

## BOOTING PROCESS TROUBLESHOOTING

DATE – 10-12-2024

Condition - GRUB2 File crashed in BIOS System

### ## GRUB 2 Error Message-1

To demonstrate this, let's remove the `grub.cfg` file from the system and restart it. If the `grub.cfg` file is missing or corrupted, the GRUB 2 boot loader will show the following error message.

```
[root@nfs-server ~]#  
[root@nfs-server ~]# pwd  
/root  
[root@nfs-server ~]# rm -rf /boot/grub2/grub.cfg  
[root@nfs-server ~]# reboot
```

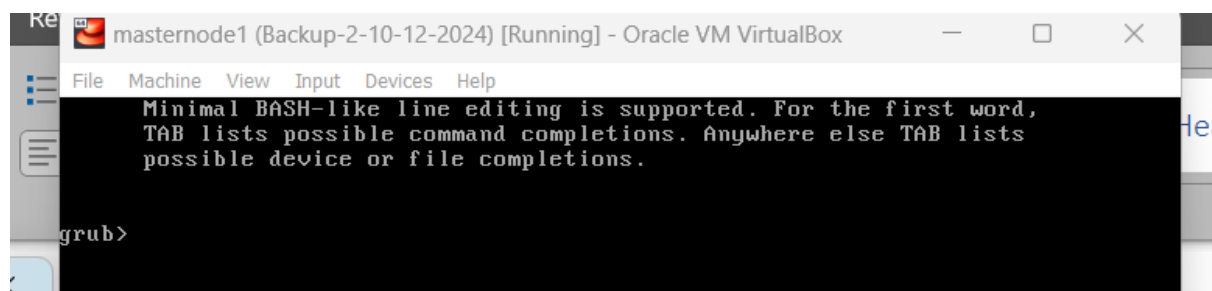
### Manually deleting the grub

```bash file

**rm -rf /boot/grub2/grub.cfg**

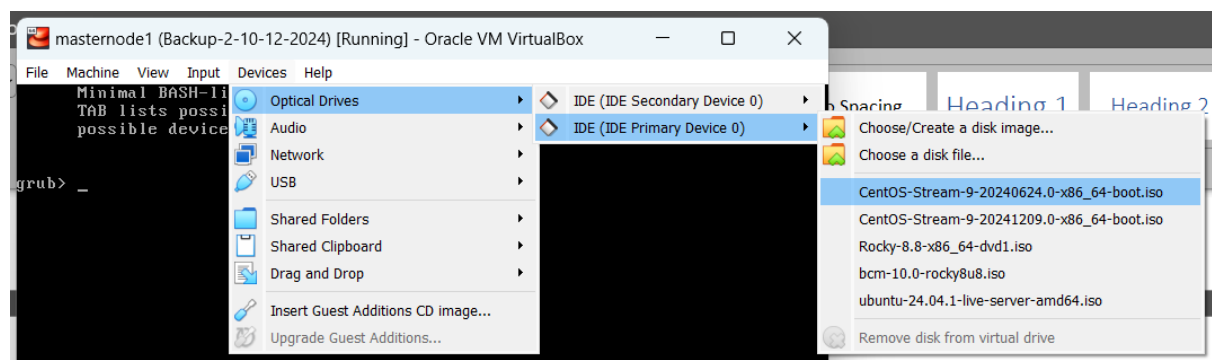
**reboot**

After the reboot, you will see the following error message.

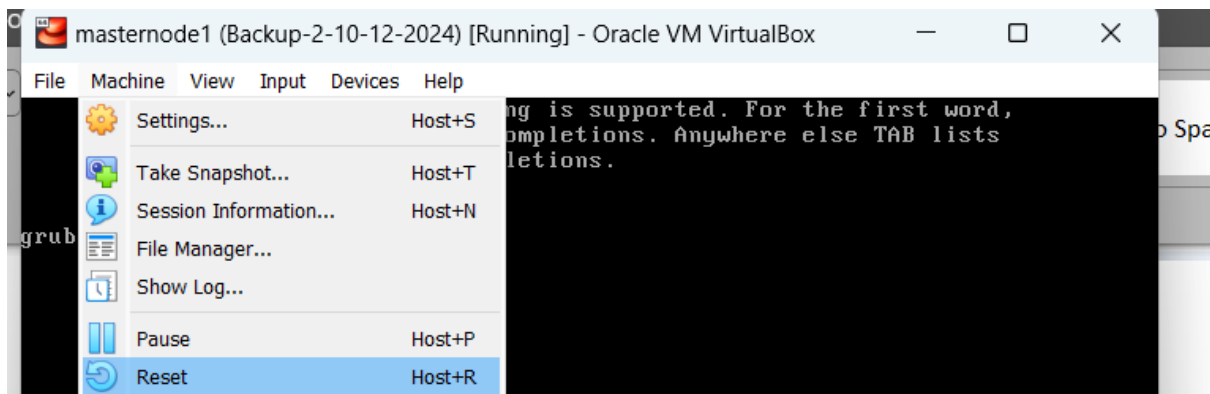


