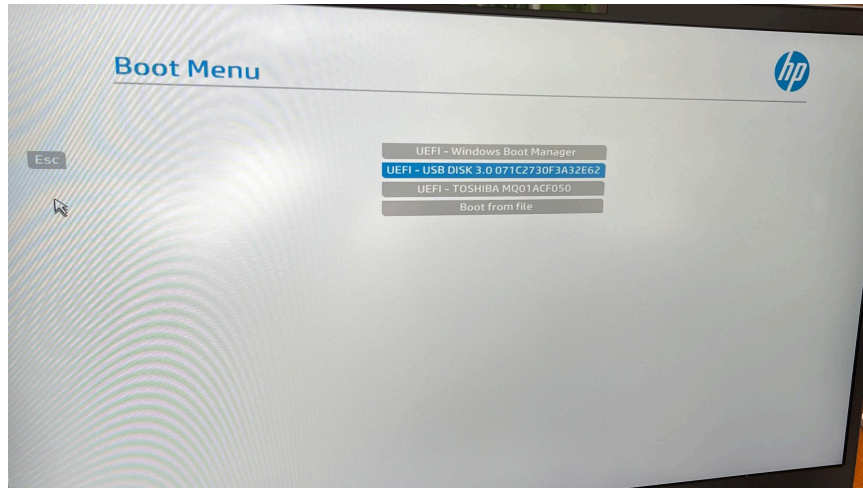


**Step by step how to setup a new pc and restore disk image using Clonezilla:**

Step1: Turn off your pc and plugin your Clonezilla flash drive to your new pc

Step 2: Turn on your pc and continuously press f-9 for HP and f-12 for Dell

Step 3: Select UEFI :USB DISK and Press Enter to continue.



Step 4: Press Enter to continue

Clonezilla live (Default settings, UGA 800x600)
Clonezilla live (Default settings, UGA 640x480)
Clonezilla live (To RAM, Boot media can be removed later)
Clonezilla live (Safe graphic settings, vga=normal)
Clonezilla live (Failsafe mode)

Press [Tab] to edit options

UGA mode 800x600. OK for most of UGA cards.

# Clonezilla

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自由軟體實驗室

國家高速網路與計算中心

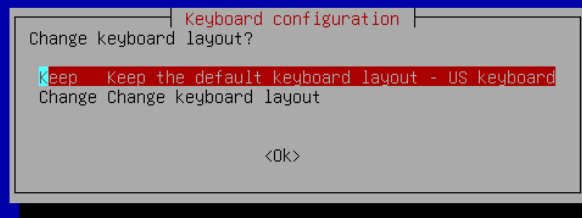
Step 5: Select English and press Enter to continue

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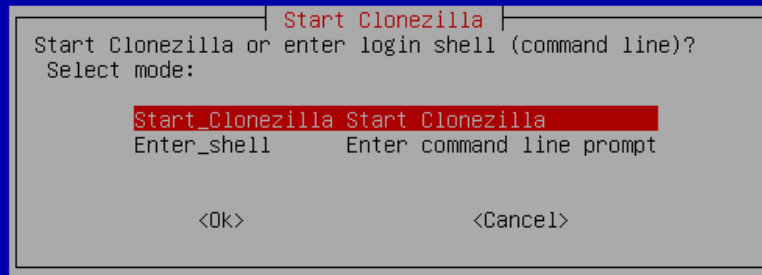
Step 6: Select keep keep the default keyboard layout and press Enter to continue

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Step 7: Select Start\_Clonezilla and press Enter to continue

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Step 8: Select device-image .... And press Enter to continue

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### Clonezilla

\*Clonezilla is free (GPL) software, and comes with ABSOLUTE NO WARRANTY\*  
///Hint! From now on, if multiple choices are available, you have to press space key to mark your selection. An asterisk (\*) will be shown when the selection is done///  
Two modes are available, you can  
(1) clone/restore a disk or partition using an image  
(2) disk to disk or partition to partition clone/restore.  
Select mode:

device-image work with disks or partitions using images

device-device work directly from a disk or partition to a disk or partition

<Ok>

<Cancel>

Step 9 : Select local\_dev and press Enter to continue

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**Mount Clonezilla image directory**

Before cloning, you have to assign where the Clonezilla image will be saved to or read from. We will mount that device or remote resources as /home/partimag. The Clonezilla image will be saved to or read from /home/partimag.

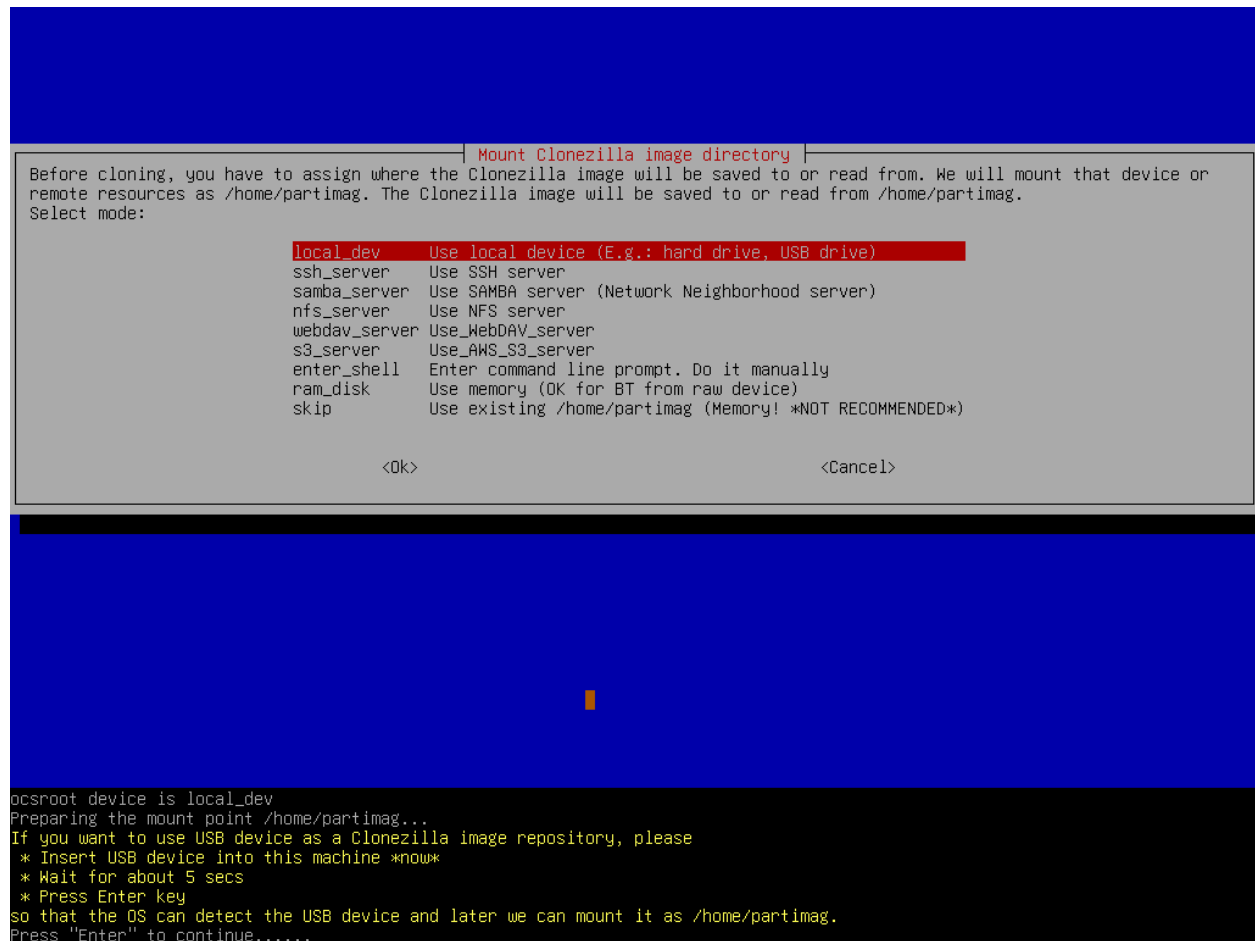
Select mode:

