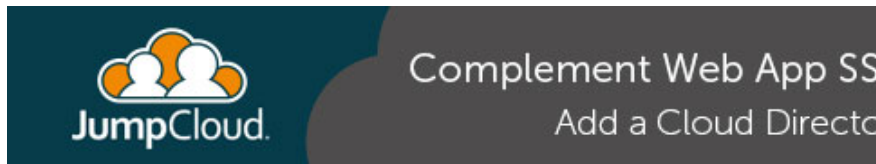# THE GEEK DIARY

CentOS / RHEL 7 : How to boot into Rescue Mode or Emergency Mode

By admin (https://www.thegeekdiary.com/author/sandeep_patil/)

The post explains how to bootup RHEL 7 system into rescue mode or emergency mode. In RHEL7, both rescue mode and emergency mode are systemd targets which replaced the concept of runlevels in previous linux versions.

Rescue mode

Rescue mode is equivalent to single user mode and requires the root password. Rescue mode allows you to repair your system in situations when it is unable to complete a regular booting process. Rescue mode will try to mount all local file systems and start some important system services, but it does not activate network interfaces neither allow multiple users to be logged in.

Emergency mode

Emergency mode provides the most minimal environment possible and allows you to repair your system even in situations when the system is unable to enter rescue mode. In emergency mode, the system mounts the root file system as read-only, does not attempt to mount any other local file systems, does not activate network interfaces.
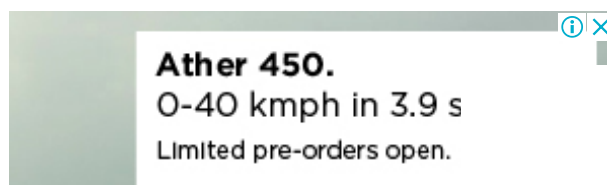
Bootup into Emergency mode(target)

1. During bootup, when the GRUB2 menu shows up, press the e key for edit.

```
CentOS Linux, with Linux 3.10.0-123.el7.x86_64
CentOS Linux, with Linux 0-rescue-55cc1c57c7f24ed0b0d352648024cea6
```

2. Add the following parameter at the end of the linux16 line :

```
systemd.unit=emergency.target
```

Press Ctrl+a (or Home) and Ctrl+e (or End) to jump to the start and end of the line.

```
          search --no-floppy --fs-uuid --set=root 464fffab-f05e-4409-a661-0183\
bbab3074
        fi
        linux16 /vmlinuz-3.10.0-123.el7.x86_64 root=UUID=6b912860-439c-427c-b4\
15-50d68f81d1da ro rd.lvm.lv=centos/swap vconsole.font=latarcyrheb-sun16 rd.lv\
m.lv=centos/root crashkernel=128M  vconsole.keymap=us rhgb quiet systemd.unit=\
emergency.target_

        Press Ctrl-x to start, Ctrl-c for a command prompt or Escape to
        discard edits and return to the menu. Pressing Tab lists
        possible completions.
```

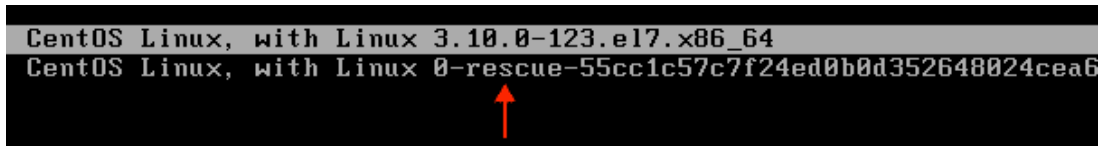3. Press Ctrl+x to boot the system with the parameter.