### Step 1 - How to Reinstall Corrupted GRUB 2 on RHEL 8, Rocky, CENTOS 9

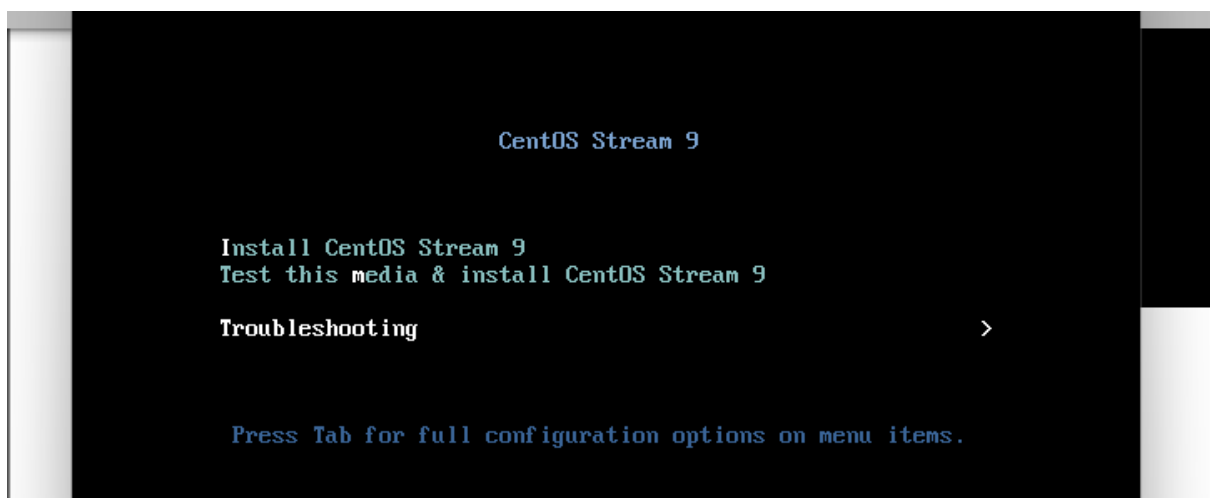
To reinstall or recover the grub.cfg file or grub2 directory, you need to boot your system with the installation DVD/ISO image. On the boot screen of Red Hat 8, select the 'Troubleshooting' option and press Enter



Restart the Virtual machine (Master node1 )

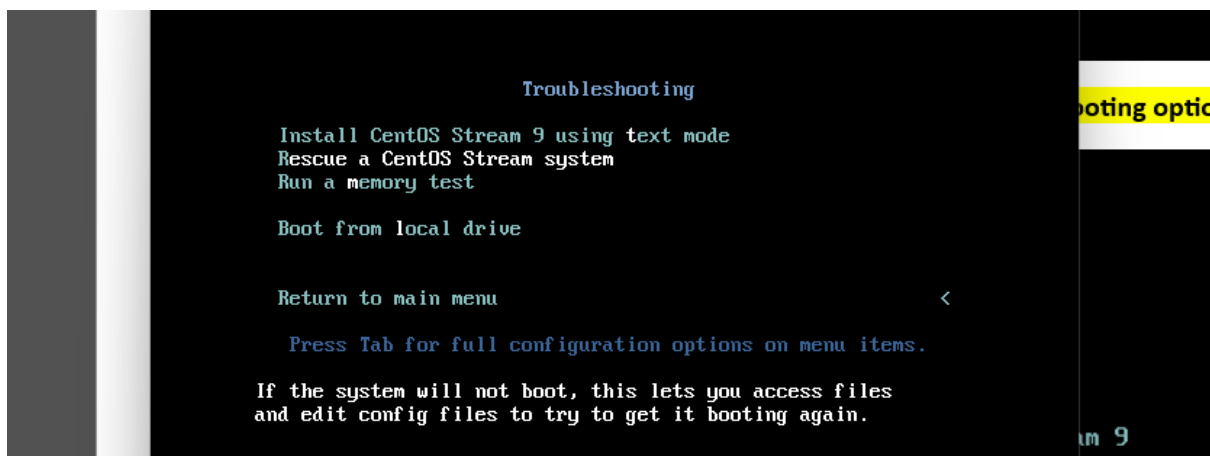


Troubleshooting Screen appear on screen , Click the Troubleshooting option



SELECT OPTION – RESCUE OPTION – RESCUE A CENTOS STREAM SYSTEM

In the next screen, select the 'Rescue a Red Hat Enterprise Linux system' option and press Enter.



Select Option - On the next screen, select option '1 (Continue)' and hit 'Enter'.

