

Chapter 6

Adding New Users

Steps to add a new user

1. Edit the password and group files
 - > `vipw(8), pw(8)`
2. Set an initial password
 - > `passwd lwhsu`
3. Set quota
 - > `edquota [-u] lwhsu`
4. Create user home directory
 - > `mkdir /home/lwhsu`
 - > `chown lwhsu:gcs /home/lwhsu`
5. Copy startup files to user's home (optional)

Step to add a new user –

1. password and group file (1)

◎ /etc/passwd

> Store user information:

- Login name
- Encrypted password
- UID
- Default GID
- GECOS information
 - Full name, office, extension, home phone
- Home directory
- Login shell

> Each is separated by ':'

```
knight:~ -lwhsu- grep lwhsu /etc/passwd  
lwhsu:*:1001:1001:Li-Wen Hsu:/home/lwhsu:/bin/tcsh
```

getpwent(3)

Step to add a new user –

1. password and group file (2)

○ Encrypted password

> The encrypted password is stored in shadow file for security reason

- /etc/master.passwd (BSD)
- /etc/shadow (Linux)

```
knight:~ -lwhsu- grep lwhsu /etc/passwd  
lwhsu:*:1001:1001:Li-Wen Hsu:/home/lwhsu:/bin/tcsh
```

/etc/passwd (BSD)

```
knight:~ -lwhsu- sudo grep lwhsu /etc/master.passwd  
lwhsu:$2a$04$DontThinkThatIamAStupidToListMyPasswordHashBarelyHere:  
1001:1001::0:0:Li-Wen Hsu:/home/lwhsu:/bin/tcsh
```

/etc/master.passwd

```
lwhsu@lwlinux:~$ grep lwhsu /etc/passwd  
lwhsu:x:1000:1000:Li-Wen Hsu,,,:/home/lwhsu:/bin/bash
```

/etc/passwd (Linux)

```
lwhsu@lwlinux:~$ sudo grep lwhsu /etc/shadow  
lwhsu:$1$Saltmayb$ThisIsStillNotMyPasswd:14161:0:99999:7:::
```

/etc/shadow

Step to add a new user –

1. password and group file (3)

◎ Encrypted methods

> DES

- Plaintext: at most 8 characters
- Cipher: 13 characters long

> MD5

- Plaintext: arbitrary length
- Cipher: 34 characters long started with "\$1\$"

> blf

- Plaintext: arbitrary length
- Cipher: 60 characters long started with "\$2a\$"

login.conf(5), "AUTHENTICATION" section: passwd_format

Step to add a new user –

1. password and group file (4)

- ◎ GECOS – (General Electric Comprehensive Operating System)

- > Commonly used to record personal information
- > ',' separated
- > “finger” command will use it
- > Use "chfn" to change your GECOS

```
#Changing user information for lwhsu.  
Shell: /bin/tcsh  
Full Name: Li-Wen Hsu  
Office Location:  
Office Phone:  
Home Phone:  
Other information:
```

Step to add a new user –

1. password and group file (5)

◎ Login shell (/etc/shells)

> Command interpreter

- /bin/sh
- /bin/csh
- /bin/tcsh
- /bin/bash (/usr/ports/shells/bash)

> Use “chsh” to change your shell

```
#Changing user information for lwhsu.  
Shell: /bin/tcsh  
Full Name: Li-Wen Hsu  
Office Location:  
Office Phone:  
Home Phone:  
Other information:
```

Step to add a new user –

1. password and group file (6)

◉ /etc/group

- > Contains the names of UNIX groups and a list of each group's member:
 - Group name
 - Encrypted password
 - GID
 - List of members, separated by ','

```
wheel:*:0:root,lwshu
daemon:*:1:daemon
lwshu:*:1001:
```

- > Only in wheel group can do "su" command

Step to add a new user –

1. password and group file (7)

