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User Management
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1) How to create a new group?
2) How to create a new user?
3) switch from one user to another user
4) How to get information about particular user?
5) How delete user?
6) How to delete group?
7) How to change ownership of a file?
8) How to change group membership of  a file?
9) How to change group of user?
10) add a user to multiple groups
11) How to check available groups
12) How to change password of user?
13) What is difference between adduser and useradd command
14) sudo command
15) How to check the allowed commands by sudo for particular user?
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1) How to create a new group?

-> To create a new group we need to use "addgroup" command

-> For "addgroup" command sudo permission is required

-> Here sudo means (Super User can Do)

-> syntax of "addgroup" command

    sudo addgroup groupname

-> Note: group name should be in lower case

-> We can see all created group information inside /etc/group file

-> we can display the content of /etc/group file as below

    cat -n /etc/group |tail -5
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Practical Demo is as below for creating group

```
root@DESKTOP-1VT9LL4:~# sudo addgroup app_support2021
Adding group `app_support2021' (GID 1022) ...
Done.
root@DESKTOP-1VT9LL4:~#
```

```
root@DESKTOP-1VT9LL4:~# cat -n /etc/group |tail -5
    72  Mahesh:x:1018:
    73  app_support:x:1019:
    74  app_support2020:x:1020:
    75  ddh2020:x:1021:
    76  app_support2021:x:1022:
root@DESKTOP-1VT9LL4:~#
```

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2) How to create new user?

-> To create a new user we need to use "adduser" command

-> To execute "adduser" command sudo permission is required

-> Syntax : sudo adduser groupname username

-> Here user name should be in lower case

-> While creating user, If we are not specifying group name then
   new group will be created with the same name as user name

-> All user realted inforamtion get stored in /etc/passwd file

-> We can display user information form /etc/passwd file

cat -n /etc/passwd | tail -5

Creating user without specifying group name : when we not specify group name then new group created with same name as user name

```
root@DESKTOP-1VT9LL4:~# sudo adduser ddh2023
Adding user `ddh2023' ...
Adding new group `ddh2023' (1024) ...
Adding new user `ddh2023' (1017) with group `ddh2023' ...
Creating home directory `/home/ddh2023' ...
Copying files from `/etc/skel' ...
Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully
Changing the user information for ddh2023
Enter the new value, or press ENTER for the default
        Full Name []: Peter
        Room Number []: 100
        Work Phone []: 202
        Home Phone []: 123
        Other []: 123
Is the information correct? [Y/n] y
```

```
root@DESKTOP-1VT9LL4:~# cat -n /etc/passwd |tail -5
    43  Mahesh:x:1013:1018::/home/Mahesh:/bin/sh
    44  ddh2020:x:1014:1021:Dada Hajare,100,1236,786,NA:/home/ddh2020:/bin/bash
    45  ddh2021:x:1015:1020:Dada Hajare,102,7896,12563,1:/home/ddh2021:/bin/bash
    46  ddh2022:x:1016:1023:,,,:/home/ddh2022:/bin/bash
    47  ddh2023:x:1017:1024:Peter,100,202,123,123:/home/ddh2023:/bin/bash
root@DESKTOP-1VT9LL4:~#
```

Creating user by specifying group name: when we are creating user with group name then

use –ingroup option

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                    This option is           group name          user name
                      required

root@DESKTOP-1VT9LL4:~# sudo adduser --ingroup app_support2020 ddh101
Adding user `ddh101' ...
Adding new user `ddh101' (1018) with group `app_support2020' ...
Creating home directory `/home/ddh101' ...
Copying files from `/etc/skel' ...
Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully
Changing the user information for ddh101
Enter the new value, or press ENTER for the default
        Full Name []: Peter
        Room Number []: 102
        Work Phone []: 201
        Home Phone []: 23
        Other []: 2
Is the information correct? [Y/n] y
```

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3) switch from one user to another user

-> To switch from one user to another user we need to use "su" command

-> here su stands for Switch User

-> syntax : su username

Note: If we use su command without user name , then i will switch to root user
      So following two command are same

    su

    su root
In Ubuntu this will not work. i.e If we type su and press enter then
it will ask for password, if we enter correct password then also it is
giving error : Authentication failure.
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So in Ubuntu , to switch to root user, we need to use below command
sudo -i
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```
root@DESKTOP-1VT9LL4:~# su ddh101
ddh101@DESKTOP-1VT9LL4:/root$ whoami
ddh101
```

==Practical Demo for su command without user name : su command without user name will not work in ubuntu==

```
rrd@rrd-VirtualBox:~/Desktop$ su
Password:
su: Authentication failure
rrd@rrd-VirtualBox:~/Desktop$ sudo -i
[sudo] password for rrd:
root@rrd-VirtualBox:~#
```

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su with and without - option

If we use su command without hypen (-) , then only user is switched but
environment is not switched

Switch both user and environment use hypen (-) with su command as below

su - username

First cross check user is switched or not by using whoami command

To check environment use "pwd" command

Q. What is difference between the following commands?

1) su pyuser1 => Only user will be swithced but not enviroment

2) su - pyuser2 => Both user and enviroment is swithced
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su command without hyphen (-) option : user is switched but environment is no changed

```
root@rrd-VirtualBox:~# su ganesh1
ganesh1@rrd-VirtualBox:/root$
ganesh1@rrd-VirtualBox:/root$ pwd
/root
ganesh1@rrd-VirtualBox:/root$ whoami
ganesh1
ganesh1@rrd-VirtualBox:/root$ 
```

su command with hyphen (-) option: both user is and environment is no changed

```
ganesh1@rrd-VirtualBox:/root$ su - ganesh1
Password:
ganesh1@rrd-VirtualBox:~$ pwd
/home/ganesh1
ganesh1@rrd-VirtualBox:~$ whoami
ganesh1
ganesh1@rrd-VirtualBox:~$ 
```