

Managing User and Group - Detailed practice via commands in linux

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Source: Swayam Course (Linux for sys ad - Antara Roy choudhary
)- IIT Bombay

Creating User Account

Agenda

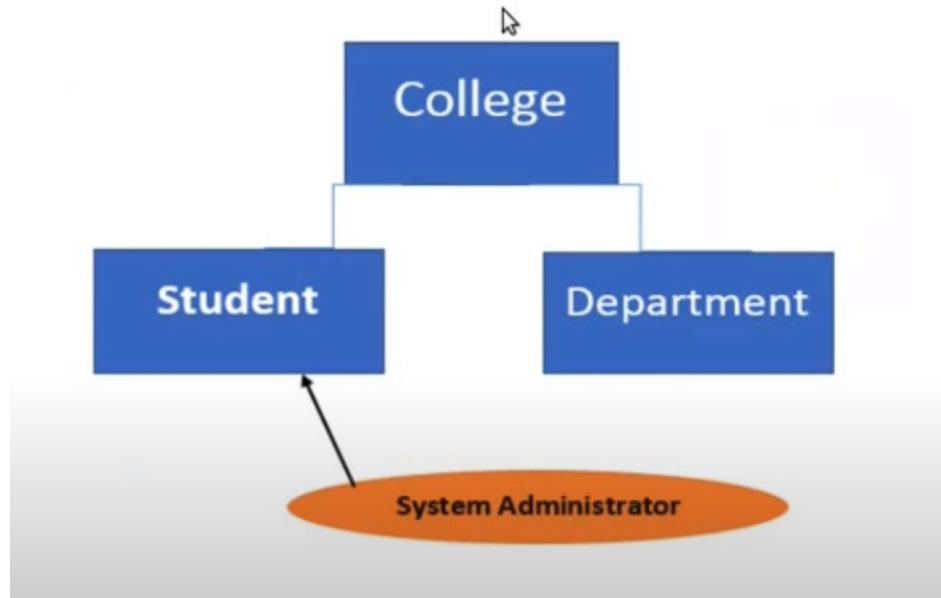
How to create user with different option in Linux

Explore: /etc/passwd file

Explore: /etc/shadow file

Learn about **adduser** command

Scenario



Option fields

Customised User ID and groups

Home Directory other than the default one

Change the default login shell

Options

- u : set user ID or UID
- home : set user home directory
- shell : set login shell for the user
- c: mention comments

Add New User

root@AshwiniMathur:/ +

☰ - x

```
ashu@AshwiniMathur:$ sudo bash
root@AshwiniMathur:# adduser ashwini
Adding user `ashwini' ...
Adding new group `ashwini' (1001) ...
Adding new user `ashwini' (1001) with group `ashwini' ...
Creating home directory `/home/ashwini' ...
Copying files from `/etc/skel' ...
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for ashwini
Enter the new value, or press ENTER for the default
    Full Name []: ASHWINI MATHUR
    Room Number []:
    Work Phone []:
    Home Phone []:
    Other []:
Is the information correct? [Y/n] y
root@AshwiniMathur:#
```



18:08

Add New User with specific Home directory, Login Shell

For Example

Add new user - Ashwini Mathur

1. User ID - 1991
2. Home Directory - /home/test_directory
3. Login shell - /bin/sh
4. Comments - Ashwini is a re-register employee

```
root@AshwiniMathur:/# adduser -u 1993 -home /home/testdir1/ -shell /bin/sh -c "anil is a re-registered employee" anil
adduser: `anil is a re-registered employee' does not exist. Using defaults.
Adding user `anil' ...
Adding new group `anil' (1993) ...
Adding new user `anil' (1993) with group `anil' ...
Creating home directory `/home/testdir1/' ...
Copying files from `/etc/skel' ...
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for anil
Enter the new value, or press ENTER for the default
    Full Name []: Anil Mathur
    Room Number []:
    Work Phone []:
    Home Phone []:
    Other []:
Is the information correct? [Y/n] y
root@AshwiniMathur:/# 
```

