

Grub corrupt hogaya ya initramfs corrupt hogaya usko kaise restore karege woh saab check karege

```
[root@Dharam boot]# ls
config-4.18.0-348.el8.x86_64
config-4.18.0-513.5.1.el8_9.x86_64
config-4.18.0-553.54.1.el8_10.x86_64
config-5.4.17-2136.300.7.el8uek.x86_64
efi
grub2
initramfs-0-rescue-720a5c1c2199454190242e23b3f14099.img
initramfs-4.18.0-348.el8.x86_64.img
initramfs-4.18.0-513.5.1.el8_9.x86_64.img
[root@Dharam boot]#
```

Abhi mein boot ke andar huu uske andar
config -4. Wala jo file hai usmein boot ke conifguartion wali file hai

Aur **grub2** ke anadr mein configuration file hai aur baki other supprtive file uske anadar hai

Initramfs ke anadar drivers aur kernel modules hote hai jo memory mein load hota hai booting process ke time par taki humara hardware initialize hoo sake

usmein 3 file hai jo beech wali hai woh main wali file hai

AGAR YEH FILE DELETE HOJAYEE TOH HUMEIN KERNEL PANIC KA ERROR AATA HAI

Use mein ek aur file hai

initramfs-rescue.img => iska kaam hai hardware aur memory ko load karna kernel ke hisab seeee

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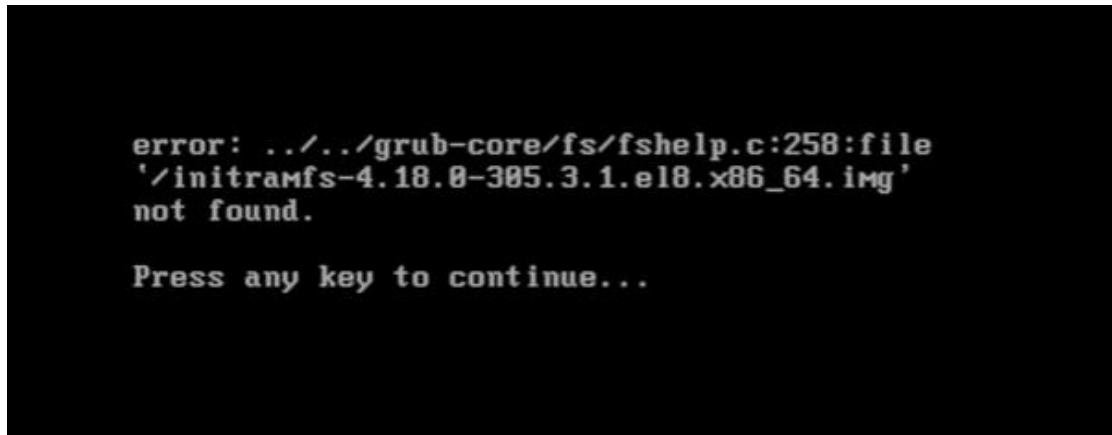
Use mein **loader** => **entries** => kuch files hai rethe hai yeh rescue configuraton files rethe hai

```
[root@Dharam loader]# cd entries/
[root@Dharam entries]# ls
720a5c1c2199454190242e23b3f14099-0-rescue.conf          720a5c1c21
720a5c1c2199454190242e23b3f14099-4.18.0-348.el8.x86_64.conf 720a5c1c21
720a5c1c2199454190242e23b3f14099-4.18.0-513.5.1.el8_9.x86_64.conf
[root@Dharam entries]#
```

Grub ke configuration file

/boot/grub2/grub.cfg

Agar koi bhe initramfs ke file delete karte hoo toh aise error aata hai reboot karne ke baat