○ In FreeBSD

- > Use “vipw” to edit /etc/master.passwd
- > Three additional fields
 - Login class
 - Refer to an entry in the /etc/login.conf
 - Determine user resource limits and login settings
 - Password change time
 - Expiration time

```
knight:~ -lwshu- sudo grep lwshu /etc/master.passwd
lwshu:$2a$04$DontThinkThatIamASTupidToListMyPasswordHashBarelyHere:
1001:1001:russian:0:0:Li-Wen Hsu:/home/lwshu:/bin/tcsh
```

```
knight:~ -lwshu- grep lwshu /etc/passwd
lwshu:*:1001:1001:Li-Wen Hsu:/home/lwshu:/bin/tcsh
```

passwd(5)

Step to add a new user –

1. password and group file (8)

◎ /etc/login.conf of FreeBSD

> Set account-related parameters including

- Resource limits
 - Process size, number of open files
- Session accounting limits
 - When logins are allowed, and for how long
- Default environment variable
- Default path
- Location of the message of the day file
- Host and tty-based access control
- Default umask
- Account controls
 - Minimum password length, password aging

Step to add a new user –

1. password and group file (9)

```
default:\
:passwd_format=md5:\
:copyright=/etc/COPYRIGHT:\
:welcome=/etc/motd:\
:setenv=MAIL=/var/mail/$,BLOCKSIZE=K,FTP_PASSIVE_MODE=YES:\
:path=/sbin /bin /usr/sbin /usr/bin /usr/local/sbin /usr/local/bin (...)
:nologin=/var/run/nologin:\
:cputime=unlimited:\
:datsize=unlimited:\
:stacksize=unlimited:\
:memorylocked=unlimited:\
:memoryuse=unlimited:\
:filesize=unlimited:\
:coredumpsize=unlimited:\
:openfiles=unlimited:\
:maxproc=unlimited:\
:sbsize=unlimited:\
:vmemoryuse=unlimited:\
:priority=0:\
:ignoretime@:\
:umask=022:
```

Step to add a new user –

1. password and group file (10)

- In Linux
 - > Edit /etc/passwd and then
 - > Use "pwconv" to transfer into /etc/shadow
- Fields of /etc/shadow
 - > Login name
 - > Encrypted password
 - > Date of last password change
 - > Minimum number of days between password changes
 - > Maximum number of days between password changes
 - > Number of days in advance to warn users about password expiration
 - > Number of inactive days before account expiration
 - > Account expiration date
 - > Flags

```
knight:~ -lwhsu- sudo grep lwhsu /etc/master.passwd
lwhsu:$2a$04$DontThinkThatIamASTupidToListMyPasswordHashBarelyHere:
1001:1001:russian:0:0:Li-Wen Hsu:/home/lwhsu:/bin/tcsh
```

Step to add a new user – 2, 3, 4

- Initialize password
 - > `$ passwd lwhsu`
- Set quota
 - > `$ edquota lwhsu`
 - > `$ edquota -p gcsq lwhsu`

```
Quotas for user lwhsu:  
/raid: kbytes in use: 705996, limits (soft = 4000000, hard = 4200000)  
       inodes in use: 9728, limits (soft = 50000, hard = 60000)
```

- Home directory
 - > `$ mkdir /home/lwhsu`
 - > `$ chown lwhsu:gcs /home/lwhsu`

Step to add a new user –

5. copy startup files

◎ Startup files

> System wide

- /etc/{csh.cshrc, csh.login, csh.logout, profile}

> Private

- csh/tcsh → .login, .logout, .cshrc, .tcshrc
- sh → .profile
- vi → .exrc
- startx → .xinitrc

◎ /usr/share/skel/

Remove accounts

- Delete the account entry

- > vipw / pw userdel

- Backup file and mailbox

- > \$ tar jcvf lwhsu-home-20081014.tar.bz /home/lwhsu

- > tar jcvf lwhsu-mail-20081014.tar.bz /var/mail/lwhsu

- > \$ chmod 600 lwhsu-20081014.tar.bz \ lwhsu-mail-20081014.tar.bz

- Delete home directory and mailbox

- > \$ rm -rf /home/lwhsu

- > \$ rm -f /var/mail/lwhsu

Disabling login

○ Ways to disable login

- > Change user's login shell as /sbin/nologin
- > Put a '#' in front of the account entry
 - not good
- > Put a '-' in front of the account entry
- > Put a '*' in the encrypted password field

- > Write a program to show the reason and how to remove the restriction