

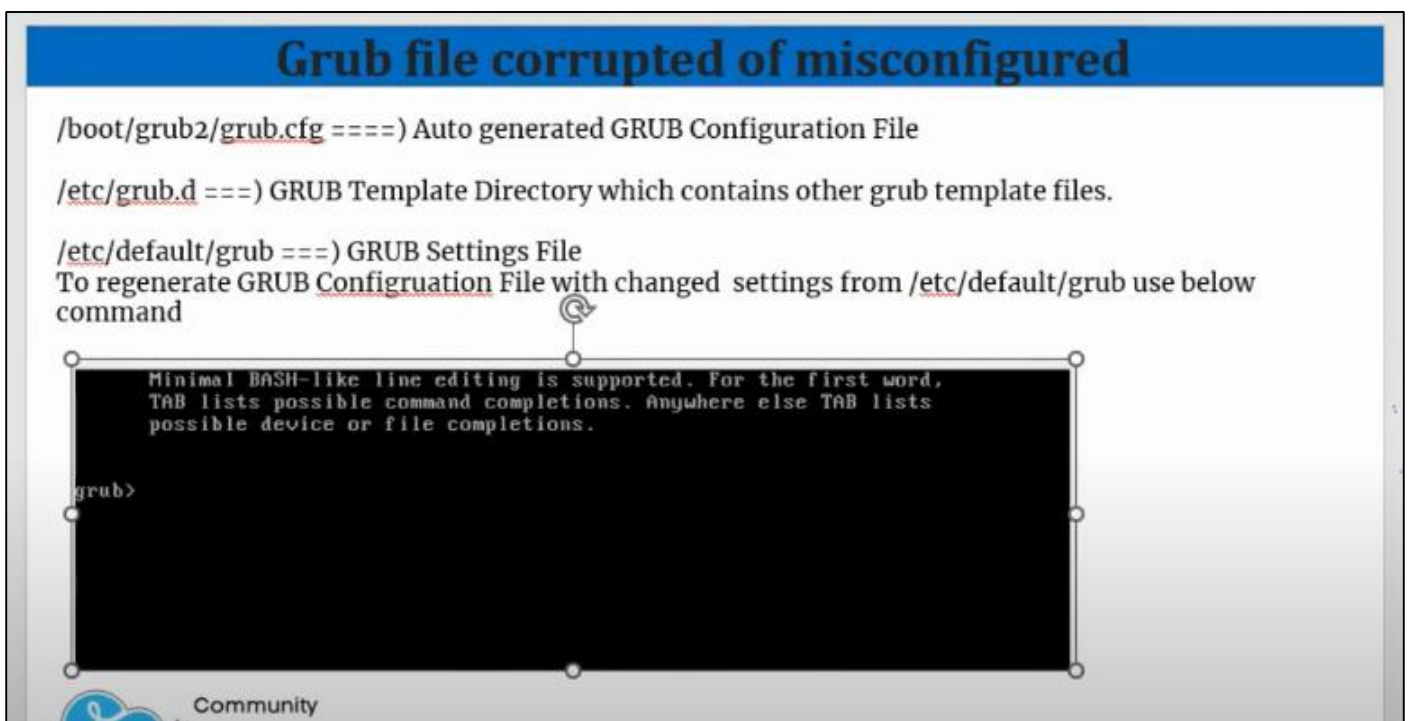
Different booting mode -

- Emergency Mode: This mode will help to trouble the OS If any issue occurred and due to this server is not booting like control+d issue.
- Rescue Mode: This mode will bring the system in single user mode with limited access to trouble the OS issue. Ex.
- Troubleshooting Mode: In this mode we will boot the system by CD and then will go to rescue mode to troubleshoot the system. EX. Grub configuration issue.

How to go to this mode.

In grub screen press e on kernel then type systemd.unit=rescue.target then ctrl+x.

1- Grub configuration corrupted or deleted issue.



To fix this issue we have to boot the system with CD and have to install/recover the /boot/grub2/grub.conf file.