Yeh wala error aayega

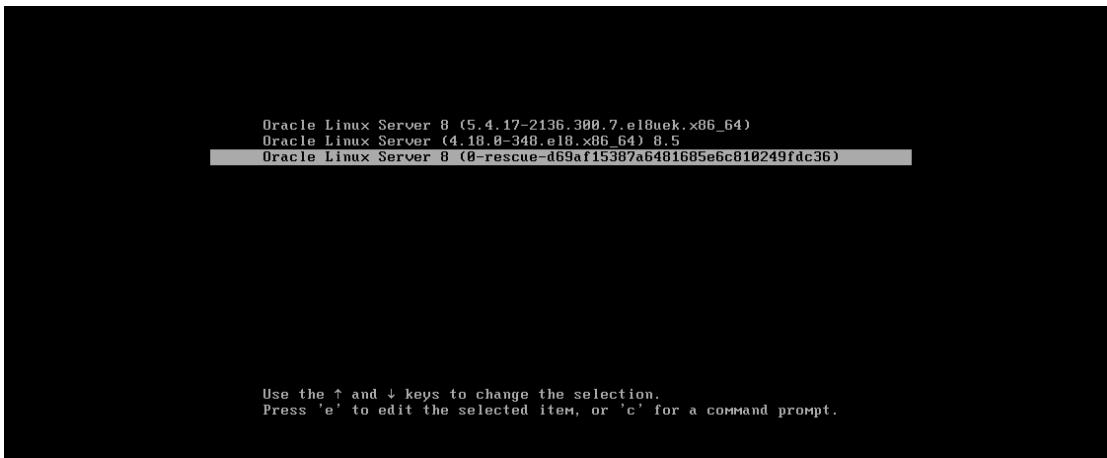
```
[ 0.268334] CPU: 0 PID: 1 Comm: swapper/0 Not tainted 5.4.17-2136.300.7.el8ue
k.x86_64 #2
[ 0.268413] Hardware name: VMware, Inc. VMware Virtual Platform/440BX Desktop
Reference Platform, BIOS 6.00 11/12/2020
[ 0.268503] Call Trace:
[ 0.268544] dump_stack+0x6d/0x8b
[ 0.268580] panic+0x101/0x2f4
[ 0.268614] mount_block_root+0x2bc/0x2df
[ 0.268655] ? do_early_param+0x95/0x95
[ 0.268693] mount_root+0x7c/0x7f
[ 0.268728] prepare_namespace+0x139/0x171
[ 0.268769] kernel_init_freeable+0x24f/0x275
[ 0.268812] ? rest_init+0xb0/0xb0
[ 0.268848] kernel_init+0xe/0x109
[ 0.268883] ret_from_fork+0x24/0x36
[ 0.268934] Kernel Offset: 0xba0000 from 0xfffffffffb100000 (relocation rang
e: 0xffffffff80000000-0xffffffffffff)
[ 0.269033] ---[ end Kernel panic - not syncing: VFS: Unable to mount root fs
on unknown-block(0,0) ]---
```

Means jo bhe humare hardware ko initialize karne k liye drivers aur modules jarur thaa woh nhi hai woh ram mein load nhi hoo sakee ku ke **initramfs ke** file waha nhi hai ya toh corrupt hoo chuki hai

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Toh kernel ko abhi **rescue** mode se boot karna hogaa



