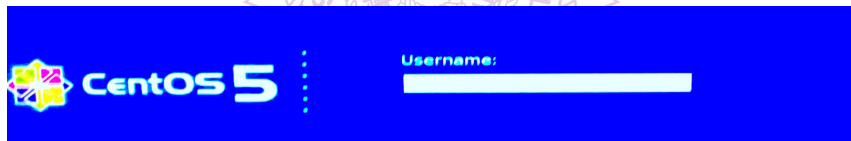# Introduction to Linux, I

Introduction to Programming

EE231002

Sep. 18, 2017
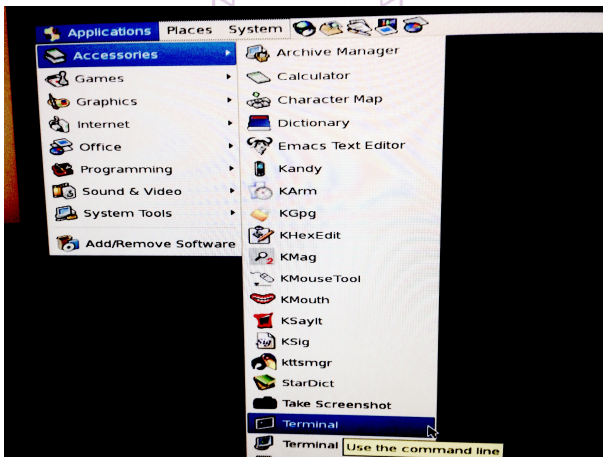
Login to EE Workstations

- To login to EE workstations
  - Type in your account and password
  - Username: u + ID
  - Password should have been mailed to you
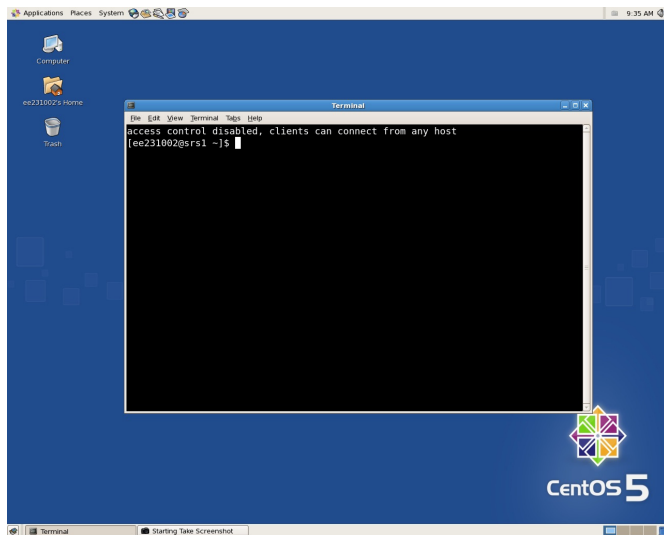 - Password will not shown while you are typing in

Open a Terminal

- To open a terminal, use the `Applications` menu on the top-left corner
  - Applications -> Accessories -> Terminal

Open a Terminal, II

- A `terminal` accepts and process commands
  - Multiple terminals can be opened

Change Password

- To change password: `yppasswd`
  - Type in the original password

  ```
  [ee231002@ws38 ~]$ yppasswd
  Changing NIS account information for ee231002 on brontosaur.
  Please enter old password:
  ```

  - Type in a new password twice

  ```
  [ee231002@ws38 ~]$ yppasswd
  Changing NIS account information for ee231002 on brontosaur.
  Please enter old password:
  Changing NIS password for ee231002 on brontosaur.
  Please enter new password:
  Please retype new password:
  ```

  - Choose a password that is easy to remember and difficult to break

  ```
  [ee231002@ws38 ~]$ yppasswd
  Changing NIS account information for ee231002 on brontosaur.
  Please enter old password:
  Changing NIS password for ee231002 on brontosaur.
  Please enter new password:
  Please retype new password:

  The NIS password has been changed on brontosaur.

  [ee231002@ws38 ~]$
  ```

Directory

- Linux's file system consists of directories, like folders, and simple files
- `pwd`: print working directory

```
[u102061251@ws38 ~]$ pwd
/home/u102/u102061251
```

- `ls`: list directory content

```
[u102061251@ws38 ~]$ ls
Desktop  c_language  hspice   hw10_1  notes              sxcmd.log  yes
a.out    circuit_lab hw01.pdf m8.dat  numerical_analysis testfile   yes.pub
```

Directory – Create Directory

- mkdir: make directory

```
[u102061251@ws38 ~/test]$ ls
[u102061251@ws38 ~/test]$ mkdir burbur
[u102061251@ws38 ~/test]$ ls
burbur
```

- cd: change directory

```
[u102061251@ws38 ~/test]$ ls
burbur
[u102061251@ws38 ~/test]$ pwd
/home/u102/u102061251/test
[u102061251@ws38 ~/test]$ cd burbur
[u102061251@ws38 burbur]$ pwd
/home/u102/u102061251/test/burbur
```

