



File Management - Working with Files

Introduction and/or Background

Linux has several applications that allow creating, viewing, and manipulating text files at the shell prompt.

Objectives

In this project/lab the student will:

- Use Linux utilities to create/view files within a Linux environment.

Equipment/Supplies Needed

- Computer with internet access
- VMware Workstation Virtualization Software
- Linux Installation File: Debian release 9.12

Procedure

Perform the steps in this lab in the order they are presented to you. Answer all questions and record the requested information. Use the Linux Virtual Machine to perform lab activities as directed. Unless otherwise stated, all tasks done as a non-root user. If root access is needed use the sudo command.

Assignment

Create/View Files

Launch Debian. Using the man pages review the file viewing commands cat, touch, head, tail, more, less.

Create an empty file using the touch command [*handy for quickly creating files you intend to use later*] Note. Use the **rm filename** command to delete/remove a file if you make a mistake.

1. `touch itsy1.txt`

Verify creation of file, using ls -l command.

2. `ls -l itsy1.txt`

Create a file and contents using the **cat > filename** command.

3. `cat > LinuxIsGreat.txt`

Enter the following into the file:

```
By golly,  
I'm beginning to think Linux really *is* the  
best thing since sliced bread.  
-- Vance Petree, Virginia Power
```

Save/Exit by entering **ctrl-D**.

The redirect command ">" redirects output into a file instead of the screen.

The **echo** command is used to display a line of text/string to the terminal screen or a file. Redirect the output from the echo command to the empty **itsy1.txt** file with the following command.

4. `echo "I just Love Linux" > itsy1.txt`

View the contents of the **itsy1.txt** file to confirm it was populated with the echo command output. *Note: If the 'target file' does not exist, it will create it.*

The **cat** command can be used to view the contents of files. View the contents of the **itsy1.txt** file created above with **cat**.

5. `cat itsy1.txt`

Record the output.

To display the contents of the file with line numbers, use the **-n** option.

6. `cat -n itsy1.txt`

Record the output.

The cat command can concatenate (merge) multiple files into 1. Use the cat command to concatenate 2 files and then redirect them to a 3rd file (combined files in one).

7. `cat LinuxIsGreat.txt itsy1.txt > Combofile.txt`

View and record the output of **Combofile.txt**

View files with the **ls** command.

From the home directory and enter the command **ls -l ***.
Observe/Record the output.

Issue the command **ls -lR**. Observe/Record the output.

What is the difference between the output of the **ls -l *** and **ls -lR** command?

View files with the tail/head command.

The **tail** command displays the last "*n*" lines of the file. If "*n*" is not specified, the last 10 lines will be shown.

As root, view the last 10 lines of the file
/var/log/messages.**[/etc/hosts]** Record a screenshot of the output.

8. **tail /var/log/messages**

View the last 3 lines. Record the output.

9. **tail -3 /var/log/messages**

Enter **exit** to leave root.

The **head** command displays the first "*n*" lines of the file. If "*n*" is not specified, the last 10 will be shown.

As root, view the first 10 lines of the file
/var/log/messages

10. **head /var/log/messages**

View just the first 2 lines

11. **head -n 2 /var/log/messages**

Enter **exit** to leave root.

Linux provides two commands to view large files on screen. View files using the **more/less** commands. The more command allows viewing of files by scrolling down a percentage at a time.

The less command allows viewing more by scrolling up or down a page.

As root, use the **more** command. Navigate by pressing the **spacebar** [--More--(%)], or **q** to quit/exit.

12. `more /var/log/messages`

As root, use the less command. Navigate by using **page up/down**, **home** to move to top of file, **end** to bottom of file, and **q** to quit/exit.

13. `less /var/log/messages`

View Symbolic Links

Display the directory of /etc/. Look for symbolic links, recall a link is indicated by a "l" or a file point to another with a " ->" symbol. Note the permissions of 777.

Record a screenshot of the output.

Lab Submissions Proof: Provide screenshots as indicated in the lab; upload your proof to Canvas for grading.

Rubric

Checklist/Single Point Mastery

<u>Concerns</u> Working Towards Proficiency	<u>Criteria</u> Standards for This Competency	<u>Accomplished</u> Evidence of Mastering Competency
	Criteria #1: Record the output of itsy1.txt (16 points)	
	Criteria #2: Record the output of cat -n itsy1.txt (16 points)	
	Criteria #3: Record the output of combofile.txt (16 points)	
	Criteria #4: What is the difference between the output of the ls -l * and ls -lR command? (16 points)	
	Criteria #5: Record the first three lines of tail -3 /var/log/messages (16 points)	
	Criteria #6: Record a screenshot of /etc/ indicating symbolic links. (20	

	points)	
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