/etc/passwd and /etc/shadow file
contains entire information about all the
user account and password info
respectively

User account information : /etc/passwd

```
root@AshwiniMathur:/ + gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/sbin/nologin
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
systemd-network:x:100:102:systemd Network Management,,:/run/systemd:/usr/sbin/nologin
systemd-resolve:x:101:103:systemd Resolver,,,:/run/systemd:/usr/sbin/nologin
systemd-timesync:x:102:104:systemd Time Synchronization,,,:/run/systemd:/usr/sbin/nologin
messagebus:x:103:106:/:/nonexistent:/usr/sbin/nologin
syslog:x:104:110:/:/home/syslog:/usr/sbin/nologin
_apt:x:105:65534:/:/nonexistent:/usr/sbin/nologin
tss:x:106:111:TPM software stack,,,:/var/lib/tpm:/bin/false
tcpdump:x:107:115:/:/nonexistent:/usr/sbin/nologin
avahi-autoipd:x:108:116:Avahi autoip daemon,,,:/var/lib/avahi-autoipd:/usr/sbin/nologin
usbmux:x:109:46:usbmux daemon,,,:/var/lib/usbmux:/usr/sbin/nologin
rtkit:x:110:118:RealtimeKit,,,:/proc:/usr/sbin/nologin
dnsmasq:x:111:65534:dnsmasq,,,:/var/lib/misc:/usr/sbin/nologin
cups-pk-helper:x:112:121:user for cups-pk-helper service,,,:/home/cups-pk-helper:/usr/sbin/nologin
lightdm:x:113:122:Light Display Manager:/var/lib/lightdm:/bin/false
speech-dispatcher:x:114:29:Speech Dispatcher,,,:/run/speech-dispatcher:/bin/false
avahi:x:115:124:Avahi mDNS daemon,,,:/var/run/avahi-daemon:/usr/sbin/nologin
kernooops:x:116:65534:Kernel Oops Tracking Daemon,,,:/:/usr/sbin/nologin
saned:x:117:126:/:/var/lib/saned:/usr/sbin/nologin
deepin-anything-server:x:1993:993:/:/home/deepin-anything-server:/sbin/nologin
colord:x:118:127:colord colour management daemon,:/var/lib/colord:/usr/sbin/nologin
geoclue:x:119:129:/:/var/lib/geoclue:/usr/sbin/nologin
_flatpak:x:120:130:Flatpak system-wide installation helper,,,:/nonexistent:/usr/sbin/nologin
pulse:x:121:131:PulseAudio daemon,,,:/var/run/pulse:/usr/sbin/nologin
deepin-sound-player:x:122:133:/:/var/lib/deepin-sound-player:/usr/sbin/nologin
uuidd:x:124:135:/:/run/uuidd:/usr/sbin/nologin
ashu:x:1000:1000:Ashwini Mathur:/home/ashu:/bin/bash
systemd-coredump:x:999:999:systemd Core Dumper:/:/usr/sbin/nologin
student:x:1003:1003:STUDENT,001,,,:/home/student:/bin/bash
ashwini:x:1001:1001:ASHWINI MATHUR,,,:/home/ashwini:/bin/bash
ashish:x:1991:1991:/:/home/testdir:/bin/sh
anil:x:1993:1993:Anil Mathur,,,:/home/testdir1:/bin/sh
root@AshwiniMathur:/# |
```

Linux for Sys-Ads - Unix - Basic Level - Google Chrome

Managing User and Group Basic commands

Working knowledge of using computers and any other Operating System like Windows, will be an advantage.