Toh rescue mode se machine jo hai woh bootup hoojayege

Uske baad then go to cd /boot

```
[root@localhost boot]# ll
total 174556
-rw-r--r--. 1 root root 193907 Nov 11 2021 config-4.18.0-348.el8.x86_64
-rw-r--r--. 1 root root 217896 Oct 9 2021 config-5.4.17-2136.300.7.el8uek.x86_64
drwxr-xr-x. 3 root root 17 Jun 24 21:17 efi
drwxr-xr-x. 4 root root 83 Jun 24 21:36 grub2
-rw-----. 1 root root 107170069 Jun 24 21:28 initramfs-0-rescue-dda33c2bdaeb438aa71916c4fca78cb4.img
-rw-----. 1 root root 31532544 Jun 24 21:30 initramfs-5.4.17-2136.300.7.el8uek.x86_64kdump.img
drwxr-xr-x. 3 root root 21 Jun 24 21:20 loader
lrwxrwxrwx. 1 root root 45 Jun 24 21:21 symvers-4.18.0-348.el8.x86_64.gz -> /lib/modules/4.18.0-348
lrwxrwxrwx. 1 root root 55 Jun 24 21:24 symvers-5.4.17-2136.300.7.el8uek.x86_64.gz -> /lib/modules/
-rw-----. 1 root root 4258248 Nov 11 2021 System.map-4.18.0-348.el8.x86_64
-rw-----. 1 root root 4440630 Oct 9 2021 System.map-5.4.17-2136.300.7.el8uek.x86_64
-rwrxr-xr-x. 1 root root 10348096 Jun 24 21:27 vmlinuz-0-rescue-dda33c2bdaeb438aa71916c4fca78cb4
-rwrxr-xr-x. 1 root root 10212912 Nov 11 2021 vmlinuz-4.18.0-348.el8.x86_64
-rwrxr-xr-x. 1 root root 10348096 Oct 9 2021 vmlinuz-5.4.17-2136.300.7.el8uek.x86_64
[root@localhost boot]#
```

File delete kiya abhi sirf rescue aur kdump dekehe gaa **initramfs wala**

Agar rescue wala bhe delete hogaya retha toh uske bhe nhi boot kar pate hum log

Fir ISO se karna padta boot

Abhi woh file jo hai initramfs wala usko regenerate karna hogaa

FIRST check the kernel version by

uname -r

```
[root@localhost boot]# uname -r
5.4.17-2136.300.7.el8uek.x86_64
[root@localhost boot]#
```

Initramfs ko regeenrate kare k liyee dracut command run kar padega
dracut aur kernel ka version.img

dracut -v **initramfs- 5.4.17-2136.300.7.el8uek.x86_64.img** 5.4.17-
2136.300.7.el8uek.x86_64

Yeh command initram fs ke image ko regeneate karna start kar degaa

```
[root@localhost boot]# dracut -v
dracut: *** Including modules done
dracut: *** Installing kernel module dependencies ***
dracut: *** Installing kernel module dependencies done ***
dracut: *** Resolving executable dependencies ***
dracut: *** Resolving executable dependencies done ***
dracut: *** Hardlinking files ***
dracut: *** Hardlinking files done ***
dracut: *** Generating early-microcode cpio image ***
dracut: *** Constructing GenuineIntel.bin ***
dracut: *** Store current command line parameters ***
dracut: *** Stripping files ***
dracut: *** Stripping files done ***
dracut: *** Creating image file '/boot/5.4.17-2136.300.7.el8uek.x86_64.img' ***
dracut: *** Creating initramfs image file '/boot/5.4.17-2136.300.7.el8uek.x86_64'
[root@localhost boot]#
```

AGAR mere initramfs ke file hai aur woh corrupted hai toh usko override karne ke liye same command sirf -force lagana

```
dracut -v initramfs-5.4.17-2136.300.7.el8uek.x86_64.img 5.4.17-2136.300.7.el8uek.x86_64 -force
```

Isse yeh thik hojayegaa lekin jo command rahega woh

```
dracut -v --force initramfs- 5.4.17-2136.300.7.el8uek.x86_64.img 5.4.17-2136.300.7.el8uek.x86_64
```

Yeh wala command hai

Uske baad reboot marke dekhnaa woh first wale se login hogaa

Ek aur hai **mkinitrd** jis se hum initramfs ke file generate kar sakte hai

```
mkinitrd -v --force initramfs-5.4.17-2136.300.7.el8uek.x86_64.img 5.4.17-2136.300.7.el8uek.x86_64
```

