

# APPLIED OPERATING SYSTEM LABORATORY



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MODULE 5

# LINUX FILE READERS AND vi EDITOR



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# OBJECTIVES

**Upon completion of this module, the student will be able to:**

- Create files and edit file content using vi editor, and display file content using various LINUX file readers.

# TOPIC OUTLINE

- **File Reader Commands**
  - **cat** command
  - **less** command
  - **more** command
  - **head** command
  - **tail** command
  - **wc** command
  - **file** command
- **vi Editor**
  - Create, read, rename and edit file using vi editor



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# FILE READERS

**File Reader commands** allow us to view the contents of a file

**cat** command

- cat (short for “concatenate”) allows us to create single or multiple files, view file/s content, concatenate files and redirect output in terminal or files.

*Syntax:* **cat** <filename1> <filename2>

```
vetcha@DESKTOP-U1V5H04: ~  
vetcha@DESKTOP-U1V5H04:~$ cat hello.txt  
hello  
vetcha@DESKTOP-U1V5H04:~$ cat hi.txt  
hi  
vetcha@DESKTOP-U1V5H04:~$ cat hello.txt hi.txt  
hello  
hi
```



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# FILE READERS

## more command

- Pages through the text of a file “one screen at a time”.

Press **Spacebar** to view the next page

Syntax: **more** <filename1>

## less command

- Navigates through the file. Can go down or go back to the previous page using arrow keys up and down.

Syntax: **less** <filename1>

**Note:** After viewing the file, press **q** to quit the *lesser* environment

```
vetcha@DESKTOP-U1V5H04:~$ more his.txt
 1 clear
 2 ls
 3 touch a.txt b.txt c.txt
 4 ls
 5 mkdir f1
 6 ls
 7 clear
 8 ls
 9 clear
10 ls -l
11 clear
12 cd f1
13 cd .
14 cd ..
31 clear
32 cd f2\f3
33 ls f2
34 clear
35 cd f2/f3/
36 clear
37 cd
38 clear
39 mkdir A
40 ls
41 clear
42 mkdir B C
43 ls
--More-- (11%)
```

```
vetcha@DESKTOP-U1V5H04:~$ less his.txt
22 cd
23 clear
24 cd f1/f2/f3
25 clear
26 cd f1\f3
27 cd f1/f3
28 ls
29 clear
30 cd f2\f3
31 clear
32 cd f2\f3
33 ls f2
34 clear
35 cd f2/f3/
36 clear
37 cd
38 clear
39 mkdir A
40 ls
41 clear
42 mkdir B C
43 ls
his.txt
```

# FILE READERS

## head command

- Displays the first lines of a file

*Syntax:*            **head [-count] <filename>**

### *Examples:*

- To view the first 10 lines:

*Syntax:*            **head numbers**

- To view the first 5 lines:

*Syntax:*            **head -5 numbers**

```
vetcha@DESKTOP-U1V5H04: ~  
vetcha@DESKTOP-U1V5H04:~$ cat > numbers  
one  
two  
three  
four  
five  
six  
seven  
eight  
nine  
ten  
vetcha@DESKTOP-U1V5H04:~$ head numbers  
one  
two  
three  
four  
five  
six  
seven  
eight  
nine  
ten  
vetcha@DESKTOP-U1V5H04:~$ head -5 numbers  
one  
two  
three  
four  
five  
vetcha@DESKTOP-U1V5H04:~$
```



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# FILE READERS

## tail command

- Displays the last lines of a file.

*Syntax:*           **tail [-count] <filename>**

### ***Examples:***

- To view the last 10 lines:

*Syntax:*           **tail numbers**

- To view the last 5 lines:

*Syntax:*           **tail -5 numbers**

```
vetcha@DESKTOP-U1V5H04: ~  
vetcha@DESKTOP-U1V5H04:~$ cat numbers  
one  
two  
three  
four  
five  
six  
seven  
eight  
nine  
ten  
eleven  
twelve  
thirteen  
vetcha@DESKTOP-U1V5H04:~$ tail numbers  
four  
five  
six  
seven  
eight  
nine  
ten  
eleven  
twelve  
thirteen  
vetcha@DESKTOP-U1V5H04:~$ tail -5 numbers  
nine  
ten  
eleven  
twelve  
thirteen  
vetcha@DESKTOP-U1V5H04:~$
```



# FILE READERS

## **wc** command

- Allows you to count the number of lines, words, and characters in a file.

*Syntax:*     **wc [-option] <filename>**

```
vetcha@DESKTOP-U1V5H04: ~  
vetcha@DESKTOP-U1V5H04:~$ wc numbers  
13 13 72 numbers  
vetcha@DESKTOP-U1V5H04:~$ wc -l numbers  
13 numbers  
vetcha@DESKTOP-U1V5H04:~$ wc -w numbers  
13 numbers  
vetcha@DESKTOP-U1V5H04:~$ wc -c numbers  
72 numbers  
vetcha@DESKTOP-U1V5H04:~$ cat numbers  
one  
two  
three  
four  
five  
six  
seven  
eight  
nine  
ten  
eleven  
twelve  
thirteen  
vetcha@DESKTOP-U1V5H04:~$
```