Creating user account

Creating user account / English# adduser -u 1050 -h /home/testdir -s /bin/sh -c "Kausik Watch later registered student" kaushik
adduser: 'Kausik' is a re-registered student' does not exist. Using defaults.
Adding new group 'kaushik' (1050) ...
Adding new user 'kaushik' (1050) with group 'kaushik' ...
Creating home directory '/home/testdir/' ...
Copying files from '/etc/skel' ...
Enter new UNIX password:

Ask a question

Creating user account Outline:

root@AshwiniMathur:/ +

```
root@AshwiniMathur:/# cat etc/passwd | grep anil
anil:x:1993:1993:Anil Mathur,,,:/home/testdir1:/bin/sh
root@AshwiniMathur:/# 
```



User account password information:
`/etc/shadow`

```
root@AshwiniMathur:/ +  
gnats:*:18387:0:99999:7:::  
nobody:*:18387:0:99999:7:::  
systemd-network:*:18387:0:99999:7:::  
systemd-resolve:*:18387:0:99999:7:::  
systemd-timesync:*:18387:0:99999:7:::  
messagebus:*:18387:0:99999:7:::  
syslog:*:18387:0:99999:7:::  
_apt:*:18387:0:99999:7:::  
tss:*:18387:0:99999:7:::  
tcpdump:*:18387:0:99999:7:::  
avahi-autoipd:*:18387:0:99999:7:::  
usbmux:*:18387:0:99999:7:::  
rtkit:*:18387:0:99999:7:::  
dnsmasq:*:18387:0:99999:7:::  
cups-pk-helper:*:18387:0:99999:7:::  
lightdm:*:18387:0:99999:7:::  
speech-dispatcher!:18387:0:99999:7:::  
avahi:*:18387:0:99999:7:::  
kernooops:*:18387:0:99999:7:::  
saned:*:18387:0:99999:7:::  
deepinAnythingServer:!:18387:::::  
colord:*:18387:0:99999:7:::  
geoclue:*:18387:0:99999:7:::  
_flatpak:*:18387:0:99999:7:::  
pulse:*:18387:0:99999:7:::  
deepin-sound-player*:18387:0:99999:7:::  
uuidd:*:18387:0:99999:7:::  
ashu:$6$zh8P9vrUmsdI5oXF$38hg6IgIPjPTFSZ3Je2RJebkKFsLNjSqh9ih0T3wcBtccRK.g99FH338riDOPFqyh648jC1/JVVBuowzRWd0M1:18479:0:99999:7:::  
systemd-coredump:!:18439:::::  
student:$6$xtWQLDNsxI6Dn5h$mWaEBp0m0kA0A4iqWVM96mbXf41LZIwQb8SwlV0j0itNLSUPx.qQxKMtyKkVhR1gw3jmBthf3vhRqnvQdetT71:18488:0:99999:7:::  
ashwini:$6$HeoZatae/b8SBzk4$h54ZY70IJR0SuE3VGyP8xFI.pgVDYVaNtWPbzDQfHd2G.2igayUztPoKw6D0usaJ482B.CBDdH2fDN3DZ2jcy1:18493:0:99999:7:::  
ashish!:18493:0:99999:7:::  
anil:$6$Eawa3Qtk.H8whtbA$nlWB6BVGXos.U5MmyoM7IUvKL8Eb8/G8gU/6/iZ6qhpPQ5Dufkfs6FkdXDHCrlv0QzHl6wG4XFzDuo0c7sExxk1:18493:0:99999:7:::  
root@AshwiniMathur:/#
```



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```
root@AshwiniMathur:/# cat etc/shadow | grep anil
anil:$6$Eawa3Qtk.H8whtbA$nWB6BVGXos.USMmyoM7IUvKL8Eb8/G8gU/6/iZ6qhpPQ5Dufkfs6FkdXDHCrlV0QzHl6wG4XFzDuo0c7sExxk1:18493:0:99999:7:::
root@AshwiniMathur:/#
```



Practical Task

Create user [Your name] with

1. User ID 2020
2. Home directory name_newdir
3. Login shell as /bin/csh
4. Include comment Hostel 03
5. Use single line command to perform all the tasks
6. Check /etc/passwd file for the user account [your name]

OBJECTIVES

Changing User password

Locking and Unlocking Password

Password Removal

Changing password expiry information

passwd command for changing the
password of the user

