

Regenerate Initramfs File in Linux | Resolve Kernel Panic Error in Redhat Enterprise Linux

Kernel Panic Error Resolution in RHEL 7/8:

See the details of Kernel Panic Error (Identify the reason behind it eg. New Kernel, Corrupted initramfs, New Packages after Patching, Hardware change etc.)

```
Last login: Tue Nov 23 09:49:46 2021
[root@rhelpractice ~]# cd /boot/
[root@rhelpractice boot]# ls -lrt
total 180008
-rw-----. 1 root root 4032815 Sep 23 2020 System.map-4.18.0-240.el8.x86_64
-rw-r--r--. 1 root root 189494 Sep 23 2020 config-4.18.0-240.el8.x86_64
-rwxr-xr-x. 1 root root 9514352 Sep 23 2020 vmlinuz-4.18.0-240.el8.x86_64
drwxr-xr-x. 3 root root 17 Nov 13 13:58 efi
drwxr-xr-x. 3 root root 21 Nov 13 14:09 loader
-rwxr-xr-x. 1 root root 9514352 Nov 13 14:13 vmlinuz-0-rescue-f16aa4fe64e84cb585d139e20ae8b0a8
-rw-----. 1 root root 105730050 Nov 13 14:15 initramfs-0-rescue-f16aa4fe64e84cb585d139e20ae8b0a8.img
-rw-----. 1 root root 55333594 Nov 13 14:20 initramfs-4.18.0-240.el8.x86_64.img
drwx-----. 4 root root 83 Nov 23 09:51 grub2
[root@rhelpractice boot]# uname -r
4.18.0-240.el8.x86_64
[root@rhelpractice boot]#
```

```
[root@rhelpractice tmp]# cd /boot/
[root@rhelpractice boot]# ls -lrt
total 180008
-rw-----. 1 root root 4032815 Sep 23 2020 System.map-4.18.0-240.el8.x86_64
-rw-r--r--. 1 root root 189494 Sep 23 2020 config-4.18.0-240.el8.x86_64
-rwxr-xr-x. 1 root root 9514352 Sep 23 2020 vmlinuz-4.18.0-240.el8.x86_64
drwxr-xr-x. 3 root root 17 Nov 13 13:58 efi
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-rw-----. 1 root root 55333594 Nov 13 14:20 initramfs-4.18.0-240.el8.x86_64.img
drwx-----. 4 root root 83 Nov 23 09:51 grub2
[root@rhelpractice boot]# uname -r
4.18.0-240.el8.x86_64
[root@rhelpractice boot]# pwd
/boot
[root@rhelpractice boot]# rm -rf initramfs-4.18.0-240.el8.x86_64.img
[root@rhelpractice boot]# ls -lrt
total 125968
-rw-----. 1 root root 4032815 Sep 23 2020 System.map-4.18.0-240.el8.x86_64
-rw-r--r--. 1 root root 189494 Sep 23 2020 config-4.18.0-240.el8.x86_64
-rwxr-xr-x. 1 root root 9514352 Sep 23 2020 vmlinuz-4.18.0-240.el8.x86_64
drwxr-xr-x. 3 root root 17 Nov 13 13:58 efi
drwxr-xr-x. 3 root root 21 Nov 13 14:09 loader
-rwxr-xr-x. 1 root root 9514352 Nov 13 14:13 vmlinuz-0-rescue-f16aa4fe64e84cb585d139e20ae8b0a8
-rw-----. 1 root root 105730050 Nov 13 14:15 initramfs-0-rescue-f16aa4fe64e84cb585d139e20ae8b0a8.img
drwx-----. 4 root root 83 Nov 23 09:51 grub2
[root@rhelpractice boot]#
```

```

/initramfs-4.18.0-240.el8.x86_64.img' not
found.

Press any key to continue...
[ 0.701545] Kernel panic - not syncing: UFS: Unable to mount root fs on unkno
wn-block(0,0)
[ 0.702218] CPU: 0 PID: 1 Comm: swapper/0 Not tainted 4.18.0-240.el8.x86_64 #
1
[ 0.702780] Hardware name: innotek GmbH VirtualBox/VirtualBox, BIOS VirtualBo
x 12/01/2006
[ 0.703409] Call Trace:
[ 0.703701] dump_stack+0x5c/0x80
[ 0.704007] panic+0xe7/0x2a9
[ 0.704333] mount_block_root+0x2c5/0x2e9
[ 0.704679] ? do_early_param+0x91/0x91
[ 0.705014] prepare_namespace+0x135/0x16b
[ 0.705427] kernel_init_freeable+0x233/0x25d
[ 0.705785] ? rest_init+0xaa/0xaa
[ 0.706078] kernel_init+0xa/0xfd
[ 0.706406] ret_from_fork+0x35/0x40
[ 0.706855] Kernel Offset: 0xba00000 from 0xffffffff81000000 (relocation rang
e: 0xffffffff80000000-0xffffffffbfffffff)
[ 0.707718] ---[ end Kernel panic - not syncing: UFS: Unable to mount root fs
on unknown-block(0,0) ]---

```

Reboot the machine

Login the system with root credentials through rescue mode.

