

How to Reset Forgotten Root Password in RHEL Systems

Ravi Saive | Last Updated: March 18, 2024 | Read Time: 1 min | [CentOS, Fedora, RedHat](#) | [64 Comments](#)

This article will guide you through simple steps to reset forgotten root password in [RHEL-based Linux distributions](#) such as Fedora, CentOS Stream, Rocky and Alma Linux.

Resetting the forgotten root user password generally requires a few easy instructions that will guide you to reset the root password and you will thereafter be able to log in using the new password.

How to Reset Forgotten Root Password

First, restart your system, and at the boot grub menu choose the kernel (mostly the first option) you wish to boot into and press the key `'e'` on your keyboard.


```
Red Hat Enterprise Linux (4.18.0-80.11.2.el8_0.x86_64) 8.0 (0otpa)
Red Hat Enterprise Linux (4.18.0-80.el8.x86_64) 8.0 (0otpa)
Red Hat Enterprise Linux (0-rescue-87b117ed44b6449b9386cbb97b322517) 8.0→
```

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

RHEL 8 Boot Menu

On the next screen, you will see the following kernel boot parameters, here find the line that starts with `kernel=` and add the parameter `rd.break` at the end as shown and press Ctrl + x keys.

```
load_video
set gfx_payload=keep
insmod gzio
linux ($root)/vmlinuz-4.18.0-80.11.2.el8_0.x86_64 root=/dev/mapper/rhel-root r\
o crashkernel=auto resume=/dev/mapper/rhel-swap rd.lvm.lv=rhel/root rd.lvm.lv=\
rhel/swap rhgb quiet rd.break
initrd ($root)/initramfs-4.18.0-80.11.2.el8_0.x86_64.img $tuned_initrd
```



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.

Append Kernel Parameter

On the next screen, you will land into emergency mode, here press Enter key to get into the shell prompt. Now, make sure to confirm that you remount the sysroot directory with read and write permissions. By default, it is mounted with read-only mode indicated as `ro`.

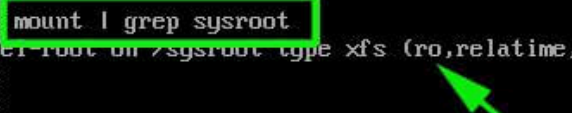
```
# mount | grep sysroot
```

```
[ 2.062621] [drm:vmw_host_log [vmwgfx]] *ERROR* Failed to send log
[ 2.063516] [drm:vmw_host_log [vmwgfx]] *ERROR* Failed to send log

Generating "/run/initramfs/rdsosreport.txt"

Entering emergency mode. Exit the shell to continue.
Type "journalctl" to view system logs.
You might want to save "/run/initramfs/rdsosreport.txt" to a USB stick or /boot
after mounting them and attach it to a bug report.

switch_root:/# mount | grep sysroot
/dev/mapper/rhel-root on /sysroot type xfs (ro,relatime,attr2,inode64,noquota)
switch_root:/#
switch_root:/#
```

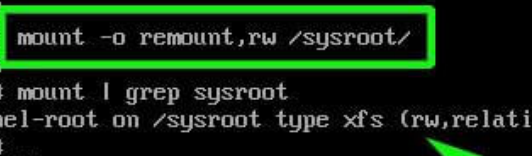


Confirm Sysroot Directory Permissions

Now remount the sysroot directory with read and write permissions and confirm the permissions again. Note that this time, the permissions have changed from **ro** (read-only) to **rw** (read and write) as shown.

```
# mount -o remount,rw /sysroot/  
# mount | grep sysroot
```

```
switch_root:/#  
switch_root:/# mount -o remount,rw /sysroot/  
switch_root:/#  
switch_root:/# mount | grep sysroot  
/dev/mapper/rhel-root on /sysroot type xfs (rw,relatime,attr2,inode64,noquota)  
switch_root:/# _
```



Mount Sysroot Directory

Next, mount the root file system in read and write mode using the following command.

```
# chroot /sysroot
```

