

# Introduction to Linux, I

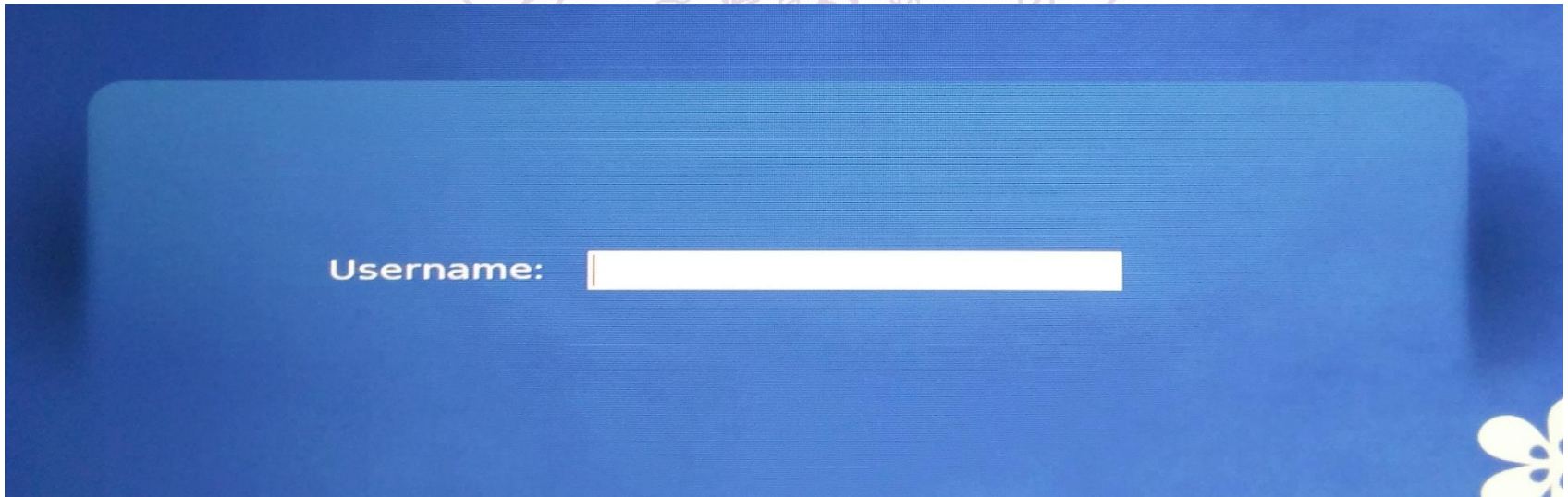
EE231002 Introduction to Programming

TA 胡恩典

Sep. 17, 2018

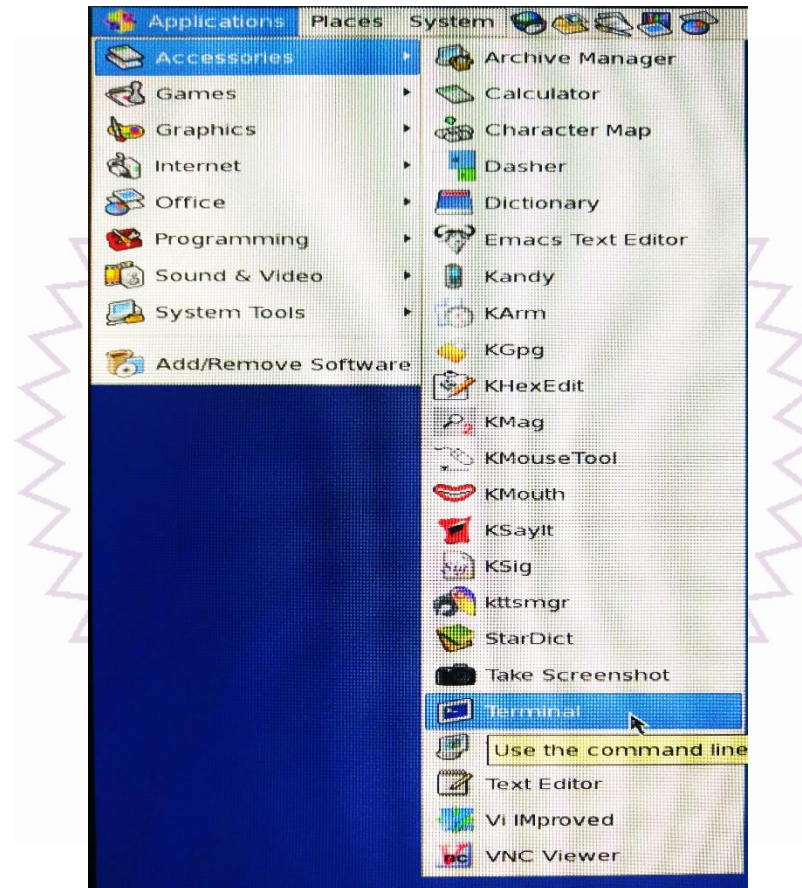
# Login to EE Workstations

- To login to EE workstation:
  - Type in your account and password
  - Username: **u** + **ID**
  - You should have received the password, or modified on Sep. 6