Take necessary action as the reason of getting this error.

If it is due to new kernel, then downgrade it.

If it is due to corrupted or missing initramfs, regenerate it.

```
Red Hat Enterprise Linux (4.18.0-240.el8.x86_64) 8.3 (Ootpa)  
Red Hat Enterprise Linux (0-rescue-f16aa4fe64e84cb585d139e20ae8b0a8) 8.3→
```

```
Use the ↑ and ↓ keys to change the selection.  
Press 'e' to edit the selected item, or 'c' for a command prompt.
```

In our case it is due to corrupted/absent initramfs file. First check your kernel version.

```
# uname -r
```

```
4.18.0-240.el8.x86_64
```

Now regenerate initramfs with dracut or mkinitrd command: (here your kernel version should be same as in previous command result)

To create new initramfs use:

```
#dracut initramfs-3.10.0-1062.el7.x86_64.img 3.10.0-1062.el7.x86_64
```

OR

```
# mkinitrd initramfs-4.18.0-240.el8.x86_64.img 4.18.0-240.el8.x86_64
```

To replace existing initramfs file use:

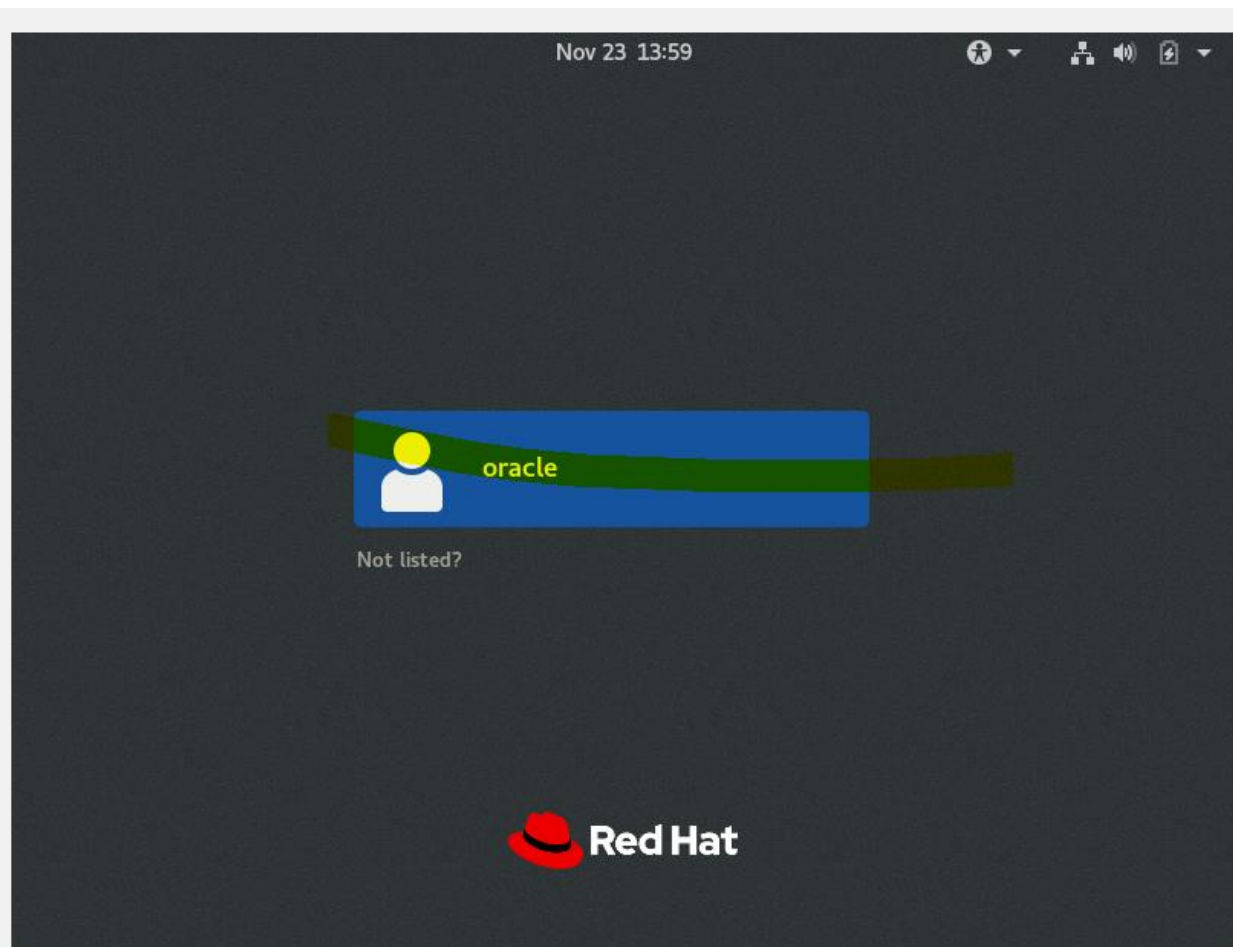
```
# dracut -f initramfs-3.10.0-1062.el7.x86_64.img 3.10.0-1062.el7.x86_64
```

