

The background of the slide is a solid blue color with a pattern of concentric circles and horizontal stripes. The circles are centered and overlap each other, creating a sense of depth and movement. The horizontal stripes are evenly spaced and run across the width of the slide.

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 tytsai
3. Set quota
 - > edquota -u tytsai
4. Create user home directory
 - > mkdir /home/tytsai
 - > chown tytsai:csie /home/tytsai
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 “:”

```
tytsai@tybsd:/etc> cat passwd | grep tytsai  
tytsai:*:1001:1001:Tsung-Yi Tsai:/home/tytsai:/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)

```
tytsai@tybsd:/etc> cat passwd | grep tytsai  
tytsai:*:1001:1001:Tsung-Yi Tsai:/home/tytsai:/bin/tcsh
```

/etc/passwd (BSD)

```
tytsai@tybsd:/etc> sudo less master.passwd  
tytsai:$1$bHtD7r1F$353SjzVkJQ2oPRNP1bTYf.:1001:1001::0:0:Tsung-Yi Tsai:/home/tytsai:/bin/tcsh
```

/etc/master.passwd

```
[shrang@r21607 /etc] less passwd  
shrang:x:500:500:tytsai,ec216,54775:/home/shrang:/bin/tcsh
```

/etc/passwd (Linux)

```
[shrang@r21607 /etc] sudo less passwd  
shrang:$1$CGIEm.BP$wvotS3W2y4fWmruB03Zv1:12044:0:99999:7:::
```

/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 tytsai.  
Shell: /bin/tcsh  
Full Name: Tsung-Yi Tsai  
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 tytsai.  
Shell: /bin/tcsh  
Full Name: Tsung-Yi Tsai  
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,tytsai  
daemon:*:1:daemon  
csie:*: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**

```
tytsai@tybsd:/etc> sudo less master.passwd  
tytsai:$1$bHtD7r1F$353SjzVkJQ2oPRNP1bTYf.:1001:1001:adm:0:0:Tsung-Yi Tsai:/home/tytsai:/bin/tcsh
```

```
tytsai@tybsd:/etc> cat passwd | grep tytsai  
tytsai:*:1001:1001:Tsung-Yi Tsai:/home/tytsai:/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

```
[shrang@r21607 /etc] sudo less passwd  
shrang:$1$CGIEm.BP$wwvotS3W2y4fWmruB03Zv1:12044:0:99999:7:::
```

Step to add a new user – 2, 3, 4

- > Initialize password
 - passwd tytsai
- > Set quota
 - edquota tytsai
 - edquota –p wkwu tytsai

Quotas for user tytsai:

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

- > Home directory
 - mkdir /home/tytsai
 - chown tytsai:csie /home/tytsai

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 tytsai041018.tar.gz /home/tytsai
- > Delete home directory
 - rm -Rf /home/tytsai