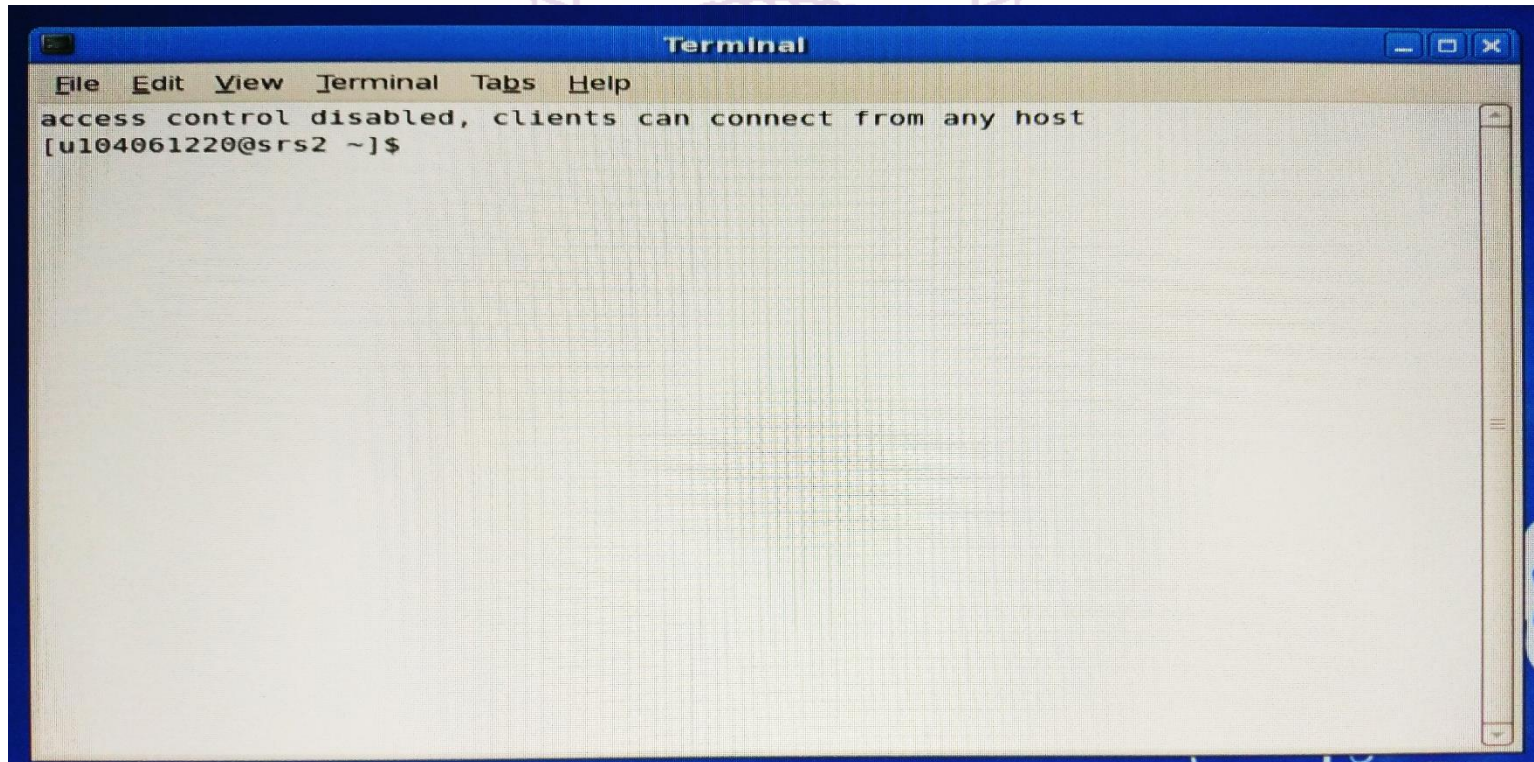
# Open a Terminal

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




# Open a Terminal, II

- A **terminal** accepts and processes commands
  - Multiple terminals can be opened
  - Do not be shocked by letters, it is all about User Interface





# User Interface (UI)

- Space where the interactions between humans and machines occur.
- Common UI you will see in following 4 years:
  - GUI: Graphical User Interface
  - CLI: Command-line Interface
- You are required to get familiar with CLI in this course.
- Following example of Chrome helps you understand GUI and CLI more.
  - Launching Chrome in GUI: 
  - Launching Chrome in CLI:  
`$ google-chrome`
  - Note that first word in command-line is the application or the operation you are going to launch or execute.
- You can take CS3423 Operating Systems for more information.

# 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 and type again for confirmation

```
[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 ~]$ 
```

# First Few Commands

- At this time, please type in the following commands

```
$ cp ~ee2310/.vimrc .  
$ mkdir c_program  
$ cd c_program  
$ mkdir lab01  
$ cd lab01  
$ cp ~ee2310/lab01/* .  
$ kpdf linux1.pdf &  
$ kpdf vim1.pdf &  
$ kpdf lab01.pdf &
```

# 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
```

- File is an object that stores data which is identified by file extension.
- Again, File System will be covered in CS3423 Operating Systems.



# 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

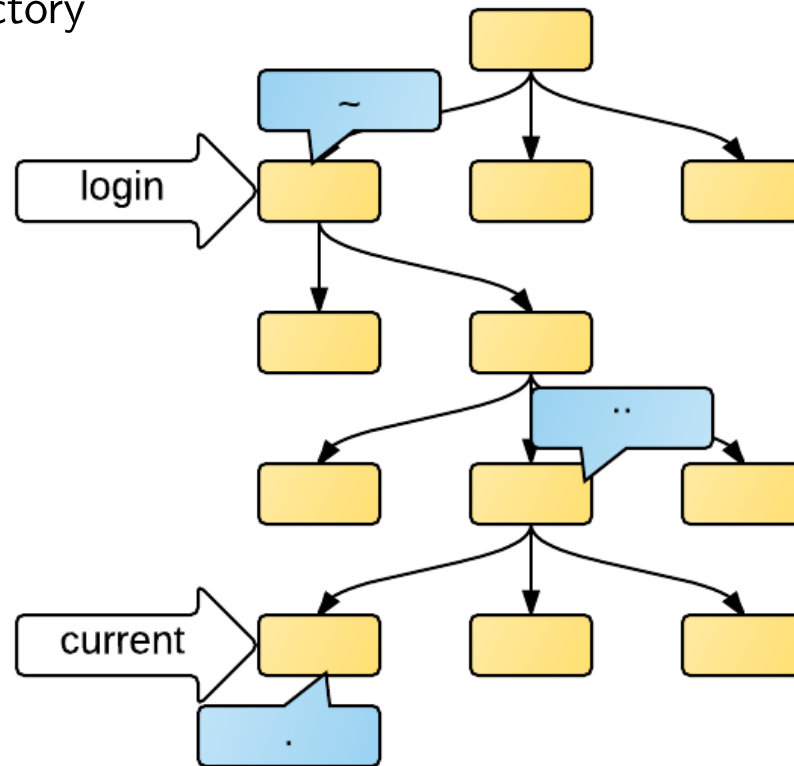
- **mv**: move files and directories
  - Format: **mv SOURCE DIRECTORY**
  - Purpose: move SOURCE to DIRECTORY