OR

```
# mkinitrd --force initramfs-4.18.0-240.el8.x86_64.img 4.18.0-240.el8.x86_64
```

```
[root@rhelpractice ~]# cd /boot
[root@rhelpractice boot]# ls -lrt
total 125968
-rw-----. 1 root root 4032815 Sep 23 2020 System.map-4.18.0-240.el8.x86_64
-rw-r--r--. 1 root root 189494 Sep 23 2020 config-4.18.0-240.el8.x86_64
-rwxr-xr-x. 1 root root 9514352 Sep 23 2020 vmlinuz-4.18.0-240.el8.x86_64
drwxr-xr-x. 3 root root 17 Nov 13 13:58 efi
drwxr-xr-x. 3 root root 21 Nov 13 14:09 loader
-rwxr-xr-x. 1 root root 9514352 Nov 13 14:13 vmlinuz-0-rescue-f16aa4fe64e84cb585d139e20ae8b0a8
-rw-----. 1 root root 105730050 Nov 13 14:15 initramfs-0-rescue-f16aa4fe64e84cb585d139e20ae8b0a8.img
drwx-----. 4 root root 83 Nov 23 09:51 grub2
[root@rhelpractice boot]# mkinitrd initramfs-4.18.0-240.el8.x86_64.img 4.18.0-240.el8.x86_64
```

Finally reboot the machine and check



```
192.168.122.0/24 dev vnet0 proto kernel scope link src 192.168.122.1 linkdown
[root@rhelpractice ~]# cd /boot
[root@rhelpractice boot]# ls -lrt
total 125968
-rw-----. 1 root root 4032815 Sep 23 2020 System.map-4.18.0-240.el8.x86_64
-rw-r--r--. 1 root root 189494 Sep 23 2020 config-4.18.0-240.el8.x86_64
-rwxr-xr-x. 1 root root 9514352 Sep 23 2020 vmlinuz-4.18.0-240.el8.x86_64
drwxr-xr-x. 3 root root 17 Nov 13 13:58 efi
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-rwxr-xr-x. 1 root root 9514352 Nov 13 14:13 vmlinuz-0-rescue-f16aa4fe64e84cb585d139e20ae8b0a8
-rw-----. 1 root root 105730050 Nov 13 14:15 initramfs-0-rescue-f16aa4fe64e84cb585d139e20ae8b0a8.img
drwx-----. 4 root root 83 Nov 23 09:51 grub2
[root@rhelpractice boot]# mkinitrd -f initramfs-4.18.0-240.el8.x86_64.img 4.18.0-240.el8.x86_64
Creating: target|kernel|dracut args|basicmodules
[root@rhelpractice boot]# ls -lrt
total 179796
-rw-----. 1 root root 4032815 Sep 23 2020 System.map-4.18.0-240.el8.x86_64
-rw-r--r--. 1 root root 189494 Sep 23 2020 config-4.18.0-240.el8.x86_64
-rwxr-xr-x. 1 root root 9514352 Sep 23 2020 vmlinuz-4.18.0-240.el8.x86_64
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-rw-----. 1 root root 105730050 Nov 13 14:15 initramfs-0-rescue-f16aa4fe64e84cb585d139e20ae8b0a8.img
drwx-----. 4 root root 83 Nov 23 09:51 grub2
-rw-----. 1 root root 55116748 Nov 23 13:50 initramfs-4.18.0-240.el8.x86_64.img
[root@rhelpractice boot]#
```

```
[root@rhelpractice boot]# rm -rf initramfs-4.18.0-240.el8.x86_64.img  
[root@rhelpractice boot]# dracut --force initramfs-4.18.0-240.el8.x86_64.img 4.18.0-240.el8.x86_64
```