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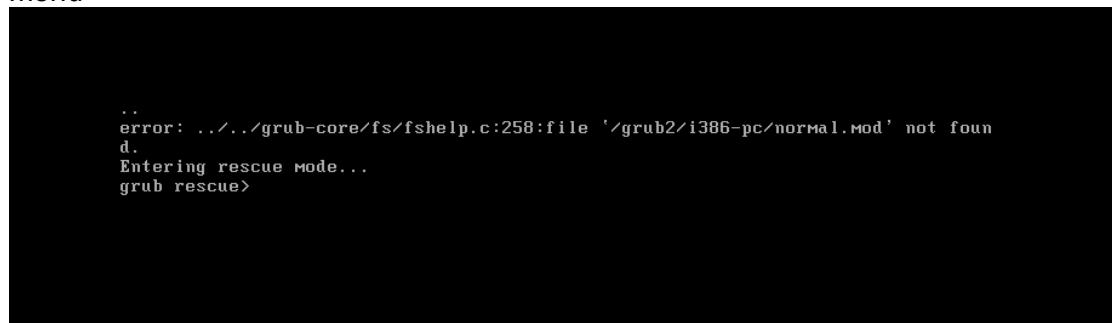
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SECOND CASE ⇒ abhi mein /boot/grub2 ke andar grub.cfg ke file hai usko delete kar ke dekhna hai

```
[root@localhost boot]# cd grub2
[root@localhost grub2]# ls
device.map  fonts  grub.cfg  grubenv  i386-pc
[root@localhost grub2]# rm -rf grub.cfg
[root@localhost grub2]# ls
device.map  fonts  grubenv  i386-pc
[root@localhost grub2]#
```

Ya toh sabse worst case /boot ke anadar jo **grub2** ke directory hai woh he delete hoajyee

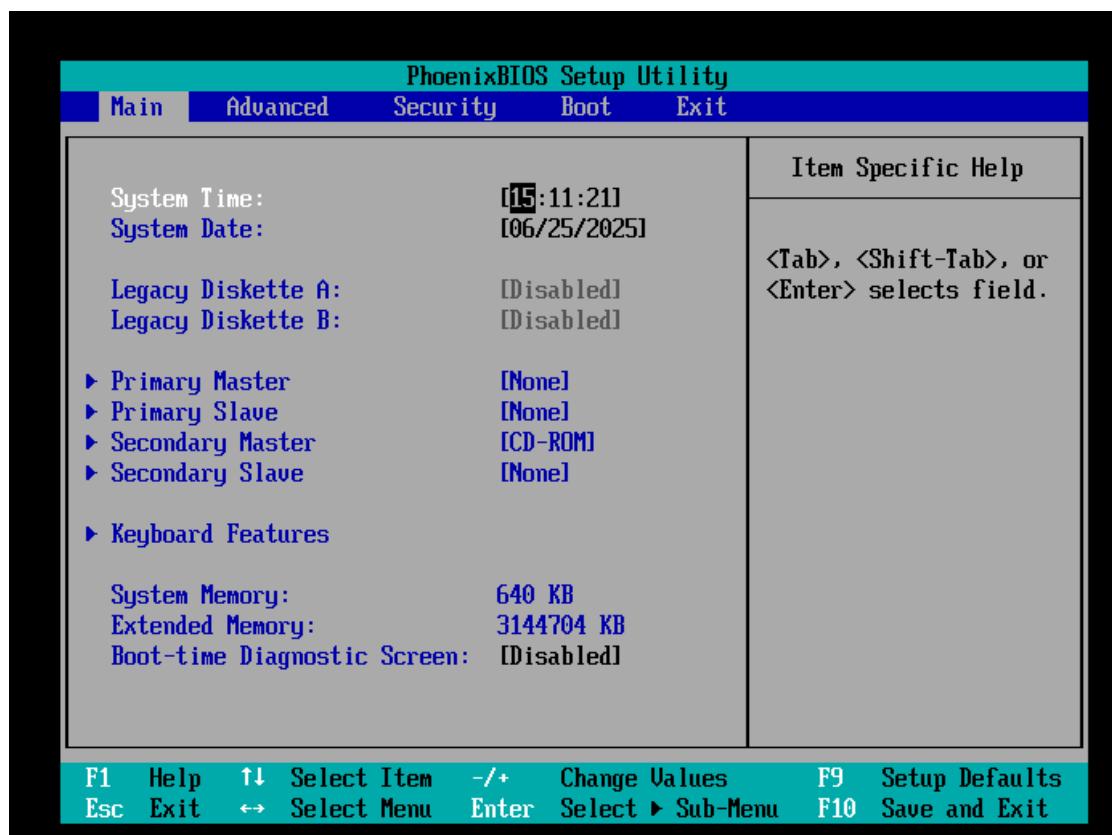
Woh grub2 ke folder ko delete karne ke baad reboot lene ke baad aise aayega grub menu