- This is rescue mode under troubleshoot mode.
- Attach CD and then reboot
- Press 1 for continue.
- Change the root file system as suggested chroot /mnt/sysroot
- List the disk name convention using lsblk.
- Then install the grub2 - grub2-install /dev/sda
- Grub2-mkconfig -o /boot/grub2/grub.cfg
- Exit and exit
- Now system will boot.

```

* 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: 1

=====
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# chroot /mnt/sysroot/
bash-4.4#
anaconda1:main* 2:shell 3:log 4:storage-log 5:program-log Switch tab: Alt+Tab | Help: F1

```

2. MBR Corrupted or Missing

MBR corrupted or Missing

```

dd if=/dev/zero of=/dev/sda bs=446 count=1
#chroot /mnt/sysroot
#lsblk
#grub2-install /dev/sda
#grub2-mkconfig -o /boot/grub2/grub.cfg

```

```

Could not read from the boot medium!
Please insert a bootable medium and reboot.

```

Generate the issue manually by running below command

```
dd if=/dev/zero of=/dev/sda bs=446 count=1
```

Execute and the reboot.

Fix

- This is rescue mode under troubleshoot mode.
- Attach CD and then reboot
- Press 1 for continue.
- Change the root file system as suggested chroot /mnt/sysroot
- List the disk name convention using lsblk.
- Then install the grub2 - grub2-install /dev/sda
- Grub2-mkconfig -o /boot/grub2/grub.cfg
- Exit and exit
- Now system will boot. Same as recover grub config file.

3. Control D Error

Control D Error

This issue when something went wrong in fstab

```
You are in emergency mode. After logging in, type "journalctl -xb" to view
system logs, "systemctl reboot" to reboot, "systemctl default" or "exit"
to boot into default mode.
Give root password for maintenance
(or press Control-D to continue):
```

```

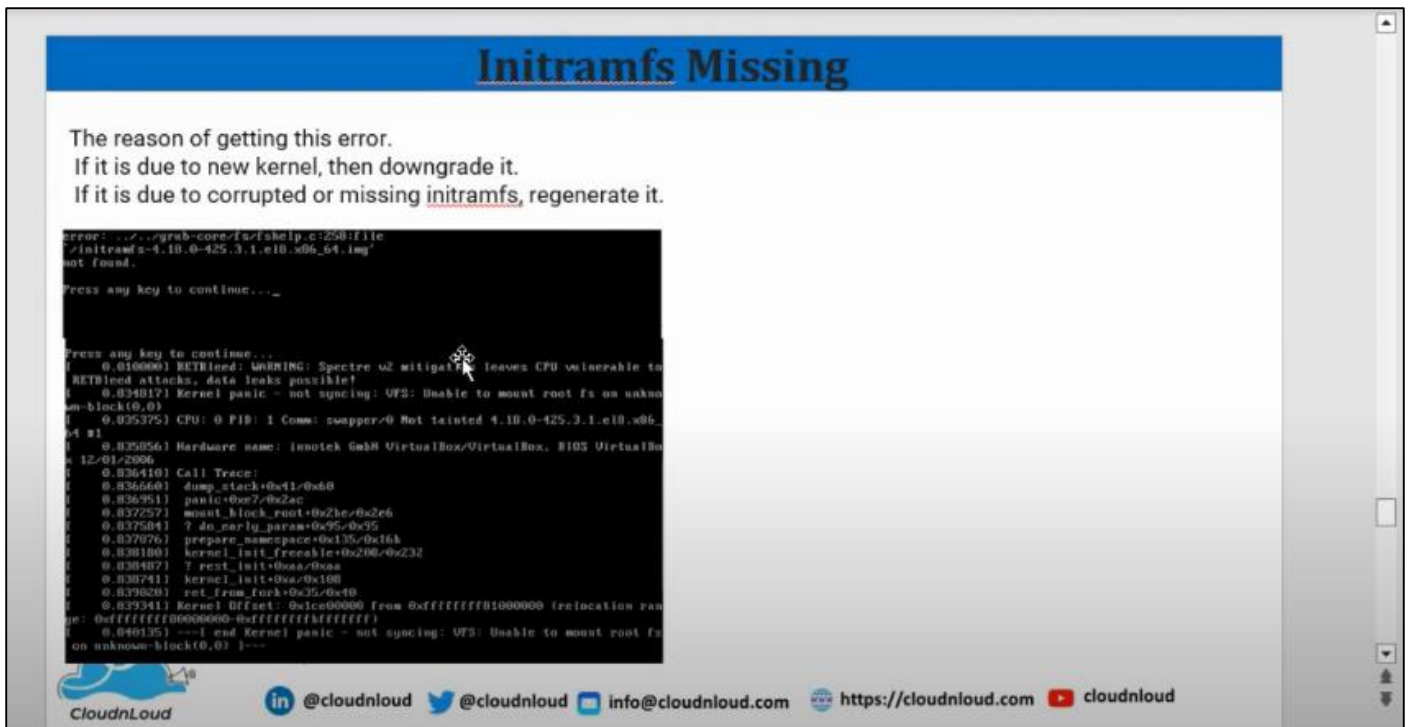
[ OK ] Reached target Timers.
[ OK ] Reached target Network.
[ OK ] Reached target Network is Online.
      Starting Notify NFS peers of a restart...
      Starting Logout off all iSCSI sessions on shutdown...
[ OK ] Reached target Sockets.
      Starting Import network configuration from initramfs...
      Starting Tell Plymouth To Write Out Runtime Data...
[ OK ] Reached target User and Group Name Lookups.
[ OK ] Started Logout off all iSCSI sessions on shutdown.
[ OK ] Started Notify NFS peers of a restart.
[ OK ] Started Tell Plymouth To Write Out Runtime Data.
[ OK ] Started Import network configuration from initramfs.
[ OK ] Started Emergency Shell.
      Starting Create Volatile Files and Directories...
[ OK ] Reached target Emergency Mode.
[ OK ] Started Create Volatile Files and Directories.
      Starting RPC Bind...
      Starting Security Auditing Service...
      Mounting RPC Pipe File System...
[ OK ] Mounted RPC Pipe File System.
[ OK ] Reached target rpc_pipefs.target.
[ OK ] Reached target NFS client services.
[ OK ] Reached target Remote File Systems (Pre).
[ OK ] Reached target Remote File Systems.
      Starting Crash recovery kernel arming...
[ OK ] Started RPC Bind.
[ OK ] Started Security Auditing Service.
      Starting Update UTMP about System Boot/Shutdown...
[ OK ] Started Update UTMP about System Boot/Shutdown.
      Starting Update UTMP about System Runlevel Changes...
[ OK ] Started Update UTMP about System Runlevel Changes.
You are in emergency mode. After logging in, type "journalctl -xb" to view
system logs, "systemctl reboot" to reboot, "systemctl default" or "exit"
to boot into default mode.
Give root password for maintenance
(or press Control-D to continue):