<b>local_dev</b>	<b>Use local device (E.g.: hard drive, USB drive)</b>
ssh_server	Use SSH server
samba_server	Use SAMBA server (Network Neighborhood server)
nfs_server	Use NFS server
enter_shell	Enter command line prompt. Do it manually
skip	Use existing /home/partimag (Memory! *NOT RECOMMENDED*)

<Ok>

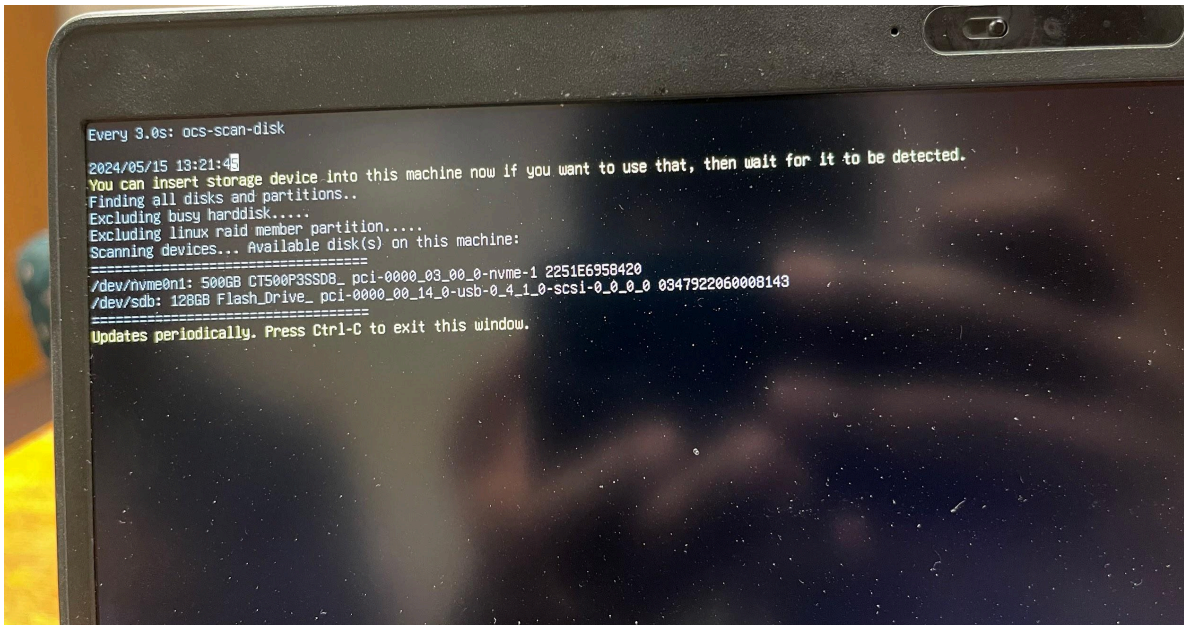
<Cancel>

Step 10: Select local\_dev and press Enter to continue

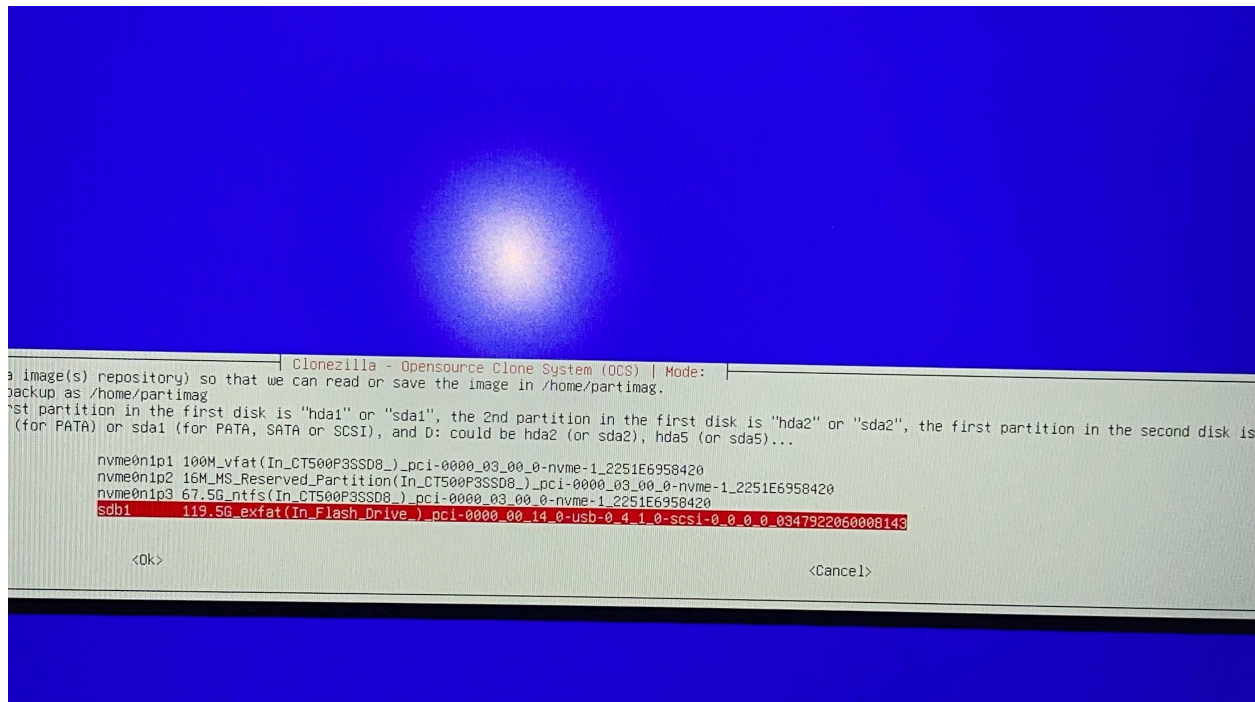




Step 11: Please plugin your sd card and make sure you have your flash card displayed on the screen... see screen below . Then Ctrl-c to exit



Step 12: Scroll down to Sdb flash drive and press enter



Step13: Select non-fsck Skip checking/repairing the file ..... And press Enter to continue

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Clonezilla - Opensource Clone System (OCS): REPOSITORY

Choose if you want to check and repair the file system before mounting the image repository. This option is only for certain file systems which are well supported by fsck on GNU/Linux, like ext2/3/4, reiserfs, xfs, jfs, vfat. Not for NTFS, HFS+...

