

## Create Non-Root User

In this tutorial, I will be demonstrating how to create a non-root user, with **sudo** privileges, on a CentOS 7 VM. Refer to the prerequisites listed below to access the resources needed to complete this tutorial.

### Prerequisites

- VirtualBox VM with a CentOS 7 minimal installation
- **root** user's password **OR** non-root user with **sudo** privileges

For instructions on how to install VirtualBox and extension pack, see my **VirtualBox Install** tutorial [here](#).

If you do not already have a virtual machine, with a minimal install of CentOS 7, my other tutorial is [here](#).

If you already have access to a CentOS 7 minimal install VM, but have forgotten the **root** user's password, see my tutorial [here](#). You will need this password to create a non-root user. Or, you can use another non-root user that has **sudo** privileges.

Steps to complete tutorial:

1. [Start Virtual Machine](#)
2. [Create Non-Root User with sudo privileges](#)
3. [Verify sudo privileges](#)

## Start Virtual Machine

From the VirtualBox Manager interface, ensure your VM is selected and click **Start**



## Create non-root user with sudo privileges

To be able to perform system operations, such as installing, and updating, packages, or managing users and services, the user performing the operations must have **sudo** privileges, or, be performed by the **root** user.

In a production environment, it is good practice **NOT** to login as the root user, and to **NEVER** perform operations while logged in as the root user. First, security, because the root user has access to everything on the system, anything done by the root user is allowed. Second, any operations performed by the root user will be logged as being done by the root user. It would be difficult to determine who did what, at a certain time, if everyone in a department knows the root user's password.

Since this is a lab environment, I will demonstrate the creation of a non-root user that has **sudo** privileges, while logged in as the root user. To follow along, you will also need to know the **root** user's password.

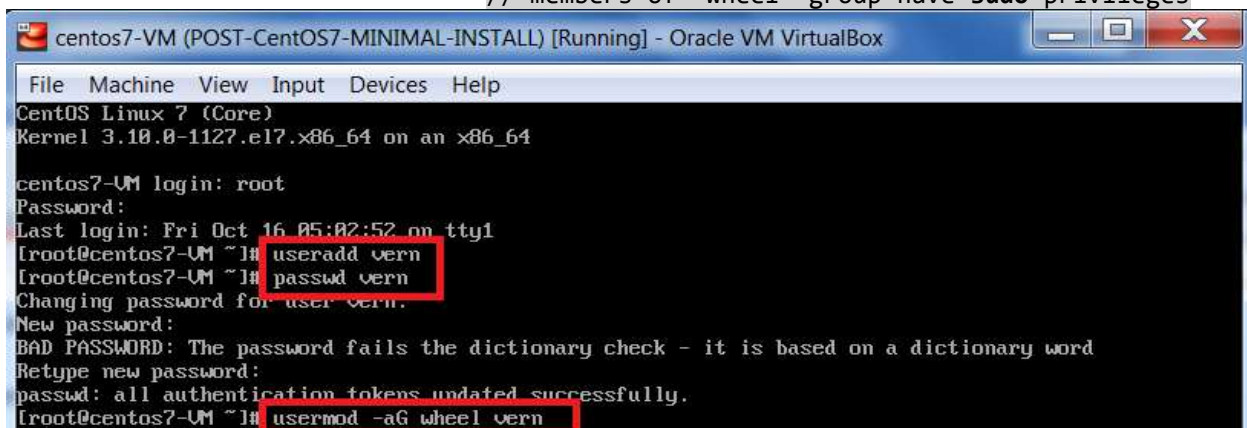
If you don't know the root user's password, I have a tutorial, **Root User Password Reset**, accessible [here](#). Or, you can use another non-root user that already has **sudo** privileges.

Once CentOS 7 has started, on the login screen, enter the root user's credentials. (Please note that you can perform the operations below using a non-root user that has **sudo** privileges. Just add **sudo** before each command)

Now that we are logged in as the root user, we will create a non-root user with **sudo** privileges.

