Module 2 Cheat Sheet - Introduction to Linux Commands

Getting information

Return your user name:

1. 1

   1. whoami

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Return your user and group id:

1. 1

   1. id

[Copied!]

Return operating system name, username, and other info:

1. 1

   1. uname -a

[Copied!]

Display reference manual for a command:

1. 1

   1. man top

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List available man pages, including a brief description for each command:

1. 1

   1. man -k .

[Copied!]

Get help on a command:

1. 1

   1. curl --help

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Return the current date and time:

1. 1

1. date

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Navigating and working with directories

List files and directories by date, newest to last:

1. 1

1. ls -lrt

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Find files in directory tree that end in `.sh`:

1. 1

1. find -name \'*.sh\'

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Return path to present working directory:

1. 1

1. pwd

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Make a new directory:

1. 1

1. mkdir new_folder

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Change the current directory:

Up one level:

1. 1

1. cd ../

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To home:

1. 1

1. cd ~` or `cd

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To some other directory: `cd path_to_directory`

Remove directory verbosely:

1. 1

1. `rmdir temp_directory -v`

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Monitoring system performance and status

List selection of/all running processes and their PIDs:

1. 1

1. `ps`

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1. 1

1. `ps -e`

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Display resource usage:

1. 1

1. `top`

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List mounted file systems and usage:

1. 1

1. `df`

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Creating, copying, moving, and deleting files:

Create an empty file or update existing file's timestamp:

1. 1

1. `touch a_new_file.txt`

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Copy a file:

1. 1

1. cp file.txt new_path/new_name.txt

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Change file name or path:

1. 1

1. mv this_file.txt that_path/that_file.txt

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Remove a file verbosely:

1. 1

1. rm this_old_file.txt -v

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Working with file permissions

Change/modify file permissions to 'execute' for all users:

1. 1

1. chmod +x my_script.sh

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Change/modify file permissions to 'execute' only for you, the current user:

1. 1

1. chmod u+x my_file.txt

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Remove 'read' permissions from group and other users:

1. 1

1. chmod go-r

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Displaying file and string contents

Display file contents:

1. 1

1. cat my_shell_script.sh

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Display file contents page-by-page:

1. 1

   1. more ReadMe.txt

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Display first 10 lines of file:

1. 1

   1. head -10 data_table.csv

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Display last 10 lines of file:

1. 1

   1. tail -10 data_table.csv

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Display string or variable value:

1. 1
2. 2

   1. echo "I am not a robot"
   2. echo "I am $USERNAME"

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Basic text wrangling

Sorting lines and dropping duplicates:

Sort and display lines of file alphanumerically:

1. 1

   1. sort text_file.txt

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In reverse order:

1. 1

   1. sort -r text_file.txt

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Drop consecutive duplicated lines and display result:

1. 1

   1. uniq list_with_duplicated_lines.txt

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Displaying basic stats:

Display the count of lines, words, or characters in a file:

Lines:

1. 1
1. `wc  -l table_of_data.csv`

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Words:

1. 1
1. `wc  -w my_essay.txt`

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Characters:

1. 1
1. `wc  -m some_document.txt`

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Extracting lines of text containing a pattern:

Some frequently used options for `grep`:

Option	Description
-n	Print line numbers along with matching lines
-c	Get the count of matching lines
-i	Ignore the case of the text while matching
-v	Print all lines which do not contain the pattern
-w	Match only if the pattern matches whole words

Extract lines containing the word "hello", case insensitive and whole words only:

1. 1
1. `grep  -iw hello  a_bunch_of_hellos.txt`

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Extract lines containing the pattern "hello" from all files in the current directory ending in `.txt`:

1. 1
1. `grep  -l hello  *.txt`

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Merge two or more files line-by-line, aligned as columns:

Suppose you have three files containing the first and last names of your customers, plus their phone numbers.

Use paste to align file contents into a Tab-delimited table, one row for each customer:

1. 1

1. `paste first_name.txt last_name.text phone_number.txt`

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Use a comma as a delimiter instead of the default Tab delimiter:

1. 1

1. `paste -d "," first_name.txt last_name.text phone_number.txt`

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Use the cut command to extract a column from a table-like file:

Suppose you have a text file whos rows consist of first and last names of customers, delimited by a comma.

Extract first names, line-by-line:

1. 1

1. `cut -d "," -f 1 names.csv`

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Extract the second to fifth characters (bytes) from each line of a file:

1. 1

1. `cut -b 2-5 my_text_file.txt`

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Extract the characters (bytes) from each line of a file, starting from the 10th byte to the end of the line:

1. 1

1. `cut -b 10- my_text_file.txt`

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Compression and archiving

Archive a set of files:

1. 1

1. `tar -cvf my_archive.tar.gz file1 file2 file3`

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Compress a set of files:

1. 1
2. 2

1. zip my_zipped_files.zip file1 file2
2. zip my_zipped_folders.zip directory1 directory2

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Extract files from a compressed zip archive:

1. 1
2. 2

1. unzip my_zipped_file.zip
2. unzip my_zipped_file.zip -d extract_to_this_direcory

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Working with networking commands

Print hostname:

1. 1

1. hostname

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Send packets to URL and print response:

1. 1

1. ping www.google.com

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Display or configure system network interfaces:

1. 1
2. 2

1. ifconfig
2. ip

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Display contents of file at a URL:

1. 1

1. curl <url>

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Download file from a URL:

1. 1

1. wget <url>

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Change Log

Date (YYYY-MM-DD)	Version	Changed By	Change Description
2023-05-04	1.4	Benny Li	Added code blocks
2023-04-26	1.3	Nick Yi	QA Pass
2023-04-10	1.2	Nick Yi	ID Review
2023-02-14	1.1	Jeff Grossman	Update to reflect module content
2022-12-23	1.0	Jeff Grossman	Split from existing reading and added new content