Next, use the passwd command to reset the root password with the new password and confirm it.

```
# passwd
```

```
switch_root:/#  
switch_root:/# chroot /sysroot  
sh-4.4#  
sh-4.4# passwd  
Changing password for user root.  
New password:  
Retype new password:  
passwd: all authentication tokens updated successfully.  
sh-4.4#  
sh-4.4# _
```



Reset Root Password

At this point, you have successfully reset your root user password. The only remaining part is to relabel all of the files with the accurate SELinux contexts.

```
# touch /.autorelabel
```

```
passwd: all authentication tokens updated successfully.  
sh-4.4#  
sh-4.4# touch /.autorelabel  
sh-4.4#  
sh-4.4#
```

Enable SELinux Relable

Finally, type exit and then log out to start the SELinux relabelling process.

```
sh-4.4#  
sh-4.4# exit  
exit  
switch_root:/# logout  
  
*** Warning -- SELinux targeted policy relabel is required.  
*** Relabeling could take a very long time, depending on file  
*** system size and speed of hard drives.  
_
```

SELinux Relabelling Process

This generally takes a few minutes and once done, the system will reboot and prompt you to log in as the root user with the new password.

```
Red Hat Enterprise Linux 8.0 Beta (Ootpa)  
Kernel 4.18.0-32.el8.x86_64 on an x86_64  
  
Activate the web console with: systemctl enable --now cockpit.socket  
  
rhel8 login: root  
Password:  
Last login: Fri Jan 11 00:33:20 on pts/1  
[root@rhel8 ~]#
```

RHEL 8 Login

Conclusion

In conclusion, resetting a forgotten root password in RedHat-based Linux distributions is a relatively simple process that involves accessing the system during boot, modifying kernel parameters, and using specific commands to reset the password.

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Ravi Saive

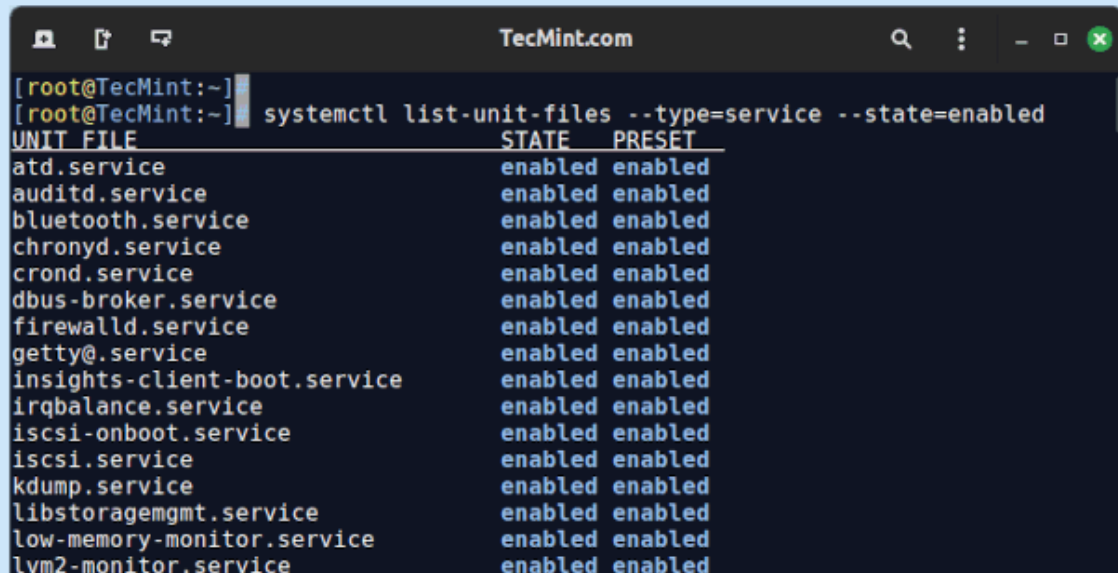
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```
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[root@TecMint:~]
[root@TecMint:~] systemctl list-unit-files --type=service --state=enabled
UNIT FILE                                STATE   PRESET
atd.service                             enabled enabled
auditd.service                           enabled enabled
bluetooth.service                        enabled enabled
chronyd.service                          enabled enabled
crond.service                            enabled enabled
dbus-broker.service                      enabled enabled
firewalld.service                        enabled enabled
getty@.service                           enabled enabled
insights-client-boot.service              enabled enabled
irqbalance.service                       enabled enabled
iscsi-onboot.service                     enabled enabled
iscsi.service                            enabled enabled
kdump.service                            enabled enabled
libstoragemgmt.service                   enabled enabled
low-memory-monitor.service                enabled enabled
lvm2-monitor.service                     enabled enabled
```

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```
root@tecmin:~#  
root@tecmin:~# chronyc sources  
MS Name/IP address         Stratum Poll Reach LastRx Last sample  
=====
```

