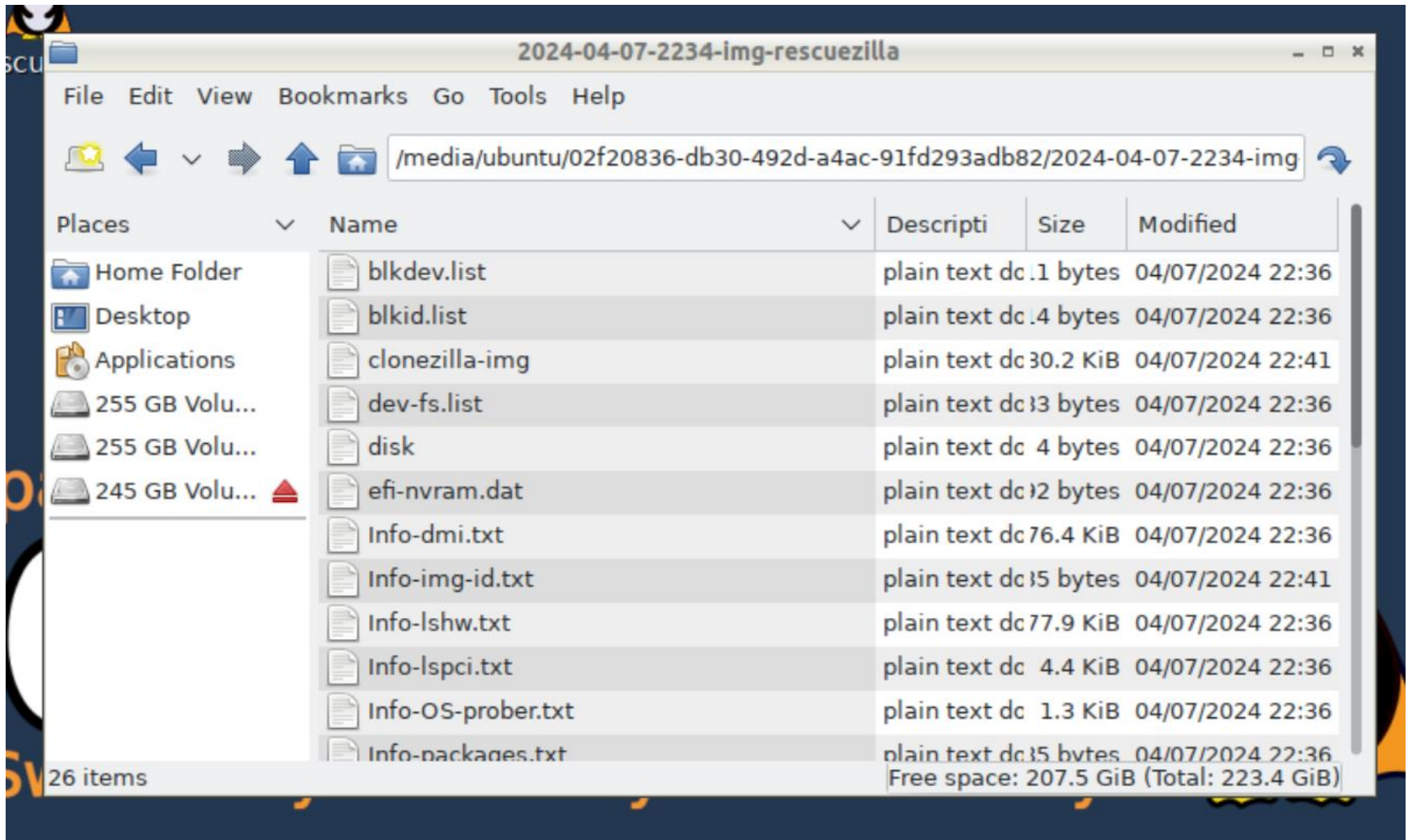












EXAMPLES OF AN **IMAGED** DISK (continued)

- You can sometimes extract/recover digital files and/or photo files from the image using the "Image Explorer (beta)" of "Rescuezilla".
However it is very beta at the present time and usually fails:

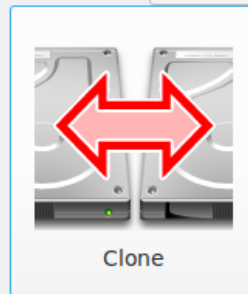
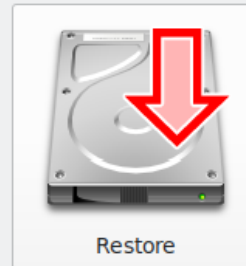
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Rescuezilla
The Swiss Army Knife of System Recovery



Welcome

Select an Option

Easily create a backup image of your computer, or completely restore from one. Click an option to begin:



Back

Next >

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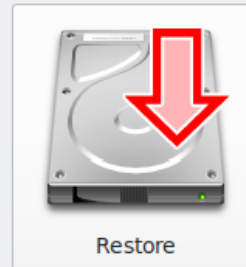
Welcome