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# FILE READERS

## man command

- It means manual. It displays description of a certain command

*Syntax:*                    **man command**

### ***Examples:***

- To view the manual for **ls** command

*Syntax:*                    **man ls**

***Note:** To exit in the man page, press q.*

```
vetcha@DESKTOP-U1V5HO4: ~  
vetcha@DESKTOP-U1V5HO4:~$ man ls  
ls(1) User C  
NAME  
    ls - list directory contents  
SYNOPSIS  
    ls [OPTION]... [FILE]...  
DESCRIPTION  
    List information about the FILES (the current dir  
    -cftuvSUX nor --sort is specified.  
    Mandatory arguments to long options are mandatory f  
    -a, --all  
        do not ignore entries starting with .  
    -A, --almost-all  
        do not list implied . and ..  
    --author  
        with -l, print the author of each file  
    -b, --escape  
        print C-style escapes for nongraphic charact  
    --block-size=SIZE  
        with -l, scale sizes by SIZE when printing t  
Manual page ls(1) line 1 (press h for help or q to quit)
```

# vi EDITOR

The **vi (visual) text editor** of Linux is for creating and editing text files such as letters, memos, reports, and the like. vi is a screen-oriented text editor.

**Syntax:** **vi** <filename>

```
vetcha@DESKTOP-U1V5HO4: ~  
vetcha@DESKTOP-U1V5HO4:~$ vi numbers
```

```
vetcha@DESKTOP-U1V5HO4: ~  
one  
two  
three  
four  
five  
six  
seven  
eight  
nine  
ten  
eleven  
twelve  
thirteen  
~
```

```
vetcha@DESKTOP-U1V5H04:~$ vi empty.txt
```

Two side-by-side terminal windows. The left window has a title bar 'vetcha@DESKTOP-U1V5HO4: ~' and contains a vertical list of tilde characters (~). The bottom of the left window shows a prompt 'empty.txt' [New File]. The right window has a title bar 'vetcha@DESKTOP-U1V5HO4: ~' and contains the text 'This is no longer an empty file' at the top, followed by a vertical list of tilde characters (~). The bottom of the right window shows a prompt ':wq'.

# vi EDITOR: Operation Modes

There are two modes of operations in vi.

- **Insert mode**

- This mode enables user to edit file or insert text into a file. When in the text-edit mode, press **INSERT key** or ***type i*** to insert or input text.
- To get out of insert mode, press the **Esc key**, which will put you back into **command mode**.

- **Command mode**

- This mode enables you to perform administrative tasks such as *saving files, executing commands, moving the cursor, cutting and pasting lines or words, and finding and replacing* text in a file.
- In this mode, whatever you type is interpreted as a command.



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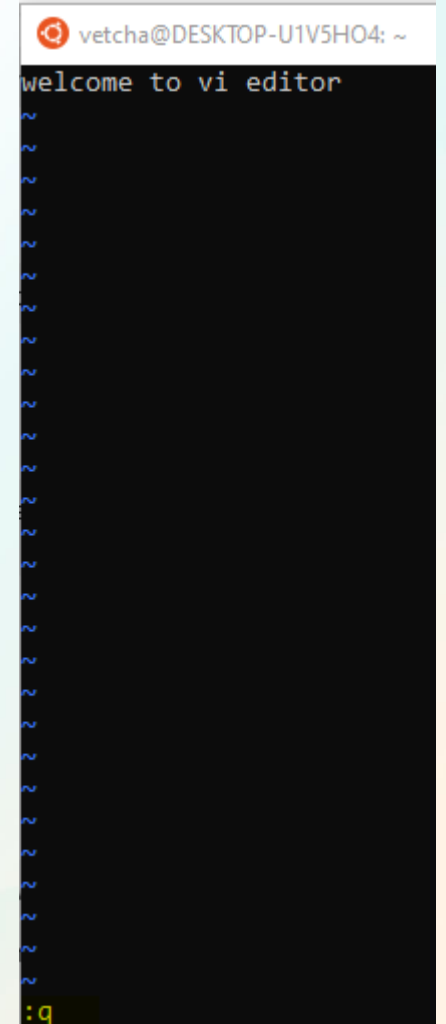
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# Getting out of vi EDITOR

- To exit the vi editor, press **Esc key** and type a **colon ':'**
- A colon will appear at the bottom of the screen. At this point, the user can type any of the following (followed by the **Enter key**):

<u>Command</u>	<u>Action</u>
<b>q</b>	quit vi
<b>q!</b>	quit vi without saving changes
<b>wq</b>	save changes and then quit vi
<b>x</b>	same as wq
<b>ZZ</b>	same as wq

You can specify a different file name to save to by specifying the name after the **:w**.



# vi EDITOR: Pattern Searching

- A user may **search for any word or string** in the file while **inside vi**.
- The user should first be in the **command mode**. Typing a **slash “/”** will cause the cursor to go to the bottom of the screen.
- The user may then type in a word or phrase he wants to locate.

[illegible]

# REFERENCES

- Sobell, M., et al. (2017). A Practical Guide to Linux Commands, Editors, and Shell Programming, 4th Ed. Addison-Wesley Professional
- Cobbaut, P. (2016). Mastering Linux- Networking
- Blum, R., (2015). Linux Command Line and Shell Scripting Bible



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