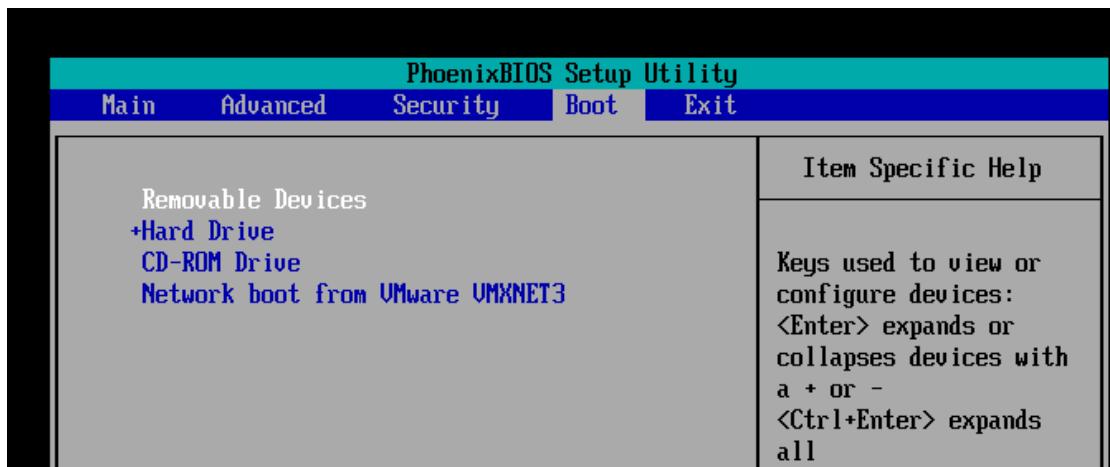
```
error: .../grub-core/fs/fshelp.c:258:file '/grub2/i386-pc/normal.mod' not found.
Entering rescue mode...
grub rescue>
```

Abhi hum isko theek karne k liyee **iso se boot karne hogaa jiss humne yeh machine banyaa tha same iso see**

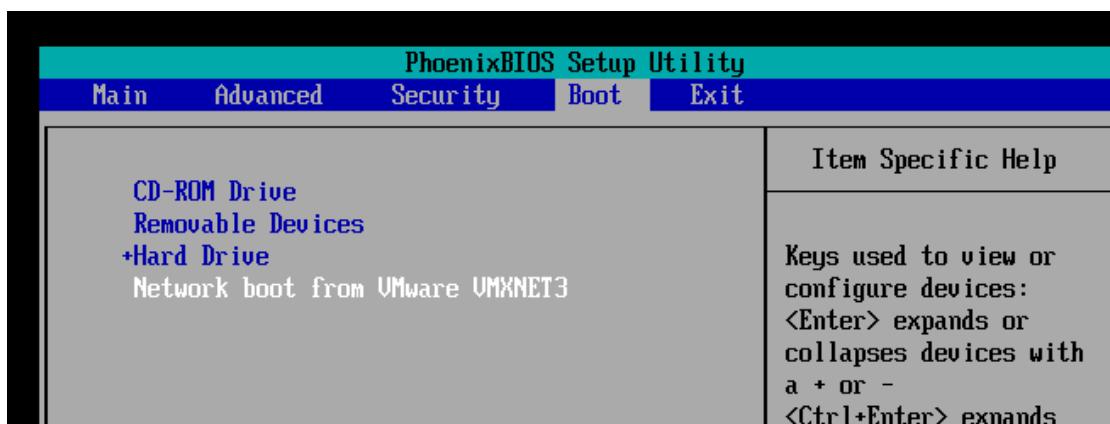
Abhi mujhe BIOS ke anadar jana hooga uske liyee