```
root@AshwiniMathur:/home/ashu +  
ashu@AshwiniMathur:~$ sudo bash  
[sudo] password for ashu:  
root@AshwiniMathur:/home/ashu#  
root@AshwiniMathur:/home/ashu# passwd anil  
New password:  
Retype new password:  
passwd: password updated successfully  
root@AshwiniMathur:/home/ashu#
```

Password status information: passwd -S

```
ashu@AshwiniMathur:~ +  
ashu@AshwiniMathur:~$ passwd -S  
ashu P 08/05/2020 0 99999 7 -1  
ashu@AshwiniMathur:~$ 
```

ashu P 08/05/2020 0 99999 7 -1

L : Locked password

NP : No Password

P: Usable password

Third field: Data of Last Password Change

Fourth to seventh field: Password expiry information

Minimum age, Maximum age, Warning period, Inactivity period

```
ashu@AshwiniMathur:~$ sudo passwd -aS | tail  
deepin-sound-player L 05/05/2020 0 99999 7 -1  
uuidd L 05/05/2020 0 99999 7 -1  
ashu P 08/05/2020 0 99999 7 -1  
systemd-coredump L 06/26/2020 -1 -1 -1 -1  
student P 08/14/2020 0 99999 7 -1  
ashwini P 08/19/2020 0 99999 7 -1  
ashish L 08/19/2020 0 99999 7 -1  
anil P 08/19/2020 0 99999 7 -1  
root L 05/05/2020 0 99999 7 -1  
nobody L 05/05/2020 0 99999 7 -1  
ashu@AshwiniMathur:~$
```



Lock the password: passwd -l username
Unlock the password: passwd -u username

```
root@AshwiniMathur:/home/ashu# passwd -l anil
passwd: password expiry information changed.
root@AshwiniMathur:/home/ashu# passwd -S anil
anil L 08/19/2020 0 99999 7 -1
root@AshwiniMathur:/home/ashu# passwd -u anil
passwd: password expiry information changed.
root@AshwiniMathur:/home/ashu# passwd -S anil
anil P 08/19/2020 0 99999 7 -1
root@AshwiniMathur:/home/ashu# 
```



Remove the passwd for user account:
`passwd -d username`

```
root@AshwiniMathur:~/home/ashu +  
ashu@AshwiniMathur:~$ sudo bash  
[sudo] password for ashu:  
root@AshwiniMathur:/home/ashu# passwd -S anil  
anil P 08/19/2020 0 99999 7 -1  
root@AshwiniMathur:/home/ashu# passwd -d anil  
passwd: password expiry information changed.  
root@AshwiniMathur:/home/ashu# passwd -S anil  
anil NP 08/19/2020 0 99999 7 -1  
root@AshwiniMathur:/home/ashu# █
```



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Changing the password expiry information:
`chage -l username`

```
root@AshwiniMathur:/home/ashu# chage -l anil
Last password change : Aug 19, 2020
Password expires      : never
Password inactive     : never
Account expires       : never
Minimum number of days between password change : 0
Maximum number of days between password change : 99999
Number of days of warning before password expires : 7
root@AshwiniMathur:/home/ashu#
```



More inactivity setting for passwords

