



Chapter 6

Adding New Users

Steps to add a new user

1. Edit the password and group files
 - > `vipw`
2. Set an initial password
 - > `passwd ch Wong`
3. Set quota
 - > `edquota [-u] ch Wong`
4. Create user home directory
 - > `mkdir /home/ch Wong`
 - > `chown ch Wong:cs /home/ch Wong`
5. Copy startup files to user's home

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 “:”

```
chwong@chbsd:/etc> cat passwd | grep chwong  
chwong:*:1001:1001:Tsung-Hsi Weng:/home/chwong:/bin/tcsh
```

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)

```
chwong@chbsd:/etc> cat passwd | grep chwong
```

```
chwong:*:1001:1001:Tsung-Hsi Weng:/home/chwong:/bin/tcsh
```

/etc/passwd (BSD)

```
chwong@chbsd:/etc> sudo less master.passwd
```

```
chwong:$1$bHtD7r1F$353SjzVkJQ2oPRNP1bTYf.:1001:1001::0:0:Tsung-Hsi Weng:/home/chwong:/bin/tcsh
```

/etc/master.passwd

```
[chwong@chlnx /etc] less passwd
```

```
chwong:x:500:500:Tsung-Hsi Weng:/home/chwong:/bin/tcsh
```

/etc/passwd (Linux)

```
[chwong@chlnx /etc] sudo less passwd
```

```
chwong:$1$CGIEEm.BP$wwwvotS3W2y4fWmruB03Zv1:12044:0:99999:7:::
```

/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\$"

Step to add a new user —

1. password and group file (4)

❑ GECOS

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

```
#Changing user database information for chwong.  
Shell: /bin/tcsh  
Full Name: Tsung-Hsi Weng  
Office Location:  
Office Phone:  
Home Phone:  
Other information:
```

Step to add a new user —

1. password and group file (5)

❑ Login shell

- Command interpreter
 - /bin/sh
 - /bin/csh
 - /bin/tcsh
 - /bin/bash (/usr/ports/shells/bash)
- Use “chsh” to change your shell

```
#Changing user database information for chwong.  
Shell: /bin/tcsh  
Full Name: Tsung-Hsi Weng  
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 “,”
- Only in wheel group can do “su” command

```
wheel: *:0:root,chwong  
daemon: *:1:daemon  
cs: *:1001:
```


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

```
chwong@chbsd:/etc> sudo less master.passwd  
chwong:$1$bHtD7r1F$353SjzVkJQ2oPRNP1bTYf.:1001:1001:adm:0:0:Tsung-Hsi Weng:/home/chwong:/bin/tcsh
```

```
chwong@chbsd:/etc> cat passwd | grep chwong  
chwong:*:1001:1001:Tsung-Hsi Weng:/home/chwong:/bin/tcsh
```

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/games /usr/local/sbin /usr/local/bin /usr/X11R6/bin ~/bin:\
:nologin=/var/run/nologin:\
:cputime=unlimited:\
:datasize=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

```
[chwong@chlnx /etc] sudo less passwd  
chwong:$1$CGlEm.BP$wwvotS3W2y4fWmruB03Zv1:12044:0:99999:7:::
```

Step to add a new user – 2, 3, 4

☐ Initialize password

- `passwd ch Wong`

☐ Set quota

- `edquota ch Wong`
- `edquota -p dcsq ch Wong`

Quotas for user ch Wong:

/raid: kbytes in use: 986376, limits (soft = 1200000, hard = 1500000)
inodes in use: 4224, limits (soft = 12000, hard = 15000)

☐ Home directory

- `mkdir /home/ch Wong`
- `chown ch Wong:cs /home/ch Wong`

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

❑ In this step, we usually copy private startup files

Disabling login

❑ Ways to disable login

- Change user's login shell as `/sbin/nologin`
- 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

Remove accounts

- ☐ Delete the account entry
 - [FreeBSD] vipw
 - [Linux] remove the row in /etc/passwd and pwconv
- ☐ Backup file and mailbox
 - tar czvf chwong041018.tar.gz /home/chwong
- ☐ Delete home directory
 - rm -Rf /home/chwong