



# Managing local users and groups

\* not acceptable two user with the same name

User account :

- User name
- password
- . user ID

root → 0 , first user I created has id of 1000 by default

1-999 reserved local system accounts (Deamons) for services

You can create up to 65534 users , domain in windows = LDAP in Linux

- home directory (user login environment)
- primary group
- default shell

default bash

\* difference between type of shells (bash, ksh, csh, sh) is features like Tab, alias, etc.  
and bash supports all feature .

```
2-managing Local users and groups :
user account
  -user name
  -password
  -user ID    root 0  user1000  1-999 reserved local system accounts (Deamons) upto
  -home directory (user login Environment) user profile /home/username
  -primary Group   (default sales1 sales1 group)
  -default Shell   default bash

/etc configuration files
/etc/passwd  store users properties
/etc/shadow  store users passwords
/etc/group   store groups properties

-listing users:
gedit /etc/passwd
root:x:0:0:root:/root:/bin/bash
hany:x:1000:1000:hany:/home/hany:/bin/bash
username:x:UID:GID:comment:HomeDirectory:DefaultShell

id username
```

/etc/passwd

Root : x:0:0: root : /root : /bin/bash

Username : x:UID:GID:comment: HomeDirectory: DefaultShell

here was password stored  
but not anymore .

```
create user
useradd ahmed
useradd -s /bin/bash -u 1005 -c "sales manager" khaled
useradd username
```

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```
modify user
usermod
[root@Server1 ~]# gedit /etc/passwd
[root@Server1 ~]# usermod -s /bin/bash khaled
[root@Server1 ~]# usermod -c "Hr Manager" khaled
[root@Server1 ~]# usermod -u 1006 khaled
[root@Server1 ~]# usermod -l k.mustafa khaled
[root@Server1 ~]# id khaled
```

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```
remove user
[root@Server1 ~]# userdel ahmed
[root@Server1 ~]# userdel -r k.mustafa |
```

> Sv - ahmed → switch user

> Su ahmed

without - switch in my current  
directory . with - switch in home  
directory User

```
Sum Up
```

```
/etc configuration files
/etc/passwd  store users properties
/etc/shadow  store users passwords
/etc/group   store groups properties

-listing users:
gedit /etc/passwd
root:x:0:0:root:/root:/bin/bash
hany:x:1000:1000:hany:/home/hany:/bin/bash
username:x:UID:GID:comment:HomeDirectory:DefaultShell

id username

-create user
useradd ahmed
useradd -s /bin/sh -u 1005 -c "sales manager" khaled
useradd username 1d comment

-modify user
usermod
[root@Server1 ~]# gedit /etc/passwd
[root@Server1 ~]# usermod -s /bin/bash khaled
[root@Server1 ~]# usermod -c "Hr Manager" khaled
[root@Server1 ~]# usermod -u 1006 khaled
[root@Server1 ~]# usermod -l k.mustafa khaled
[root@Server1 ~]# id khaled

-remove user
[root@Server1 ~]# userdel ahmed  → just remove user, not their directories .
[root@Server1 ~]# userdel -r k.mustafa → remove with their directories .
```

root can break  
redhat policy user  
can't

```

File Edit View Search Terminal Help
ahmed@Server1:~ policies
[root@Server1 ~]# id ahny
uid=1000(hany) gid=1000(hany) groups=1000(hany)
[root@Server1 ~]# useradd ahmed
[root@Server1 ~]# id ahmed
uid=1001(ahmed) gid=1001(ahmed) groups=1001(ahmed)
Changing password for user ahmed.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: all authentication tokens updated successfully.
[root@Server1 ~]# su - ahmed          → switch user to ahmed
[ahmed@Server1 ~]$ su - root          → switch user to root
Password:
[ahmed@Server1 ~]$ passwd ahmed      → User can't change password for anyone
passwd: Only root can specify a user name.
[ahmed@Server1 ~]$ passwd
Changing password for user ahmed.
Current password:
New password:
BAD PASSWORD: The password is shorter than 8 characters
passwd: Authentication token manipulation error
[ahmed@Server1 ~]$ passwd
Changing password for user ahmed.
Current password:
New password:
BAD PASSWORD: The password is the same as the old one
passwd: Authentication token manipulation error
[ahmed@Server1 ~]$ passwd

```

Root can break policies, users not.

```

File Edit View Search Terminal Help
root@Server1:~ Add group
[root@Server1 ~]# groupadd sales } adding group
[root@Server1 ~]# groupadd hr
[root@Server1 ~]# groupadd it
[root@Server1 ~]# groupadd op
[root@Server1 ~]# gedit /etc/group } See groups file
[root@Server1 ~]# gedit /etc/group
[root@Server1 ~]# useradd sales1 → add user
[root@Server1 ~]# useradd -g sales sales2 → add user not in group sales
[root@Server1 ~]# id sales1
uid=1001(sales1) gid=1001(sales1) groups=1001(sales1)
[root@Server1 ~]# id sales2
uid=1002(sales2) gid=1006(sales) groups=1006(sales)
[root@Server1 ~]# usermod -g sales sales1 → change user group to sales
[root@Server1 ~]# id sales1
uid=1001(sales1) gid=1006(sales) groups=1006(sales)
[root@Server1 ~]# useradd -G hr sales1
useradd: user 'sales1' already exists
[root@Server1 ~]# usermod -G hr sales1 → add secondary group (hr) to sales1
[root@Server1 ~]# id sales1
uid=1001(sales1) gid=1006(sales) groups=1006(sales),1007(hr)
[root@Server1 ~]# usermod -G op sales1 → I am not secondary group before hr group, can't add his secondary group
[root@Server1 ~]# id sales1
uid=1001(sales1) gid=1006(sales) groups=1006(sales),1009(op)
[root@Server1 ~]# usermod -a -G hr sales1 → add second secondary group in replacing
[root@Server1 ~]# id sales1
uid=1001(sales1) gid=1006(sales) groups=1006(sales),1007(hr),1009(op)
[root@Server1 ~]# usermod -A G it sales1
[root@Server1 ~]# id sales1
uid=1001(sales1) gid=1006(sales) groups=1006(sales),1007(hr),1008(it),1009(op)
[root@Server1 ~]#