```
root@AshwiniMathur:/home/ashu# + |  
  
root@AshwiniMathur:/home/ashu# passwd -x 200 anil  
passwd: password expiry information changed.  
root@AshwiniMathur:/home/ashu# chage -l anil  
Last password change : Aug 19, 2020  
Password expires : Mar 07, 2021  
Password inactive : never  
Account expires : never  
Minimum number of days between password change : 0  
Maximum number of days between password change : 200  
Number of days of warning before password expires : 7  
root@AshwiniMathur:/home/ashu# passwd -w 3 anil  
passwd: password expiry information changed.  
root@AshwiniMathur:/home/ashu# chage -l anil  
Last password change : Aug 19, 2020  
Password expires : Mar 07, 2021  
Password inactive : never  
Account expires : never  
Minimum number of days between password change : 0  
Maximum number of days between password change : 200  
Number of days of warning before password expires : 3  
root@AshwiniMathur:/home/ashu# passwd -e anil  
passwd: password expiry information changed.  
root@AshwiniMathur:/home/ashu# chage -l anil  
Last password change : password must be changed  
Password expires : password must be changed  
Password inactive : password must be changed  
Account expires : never  
Minimum number of days between password change : 0  
Maximum number of days between password change : 200  
Number of days of warning before password expires : 3  
root@AshwiniMathur:/home/ashu#
```



Set the inactivity period -i , after that account will be disabled

root@AshwiniMathur:/home/ashu +

☰ - ☒

```
root@AshwiniMathur:/home/ashu# passwd -i 30 anil
passwd: password expiry information changed.
root@AshwiniMathur:/home/ashu#
```



21:47

Task - 2

Change password expiry information for the user

Minimum no. of days between password change : 20 Days

Maximum no. of days between password change : 80 Days

Period of inactivity : 05 Days

usermod command for Modifying User Command

root@AshwiniMathur:/home/ashu +

☰ - ☒

```
root@AshwiniMathur:/home/ashu# id anil
uid=1993(anil) gid=1993(anil) groups=1993(anil)
root@AshwiniMathur:/home/ashu# usermod -u 1100 anil
root@AshwiniMathur:/home/ashu# id anil
uid=1100(anil) gid=1993(anil) groups=1993(anil)
root@AshwiniMathur:/home/ashu# █
```



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```
root@AshwiniMathur:/home/ashu# addgroup computerscience
Adding group `computerscience' (GID 1002) ...
Done.
root@AshwiniMathur:/home/ashu# addgroup electronics
Adding group `electronics' (GID 1004) ...
Done.
root@AshwiniMathur:/home/ashu# usermod -g electronics -G computerscience anil
root@AshwiniMathur:/home/ashu# id anil
uid=1100(anil) gid=1004(electronics) groups=1004(electronics),1002(computerscience)
root@AshwiniMathur:/home/ashu# 
```



add a new supplementary group | -a
option for appaend

```
root@AshwiniMathur:/home/ashu +  
uid=1100(anil) gid=1004(electronics) groups=1004(electronics),1002(computerscience),1005(sports)  
root@AshwiniMathur:/home/ashu# grep /etc/passwd anil  
grep: anil: No such file or directory  
root@AshwiniMathur:/home/ashu#
```

```
root@AshwiniMathur:/home/ashu# grep anil /etc/passwd  
anil:x:1100:1004:Anil Mathur,,,:/home/testdir1:/bin/sh  
root@AshwiniMathur:/home/ashu# usermod -m -d /home/mathur anil  
root@AshwiniMathur:/home/ashu# grep anil /etc/passwd  
anil:x:1100:1004:Anil Mathur,,,:/home/mathur:/bin/sh  
root@AshwiniMathur:/home/ashu#
```



```
root@AshwiniMathur:/home/ashu# addgroup sports
Adding group `sports' (GID 1005) ...
Done.
root@AshwiniMathur:/home/ashu# usermod -a -G sports anil
root@AshwiniMathur:/home/ashu# id anil
uid=1100(anil) gid=1004(electronics) groups=1004(electronics),1002(computerscience),1005(sports)
root@AshwiniMathur:/home/ashu#
```



22:05

Change the account user name :
usermod -l newname oldname

```
root@AshwiniMathur:/home/ashu# id anil
uid=1100(anil) gid=1004(electronics) groups=1004(electronics),1002(computerscience),1005(sports)
root@AshwiniMathur:/home/ashu# usermod -l testmod anil
root@AshwiniMathur:/home/ashu# grep testmod /etc/passwd
testmod:x:1100:1004:Anil Mathur,,,:/home/testdir1:/bin/sh
root@AshwiniMathur:/home/ashu#
```