//NOTE// This is for mounting local storage device as an image repository!

no-fsck Skip checking/repairing the file system before mounting

fsck Interactively check and repair the file system before mounting

fsck-y Auto (Caution!) check and repair file system before mounting

<Ok>

<Cancel>

Step 14: Please select your disc and press Enter to continue

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Directory Browser for Clonezilla image repository

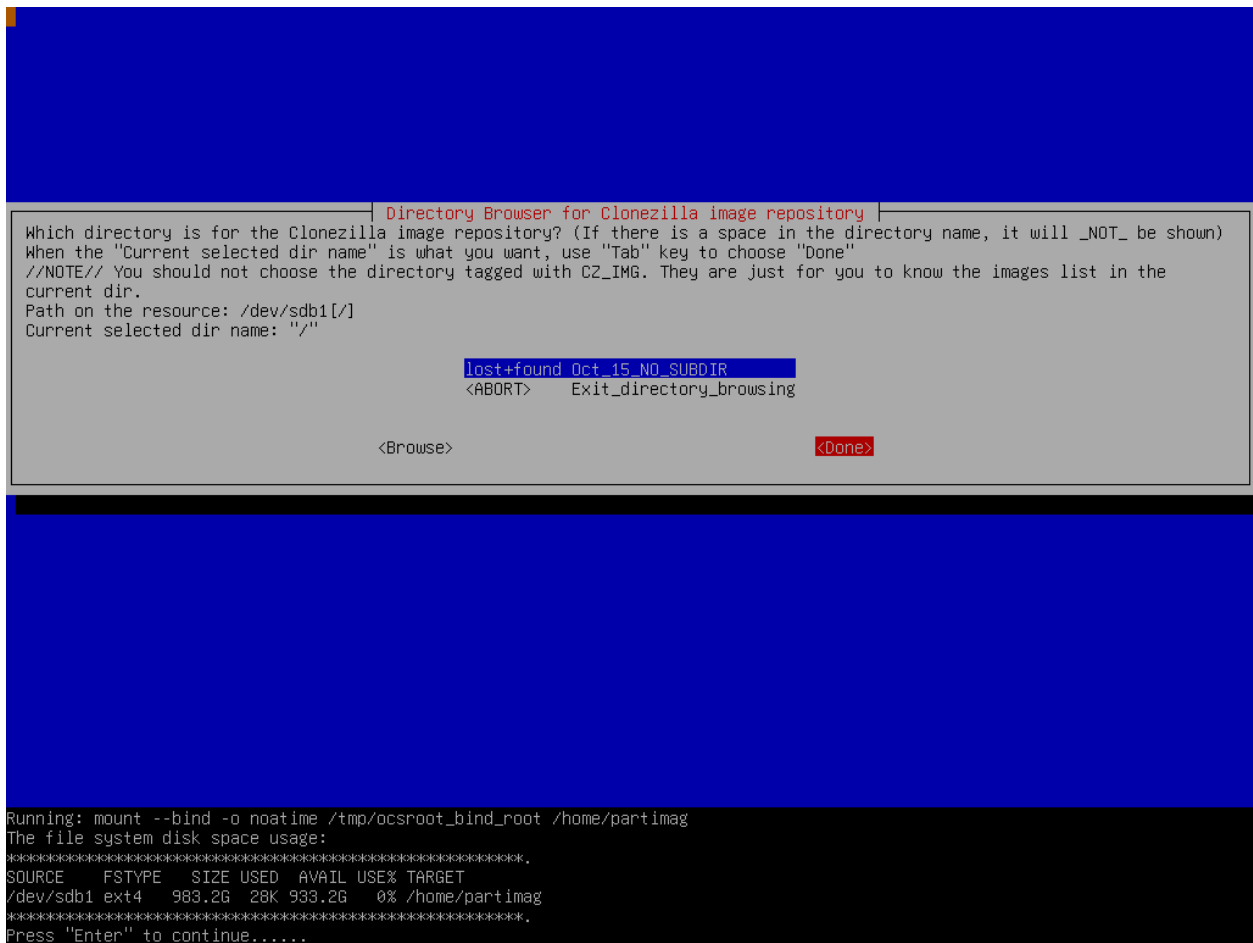
Which directory is for the Clonezilla image repository? (If there is a space in the directory name, it will \_NOT\_ be shown)  
When the "Current selected dir name" is what you want, use "Tab" key to choose "Done"  
//NOTE// You should not choose the directory tagged with C2\_IMG. They are just for you to know the images list in the  
current dir.  
Path on the resource: /dev/sdb1[/]  
Current selected dir name: "/"

