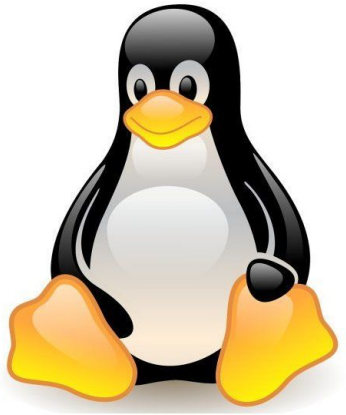
Linux Plus for AWS and DevOps



Managing Users and Groups

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“sudo” command

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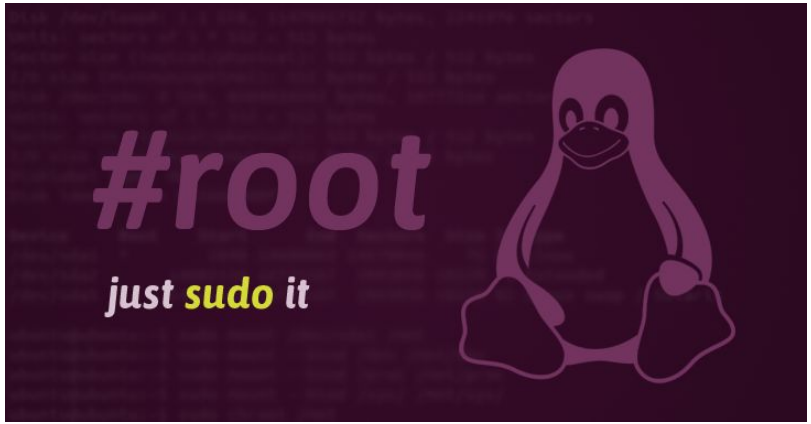


sudo Command

The sudo (superuser do) command gives some **admin privileges** to non-admin users.

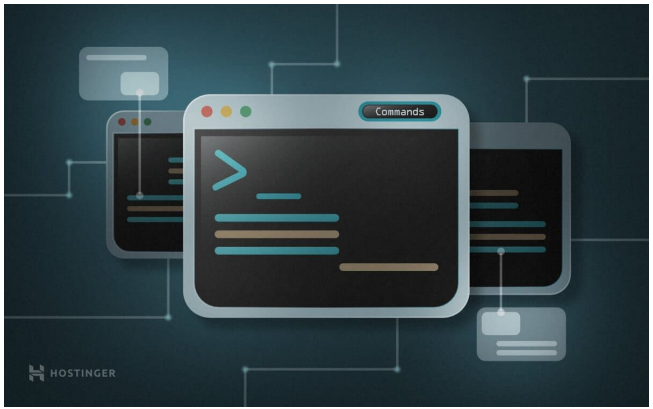
When you put sudo in front of any command in terminal, that command runs with **elevated privileges**.

If you're not sure if you're using sudo or su, look at the trailing character on the command line. If it's a pound sign (#), you're logged in as root.

sudo Command

Commands	Meaning
sudo -l	List available commands.
sudo command	**Run command as root.**
sudo -u root command	Run command as root.
sudo -u user command	Run command as user.
sudo su	**Switch to the superuser account.**
sudo su -	Switch to the superuser account with root's environment.
sudo su - username	Switch to the username's account with the username's environment.
sudo -s	Start a shell as root
sudo -u root -s	Same as above.
sudo -u user -s	Start a shell as user.

2 Basic User Commands



Basic User Commands

whoami

display one-line manual page descriptions.

whoami

```
clarusway@DESKTOP-UN6T2ES:~$ whoami
clarusway
clarusway@DESKTOP-UN6T2ES:~$
```

Basic User Commands

who

provide with details about **who is logged on the system.**

who

```
clarusway@DESKTOP-UN6T2ES:~$ who
root pts/0 2019-11-10 23:07 (10.104.33.101)
james pts/1 2019-11-10 23:30 (10.104.33.101)
john pts/2 2019-11-10 23:34 (10.104.33.96)
clarusway pts/3 2019-11-10 23:39 (10.104.33.91)
clarusway@DESKTOP-UN6T2ES:~$
```

Basic User Commands

w

inform who is logged on and what they are doing.

w

```
clarusway@DESKTOP-UN6T2ES:~$ w
 14:22:38 up  1:52,  0 users,  load average: 0.52, 0.58, 0.59
USER TTY LOGIN@ IDLE JCPU PCPU WHAT
root pts/0 14:07 15.00s 0.01s 0.01s top
clarusway@DESKTOP-UN6T2ES:~$
```

Basic User Commands

id — Display user id, your primary group id, and a list of the groups you belong to.

id [username]

```
clarusway@DESKTOP-UN6T2ES:~$ id
uid=1000(clarusway) gid=1000(clarusway) groups=1000(clarusway)
```

Basic User Commands

su — enables a shell to be run as another user.