Change the home directory

```
usermod -m -d /home/newname  
          oldname
```

-m: Modify the directory of any existing user account

-d: Move the content of existing home directory to new home directory

Lock the account

```
root@AshwiniMathur:/home/ashu +  
deepin-anything-server:!::18387:::::::  
colord:*::18387:0:99999:7:::  
geoclue:*::18387:0:99999:7:::  
_flatpak:*::18387:0:99999:7:::  
pulse:*::18387:0:99999:7:::  
deepin-sound-player:*::18387:0:99999:7:::  
uuidd:*::18387:0:99999:7:::  
ashu:$6$zh8P9vrUmsdI5oXf$38hg6IgIPjPTFSZ3Je2RJebkKFsLNjSqh9ih0T3wcBtccRK.g99FH338riDOPFqyh648jC1/JVBUowzRWdOM1:18479:0:99999:7:::  
systemd-coredump:!::18439:::::::  
student:$6$xXTWQLDNsxI6Dn5h$mWaEBp0mOkA0A4iqwVM96mbXf41LZIwQb8SwlV0j0itNlSUPx.qQxKMtyKkVhR1gw3jmBthf3vhRqnvQdetT71:18488:0:99999:7:::  
ashwini:$6$HeoZatae/b8SBzk4$h54ZY70IJR0SuE3VGyP8xFI.pgVDYVaNtWPbzDQfHd2G.2igayUZtPoKw6D0usaJ482B.CBDdH2fDN3DZ2jcy1:18493:0:99999:7:::  
ashish:!::18493:0:99999:7:::  
anil:!::0:0:200:3:30::  
root@AshwiniMathur:/home/ashu#  
root@AshwiniMathur:/home/ashu# usermod -L anil  
root@AshwiniMathur:/home/ashu# cat /etc/shadow | tail  
_flatpak:*::18387:0:99999:7:::  
pulse:*::18387:0:99999:7:::  
deepin-sound-player:*::18387:0:99999:7:::  
uuidd:*::18387:0:99999:7:::  
ashu:$6$zh8P9vrUmsdI5oXf$38hg6IgIPjPTFSZ3Je2RJebkKFsLNjSqh9ih0T3wcBtccRK.g99FH338riDOPFqyh648jC1/JVBUowzRWdOM1:18479:0:99999:7:::  
systemd-coredump:!::18439:::::::  
student:$6$xXTWQLDNsxI6Dn5h$mWaEBp0mOkA0A4iqwVM96mbXf41LZIwQb8SwlV0j0itNlSUPx.qQxKMtyKkVhR1gw3jmBthf3vhRqnvQdetT71:18488:0:99999:7:::  
ashwini:$6$HeoZatae/b8SBzk4$h54ZY70IJR0SuE3VGyP8xFI.pgVDYVaNtWPbzDQfHd2G.2igayUZtPoKw6D0usaJ482B.CBDdH2fDN3DZ2jcy1:18493:0:99999:7:::  
ashish:!::18493:0:99999:7:::  
anil:!::0:0:200:3:30::  
root@AshwiniMathur:/home/ashu#
```



Unlocking the password : usermod -U
username

Task 3

1. Modify user account amit such that

- a. Primary group is electronics
- b. Supplementary groups are music_club and literature_club
- c. Set home directory as amit_newDir
- d. Include comment "Stream Change Student"

2. Perform all the mentioned tasks in a single command.

3. Check the entry of user account amit in /etc/passwd and /etc/group files

#Tips : Reference for pipe and redirection operator [useful utility tool]

#Example | , grep , > , < , sed, awk , less , head , tail ... in linux environment.

<https://ryanutorials.net/linuxtutorial/piping.php>