lost+found Oct\_15\_NO\_SUBDIR  
<ABORT> Exit\_directory\_browsing

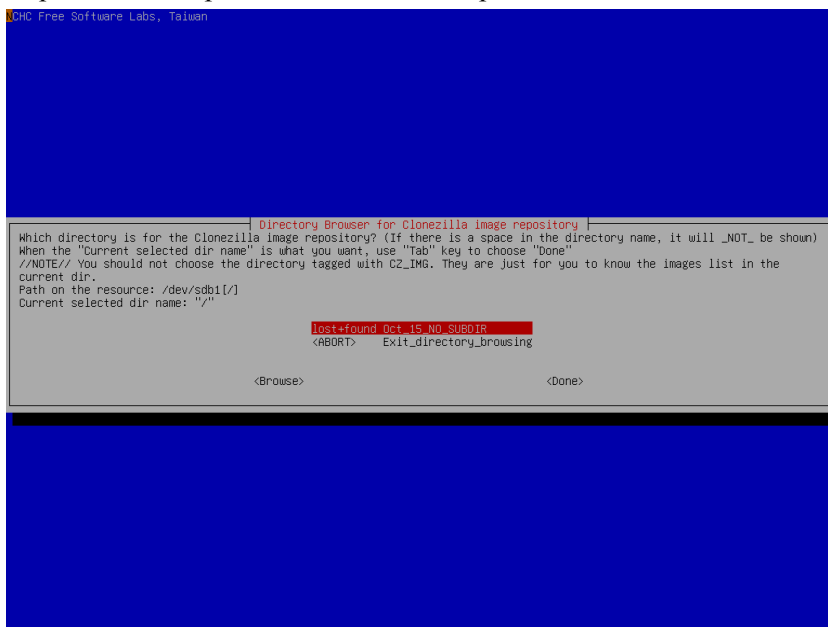
<Browse>

<Done>

## Step 15: Press enter to continue

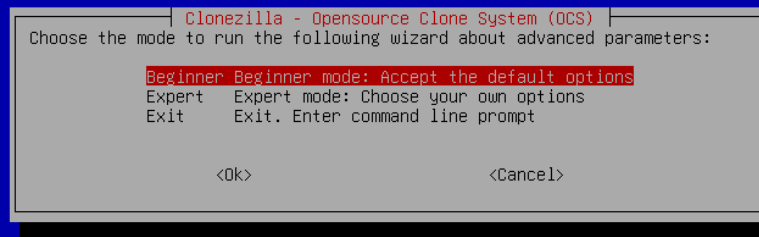


## Step 16: Press/Tap done to continue and press continue on the next screen

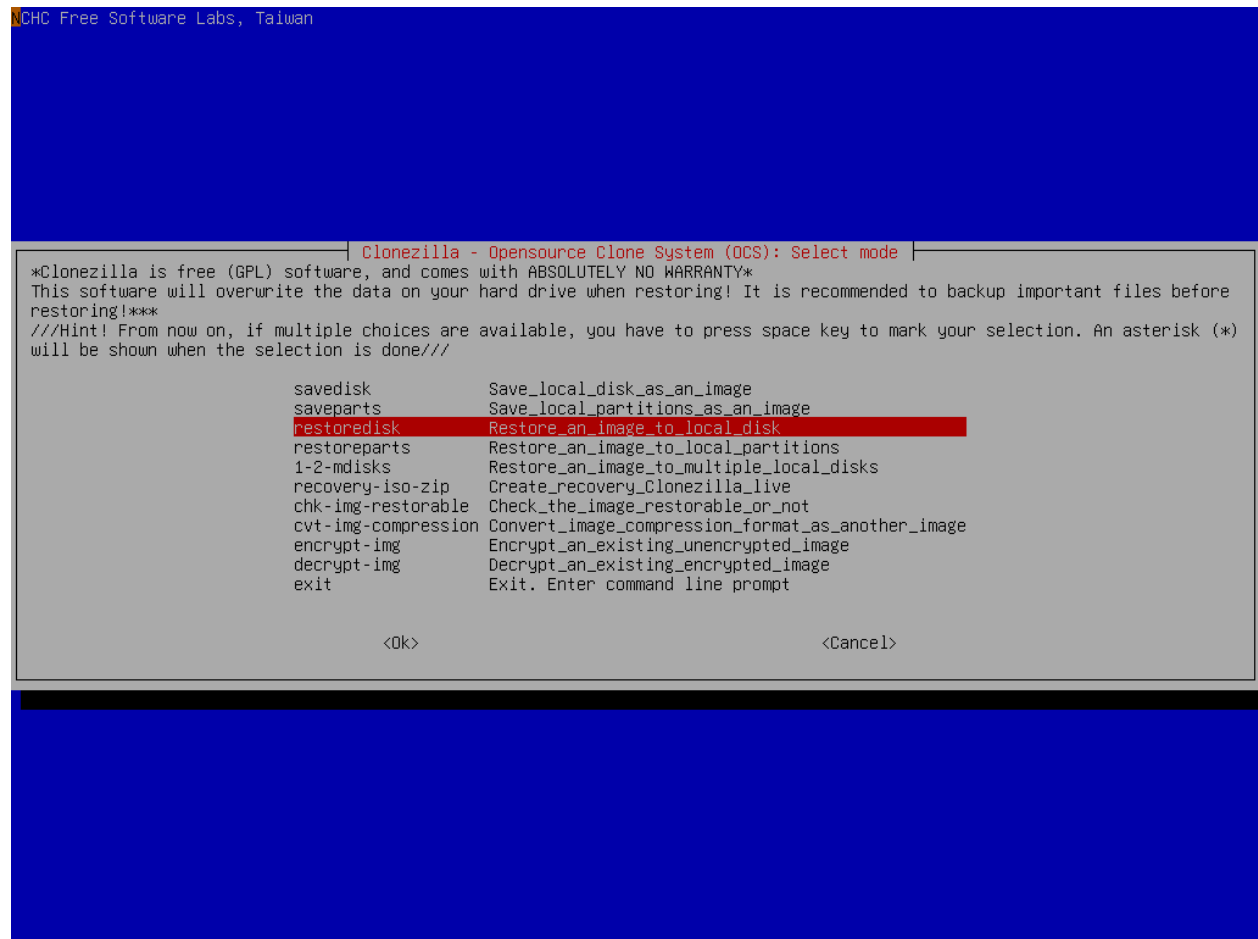


## Step 17: Click on Beginner

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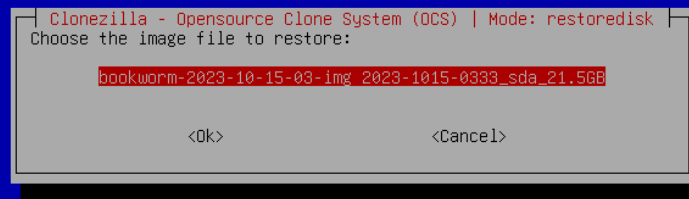


## Step 18: Select restore disk and press enter continue

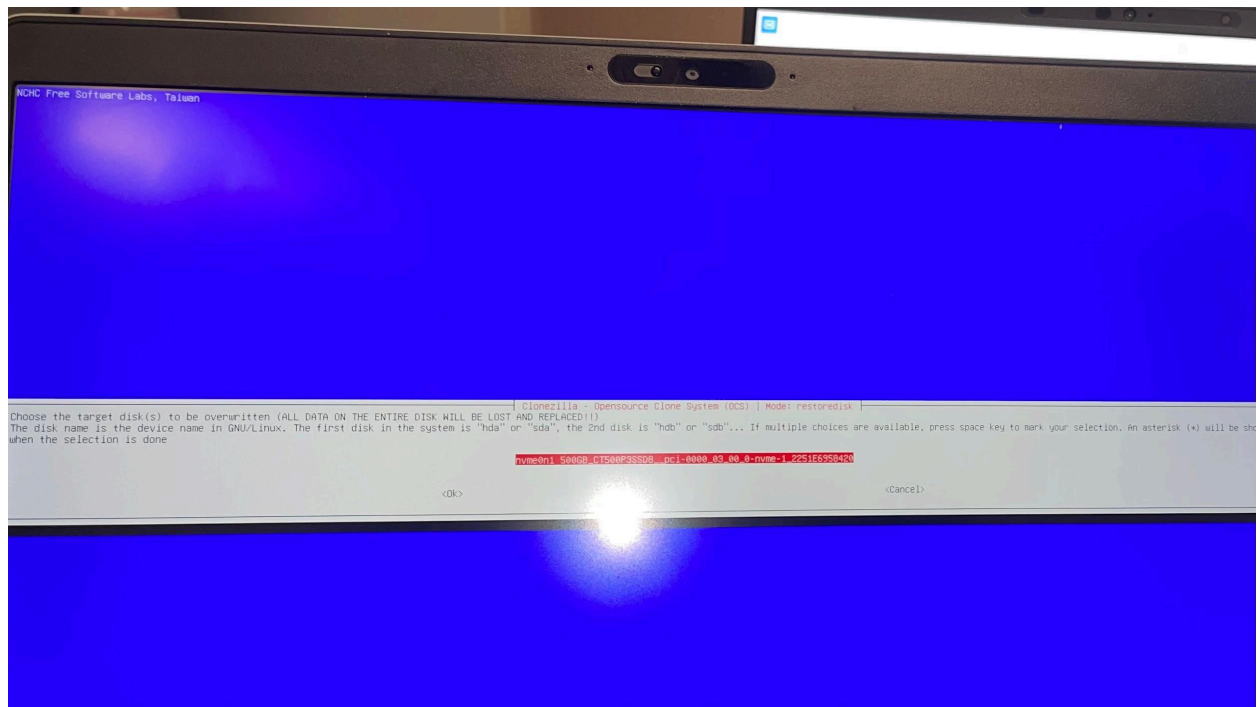


## Step 19: Choose the Clonezilla live image as source image

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Step 20: Press Tap to select your drive and 'OK' to continue to the next page





Step 21: Select -k10->use the partition table from the image and press Enter to continue

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Mode: restoredisk

Choose the mode to create the partition table on the target disk: \*\*\*ATTENTION\*\*\* (1) TO CREATE A NEW PARTITION TABLE ON THE TARGET DISK. ALL THE DATA ON THE TARGET DEVICE WILL BE ERASED!!! (2) Clonezilla will not restore an image from a large disk (partition) to a smaller disk (partition). However, it can restore an image from a small disk (partition) to a larger disk (partition).

If you have no idea, keep the default values and do NOT change anything. Just press Enter.