```
Starting installer, one moment...
anaconda 34.25.5-1.el9 for CentOS Stream 9 started.
* Installation log files are stored in /tmp during the installation
* 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

Warning: The rescue shell will trigger SELinux autorelabel on the subsequent
boot. Add "enforcing=0" on the kernel command line for autorelabel to work
properly.
When finished, please exit from the shell and your system will reboot.

Please press ENTER to get a shell:
bash-5.1#
```

Run the below command

#mount

See the last line , /mnt/sysroot/ (ro - read only) , we have to change as read write (rw) option

```
sysfs on /mnt/sysroot/sys type sysfs (rw,relatime,seclabel)
selinuxfs on /mnt/sysimage/sys/fs/selinux type selinuxfs (rw,relatime)
tmpfs on /mnt/sysimage/tmp type tmpfs (rw,relatime,seclabel,inode64)
tmpfs on /mnt/sysroot/tmp type tmpfs (rw,relatime,seclabel,inode64)
bash-5.1#
bash-5.1#
bash-5.1# chroot /mnt/sysimage
bash-4.4#
anaconda11-main* 2:shell 3:log 4:storage-log 5:program-log
```

# chroot /mnt/sysimage

## Recovering the Corrupted GRUB 2 Bootloader -

Install GRUB2 in the primary hard disk, it would be /dev/sda. The grub-install command installs GRUB onto a given device, which includes copying GRUB images into the target directory (generally /boot/grub2).

# grub2-install /dev/sda

```
bash-4.4# lsblk
NAME        MAJ:MIN RM  SIZE RO TYPE MOUNTPOINT
loop0        7:0      0  876M  1 loop
loop1        7:1      0   3G  1 loop
└─live-rw    253:0    0   3G  0 dm
└─live-base  253:1    0   3G  1 dm
loop2        7:2      0  32G  0 loop
└─live-rw    253:0    0   3G  0 dm
sda           8:0      0   40G  0 disk
├─sda1        8:1      0   1G  0 part /boot
├─sda2        8:2      0   39G  0 part
└─r1-root    253:2    0  37G  0 lvm /
└─r1-swap    253:3    0  2.1G  0 lvm [SWAP]
sr0          11:0     1   1G  0 rom
sr1          11:1     1 1024M  0 rom
zram0        252:0    0   1.9G  0 disk [SWAP]
bash-4.4#
bash-4.4# grub2-install /dev/sda
Installing for i386-pc platform.
Installation finished. No error reported.
bash-4.4#
```

Create a configuration file for GRUB2. The `grub2-mkconfig` command creates a new configuration file `grub.cfg` based on the current system configuration. This command uses the `/etc/default/grub` file and the customizable scripts in the directory `/etc/grub.d/` when generating the `grub.cfg` file

**#grub2-mkconfig -o /boot/grub2/grub.cfg or grub2.cfg**

```
bash-4.4#  
bash-4.4#  
bash-4.4# grub2-mkconfig -o /boot/grub2/grub2.cfg  
Generating grub configuration file ...  
done  
bash-4.4#  
[anacard11:main 2:shell 3:log 4:storage-log 5:program-log]
```

**Enable the SELinux relabeling process on the next system boot:**

**# touch /.autorelabel**

```
bash-4.4#  
bash-4.4#  
bash-4.4# touch /.autorelabel  
bash-4.4#  
bash-4.4#
```

Exit the chroot environment and reboot the system by executing the `exit` command twice:

**#exit**

**Note: The system will automatically perform the relabeling process of all files, and the system will automatically restart when the relabeling process is complete.**

**Remove the Attached DVD or ISO file from Virtual Machine,** So avoid the system to boot from attached ISO image

**Then Reboot or Restart the VM, Below GRUB bootloaded image will load in Screen**