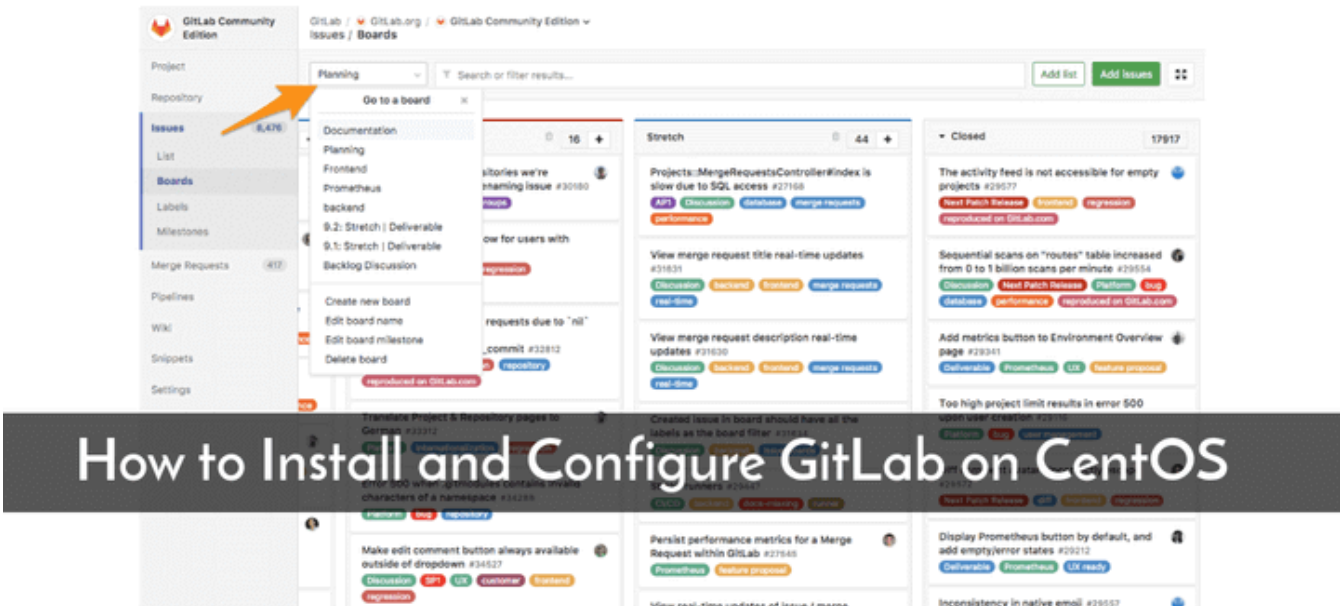
^? time.cloudflare.com	0	6	0	-	+0ns[+0ns]	+/-	0ns
^+ ntp.ges.net.pk	3	6	7	30	+4490us[+2529us]	+/-	198ms
^+ ns1.ads.net.id	2	6	7	28	-9806us[-12ms]	+/-	134ms
^* ec2-51-16-77-36.il-centr>	3	6	7	28	+3964us[+2003us]	+/-	74ms

```
root@tecmin:~# date  
Thu Feb  8 01:06:32 PM IST 2024  
root@tecmin:~#
```

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Nikolai
February 22, 2023 at 5:21 am

Hi, I'm taking an intro to Linux class and I was that dummy who forgot his password to get into the linux shell today. I read here that the SELinux context can be accurately implemented with `# touch /.autorelabel` is there a reason why it would be something else?