- rmdir: remove directory

```
[u102061251@ws38 ~/test]$ ls
burbur
[u102061251@ws38 ~/test]$ rmdir burbur
[u102061251@ws38 ~/test]$ ls
```

Directory – Copy

- General linux command format
  `COMMAND [OPTION1] [OPTION2] [ARGUMENT1] [ARGUMENT2] ···`
- `cp`: copy files and directories
  - Format: `cp SOURCE ··· DIRECTORY`
  - Purpose: copy SOURCE or multiple SOURCE(s) to DIRECTORY

```
[u102061251@ws38 ~/test]$ ls
bur.c  burbur
[u102061251@ws38 ~/test]$ ls burbur/
[u102061251@ws38 ~/test]$ cp bur.c burbur/bur2.c
[u102061251@ws38 ~/test]$ ls
bur.c  burbur
[u102061251@ws38 ~/test]$ ls burbur/
bur2.c
```

Directory – Move

- `mv`: move files and directories
  - Format: `mv SOURCE DIRECTORY`
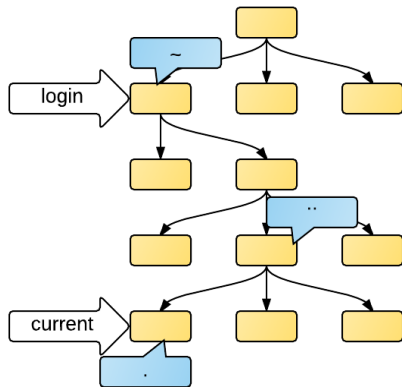 - Purpose: move SOURCE to DIRECTORY

```
[u102061251@ws38 ~/test]$ ls
bur.c  burbur
[u102061251@ws38 ~/test]$ mv bur.c burbur/
[u102061251@ws38 ~/test]$ ls
burbur
[u102061251@ws38 ~/test]$ ls burbur/
bur.c
```

- Special usage – Rename file

Special Directories

- Linux file structure
  - $\boxed{\,\cdot\,}$: current directory
  - $\boxed{\,\cdot\cdot\,}$: directory one-level up
  - $\boxed{\,\sim\,}$: home directory

Special Directories – Examples

```
[u102061251@ws38 burbur]$ pwd
/home/u102/u102061251/test/burbur
[u102061251@ws38 burbur]$ cd .
[u102061251@ws38 burbur]$ pwd
/home/u102/u102061251/test/burbur
[u102061251@ws38 burbur]$ cd ..
[u102061251@ws38 ~/test]$ pwd
/home/u102/u102061251/test
```
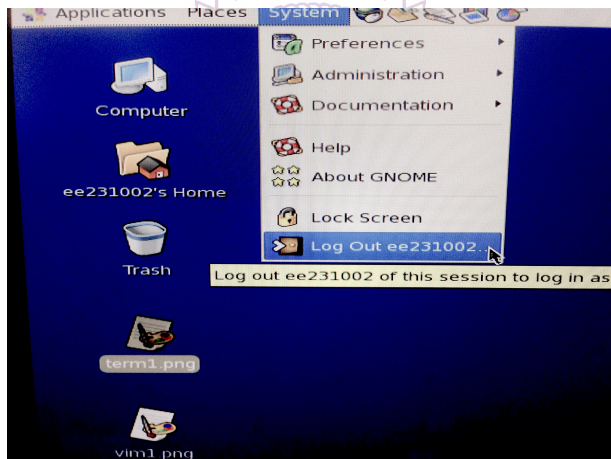
```
[u102061251@ws38 burbur]$ pwd
/home/u102/u102061251/test/burbur
[u102061251@ws38 burbur]$ cd ~
[u102061251@ws38 ~]$ pwd
/home/u102/u102061251
```

Command Summary

Command	Usage	Comments
yppasswd	yppasswd	Change password.
mkdir	mkdir dir	Create a directory dir.
cd	cd dir	Change to directory dir.
pwd	pwd	Show current working directory.
ls	ls	List current directory.
rmdir	rmdir dir	Remove directory dir.
rm	rm file	Remove file file.
cp	cp file1 file2	Copy file1 to file2.
	cp file dir	Copy file to directory dir.
mv	mv file1 file2	Rename file1 to file2.
	mv file dir	Move file to directory dir.

Logout

- Please make sure to logout of the workstation after class
  - Use the menu on the top of the screen.
    - System -> Log Out

Workstation Rules

- 使用規則
  1. 嚴禁關閉工作站電源。
  2. 請勿攜帶飲料、食物進入。
  3. 離開時請確實 logout，關閉螢幕電源，並將椅子靠好。
  4. 當機時，請由別台工作站伺服器 login 至當掉的伺服器，然後將自己的 process 殺掉。
  5. 重要資料請隨時自行備份。