su [username]

```
clarusway@DESKTOP-UN6T2ES:~$ su oliver
Password:
oliver@DESKTOP-UN6T2ES:/home/clarusway$
```

Basic User Commands

su - To become another user and also get the environment of the target user.

su - [username]

```
clarusway@DESKTOP-UN6T2ES:~$ su - oliver
Password:
oliver@DESKTOP-UN6T2ES:~$
```

Basic User Commands

sudo su

The root user does not have a password set on some Linux systems like Ubuntu and Xubuntu. On these Linux systems, You can become root user via sudo su command.

sudo su

sudo su -

```
clarusway@DESKTOP-UN6T2ES:~$ sudo su
root@DESKTOP-UN6T2ES:/home/clarusway#
```

User management

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User management

etc/passwd

On Linux, the local user database is /etc/passwd.

```
clarusway@DESKTOP-UN6T2ES:~$ tail -5 /etc/passwd
clarusway:x:1000:1000:,,,:/home/clarusway:/bin/bash
john:x:1002:1002:john,room,work,home,other:/home/john:/bin/bash
oliver:x:1003:1003:oliver,room_1,work_1,home_1:/home/oliver:/bin/bash
aaron:x:1001:1001:aaron,,,:/home/aaron:/bin/bash
james:x:1005:1009:james,,,:/home/james:/bin/bash
clarusway@DESKTOP-UN6T2ES:~$
```

User management

useradd useradd command is used for creating a new user.

useradd [username]

```
root@DESKTOP-UN6T2ES:~# useradd -m -d /home/walter -c "walter clarus" walter
root@DESKTOP-UN6T2ES:~# tail -1 /etc/passwd
walter:x:1006:1006:walter clarus:/home/walter:/bin/sh
root@DESKTOP-UN6T2ES:~#
```

-m is used for forcing the creation of the home directory
-d is used for setting the name of the home directory
-c is used for setting a description

User management

adduser

adduser is not a standard Linux command. It's basically a Perl script that uses the useradd command in the background. This is more effective at creating new users on Linux.

adduser [useradd]

```
root@DESKTOP-UN6T2ES:~# adduser raymond
Adding user `raymond' ...
Adding new group `raymond' (1004) ...
Adding new user `raymond' (1004) with group `raymond' ...
Creating home directory `/home/raymond' ...
Copying files from `/etc/skel' ...
Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully
Changing the user information for raymond
Enter the new value, or press ENTER for the default
        Full Name []: Raymond Clarus
        Room Number []: it
        Work Phone []: 12345
        Home Phone []: 12345
        Other []: -
Is the information correct? [Y/n] y
root@DESKTOP-UN6T2ES:~#
```

User management

userdel

Delete a user. userdel command will not remove the user's home directory from the file system. If you want to remove the home directory, you need to use the -r in the command line.

userdel [username]

```
root@DESKTOP-UN6T2ES:~# userdel -r raymond
```

User management

usermod

Modify a user's properties. The example below modifies the description of the user walter.

usermod -[option][value][username]

```
root@DESKTOP-UN6T2ES:~# tail -1 /etc/passwd
walter:x:1004:1004:walter clarus:/home/walter:/bin/sh
root@DESKTOP-UN6T2ES:~# usermod -c 'aws solution architect' walter
root@DESKTOP-UN6T2ES:~# tail -1 /etc/passwd
walter:x:1004:1004:aws solution architect:/home/walter:/bin/sh
root@DESKTOP-UN6T2ES:~#
```

User Passwords

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User Passwords

passwd

User passwords can be set with the passwd command.

passwd [username]

```
oliver@DESKTOP-UN6T2ES:~$ passwd
Changing password for oliver.
(current) UNIX password:
Enter new UNIX password:
Retype new UNIX password:
Bad: new password is too simple
Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully
oliver@DESKTOP-UN6T2ES:~$
```

User Passwords

etc/shadow

User passwords are encrypted and stored in /etc/shadow file.
The /etc/shadow file is only read and can be accessed by root only.

```
clarusway@DESKTOP-UN6T2ES:~$ tail -4 /etc/shadow
tail: cannot open '/etc/shadow' for reading: Permission denied
clarusway@DESKTOP-UN6T2ES:~$ sudo su -
root@DESKTOP-UN6T2ES:~# tail -4 /etc/shadow
clarusway:$6$c2IXDMI2$B9GPOjcYyGLctUmTDP7tfNEBIXGo2YAUF
    /Y5NNIDkumJuP5uyxW1xHDMobWPFx0wfOh1C4iBj9PvP4XnP/Uv10:18323:0
    :99999:7:::
john:$6$ITd.yBmK$MxMz9wm7.1DxdQx7At.0VB6ch1XU22BMXhTbPkWjdk0B
    .SmnwjYR922DmCeAzP8WFyIhGoHP10Dqt6MO7rxON0:18333:0:99999:7:::
oliver:$6$tTRbLfc5$j1NMBc9tvBotwCtFMt0Qq2K0nbQW2zBv
    /zwufBwOnhUs7UMoczD.m/5Tnz1uCKymhISOSzZbdSCRKkLF.wSD00:18333:0
    :99999:7:::
walter:$6$aMR4T5iB$7ZJzvy2VCEaOnPZIbaofUSLQp
    .aeIOCZgDeNug5hWcIkSnAjA6n6V.tR3IAJY5IScImcn15K/ZMFug1D2gK6L
    /:18333:0:99999:7:::
root@DESKTOP-UN6T2ES:~#
```