```
[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
  - `.` : current directory
  - `..` : directory one-level up
  - `~` : home directory





# Special Directories - Examples

- Simply treat Special Directories as name of files or directories
- Therefore, commands mentioned before can also be applied to them

```
[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
```

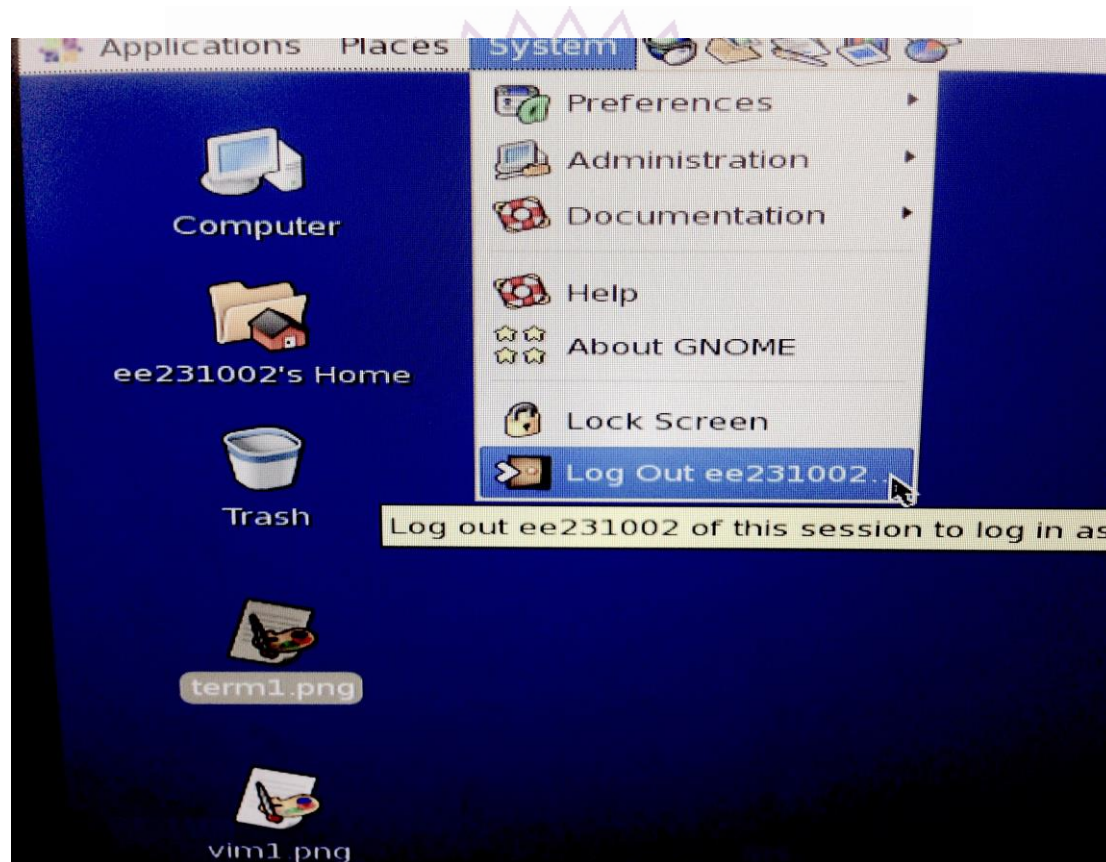
```
[u102061251@ws38 burbur]$ pwd
/home/u102/u102061251/test/burbur
[u102061251@ws38 burbur]$ cd ~
[u102061251@ws38 ~]$ pwd
/home/u102/u102061251
```

# 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(Rename) 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