Select an Option

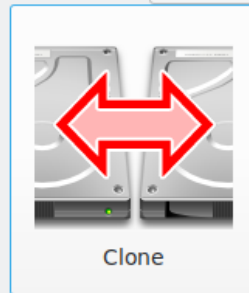
Easily create a backup image of your computer, or completely restore from one. Click an option to begin:



Backup



Restore



Clone



Verify Image

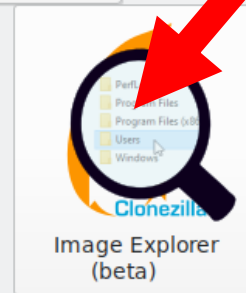
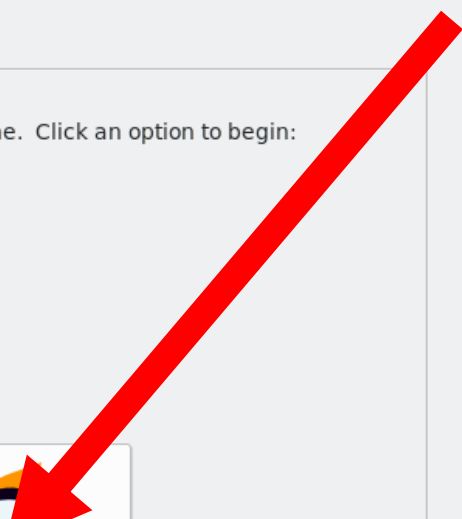


Image Explorer
(beta)



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Rescuezilla

patreon.com/rescuezilla

Rescuezilla

The Swiss Army Knife of System Recovery

Image Explorer (beta)

Step 3: Select Partition to Explore

Select the partition to access files from.

Please wait...

Mounting as read-only...

For 'gzip' compressed images often the entire backup image needs to be decompressed to a temporary file before a single file can be accessed. For very large backup images this MAY TAKE HOURS depending on the speed of your computer.

For near-instantaneous file access, a future version of Rescuezilla may switch the default compression away from 'gzip'.

To cancel the mount operation close this dialog box.

Processing image with partclone-nbd (this may take a while) (step 4/5)

Mount

Once the partition has been mounted, click **Open in file manager** to access your files.

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EXAMPLES OF AN **IMAGED** DISK (continued)

- You can **"restore"** the image to another blank hard drive or blank SSD in order to get an exact copy of the original source hard drive or source SSD.

The "restore" process has to be done with either "Rescuezilla" or "CLONEZILLA LIVE".

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The Swiss Army Knife of System Recovery



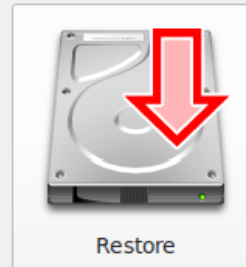
Welcome

Select an Option

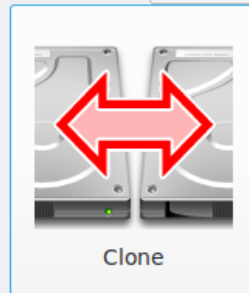
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(beta)

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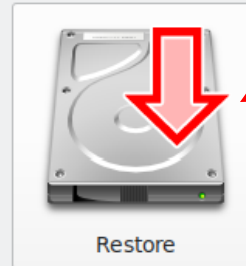
Welcome

Select an Option

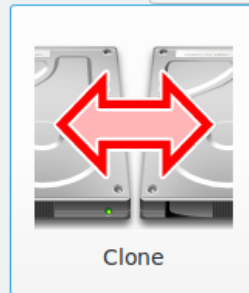
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Restore



Clone



Verify Image

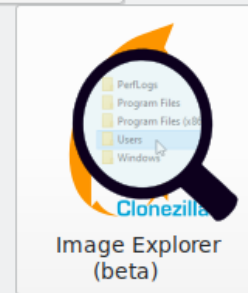


Image Explorer
(beta)

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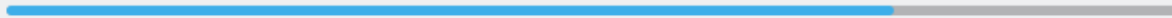


Restore

Restoring From Backup

Restoring your system from the image you selected. This may take an hour or more depending on the speed of your computer and the amount of data.

75%



Restoring Partition 2: ext4 237.5GB to /dev/sda2 (Partition 2: ext4 237.5GB)

Elapsed: 00:02:44, Remaining: 00:00:53, Completed: 75.41%, 5.55GB/min,

Back

Next >

Restoring Partition 2: ext4 237.5GB to /dev/sda2 (Partition 2: ext4 237.5GB)



Restore

Summary of Restore

Confirm the restore summary.

Restore Summary

Source image: /mnt/backup/2024-04-13-0209-img-rescuezilla/parts
Successfully restored partition table.
Successfully restored image partition sda1 to /dev/sda1.
Successfully restored image partition sda2 to /dev/sda2.
Did not update GRUB bootloader (if any)
Successfully updated initramfs
Successfully updated EFI NVRAM

Operation took 6.1 minutes.

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EXAMPLES OF AN **IMAGED** DISK

(continued)

- The restored target will be an exact copy of the original source hard drive that was used to make the image:

