

# Single User Mode: Resetting/Recovering Forgotten Root User Account Password in RHEL/CentOS 7

by Editor | Published: March 20, 2015 | Last Updated: March 20, 2015



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Have you ever encountered a situation when you missed your user account password on a Linux System? And the situation can be worse if you forgot the root password. You cannot perform any system wide changes. If you forget user password, you can easily reset it using root account.

What if you forget your root password? You cannot reset root account password using user account. Since user account is not permitted to perform such task in general.



*Resetting/Recovering Forgotten Root User Account Password*

Well here is the guide which will take you out of any such situation if you ever get into it. Here in this article we will be taking you to the journey of resetting your **RHEL 7** and **CentOS 7** root password.

This very morning I turned my **RHEL 7** Linux server to find out that it has been locked. Either I messed up with password I changed last night or I have really forgotten it.

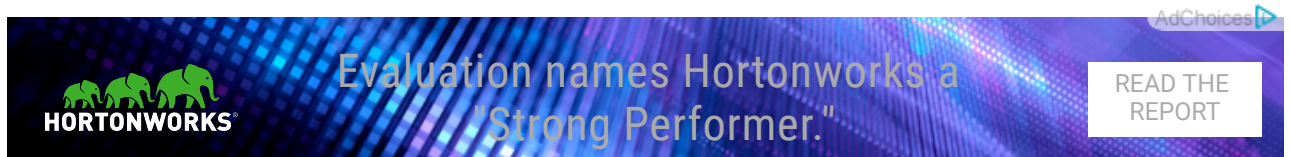
```
Red Hat Enterprise Linux Server 7.1 (Maipo)
Kernel 3.10.0-229.el7.x86_64 on an x86_64

localhost login: root
Password:
Login incorrect
localhost login: _
```

**Forgotten root Password**

<http://www.tecmint.com>

*Forgotten root Password*



So what should I do now? Should I login using my user account and try changing root password?

```
Red Hat Enterprise Linux Server 7.1 (Maipo)
Kernel 3.10.0-229.el7.x86_64 on an x86_64

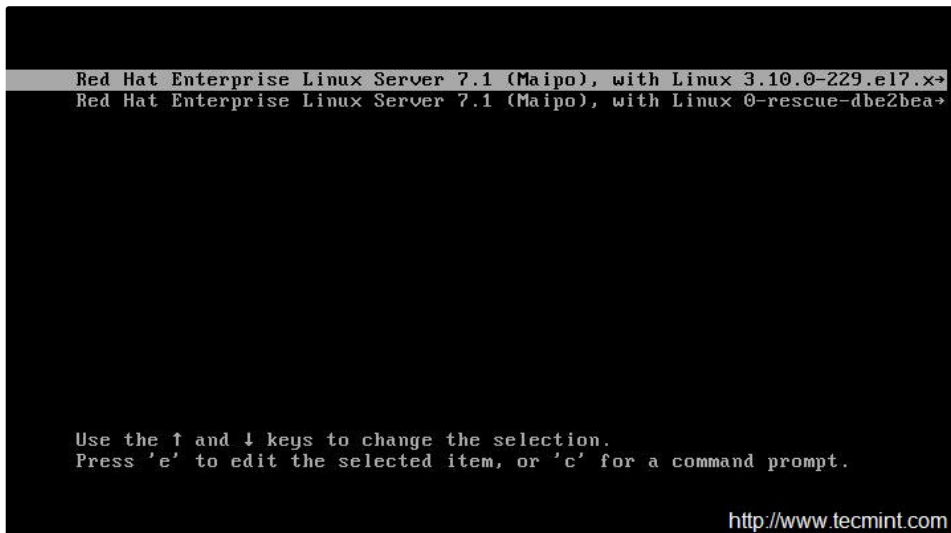
localhost login: tecmint
Password:
Last login: Wed Mar 18 13:53:32 on :0
[tecmint@localhost ~]$ passwd root
passwd: Only root can specify a user name.
[tecmint@localhost ~]$ _
```

**Only root can set password**

<http://www.tecmint.com>

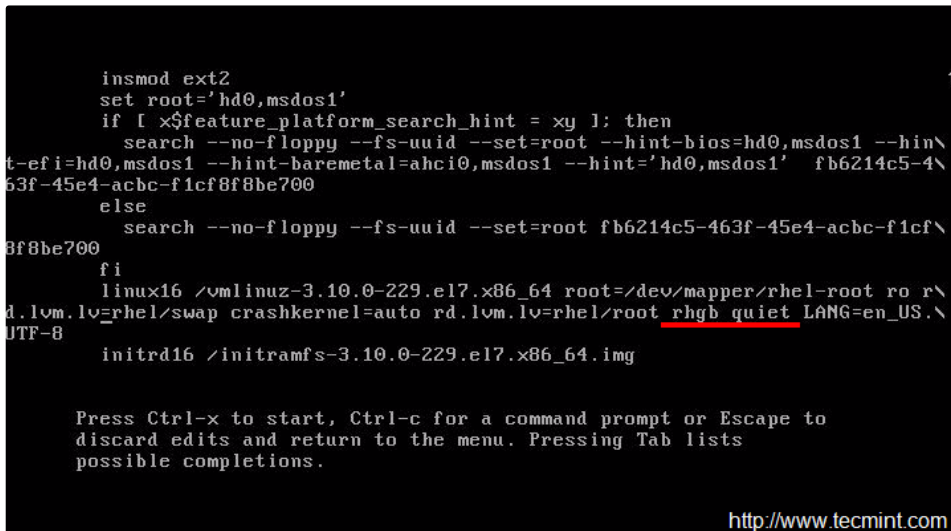
*Only Root User Can Set Password*

Oops I got "Only root can specify a user name" and I lost my control over root account. So I planned to boot into single user mode. To do this reboot the Server as soon as you get the below screen press **'e'** (stands for edit) from keyboard.



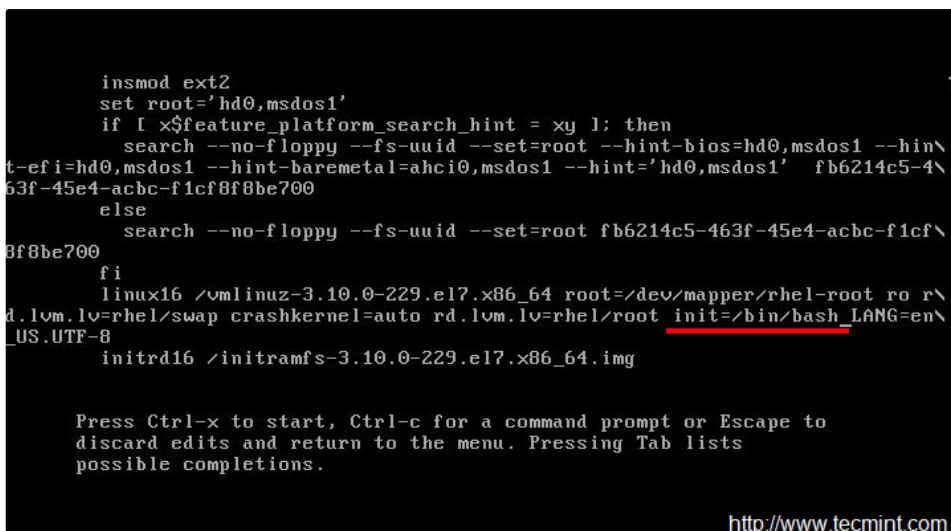
Press 'e' to Edit Boot Menu

After you press **'e'** from keyboard you would see a lot of text which may be clipped as per the size of your screen.



Grub Configuration

Search for the text **"rhgb quiet"** and replace it with **"init=/bin/bash"** without quotes.



*Enable Shell*

Once done editing press `'ctrl+x'` and it will start booting with specified parameter. And you will get bash prompt.

```

[GiB]
[ 2.422160] sd 2:0:0:0: [sda] Write Protect is off
[ 2.422949] sd 2:0:0:0: [sda] Write cache: enabled, read cache: enabled, does
n't support DPO or FUA
[ 2.426171] sda: sda1 sda2
[ 2.427036] sd 2:0:0:0: [sda] Attached SCSI disk
[ OK ] Found device /dev/mapper/rhel-root.
Starting File System Check on /dev/mapper/rhel-root...
[ OK ] Started dracut initqueue hook.
[ OK ] Reached target Remote File Systems (Pre).
[ OK ] Reached target Remote File Systems.
systemd-fsck[361]: /dev/mapper/rhel-root: clean, 184518/1179648 files, 1331969/4
718592 blocks
[ OK ] Started File System Check on /dev/mapper/rhel-root.
Mounting /sysroot...
[ 2.996534] EXT4-fs (dm-1): mounted filesystem with ordered data mode. Opts:
(null)
[ OK ] Mounted /sysroot.
[ OK ] Reached target Initrd Root File System.
Starting Reload Configuration from the Real Root...
[ OK ] Started Reload Configuration from the Real Root.
[ OK ] Reached target Initrd File Systems.
[ OK ] Reached target Initrd Default Target.
[ 3.377678] systemd-journald[88]: Received SIGTERM
bash-4.2#

```

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*Booting System*

Now check the status of root partition by running following command on the single user mode.

```
# mount | grep root
```

```

[ 2.477480] sda: sda1 sda2
[ 2.478600] sd 2:0:0:0: [sda] Attached SCSI disk
[ OK ] Found device /dev/mapper/rhel-root.
Starting File System Check on /dev/mapper/rhel-root...
[ OK ] Started dracut initqueue hook.
[ OK ] Reached target Remote File Systems (Pre).
[ OK ] Reached target Remote File Systems.
systemd-fsck[356]: /dev/mapper/rhel-root: clean, 184518/1179648 files, 1331969/4
718592 blocks
[ OK ] Started File System Check on /dev/mapper/rhel-root.
Mounting /sysroot...
[ 2.978293] EXT4-fs (dm-1): mounted filesystem with ordered data mode. Opts:
(null)
[ OK ] Mounted /sysroot.
[ OK ] Reached target Initrd Root File System.
Starting Reload Configuration from the Real Root...
[ OK ] Started Reload Configuration from the Real Root.
[ OK ] Reached target Initrd File Systems.
[ OK ] Reached target Initrd Default Target.
[ 3.337666] systemd-journald[89]: Received SIGTERM
bash-4.2# mount | grep root
/dev/mapper/rhel-root on / type ext4 (ro,relatime,data=ordered)
bash-4.2# [ 32.416647] atkbd serio0: Spurious NAK on isa0060/serio0. Some prog
ram might be trying to access hardware directly.

```

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*Check Root Mount Status*

You may notice that root partition is reported to be `'ro'` (Read Only). We need to have read-write permission on root partition to change the root password.

```
# mount -o remount,rw /
```

Also cross check, if the root partition is mounted with read-write permission mode.

```
# mount | grep root
```

```
Mounting /sysroot...
[ 2.978293] EXT4-fs (dm-1): mounted filesystem with ordered data mode. Opts:
(null)
[ OK ] Mounted /sysroot.
[ OK ] Reached target Initrd Root File System.
Starting Reload Configuration from the Real Root...
[ OK ] Started Reload Configuration from the Real Root.
[ OK ] Reached target Initrd File Systems.
[ OK ] Reached target Initrd Default Target.
[ 3.337666] systemd-journald[89]: Received SIGTERM
bash-4.2# mount | grep root
/dev/mapper/rhel-root on / type ext4 (ro,relatime,data=ordered)
bash-4.2# [ 32.416647] atkbd serio0: Spurious NAK on isa0060/serio0. Some prog
ram might be trying to access hardware directly.

bash-4.2# [ 68.268813] atkbd serio0: Spurious NAK on isa0060/serio0. Some prog
ram might be trying to access hardware directly.

bash-4.2# mount -o remount,rw /
[ 509.932587] EXT4-fs (dm-1): re-mounted. Opts: (null)
bash-4.2# mount | grep root
/dev/mapper/rhel-root on / type ext4 (rw,relatime,data=ordered)
bash-4.2# [ 551.111785] atkbd serio0: Spurious NAK on isa0060/serio0. Some prog
ram might be trying to access hardware directly.
```

*Set Permissions on Root Partition*

Now you can change the root password by typing the **passwd** command. But that is not done. We need to relabel SELinux context. If we skip relabeling the whole SELinux context we would be able to login using using password.

```
# passwd root
[Enter New Password]
[Re-enter New Password]
```

```
# touch /.autorelabel
```

```
718592 blocks
[ OK ] Started File System Check on /dev/mapper/rhel-root.
Mounting /sysroot...
[ 3.441752] EXT4-fs (dm-1): mounted filesystem with ordered data mode. Opts:
(null)
[ OK ] Mounted /sysroot.
[ OK ] Reached target Initrd Root File System.
Starting Reload Configuration from the Real Root...
[ OK ] Started Reload Configuration from the Real Root.
[ OK ] Reached target Initrd File Systems.
[ OK ] Reached target Initrd Default Target.
[ 3.827576] systemd-journald[89]: Received SIGTERM
bash-4.2# mount -o remount, rw /
[ 52.054433] EXT4-fs (dm-1): re-mounted. Opts: (null)
bash-4.2# passwd root
Changing password for user root.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: all authentication tokens updated successfully.
bash-4.2# [ 120.721657] atkbd serio0: Spurious NAK on isa0060/serio0. Some prog
ram might be trying to access hardware directly.

bash-4.2# touch /.autorelabel
bash-4.2#
```

*Reset root Password*

Reboot and login again to root account and see if everything works ok or not?



```
# exec /sbin/init
```

```
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Kernel 3.10.0-229.el7.x86_64 on an x86_64

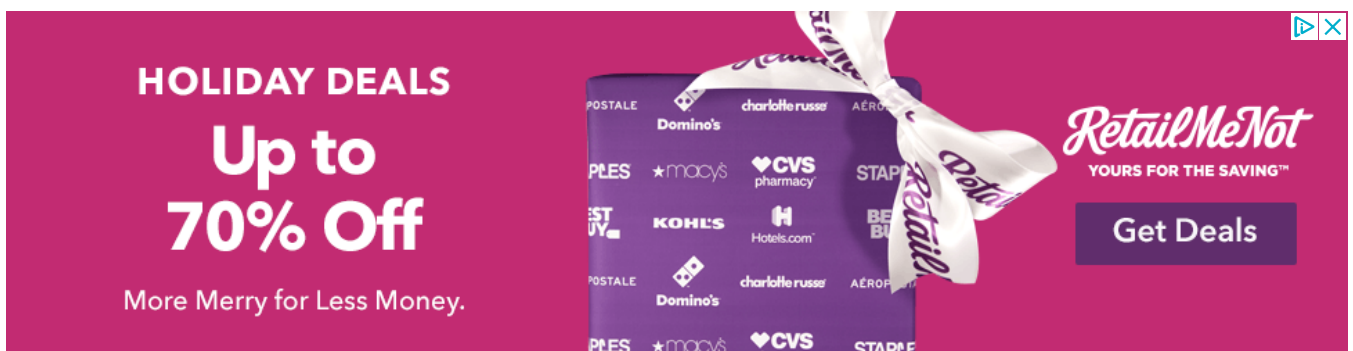
localhost login: root
Password:
Last failed login: Thu Mar 19 15:39:40 IST 2015 on tty5
There were 7 failed login attempts since the last successful login.
Last login: Thu Mar 19 13:48:37 on tty4
[root@localhost ~]# _
```

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*Login root User*

Clear in the above image that we have successfully log-in to RHEL 7 box by resetting root password from single user mode.

The above steps clearly showed how to login to RHEL 7 and CentOS 7 machine by resetting root password from single user mode.

A promotional banner for RetailMeNot. On the left, it says "HOLIDAY DEALS" in white on a red background, followed by "Up to 70% Off" in large white text, and "More Merry for Less Money." below it. In the center is a collage of various retail store logos including Domino's, CVS pharmacy, Macy's, Kohl's, Hotels.com, and others. A white ribbon with the RetailMeNot logo is draped across the collage. On the right, the RetailMeNot logo is displayed with the tagline "YOURS FOR THE SAVING™" and a red "Get Deals" button.

That's all for now. I'll be here again with another interesting article soon. Till then stay tuned and connected to Tecmint. Don't forget to provide us with your valuable feedback in the comments below. Like and share us and help us get spread.

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