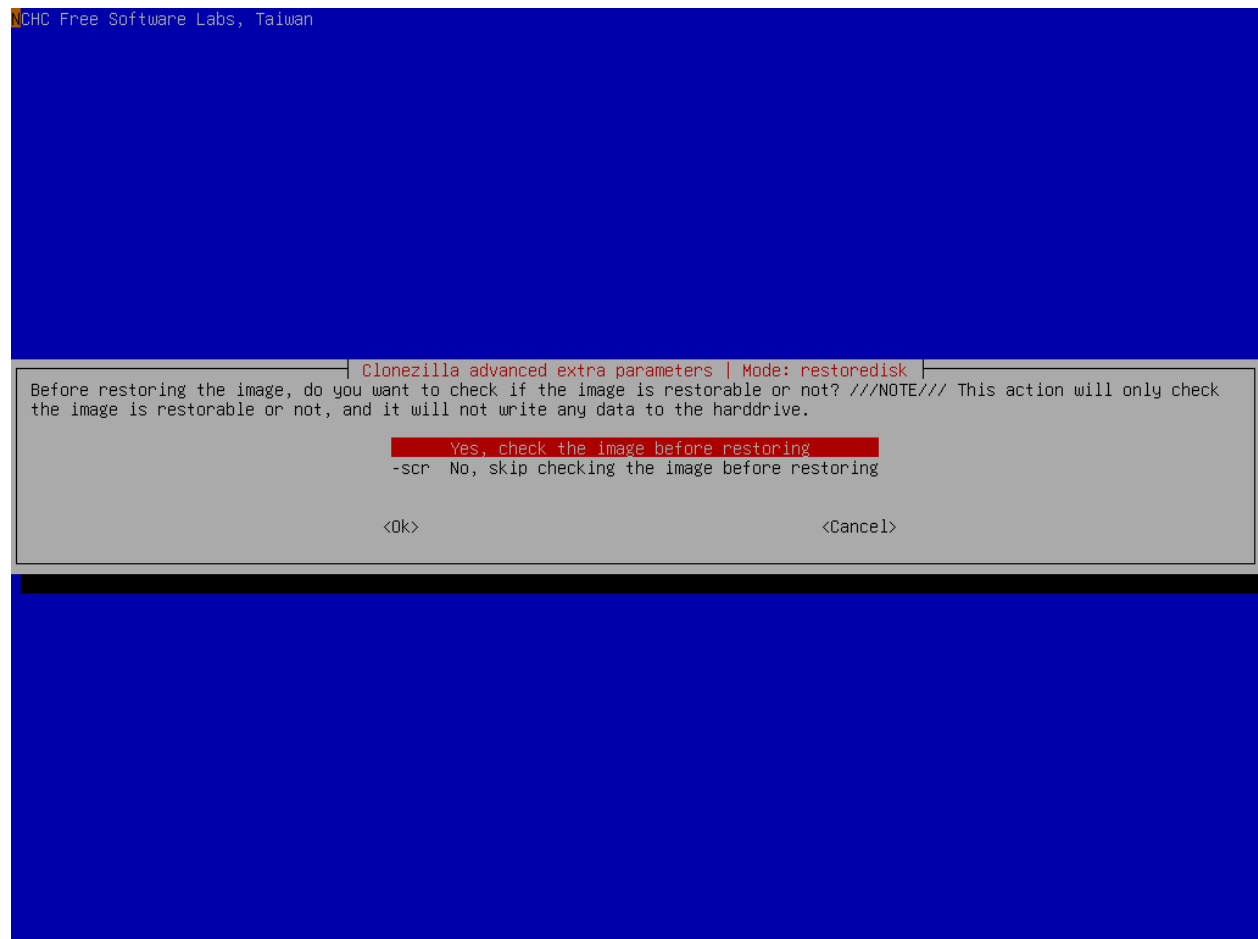
-k0 Use the partition table from the image  
-k1 Create partition table proportionally  
exit Exit

<Ok>

<Cancel>

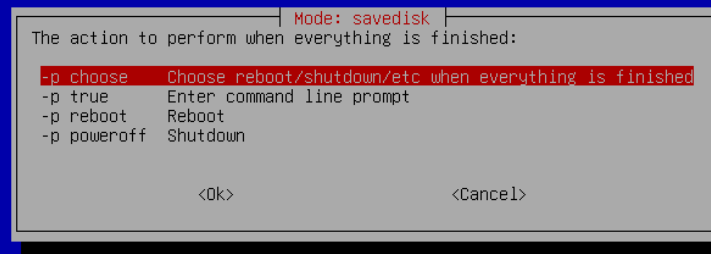
Step 22: choose yes and press Enter to continue

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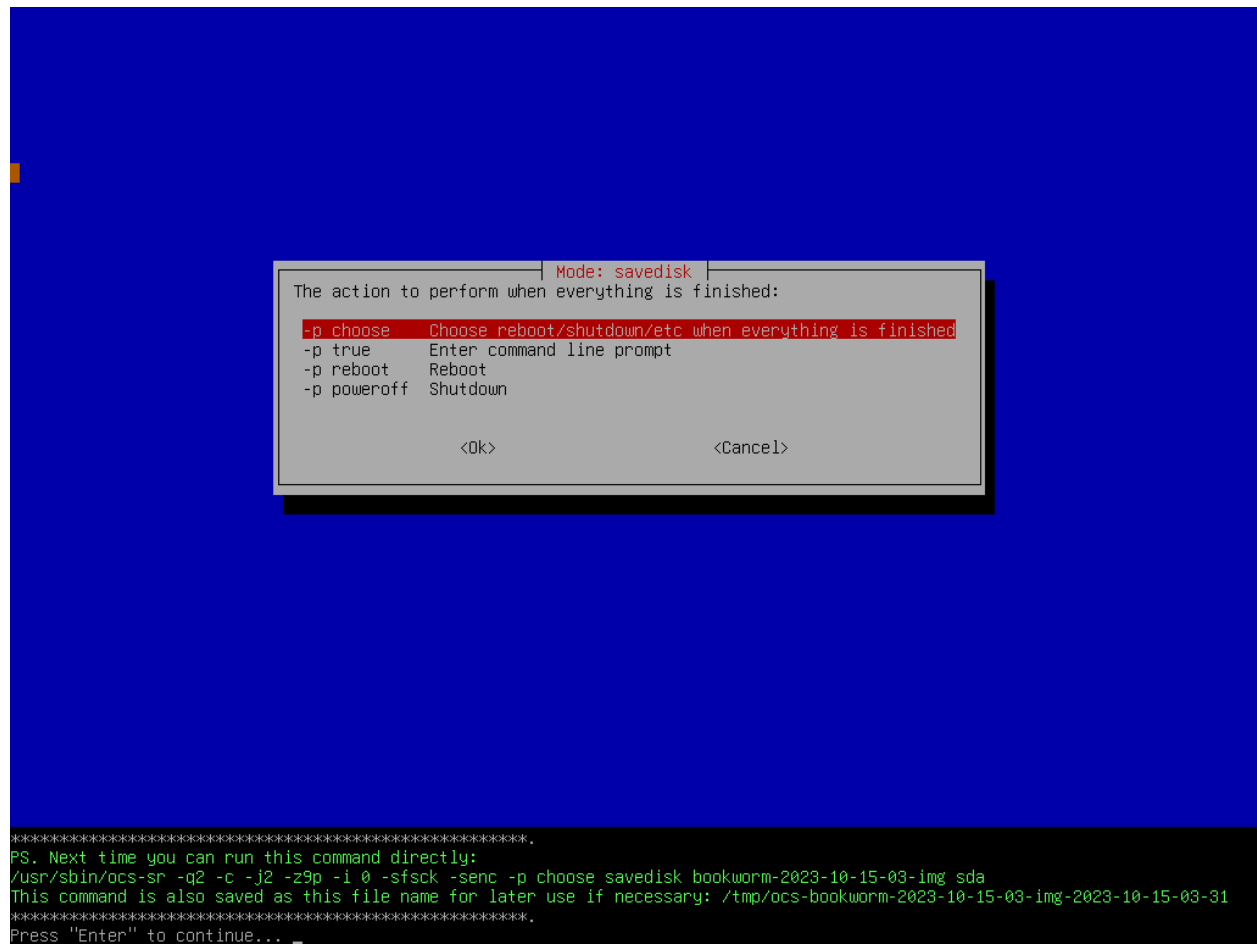


Step 23: Select choose reboot/shutdown/etc and press Enter to continue

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Step 24 : Press Enter to continue...