[Reply](#)

Rahul

April 10, 2018 at 12:08 pm

Hi All, I am new to Linux. I tried to break my root password with above method. but when i interrupt the grub, and type `a`, nothing comes up. After sometime it just loads the default OS version, but when i give `e` instead of `a`, and use different sets of commands, I am able to change the root password. Can some one tell what am i missing in the above method. I am using centos 7 in my VM.

[Reply](#)

Author



Ravi Saive

April 10, 2018 at 12:32 pm

@Rahul,

In CentOS 6 version, you need to press `a` to enter to single user mode, while in CentOS 7, you should use `e` to enter into single user mode. I hope it clears your doubts..

Here is the guide on [How to Reset or Recover Forgotten Root Password in CentOS 7](https://www.tecmint.com/reset-forgotten-root-password-in-rhel-centos-and-fedora/)

[Reply](#)**Rahul**

April 12, 2018 at 1:25 pm

yes Ok. Thankyou.

[Reply](#)**Paul**

March 27, 2018 at 1:38 pm

Same here as @ravi. It's giving me "give the root password for maintenance."
Version 2.6.32-358.0.1.el6.i686

[Reply](#)

Author

**Ravi Saive**

March 28, 2018 at 1:27 pm

Thanks for sharing, let me try the same instructions on my CentOS 6, will get back to you with solution.

[Reply](#)**ravi**

March 8, 2018 at 9:34 pm

It is giving the message that give the root password for maintenance.

i am not able to attach the screenshot

[Reply](#)

Author



Ravi Saive

March 9, 2018 at 10:30 am

@Ravi,

Which version of Linux distribution are you using? mostly it wouldn't ask for password in maintenance mode, either you doing wrong, follow the instructions carefully..

[Reply](#)

Ravi

March 8, 2018 at 4:59 am

When I do this it goes and ask root password for maintenance

[Reply](#)

Author



Ravi Saive

March 8, 2018 at 10:08 am

@Ravi,

Could you share the screenshot? let me check it.

[Reply](#)

Medsila

April 7, 2017 at 5:45 pm

thanks man great

[Reply](#)

pradeep

August 25, 2016 at 1:26 pm

Yes i have tried this option it works perfect

[Reply](#)

Jim

July 8, 2016 at 5:34 am

I followed the same, I had a problem. First, I have two Red Hat Linux servers. Second, I was able to recover the password for the one with OS 5.1.x. I was not able to do it on the Red Hat Enterprise Linux 6.4, it's an appliance with nGeniusOne from Netscout Systems.

In this box, I was able to boot to the GNUB, but when I type "a" to modify the kernel. Nothing pops up. It keeps showing the OS until I hit "Enter" and it boots to complete. Only one item as there was no previous updates. Can anyone help out?

[Reply](#)

Robert

March 1, 2016 at 1:47 pm

That was awesome, I followed the same and was able to reset my CentOS password which had stayed blocked for close to a week

[Reply](#)

Eric

November 16, 2015 at 7:44 pm

Thanks!!!

[Reply](#)

Peter Asane

November 13, 2015 at 5:37 am

Wow!!, thats awesome, I was able to reset my REDHAT 5.5 password by following your tutorial. I am soo happy. Thank you very much and keep it up.

[Reply](#)**Aaron**

November 2, 2015 at 9:41 pm

Exllcellent write up helped me out gratefully thank you

[Reply](#)**Dave w**

August 4, 2015 at 11:10 pm

I was locked out of centos 6.6 as I had lost my password details by following your easy step recovery procedure I was able to create another password. Thankyou for this very useful information.