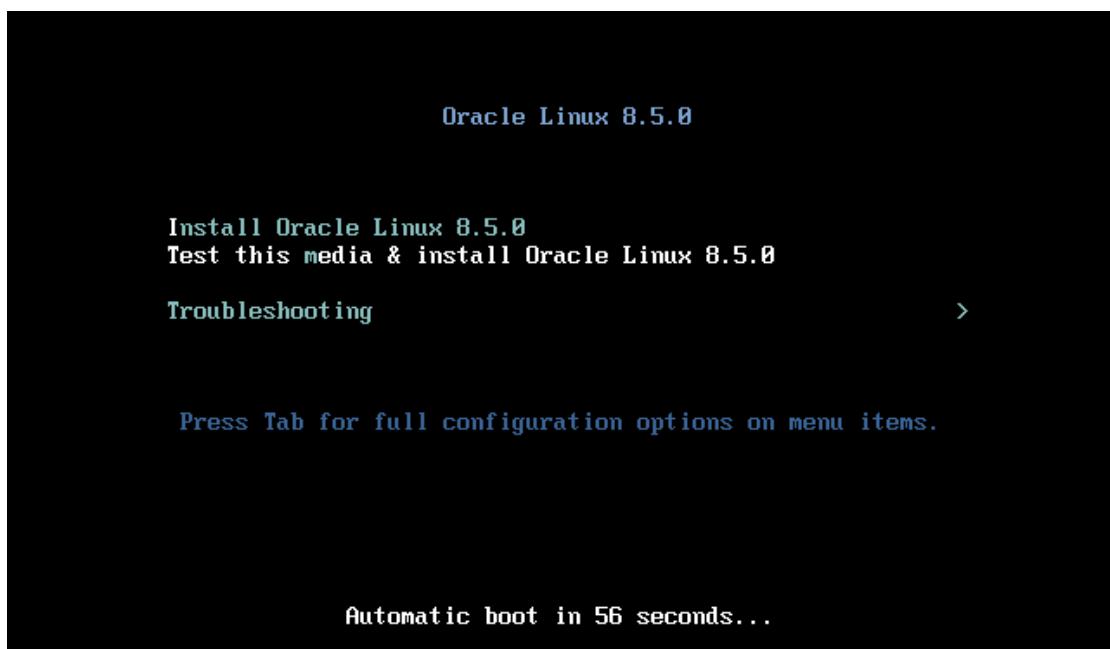
Yeh BIOS hai Uske anadar BOOTING priorities ko change karna hoga
By default aise rahega



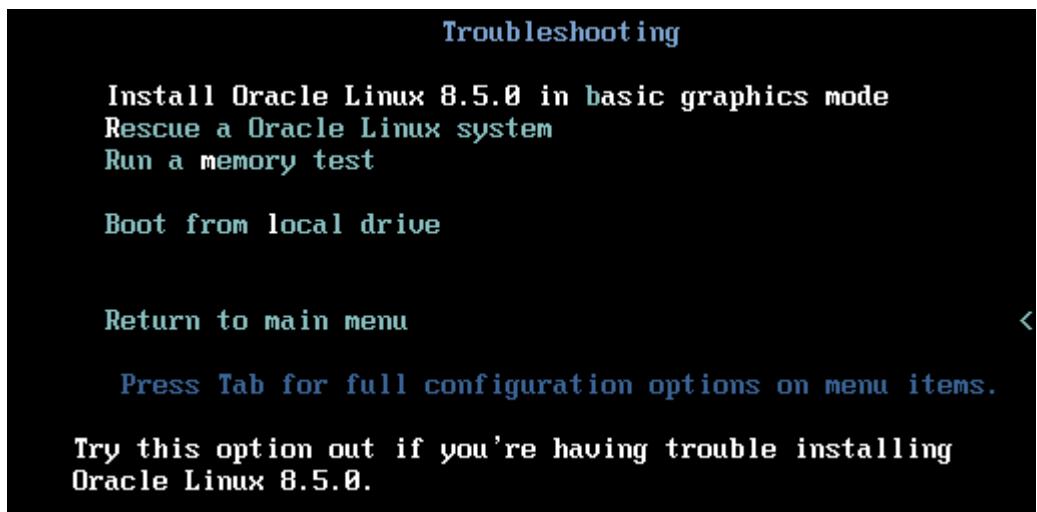
Usko change karna hai CD-ROM drive ko upar lekar jana hai using SHIFT aur + key press karke