Step 25: Please type Yes or Y to continue

```

#####
PS. Next time you can run this command directly:
/usr/sbin/ocs-sr -q2 -c -j2 -z9p -i 0 -sfsck -senc -p choose savedisk bookworm-2023-10-15-03-img sda
This command is also saved as this file name for later use if necessary: /tmp/ocs-bookworm-2023-10-15-03-img-2023-10-15-03-31
#####
Press "Enter" to continue...
Activating the partition info in /proc... done!
Selected device [sda] found!
The selected devices: sda
Searching for data/swap/extended partition(s)...
Finding all disks and partitions..
Excluding busy partition.....
Excluding linux raid member partition.....
Unmounted partitions (including extended or swap): sda1 sda2 sda3 sda4
Collecting info..... done!
The data partition to be saved: sda1 sda2 sda4
The swap partition to be saved: sda3
Activating the partition info in /proc... done!
Selected device [sda1] found!
Selected device [sda2] found!
Selected device [sda4] found!
The selected devices: sda1 sda2 sda4
Getting /dev/sda1 info...
Getting /dev/sda2 info...
Getting /dev/sda4 info...
#####
The following step is to save the hard disk/partition(s) on this machine as an image:
#####
Machine: VMware20,1
sda (21.5GB_VMware_Virtual_S_pci-0000_02_05_0-ata-2_0_01000000000000000001)
sda1 (512M_vfat(In_VMware_Virtual_S)_pci-0000_02_05_0-ata-2_0_01000000000000000001)
sda2 (6.8G_ext4(In_VMware_Virtual_S)_pci-0000_02_05_0-ata-2_0_01000000000000000001)
sda4 (11.7G_ext4(In_VMware_Virtual_S)_pci-0000_02_05_0-ata-2_0_01000000000000000001)
#####
-> "/home/partimag/bookworm-2023-10-15-03-img".
Are you sure you want to continue? (y/n) y_

```

Step 26: Since we have chosen to check the image before restoring, Clonezilla will is now checking the image:

```
Partclone
Reading Super Block
Calculating bitmap... Please wait...
done!
File system: FAT32
Device size: 536.3 MB = 1049576 Blocks
Space in use: 7.2 MB = 14832 Blocks
Free Space: 529.7 MB = 1034544 Blocks
Block size: 512 Byte
Syncing... OK!
Partclone successfully cloned the device (/dev/sda1) to the
image (-)

Total Time: 00:00:02 Remaining: 00:00:00
Ave. Rate: 215.53MB/min

Data Block Process: 100.00%
Total Block Process: 100.00%
```

```
Partclone v0.9.27 http://partclone.org
Starting to clone device (/dev/sda2) to image (-)
Reading Super Block
Calculating bitmap... Please wait...
done!
File system: EXTFS
Device size: 7.3 GB = 1783296 Blocks
Space in use: 4.3 GB = 1053736 Blocks
Free Space: 3.0 GB = 729560 Blocks
Block size: 4096 Byte

Elapsed: 00:00:08 Remaining: 00:00:26 Rate: 7.54GB/min
Current Block: 305332 Total Block: 1783296

Data Block Process: 23.30%
Total Block Process: 17.13%
```

Before starting to restore the disk image to disk sda, Clonezilla will ask you to confirm that TWICE:

```

Total Block Process: 100.00%

Checked successfully.
The image of this partition is restorable: sda4
*****
All the images of partition or LV devices in this image were checked and they are restorable: bookworm-2023-10-15-03-img
Summary of image checking:
=====
Partition table type: gpt
The partition table file for this disk was found: sda, /home/partimag/bookworm-2023-10-15-03-img/sda-pt.sf
The image of this partition is restorable: sda1
The image of this partition is restorable: sda2
The image of this partition is restorable: sda4
All the images of partition or LV devices in this image were checked and they are restorable: bookworm-2023-10-15-03-img
=====
Activating the partition info in /proc... done!
Getting /dev/sda1 info...
Getting /dev/sda2 info...
Getting /dev/sda3 info...
Getting /dev/sda4 info...
*****
The following step is to restore an image to the hard disk/partition(s) on this machine: "/home/partimag/bookworm-2023-10-15-03-
img" -> "sda sda1 sda2 sda4"
The image was created at: 2023-1015-0333
WARNING!!! WARNING!!! WARNING!!!
WARNING. THE EXISTING DATA IN THIS HARDDISK/PARTITION(S) WILL BE OVERWRITTEN! ALL EXISTING DATA WILL BE LOST:
*****
Machine: VMWare20.1
sda (21.5GB_VMware_Virtual_S_pci-0000_02_05_0-ata-2_0_01000000000000000001)
sda1 (512M_vfat(In_VMware_Virtual_S)_pci-0000_02_05_0-ata-2_0_01000000000000000001)
sda2 (6.8G_ext4(In_VMware_Virtual_S)_pci-0000_02_05_0-ata-2_0_01000000000000000001)
sda3 (977M_swap(In_VMware_Virtual_S)_pci-0000_02_05_0-ata-2_0_01000000000000000001)
sda4 (11.7G_ext4(In_VMware_Virtual_S)_pci-0000_02_05_0-ata-2_0_01000000000000000001)
*****
Are you sure you want to continue? (y/n) y
```

```

All the images of partition or LV devices in this image were checked and they are restorable: bookworm-2023-10-15-03-img
Summary of image checking:
=====
Partition table type: gpt
The partition table file for this disk was found: sda, /home/partimag/bookworm-2023-10-15-03-img/sda-pt.sf
The image of this partition is restorable: sda1
The image of this partition is restorable: sda2
The image of this partition is restorable: sda4
All the images of partition or LV devices in this image were checked and they are restorable: bookworm-2023-10-15-03-img
=====
Activating the partition info in /proc... done!
Getting /dev/sda1 info...
Getting /dev/sda2 info...
Getting /dev/sda3 info...
Getting /dev/sda4 info...
*****
The following step is to restore an image to the hard disk/partition(s) on this machine: "/home/partimag/bookworm-2023-10-15-03-
img" -> "sda sda1 sda2 sda4"
The image was created at: 2023-1015-0333
WARNING!!! WARNING!!! WARNING!!!
WARNING. THE EXISTING DATA IN THIS HARDDISK/PARTITION(S) WILL BE OVERWRITTEN! ALL EXISTING DATA WILL BE LOST:
*****
Machine: VMWare20,1
sda (21.5GB_VMware_Virtual_S_pci-0000_02_05_0-ata-2_0_01000000000000000001)
sda1 (512M_vfat(In_VMware_Virtual_S)_pci-0000_02_05_0-ata-2_0_01000000000000000001)
sda2 (6.8G_ext4(In_VMware_Virtual_S)_pci-0000_02_05_0-ata-2_0_01000000000000000001)
sda3 (977M_swap(In_VMware_Virtual_S)_pci-0000_02_05_0-ata-2_0_01000000000000000001)
sda4 (11.7G_ext4(In_VMware_Virtual_S)_pci-0000_02_05_0-ata-2_0_01000000000000000001)
*****
Are you sure you want to continue? (y/n) y
OK, let's do it!!
This program is not started by clonezilla server.
*****
Let me ask you again.
The following step is to restore an image to the hard disk/partition(s) on this machine: "/home/partimag/bookworm-2023-10-15-03-
img" -> "sda sda1 sda2 sda4"
The image was created at: 2023-1015-0333
WARNING!!! WARNING!!! WARNING!!!
WARNING. THE EXISTING DATA IN THIS HARDDISK/PARTITION(S) WILL BE OVERWRITTEN! ALL EXISTING DATA WILL BE LOST:
*****
Machine: VMWare20,1
sda (21.5GB_VMware_Virtual_S_pci-0000_02_05_0-ata-2_0_01000000000000000001)
sda1 (512M_vfat(In_VMware_Virtual_S)_pci-0000_02_05_0-ata-2_0_01000000000000000001)
sda2 (6.8G_ext4(In_VMware_Virtual_S)_pci-0000_02_05_0-ata-2_0_01000000000000000001)
sda3 (977M_swap(In_VMware_Virtual_S)_pci-0000_02_05_0-ata-2_0_01000000000000000001)
sda4 (11.7G_ext4(In_VMware_Virtual_S)_pci-0000_02_05_0-ata-2_0_01000000000000000001)
*****
Are you sure you want to continue? (y/n) y