[Reply](#)**Hector Rivera**

June 18, 2015 at 5:16 am

Accidentaly i changed the owner root to oroot in the password file at /etc/passwd. When u tired to logon the system said that root doesn't exist. How can i change back user oroot to root in the passwd file?

Thanks

[Reply](#)**Fran**

June 9, 2015 at 3:50 pm

Thanks a lot!

[Reply](#)**AShfaq**

May 23, 2015 at 3:26 pm

thanks bro

[Reply](#)**rajesh**

November 27, 2014 at 2:27 pm

More details on this

Per Oracle instructions to implement Huge Pages I made the following updates and re-booted:

/etc/security/limits.conf

* soft memlock 45298482

* hard memlock 45298482

```
/etc/sysctl.conf
```

```
vm.nr_hugepages = 9219 # calculated with Oracle script
```

After reboot, the system is operation, but root login authenticates then fails. We can login as oracle. When try to su, get: can not open session.

I have booted from disk and went in rescue mode to back out the changes. The changes were backed out, but still cannot login as root.

[Reply](#)

Author

**Ravi Saive**

November 27, 2014 at 4:58 pm

@rajesh,

Seems strange problem, sorry I really don't have any idea...give me some time to find out solution for you..

[Reply](#)**rajesh**

November 27, 2014 at 2:24 pm

Hi Ravi,

I am getting a strange issue. I am not able to login to root using a desired password on SSH / Linux terminal

The screen gets refreshes and again comes to login prompt . on the other hand i have another user as oracle and through that user I am able to login

What could be the issue? please suggest the solution. I am using RHEL 5.8

[Reply](#)**rajinikanth**

November 21, 2014 at 4:00 pm

How to reset forgotten root password without booting.....

[Reply](#)

Author

**Ravi Saive**

November 21, 2014 at 4:41 pm

@rajinikanth,

Not possible, you have boot into sinle user mode to set forgotten root password.

[Reply](#)**Mohsen Haghighat**

November 16, 2014 at 5:31 pm

It is not necessary to execute all of above steps. After pressing Escape and then 'a' (append)

it is sufficient to type 1 after ..._DM with one space , like : rd_NO_DM 1

and then press Enter

you are root now and can type passwd enjoy !!!!

[Reply](#)**Hector**

October 31, 2014 at 12:01 am

thanks for your help this article help me alot

[Reply](#)**Rajesh Smart**

September 20, 2014 at 2:10 pm

I want to change username rajesh, instead of giving root help me out:)

[Reply](#)**Author****Ravi Saive**

September 22, 2014 at 6:14 pm

I didn't get you, what you trying to say, can you elaborate more clearly.

[Reply](#)**Rajesh Smart**

September 20, 2014 at 2:06 pm

It is very simple but very useful & thanks a lot:)

Regards

Rajesh

[Reply](#)

kasun

August 30, 2014 at 9:11 am

very helpful information. thanx!

[Reply](#)

SRIRAM

August 20, 2014 at 4:39 pm

Sir,

How to go single user mode in fedora 20.. and set root passwd Kindly post sir

[Reply](#)

Author



Ravi Saive

August 20, 2014 at 5:28 pm

Same instructions are used for Fedora 20. Just follow the instructions carefully, you will get single user mode and thereon change or set root password.

[Reply](#)**sanjib**

August 26, 2014 at 3:16 pm

Hi Ravi,

Its a nice procedure to reset the password. But I have some qus I have my local server and some application is installed. some services are starting with different user and some of the service is starting only through root. If I reset the passwd is it any chances of lossing data? As I can't login root so I can't able to take backups.

[Reply](#)

Author

**Ravi Saive**

August 26, 2014 at 6:17 pm

No, you will not loose any data, because you are just resetting root password, other than this nothing else...and your services won't affect too.

[Reply](#)**Glbson**

July 3, 2014 at 8:25 am

sir it didnt do anything when i Press 'a' on step 2 please reply on this thanks

[Reply](#)

Author

**Ravi Saive**

July 3, 2014 at 1:20 pm

After pressing 'a' key what you see? can you share the screenshot?