```

Add group

Users can't break policies

```

File Edit View Search Terminal Help
root@Server1:~ su - vs. SA
[root@Server1 ~]# ls /home/
ahmed hany work4
[root@Server1 ~]# rm /home/hany_work4
rm: remove regular empty file '/home/hany_work4'? y
[root@Server1 ~]# ls /home/
ahmed
[root@Server1 ~]# gedit /etc/passwd
[root@Server1 ~]# useradd -s /bin/sh -u 1005 -c "sales manager" khaled
[root@Server1 ~]# id khaled
uid=1005(khaled) gid=1005(khaled) groups=1005(khaled)
[root@Server1 ~]# gedit /etc/passwd
[root@Server1 ~]# su - khaled
[ahmed@Server1 ~]$ exit
logout
[root@Server1 ~]# su khaled
sh:4.4$ exit
exit
[root@Server1 ~]# su - khaled → switch to user khaled and go to his home directory.
[ahmed@Server1 ~]$ pwd
/home/khaled
[ahmed@Server1 ~]$ exit
logout
[root@Server1 ~]# su khaled → switch to user khaled and stay in your current directory.
sh:4.4$ pwd
/root
sh:4.4$ 

```

## Primary group Vs. Secondary group

- When I create a file group permissions will be primary group.
- Secondary group, when someone create a file I will take a group permission because I am in the group.

\* You can't delete a group if this group is a primary group for some user.  
 \* every user can have only a primary group and many secondary group.

```

File Edit View Search Terminal Help
root@Server1:~
[root@Server1 ~]# groupdel hr
[root@Server1 ~]# groupdel op
[root@Server1 ~]# groupdel it
[root@Server1 ~]# groupdel sales
groupdel: cannot remove the primary group of user 'sales1'
[root@Server1 ~]# groupadd stuff
[root@Server1 ~]# usermod -g stuff sales1
[root@Server1 ~]# groupdel sales
groupdel: cannot remove the primary group of user 'sales2'
[root@Server1 ~]# usermod -g stuff sales2
[root@Server1 ~]# groupdel sales
[root@Server1 ~]# id sales1
uid=1001(sales1) gid=1007(stuff) groups=1007(stuff)
[root@Server1 ~]# id sales2
uid=1002(sales2) gid=1007(stuff) groups=1007(stuff)
[root@Server1 ~]#

```

default setting for useradd  
`/etc/default/useradd`

/etc/profile

/etc/bashrc

~/.profile

~/.bashrc

> passwd -n 30 -w 3 -x 90 ibrahim

▼  
min. 36 days  
You have to  
use it  
can't change

▼

warn me  
3 days  
before

▼  
expire  
after  
3 days...

> for i in omer1 omer2 omer3; do useradd \$i; done

Mohamed Essa :

Ctrl + h → Show hidden files.

ls \* → Show all dir & subdir (currently) without hidden dirs

? → Replace a character which where you suspicious about  
↳ cd Des??op ? ڈسکہ کا کوئی نام نہیں

[a-n] → like cd [a-n] look it could be a, v or o ...

\$USER → will print username

root > copy from user dir. to root dir., to open file need permissions 3?

User > copy from user dir. to root dir., to open file no need permissions 3?

Copy -a -r /dir1/ /dir2 copy with hidden files } ? : -r { include

Copy -a -r /dir1/.. /dir2  
↳ if you copy  
directors

- Hard links → the original file itself
- (Soft) Symbolic links → shortcut of a file to access file from multiple places
- In -s Source Destination → make Symbolic link for security  
there to be the owner of the file
- If no destination is given, link will be in same dir.
- ? → ls -l → with slash means show me to what is linked
- Warning: Don't use rm -rf link because it will remove its content in original file also, so use only rm link (-rf don't use it with links)
- In Source destination → make Hard link file

Anchor ^ in regular expression mean search for anything starts with ^ Mohamed

- > grep ^root /etc/passwd → lines start with (root)
- > grep root\$ /etc/passwd → lines end with (root)
- > grep r[aou]t → match a o u
- > grep \* → any character
- > grep re\\$\{2\}\\$\d → {2} Shell will think it's programming code, so put escape \ for dict.  
means must be 2 character. {1,3} min. 1, max. 3

> grep Coluo?r

> grep -i -v  
no Case  
Sensitive

Search in dir +  
subdir

-r

-e  
show the  
opposite  
match

remove blank  
lines -e -v

2  
-A  
number  
lines

awk, Sed is same as grep but more details.

> awk -F : '{print \$4}' /etc/passwd

Print Lines

> sed -n 5p /etc/passwd

> sed -i -e '2d;20,2s/d/' ~myfile.txt

Sed JI &

awk

grep .

## Booting, rebooting and shutting down.

Systemd → works automatically with booting  
↳ manage all processes in system

When you reboot system, systemd will close all services + processes and then reboot the system

> reboot

> poweroff → shut down → talk to power management and close OS

> halt → " ↴ no " ↴ "