Aur changes ko save kar legee



Aise aayega
Abhi Arrow keys ke help se choose **troubleshooting** option



Uske baad humko rescue karne hai system ko uske liyee choose
Rescue a oracle Linux system

Abhi jo machine hai woh ISO image se boot hogii
Toh yeh bahut saree options deta hai ke kaise boot karna hai ke shell se karna hai

Lekin yaa pure GRUB ko restore karna hai

```
* shell is available on TTY2
* when reporting a bug add logs from /tmp as separate text/plain attachments
=====
Rescue

The rescue environment will now attempt to find your Linux installation and
mount it under the directory : /mnt/sysroot. You can then make any changes
required to your system. Choose '1' to proceed with this step.
You can choose to mount your file systems read-only instead of read-write by
choosing '2'.
If for some reason this process does not work choose '3' to skip directly to a
shell.

1) Continue
2) Read-only mount
3) Skip to shell
4) Quit (Reboot)

Please make a selection from the above:
```

Hume system mein changes karna hai uske liyee hum option 1.**Continue** select karege
Uske baad hum shell ko acces kar payege

```
3) Skip to shell
4) Quit (Reboot)

Please make a selection from the above: 1

^[[A^[[A=====
=====
Rescue Shell

Your system has been mounted under /mnt/sysroot.

If you would like to make the root of your system the root of the active system,
run the command:

    chroot /mnt/sysroot

When finished, please exit from the shell and your system will reboot.
Please press ENTER to get a shell: sh-4.4#
sh-4.4#
sh-4.4#
[Anaconda11:main* 2:shell 3:log 4:storage-log 5:program-log] Switch tab: Alt+T
```

Pehle make sure karege humare operating system jo **mnt ke anadar sysimage mounted hai**

Uske baad

chroot /mnt/sysimage ⇒ yeh mere directory change karta hai root ke
Yeh isliye chala rahe hai taki iskne anadar changes kar payee
Jaise yeh command run karege BASH shell start hogaa

```
[root@Anaconda11 ~]# lsblk
  └─nvme0n1p1 253:1      0  2G  0  ps
    └─nvme0n1p2 253:2      0  23G  0  ps
      ├─ol-root 253:2      0  22G  0  lv
      └─ol-swap 253:3      0   1G  0  lv
sh-4.4#
sh-4.4#
sh-4.4# chroot /mnt/sysimage/
bash-4.4#
[Anaconda11:main* 2:shell 3:log]
```

Ab operating system ke files ko acces kar payege
Toh pehle GRUB ke direcotory ko he delete kar diya tha toh pehle usko restore karna padega

Toh grub ko install karna padega

grub2-install /dev/nvme0n1

```
bash-4.4#
bash-4.4# grub2-install /dev/nvme0n1
Installing for i386-pc platform.
Installation finished. No error reported.
bash-4.4#
[Anaconda11:main* 2:shell 3:log 4:storage]
```

Abhi grub ke configuration files ko generate karna hogaa

grub2-mkconfig -o /boot/grub2/grub.cfg => yeh command cfg mein jo bhe changes hai usko refresh karta hai

```

bash-4.4#
bash-4.4# grub2-mkconfig -o /boot/grub2/grub.cfg
Generating grub configuration file ...
done
bash-4.4#
[anaconda]1:main* 2:shell 3:log 4:storage-log 5:p