```

This issue will come when any issue related to file system like disk missing wrong entry in fstab file.

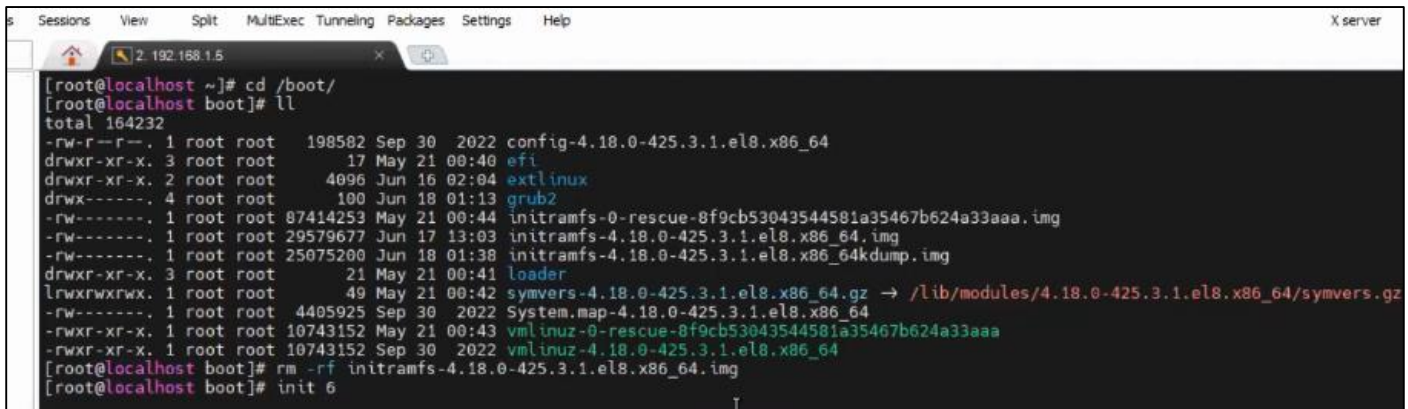
Fix:

1. Give the root password and login.
2. Edit the fstab file correctly and fix the file system issue
3. Reboot; done
4. Kernel panic Issue.
 - a. This issue will come if any hardware issue
 - b. Initramfs file corrupted or deleted
 - c. After update kernel have some issue



Fix:

1. If hardware issue, then have to identify the hardware
2. If update kernel updates this issue coming, then while booting select the previous kernel and boot and remove the corrupted kernel and again install.
3. If initramfs is corrupted, then regenerate the initramfs or if it's deleted then install it by using command.