[Reply](#)**jad**

May 23, 2014 at 9:04 pm

thank you

[Reply](#)**vimal pal**

May 16, 2014 at 10:09 am

thanx dear..

[Reply](#)**priti**

May 11, 2014 at 11:51 am

nice article...Its working..

[Reply](#)

Amani Musomba

April 29, 2014 at 5:25 pm

Good Article..

[Reply](#)



Arun

April 23, 2014 at 7:16 pm

Superb help ...cheers.. :D

[Reply](#)

bikash

April 1, 2014 at 12:39 am

Hi,

I follow up to step-4. As per described here. But in step-5 after giving user command as "passwd" its not asking for new password. Can you help me on this.

[Reply](#)**Tamking2**

September 22, 2014 at 8:54 pm

Did you ever resolve this?

I am trying to learn Red Hat and am trying this on a test machine and although I know I am in Single User Mode "1 S" I type passwd and just come back to a command prompt (No error and no questions regarding a new password"

I know I can just reload the OS and I do know the correct password, just trying to understand why this might be happening.

[Reply](#)**Tanish madan**

March 4, 2014 at 11:30 am

i can't chang the root password. can u help me any one

[Reply](#)**Tanish madan**

March 4, 2014 at 11:32 am

It is not working

[Reply](#)

Elvandar

February 19, 2014 at 3:26 pm

Will you lose data when resetting the password ?

[Reply](#)**WM**

February 19, 2014 at 3:25 pm

Will this password reset also corrupt my data? Using Centos 6.4 distro.

[Reply](#)**Author****Ravi Saive**

February 20, 2014 at 5:34 pm

No, your data won't be corrupted or lost.

[Reply](#)**Anon**

February 10, 2014 at 4:51 pm

That was so simple yet helpful, thank you very much! :)

[Reply](#)**praveen**

November 29, 2013 at 11:52 am

thanks, sharing for good information ..

[Reply](#)**shalom**

October 16, 2013 at 9:09 pm

hi im having problem recovering my server root password even after booting to single mode

[Reply](#)

Author

**Ravi Saive**

October 17, 2013 at 4:08 am

What kind of problem? The article clearly stated how to recover forgotten root password.

[Reply](#)

**Angelo**

September 1, 2013 at 8:59 pm

RAVI!!!

Thanks, this is the best help i can find in the internet.

Best regards from Brasil!

[Reply](#)**ben**

August 2, 2013 at 2:36 am

Clonezilla is a really handy tool. It's known as a free imaging tool (COOL) but also features a shell feature which lets you do a lot of sysadmin-y tasks, including something simple like resetting root to things that can be much more complicated . Very handy :) Here's my video tutorial on using clonezilla just to reset root

<http://geekswing.com/geek/resetting-root-password-on-a-linux-system-using-clonezilla/>

[Reply](#)**Sridhar**

May 16, 2013 at 7:51 pm

Hi

I tried the same but entered into GUI of Fedora...pl Suggest

[Reply](#)

Author

**Ravi Saive**

May 17, 2013 at 10:48 am

Use "init 3" command to enter into command prompt.

[Reply](#)**alico**

April 29, 2013 at 2:29 pm

how can i see the other username and password after root pass change ?

[Reply](#)

Author

**Ravi Saive**

April 29, 2013 at 3:45 pm

In /etc/password and /etc/shadow file.

[Reply](#)**stefano**

August 29, 2013 at 11:46 am

Hi ravi , thank you for all useful tutorial ...one question , if I can access to the server with different user can I recover the root password ? I have big problem with ssh root login and I am trying to find solution

Thx

[Reply](#)

Author



Ravi Saive

August 29, 2013 at 5:03 pm

No you can't! normal user don't have rights to recover root password. The only way is using single user mode as described in the article.

[Reply](#)

Raymond DeBrane

March 9, 2013 at 3:06 am

are you supposed to remove the 1 to enter single user mode when you are done resetting the root password?

[Reply](#)



riyas

December 26, 2012 at 11:45 pm

thanks for this useful info

[Reply](#)

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