On the command line, execute the following commands (one after the other & enter password, when prompted):

```
# useradd vern          // create new non-root user
# passwd vern           // set non-root user's password
# usermod -aG wheel vern // add non-root user to 'wheel' group
                        // members of 'wheel' group have sudo privileges
```



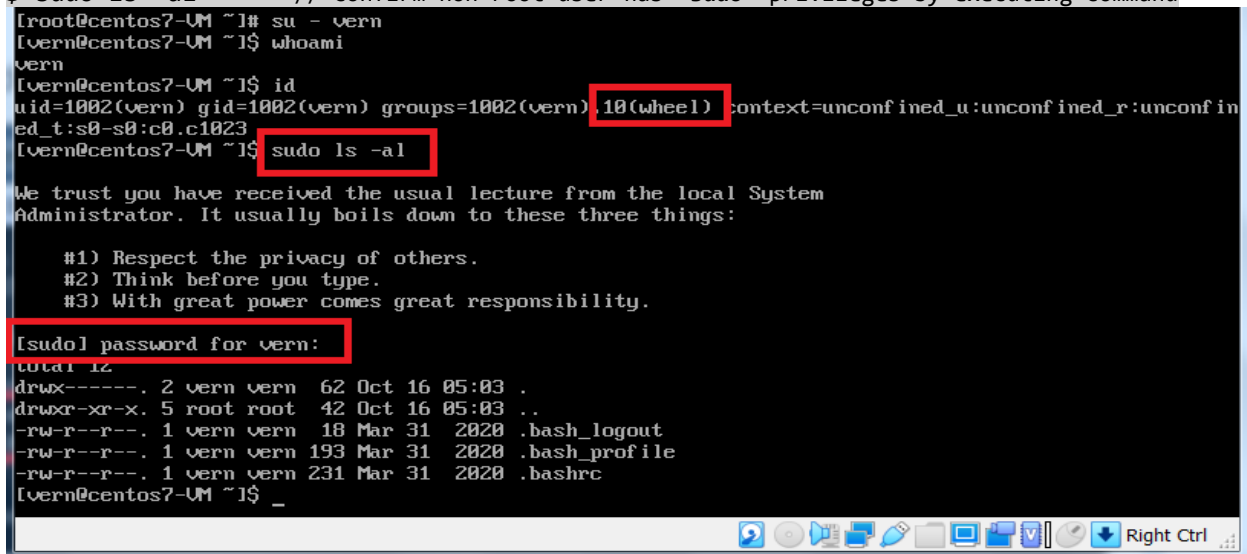
The screenshot shows a terminal window titled 'centos7-VM (POST-CentOS7-MINIMAL-INSTALL) [Running] - Oracle VM VirtualBox'. The terminal output shows the user logging in as root. The commands 'useradd vern' and 'passwd vern' are entered and highlighted with red boxes. The password '10' is entered for the user 'vern'. The command 'usermod -aG wheel vern' is also entered and highlighted with a red box.

Now we will verify that our newly created non-root user has **sudo** privileges.

## Verify sudo Privileges

On the command line, execute the following commands (one after the other & enter password, when prompted):

```
# su - vern            // switch to non-root user vern
$ whoami               // print the username of the current user
$ id                   // print user & group info for current user
$ sudo ls -al          // confirm non-root user has 'sudo' privileges by executing command
```



The screenshot shows the terminal window with the user 'vern' logged in. The commands 'su - vern', 'whoami', 'id', and 'sudo ls -al' are entered. The output of 'id' shows the user is 'vern' with a UID of 1002 and is a member of the 'wheel' group. The command 'sudo ls -al' is highlighted with a red box. The output shows the contents of the user's home directory, including files like '.bash\_logout', '.bash\_profile', and '.bashrc'. The terminal also displays a message from the local system administrator about respecting privacy and thinking before typing.

Now that we have a non-root user with **sudo** privileges ('wheel' group member), we can complete the tutorial by shutting down the system.

Remember to use your newly created non-root user's password to acknowledge the following command:

```
$ sudo shutdown -h now // -h option used to halt the system
```

```
drwx-----. 2 vern vern 83 Nov 24 08:39 .
drwxr-xr-x. 4 root root 30 Nov 24 08:36 ..
-rw-----. 1 vern vern 94 Nov 24 08:47 .bash_history
-rw-r--r--. 1 vern vern 18 Mar 31 2020 .bash_logout
-rw-r--r--. 1 vern vern 193 Mar 31 2020 .bash_profile
-rw-r--r--. 1 vern vern 231 Mar 31 2020 .bashrc
[vern@centos7-UM ~]$ sudo shutdown -h now
```

We have successfully created a non-root user with **sudo** privileges. Now, anytime you need to perform system operations requiring root privileges, you can use this user to ensure that you have a way to track who did what on the system.

Hopefully, you've enjoyed completing this tutorial and found it helpful.

If you would like to see my other tutorials, they can be accessed [here](#).

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