- Manually create the issue by delete the /boot/initramfs file

Then boot the system in rescue mode in grub screen choose rescue kernel to boot

Then perform below steps.


```
[root@localhost ~]# cd /boot/
[root@localhost boot]# ll
total 135344
-rw-r--r--. 1 root root 198582 Sep 30 2022 config-4.18.0-425.3.1.el8.x86_64
drwxr-xr-x. 3 root root 17 May 21 00:40 efi
drwxr-xr-x. 2 root root 4096 Jun 16 02:04 extlinux
drwx-----. 4 root root 100 Jun 18 01:13 grub2
-rw-----. 1 root root 87414253 May 21 00:44 initramfs-0-rescue-8f9cb53043544581a35467b624a33aaa.img
-rw-----. 1 root root 25075200 Jun 18 01:38 initramfs-4.18.0-425.3.1.el8.x86_64kdump.img
drwxr-xr-x. 3 root root 21 May 21 00:41 loader
lrwxrwxrwx. 1 root root 49 May 21 00:42 symvers-4.18.0-425.3.1.el8.x86_64.gz -> /lib/modules/4.18.0-425.3.1.el8.x86_64/symvers.gz
-rw-----. 1 root root 4405925 Sep 30 2022 System.map-4.18.0-425.3.1.el8.x86_64
-rwxr-xr-x. 1 root root 10743152 May 21 00:43 vmlinuz-0-rescue-8f9cb53043544581a35467b624a33aaa
-rwxr-xr-x. 1 root root 10743152 Sep 30 2022 vmlinuz-4.18.0-425.3.1.el8.x86_64
[root@localhost boot]# uname -r
4.18.0-425.3.1.el8.x86_64
[root@localhost boot]# dracut initramfs-4.18.0-425.3.1.el8.x86_64.img 4.18.0-425.3.1.el8.x86_64
```

Then reboot.

Fixed

If initramfs corrupted, then perform below steps

```
[root@localhost ~]# cd /boot/
[root@localhost boot]# ll
total 135344
-rw-r--r--. 1 root root 198582 Sep 30 2022 config-4.18.0-425.3.1.el8.x86_64
drwxr-xr-x. 3 root root 17 May 21 00:40 efi
drwxr-xr-x. 2 root root 4096 Jun 16 02:04 extlinux
drwx-----. 4 root root 100 Jun 18 01:13 grub2
-rw-----. 1 root root 87414253 May 21 00:44 initramfs-0-rescue-8f9cb53043544581a35467b624a33aaa.img
-rw-----. 1 root root 25075200 Jun 18 01:38 initramfs-4.18.0-425.3.1.el8.x86_64kdump.img
drwxr-xr-x. 3 root root 21 May 21 00:41 loader
lrwxrwxrwx. 1 root root 49 May 21 00:42 symvers-4.18.0-425.3.1.el8.x86_64.gz -> /lib/modules/4.18.0-425.3.1.el8.x86_64/symvers.gz
-rw-----. 1 root root 4405925 Sep 30 2022 System.map-4.18.0-425.3.1.el8.x86_64
-rwxr-xr-x. 1 root root 10743152 May 21 00:43 vmlinuz-0-rescue-8f9cb53043544581a35467b624a33aaa
-rwxr-xr-x. 1 root root 10743152 Sep 30 2022 vmlinuz-4.18.0-425.3.1.el8.x86_64
[root@localhost boot]# uname -r
4.18.0-425.3.1.el8.x86_64
[root@localhost boot]# dracut initramfs-4.18.0-425.3.1.el8.x86_64.img 4.18.0-425.3.1.el8.x86_64
[root@localhost boot]# ll
total 164232
-rw-r--r--. 1 root root 198582 Sep 30 2022 config-4.18.0-425.3.1.el8.x86_64
drwxr-xr-x. 3 root root 17 May 21 00:40 efi
drwxr-xr-x. 2 root root 4096 Jun 16 02:04 extlinux
drwx-----. 4 root root 100 Jun 18 01:13 grub2
-rw-----. 1 root root 87414253 May 21 00:44 initramfs-0-rescue-8f9cb53043544581a35467b624a33aaa.img
-rw-----. 1 root root 29579676 Jun 18 01:52 initramfs-4.18.0-425.3.1.el8.x86_64.img
-rw-----. 1 root root 25075200 Jun 18 01:38 initramfs-4.18.0-425.3.1.el8.x86_64kdump.img
drwxr-xr-x. 3 root root 21 May 21 00:41 loader
lrwxrwxrwx. 1 root root 49 May 21 00:42 symvers-4.18.0-425.3.1.el8.x86_64.gz -> /lib/modules/4.18.0-425.3.1.el8.x86_64/symvers.gz
-rw-----. 1 root root 4405925 Sep 30 2022 System.map-4.18.0-425.3.1.el8.x86_64
-rwxr-xr-x. 1 root root 10743152 May 21 00:43 vmlinuz-0-rescue-8f9cb53043544581a35467b624a33aaa
-rwxr-xr-x. 1 root root 10743152 Sep 30 2022 vmlinuz-4.18.0-425.3.1.el8.x86_64
[root@localhost boot]# dracut -f initramfs-4.18.0-425.3.1.el8.x86_64.img 4.18.0-425.3.1.el8.x86_64
```