```



Clonezilla now is restoring the selected disk image to 1st disk (sda). The job is done by restoring:

- MBR (by dd), and Boot loader (by grub)
- Partition table (by sfdisk).
- Data on every partition or LV (logical volume) (by partimage, ntfscclone, partclone or dd. It depends on the image of each partition or LV.)

```
Trying to clean the MBR and GPT partition table on the destination disk first: /dev/sda
Informing the OS of partition table changes... done!
*****
Running: dd if=/dev/zero of=/dev/sda bs=512 count=1
1+0 records in
1+0 records out
512 bytes copied, 0.000412184 s, 1.2 MB/s
*****
Error: /dev/sda: unrecognised disk label
Running: LC_ALL=C grep -Ev '^last-lba:' /home/partimag/bookworm-2023-10-15-03-img/sda-pt.sf | sfdisk --wipe always --force /dev/
sda 2>&1
Checking that no-one is using this disk right now ... OK

Disk /dev/sda: 20 GiB, 21474836480 bytes, 41943040 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

>>> Script header accepted.
>>> Script header accepted.
>>> Script header accepted.
>>> Script header accepted.
>>> Script header accepted.
>>> Script header accepted.
>>> Created a new GPT disklabel (GUID: E7ADE2CD-FF3E-4618-9709-968B654AE1B7).
/dev/sda1: Created a new partition 1 of type 'EFI System' and of size 512 MiB.
/dev/sda2: Created a new partition 2 of type 'Linux filesystem' and of size 6.8 GiB.
/dev/sda3: Created a new partition 3 of type 'Linux swap' and of size 977 MiB.
/dev/sda4: Created a new partition 4 of type 'Linux filesystem' and of size 11.7 GiB.
/dev/sda5: Done.

New situation:
Disklabel type: gpt
Disk identifier: E7ADE2CD-FF3E-4618-9709-968B654AE1B7

Device        Start      End  Sectors  Size Type
/dev/sda1      2048    1050623   1048576   512M EFI System
/dev/sda2    1050624  15316991  14266368   6.8G Linux filesystem
/dev/sda3    15316992  17317887   2000896   977M Linux swap
/dev/sda4    17317888  41940991  24623104  11.7G Linux filesystem

The partition table has been altered.
Calling ioctl() to re-read partition table.
Syncing disks.
This was done by: LC_ALL=C grep -Ev '^last-lba:' /home/partimag/bookworm-2023-10-15-03-img/sda-pt.sf | sfdisk --wipe always --fo
rce /dev/sda 2>&1
Informing the OS of partition table changes...
```

```

Partclone
Starting to restore image (-) to device (/dev/sda1)
Calculating bitmap... Please wait...
done!
File system: FAT32
Device size: 536.9 MB = 1048576 Blocks
Space in use: 7.2 MB = 14032 Blocks
Free Space: 529.7 MB = 1034544 Blocks
Block size: 512 Byte
Syncing... OK!
Partclone successfully restored the image (-) to the device
(/dev/sda1)

Total Time: 00:00:02 Remaining: 00:00:00
Ave. Rate: 215.53MB/min

Data Block Process:
100.00%

Total Block Process:
100.00%