```

ABhi chiye toh exit kar sakte hai lekin **SELINUX ke directory aur files ke context ka Re-labeling karege**

touch /.autorelabel

Yeh karna jaruri hai warna machine bootup nhi hogaa
Agar yeh file yaha present retha hai toh sare SELINUX file context RE_LABEL hojate hai

```

bash-4.4# grub2-mkconfig -o /boot/
Generating grub configuration file ...
done
bash-4.4# touch /.autorelabel
bash-4.4#
[anaconda]1:main* 2:shell 3:log

```

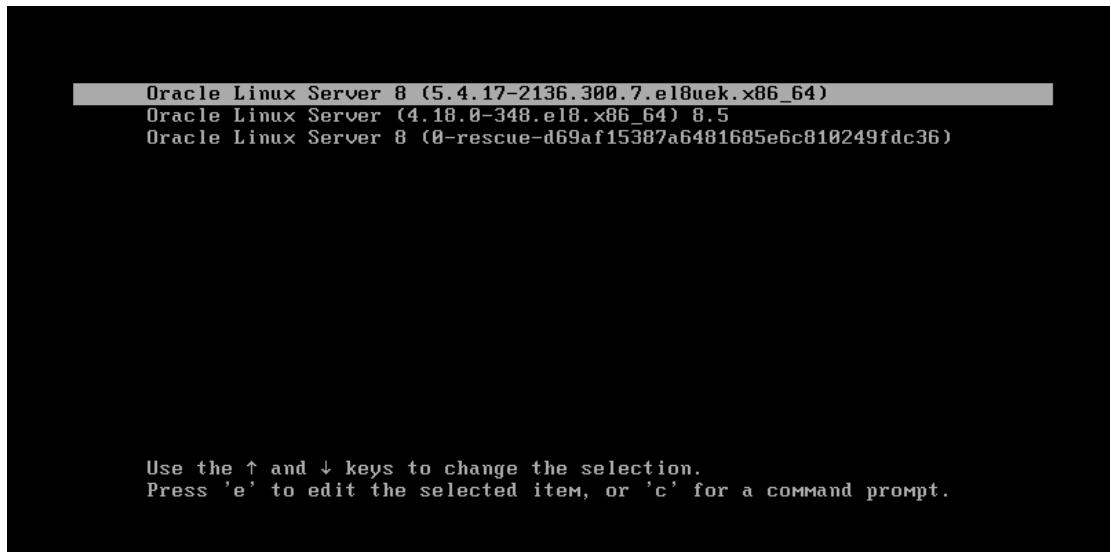
Abhi uske baad 2 baar exit

Uske baad machine boot karte hai normally
Uske baad jo humare priorities change karege jo pehle kiya thaas mein harddrive ko upar karege aur cdrom ko neche



Uske baad save & exit

Uske baad main wali kernel se he boot karege jo pehle aayega



Yeh hone ke baad relabelling hogii

```
[ 5.952098] selinux-autorelabel[747]: *** system size and speed of hard drives.
[ 33.984089] selinux-autorelabel[747]: Warning: Skipping the following R/O filesystems:
[ 33.984297] selinux-autorelabel[747]: /sys/fs/cgroup
[ 33.984875] selinux-autorelabel[747]: Relabeling / /boot /dev /dev/hugepages /dev/mqueue /dev/pts
 /dev/shm /run /sys /sys/fs/cgroup/bikio /sys/fs/cgroup/cpu,cpuacct /sys/fs/cgroup/cpuset /sys/fs/cgrou
p/devices /sys/fs/cgroup/freezer /sys/fs/cgroup/hugetlb /sys/fs/cgroup/memory /sys/fs/cgroup/net_
cls,net_prio /sys/fs/cgroup/perf_event /sys/fs/cgroup/pids /sys/fs/cgroup/rdma /sys/fs/cgroup/system
d /sys/fs/pstore /sys/kernel/debug /sys/kernel/tracing
```

Ismein time jayegaa

Uske baad machine chalu hoojayegaa