Then reboot.

Fixed

4. If critical file missing

Critical files are missing

/bin/mount is missing

1. Boot server in rescue mode
2. Chroot /mnt/sysroot
3. mkdir /mnt/source
4. Mount /dev/sr0 /mnt/source
5. Cd /mnt/source
6. Cd packages/
7. rpm -ivh packagename

Reboot the system

Fixed

```
[root@localhost ~]# ls
'\' anaconda-ks.cfg  rudder-setup  testing
[root@localhost ~]# whereis ls
ls: /usr/bin/ls /usr/share/man/man1/ls.1.gz
[root@localhost ~]# rm -qf /usr/bin/ls
rm: invalid option -- 'q'
Try 'rm --help' for more information.
[root@localhost ~]# rpm -qf /usr/bin/ls
coreutils-8.30-13.el8.x86_64
[root@localhost ~]#
```

```
Sessions View Split Monitor Tuning Packages Settings Help
[2. 192.168.1.5]
[root@localhost ~]# repoquery --whatrequires yum-4.7.0-11.el8.noarch
Updating Subscription Management repositories.
Unable to read consumer identity

This system is not registered with an entitlement server. You can use subscription-manager to register.

LocalRepository_BaseOS                               2.6 MB/s | 2.8 kB  00:00
LocalRepository_AppStream                             3.0 MB/s | 3.2 kB  00:00
Rudder 7.3 Repository                                2.0 kB/s | 3.0 kB  00:01
auter-0:1.0.0-2.el8.noarch
pungi-legacy-0:4.1.38-1.el8.2.noarch
[root@localhost ~]#
```

```
2. 192.168.1.5
[root@localhost ~]# repoquery --whatrequires yum-4.7.0-11.el8.noarch
Updating Subscription Management repositories.
Unable to read consumer identity

This system is not registered with an entitlement server. You can use subscription-manager to register.

LocalRepository_BaseOS                               2.6 MB/s | 2.8 kB    00:00
LocalRepository_AppStream                             3.0 MB/s | 3.2 kB    00:00
Rudder 7.3 Repository                               2.0 kB/s | 3.0 kB    00:01
auter-0:1.0.0-2.el8.noarch
pungi-legacy-0:4.1.38-1.el8.2.noarch
[root@localhost ~]# rpm -ql yum-4.7.0-11.el8.noarch
/etc/dnf/protected.d/yum.conf
/etc/yum.conf
/etc/yum/pluginconf.d
/etc/yum/protected.d
/etc/yum/vars
/usr/bin/yum
/usr/share/man/man1/yum-aliases.1.gz
/usr/share/man/man5/yum.conf.5.gz
/usr/share/man/man8/yum-shell.8.gz
/usr/share/man/man8/yum.8.gz
[root@localhost ~]#
```