```



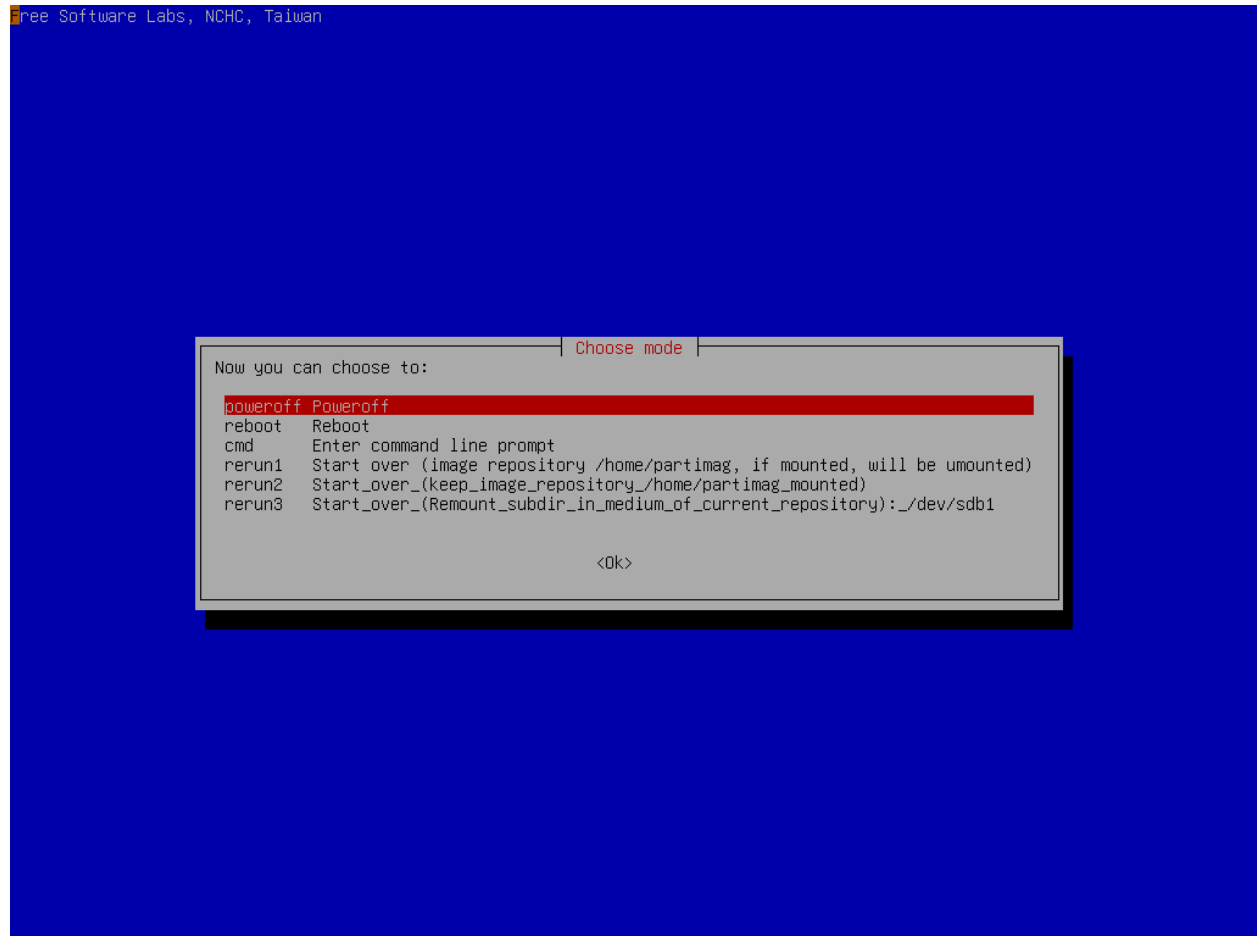
```

W: Possible missing firmware /lib/firmware/rtl_nic/rtl8153a-3.fw for module r8152
W: Possible missing firmware /lib/firmware/rtl_nic/rtl8153a-2.fw for module r8152
W: Possible missing firmware /lib/firmware/bnx2x/bnx2x-e2-7.13.15.0.fw for module bnx2x
W: Possible missing firmware /lib/firmware/bnx2x/bnx2x-e1h-7.13.15.0.fw for module bnx2x
W: Possible missing firmware /lib/firmware/bnx2x/bnx2x-e1-7.13.15.0.fw for module bnx2x
W: Possible missing firmware /lib/firmware/bnx2x/bnx2x-e2-7.13.21.0.fw for module bnx2x
W: Possible missing firmware /lib/firmware/bnx2x/bnx2x-e1h-7.13.21.0.fw for module bnx2x
W: Possible missing firmware /lib/firmware/bnx2x/bnx2x-e1-7.13.21.0.fw for module bnx2x
W: Possible missing firmware /lib/firmware/bnx2/bnx2-rv2p-09ax-6.0.17.fw for module bnx2
W: Possible missing firmware /lib/firmware/bnx2/bnx2-rv2p-09-6.0.17.fw for module bnx2
W: Possible missing firmware /lib/firmware/bnx2/bnx2-mips-09-6.2.1b.fw for module bnx2
W: Possible missing firmware /lib/firmware/bnx2/bnx2-rv2p-06-6.0.15.fw for module bnx2
W: Possible missing firmware /lib/firmware/bnx2/bnx2-mips-06-6.2.3.fw for module bnx2
done!
*****
Running: run_ntfsrelloc_part -p "sda1 sda2 sda4" auto
The NTFS boot partition was not found or not among the restored partition(s). Skip running partclone.ntfsfixboot.
*****
Running: update-efi-nvram-boot-entry -r /home/partimag/bookworm-2023-10-15-03-img/efi-nvram.dat -f /tmp/efi_info.uSgWK1 /dev/sda
Updating boot entry of EFI NVRAM...
EFI system partition: /dev/sda1
Trying to clean unused uEFI boot entry if it exists...
Found Boot file /EFI/debian/shimx64.efi in partition /dev/sda1.
EFI system partition UUID 8a66b658-0c72-437e-93c0-a37b4fb786ea in EFI NVRAM matches the one on partition /dev/sda1.
No need to update the boot entry of EFI NVRAM.
*****
Shutting down the Logical Volume Manager
Finished Shutting down the Logical Volume Manager
End of restoreparts job for image bookworm-2023-10-15-03-img.
End of restoredisk job for image bookworm-2023-10-15-03-img.
*****
*****
Checking if udevd rules have to be restored...
This program is not started by Clonezilla server, so skip notifying it the job is done.
Finished!
The mounted bitlocker device was not found. Skip unmounting it.
Now syncing - flush filesystem buffers...
Ending /usr/sbin/ocs-sr at 2023-10-15 05:07:40 UTC...
*****
If you want to use Clonezilla again:
(1) Stay in this console (console 1), enter command line prompt
(2) Run command "exit" or "logout"
*****
When everything is done, remember to use 'poweroff', 'reboot' or follow the menu to do a normal poweroff/reboot procedure. Other
wise if the boot media you are using is a writable device (such as USB flash drive), and it's mounted, poweroff/reboot in abnorm
al procedure might make it FAIL to boot next time!
*****
Press "Enter" to continue...

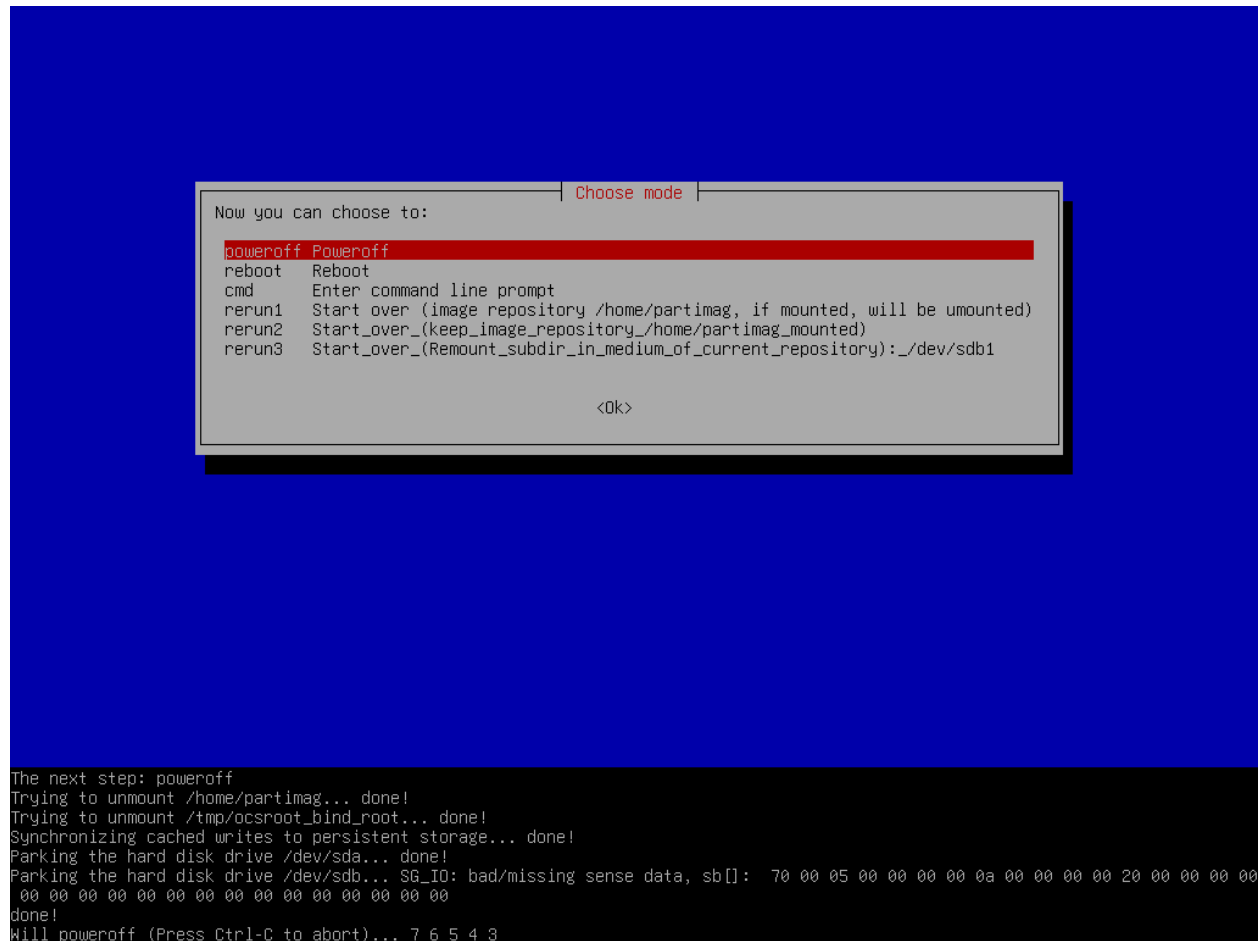
```

Step 28: Then you can choose to:

- Poweroff



Step 29: Here we choose Poweroff, and it will countdown 7 secs:



*That's all. We have successfully restored the disk.*