User Passwords

etc/login.defs

The /etc/login.defs file includes some default user password settings, such as password aging and length settings.

```
clarusway@DESKTOP-UN6T2ES:~$ grep ^PASS /etc/login.defs
PASS_MAX_DAYS   99999
PASS_MIN_DAYS   0
PASS_WARN_AGE   7
clarusway@DESKTOP-UN6T2ES:~$
```

Exercise

Create a user named **devops**
Set **devops** user password as **clarusway**
Change devops user description as **the best cloud engineer**
Switch to **devops** user
Display information of **devops** user
Go back to previous user
Delete **devops** user with home directory

Group Management

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Group Management

etc/group

Users can belong to several groups. Group membership is specified via the /etc/group file.

```
root@DESKTOP-UN6T2ES:/home/clarusway# tail -3 /etc/group
linux:x:1006:john,james,aaron
aws:x:1007:walter
python:x:1008:oliver
root@DESKTOP-UN6T2ES:/home/clarusway#
```

Group Management

groups groups command is used to display a list of groups to which the user belongs.

groups [username]

```
john@DESKTOP-UN6T2ES:~$ groups
john linux
john@DESKTOP-UN6T2ES:~$
```

Group Management

groupadd

groupadd command is used to create a new group.

groupadd [groupname]

```
root@DESKTOP-UN6T2ES:~# groupadd linux
root@DESKTOP-UN6T2ES:~# groupadd aws
root@DESKTOP-UN6T2ES:~# groupadd python
```

Group Management

usermod

You can change group membership with the usermod command.

usermod -a -G [groupname] [username]

```
root@DESKTOP-UN6T2ES:~# usermod -a -G linux james
root@DESKTOP-UN6T2ES:~# usermod -a -G linux aaron
```

- By default, if the group is not specified in the command, the usermod command **will remove the user from any group**!
- Using the **-a** (append) option **prevents this behaviour**.

Group Management

groupmod groupmod command can be used to change the group name.

groupmod -n [newname] [oldname]

```
root@DESKTOP-UN6T2ES:~# groupmod -n ubuntu linux
root@DESKTOP-UN6T2ES:~# tail -3 /etc/group
aws:x:1007:walter
python:x:1008:oliver
ubuntu:x:1006:john,james,aaron
root@DESKTOP-UN6T2ES:~#
```

Group Management

groupdel groupdel command is used to delete a group.

groupdel [groupname]

```
root@DESKTOP-UN6T2ES:~# groupdel ubuntu
root@DESKTOP-UN6T2ES:~#
```

Group Management

gpasswd

With the gpasswd command, we can add a user to a group and to remove a user from a group. In the example below:

- We add john to aws group with gpasswd -a command.
- We remove walter from aws group with gpasswd -d command.

gpasswd –[option][username][groupname]

```
root@DESKTOP-UN6T2ES:~# gpasswd -a john aws
Adding user john to group aws
root@DESKTOP-UN6T2ES:~# gpasswd -d walter aws
Removing user walter from group aws
root@DESKTOP-UN6T2ES:~#
```

Exercise

Create a user named **devops**
Create two groups named **cloud** and **aws**
Add **devops** user to the group **cloud**
Display **groups** that **devops** user belongs to
Add **devops** user to the group **aws**
Remove **devops** user from **cloud** group
Delete **cloud** group
Rename **aws** group name as **aws-cloud**
Display **groups** that **devops** user belongs to


Kahoot!

Exercise

Create users: **Jason, Bruce, Victor, Mark, Jack, Tyler, Tomy, Edward, Eric**
Create groups: **Asia, Europe, America, Africa**

Add users: **Jason, Bruce, Victor** to the **Asia** group
Add users: **Jason, Mark, Jack, Tyler** to the **Europe** group
Add users: **Jason, Tomy, Edward** to the **America** group
Add users: **Jason, Bruce, Mark, Edward, Jack, Tyler, Eric** to the **Africa** group

Display groups that **Jason** belongs to;

Display groups that **Edward** belongs to

Remove **Bruce** from **Africa** group;

Remove **Jason** from **all** groups

Delete **Europe** group

Rename **Africa** group as Australia

THANKS!

Any questions?


Kahoot!