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

Bootup into Rescue mode(target)

There are 2 ways to get into rescue mode :

1. Method 1

There is a GRUB2 menu option when you boot up the system which can be selected to directly boot into rescue mode.

```
CentOS Linux, with Linux 3.10.0-123.el7.x86_64
CentOS Linux, with Linux 0-rescue-55cc1c57c7f24ed0b0d352648024cea6
```

2. Method 2

1. During bootup, when the GRUB2 menu shows up, press the e key for edit.

2. Add the following parameter at the end of the linux16 line:

```
systemd.unit=rescue.target
```

Press Ctrl+a (or Home) and Ctrl+e (or End) to jump to the start and end of the line.

```
        search --no-floppy --fs-uuid --set=root 464fffab-f05e-4409-a661-0183\
bbab3074
        fi
        linux16 /vmlinuz-3.10.0-123.el7.x86_64 root=UUID=6b912860-439c-427c-b4\
15-50d68f81d1da ro rd.lvm.lv=centos/swap vconsole.font=latarcyrheb-sun16 rd.lv\
m.lv=centos/root crashkernel=128M  vconsole.keymap=us rhgb quiet systemd.unit=\
rescue.target_
        initrd16 /initramfs-3.10.0-123.el7.x86_64.img
```

3. Press Ctrl+x to boot the system with the parameter.

```
Welcome to rescue mode! Type "systemctl default" or ^D to enter default mode.
Type "journalctl -xb" to view system logs. Type "systemctl reboot" to reboot.
Give root password for maintenance
(or type Control-D to continue): _
```

Switch to Emergency mode(target)

To switch to Emergency target, simply run following command as root:

```
# systemctl emergency
Broadcast message from root@geeklab on pts/1 (Mon 2016-08-17 00:44:58 EDT):
The system is going down to emergency mode NOW!
```

To prevent systemd from sending informative message:

```
# systemctl --no-wall emergency
# systemctl isolate emergency.target
```
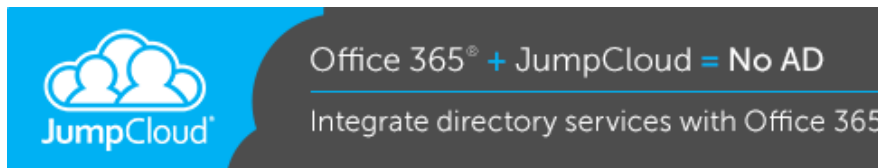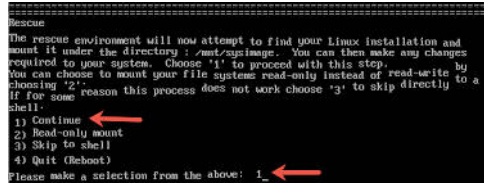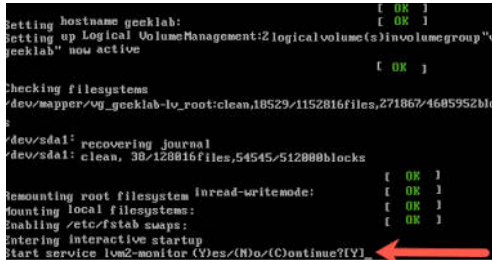
Switch to Rescue mode(target)

To switch to rescue target, simply run following command as root:

```
# systemctl rescue
Broadcast message from root@geeklab on pts/0 (Mon 2016-08-17 00:22:44 EDT):
The system is going down to rescue mode NOW!
```

To prevent systemd from sending informative message:

```
# systemctl --no-wall rescue
# systemctl isolate rescue.target
```

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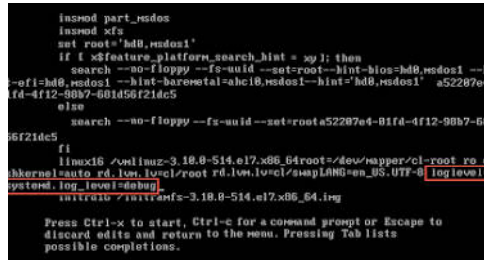
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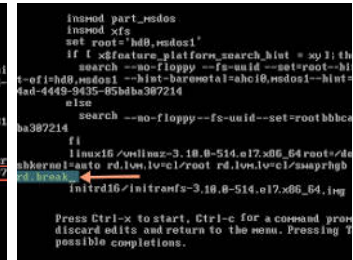
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