

# Module 2 The Command Line

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GUI : These are graphical user interfaces which helps us to interact with the devices.

### Commands

- Creating directories
- Creating files
- Combining directories
- Copying and moving files
- Performing advanced searches

Basic commands :

1. Cd (Change directory) - cd ~/Desktop or cd Desktop goes to desktop, and cd .. Goes back to previous directory.
2. Touch - creates a new file of whatever type. Touch newfile.txt
3. Mkdir - mkdir word-docs (new file creation)

What are Unix commands ?

- Ls -l (lists all the files and shows the read, write permissions, owners and groups it belongs to. The flag here is -l)
- Ls -a (lists all files including the hidden files)
- Pwd - shows current working directory
- Cp copies files from one destination to another
- Mv moves files
- VI (to enter the visual editor)

like second nature. Vim uses modes to determine the commands you can work with:

- Normal mode: Default mode when you open a file. In this mode, you can navigate through text, search for words, delete or copy lines, and perform other operations.

Examples:

Command	Used for
<b>h, j, k, l</b>	Move <b>left</b> , <b>down</b> , <b>up</b> , and <b>right</b> , respectively.
<b>/search_term</b>	Search for a word or phrase.

- Insert mode: Allows the contents of the files to be edited directly. It can be entered by pressing **i** (insert), **a** (append), or **o** (open new line).
- Command line mode: It can be entered by typing colon **:** in Normal mode.

Examples:

Command	Used for
<b>:w</b>	Save the file.
<b>:q</b>	Quit the editor.

### To create simple scripts and make them working in bash shell

Less .bashrc

Less .bashprofile (for setting up environment variable for java or python home directory)

- Vim testshell.sh file
  - Press I to go insert mode
  - #!/bin/bash
  - Echo "Hello World!" (To output something)
  - Press Escape to go out of insert mode
  - Type :wq! To save the file and exit
- The file is read, write file and not executable.
  - To make the file executable we use command called chmod and type of permission we want

### CREATING AND MOVING DIRECTORIES AND FILES

1. Mkdir submissions
2. Cd submissions (get into submissions directory)

### 3. Create 2 new files inside submissions directory

```
Touch test1.txt
Touch test2.txt
```

### 4. Ls -l (to list the files in the submissions directory in list format)

### 5. Cd .. (go back to original directory)

### 6. Create a new directory called archive

```
Mkdir archive
```

### 7. Move the submissions folder into the archive folder

```
Mv submissions archive
```

## PIPES

```
Test1.txt | wc -w
```

## REDIRECTION

- In linux everything is a file. When we use the ls command, it lists the output file called archive.
- If you want to see where the output goes, we can use redirection

```
Ls -l > output.txt (> is redirection flag)
```

How to send the error message output into a file ?

```
Ls -l /bin/usr > error.txt
```

```
Ls : cannot access '/bin/usr': No such file or directory
```

```
Ls -l /bin/usr 2> error.txt
```

```
Less error.txt
```

## GREP

- Global regular expression print
- To filter larger file output like bin.
  - Use ls -l | grep zip command

## SHELL COMMANDS FOR FILE AND TEXT PROCESSING HANDS ON

```
cat: file.txt: No such file or directory
siddharth@sids-macbook submissions % cat file1.txt
cat: file1.txt: No such file or directory
siddharth@sids-macbook submissions % cat text.txt
cat: text.txt: No such file or directory
siddharth@sids-macbook submissions % clear

siddharth@sids-macbook submissions % cat test1.txt
siddharth@sids-macbook submissions % test1.txt | wc -w
zsh: command not found: test1.txt
0
siddharth@sids-macbook submissions % test1.txt | wc -w
zsh: command not found: test1.txt
0
siddharth@sids-macbook submissions % ls
test1.txt  text2.txt
siddharth@sids-macbook submissions % wc -c
exit
AC
siddharth@sids-macbook submissions % wc -w
AC
siddharth@sids-macbook submissions % submissions | wc -w
zsh: command not found: submissions
0
siddharth@sids-macbook submissions % cd ..
siddharth@sids-macbook archive % cat > input.txt
Hi this a test file
siddharth@sids-macbook archive % input.txt
zsh: command not found: input.txt
siddharth@sids-macbook archive % ./ input.txt
zsh: permission denied: ./
siddharth@sids-macbook archive % cat input.txt
Hi this a test file
siddharth@sids-macbook archive % cat < input.txt
Hi this a test file
siddharth@sids-macbook archive % ls -l /bin/usr error.txt
ls: /bin/usr: No such file or directory
ls: error.txt: No such file or directory
siddharth@sids-macbook archive % ls -l /bin/usr 2> error.txt
siddharth@sids-macbook archive % less error.txt
siddharth@sids-macbook archive %
```

