



BridgeLabz

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Terminal Commands

Prerequisites to learn CLI

- CLI - Command Line Interface
- Check Git is Installed – **git --version**
- Check Java is installed **java -version**
- Java Installation - <https://exercism.io/tracks/java/installation#linux>
- ***mkdir TerminalCommands***
- ***cd TerminalCommands/***
- Check git is installed - **git --version**
- **git clone** <https://github.com/edurekavivekh/linux-content.git>
- Change Dir to ***cd linux-content/*** and do ***ls***
- You will see `linux_chit_sheet.pdf` – for Linux Commands and `linux_problem_sheet.pdf` – to solve problems using linux commands

- Check your Current Working Directory
- List all files in your Current Working Directory, Top level Directory, current, parent & home Directory.
- List also the hidden files & Directory.
- List all Files & Directory in a long format
- Create a temp Folder
- Remove the temp Folder
- Create a nested temp/temp folder

File & Directory Commands

```
Terminal Shell Edit View Window Help
TerminalCommands - bash -- 96x27

Narayans-MacBook-Pro:TerminalCommands narayan$ pwd
/Users/narayan/Development/TerminalCommands

Narayans-MacBook-Pro:TerminalCommands narayan$ ls .
Helloworld.class      def                ps_commands.txt
Helloworld.java       def.txt           temp
abc                   forloop.sh        test
abc.txt               linux-content
commands.txt          loop_commands.txt

Narayans-MacBook-Pro:TerminalCommands narayan$ ls ..
Commands              Programming Questions  fundooBooksOld
DotNetDev             Python                fundooPay
DotNetDevelopment     Temp                  test
JavaDevelopment       TerminalCommands
NodeJSSamples         fundooBooks

Narayans-MacBook-Pro:TerminalCommands narayan$ ls ~
Applications          Downloads           Music
Desktop               Extras              Pictures
Development           Library             Public
Documents             Movies              iCloud Drive (Archive)

Narayans-MacBook-Pro:TerminalCommands narayan$ ls -a
.                abc.txt           loop_commands.txt
..               commands.txt      ps_commands.txt
.DS_Store       def               temp
Helloworld.class def.txt           test
Helloworld.java forloop.sh
abc             linux-content

Narayans-MacBook-Pro:TerminalCommands narayan$
```

Current Working Directory

List files & folders in
Current Directory

List files & folders in Parent
Directory

List files & folders in Home
Directory

List all files & folders
including the hidden ones

```
Narayans-MacBook-Pro:TerminalCommands narayan$ ls -l
total 24
-rw-r--r--  1 narayan  staff  612 Nov  1 14:58 Helloworld.class
-rw-r--r--  1 narayan  staff  222 Nov  1 14:58 Helloworld.java
-rwxr-xr-x  1 narayan  staff  347 Nov  2 12:38 forloop.sh
drwxr-xr-x  9 narayan  staff  288 Nov  1 16:16 linux-content
Narayans-MacBook-Pro:TerminalCommands narayan$ mkdir temp
Narayans-MacBook-Pro:TerminalCommands narayan$ ls
Helloworld.class      forloop.sh            temp
Helloworld.java      linux-content
Narayans-MacBook-Pro:TerminalCommands narayan$ rm -R temp
Narayans-MacBook-Pro:TerminalCommands narayan$ mkdir -p temp/temp
Narayans-MacBook-Pro:TerminalCommands narayan$ ls
Helloworld.class      forloop.sh            temp
Helloworld.java      linux-content
Narayans-MacBook-Pro:TerminalCommands narayan$ cd temp/
Narayans-MacBook-Pro:temp narayan$ pwd
/Users/narayan/Development/TerminalCommands/temp
Narayans-MacBook-Pro:temp narayan$ ls
temp
Narayans-MacBook-Pro:temp narayan$ touch test
Narayans-MacBook-Pro:temp narayan$ ls -p
temp/  test
Narayans-MacBook-Pro:temp narayan$ █
```

List Files & Folder in Long Format

Create Directory temp

Remove recursively all files & folders in temp directory

Create Nested Directory

Change Directory to temp

Create a empty test file

Show all files and also show directories ending with /

File Management

- Change directly to temp
- create a empty test file.
- Copy test file into another test1 file
- move test1 file to test2 file.
- Create a link to the test file in your home dire.
- Change dir to home & remove the temp folder.
- man ls \Rightarrow to list all options
- whereis ls \Rightarrow find the location of the command


```

Narayans-MacBook-Pro:temp narayan$ cp test test1
Narayans-MacBook-Pro:temp narayan$ ls -p
temp/  test  test1
Narayans-MacBook-Pro:temp narayan$ mv test1 test2
Narayans-MacBook-Pro:temp narayan$ ls -p
temp/  test  test2
Narayans-MacBook-Pro:temp narayan$ ln -s test temp/
Narayans-MacBook-Pro:temp narayan$ ls -p temp/
test
Narayans-MacBook-Pro:temp narayan$ ln -s ../linux-content/linux_chit_sheet.pdf ~/QuickLink/
Narayans-MacBook-Pro:temp narayan$ ls -l ~/QuickLink/
total 0
lrwxr-xr-x  1 narayan  staff   37 Nov  3 10:03 linux_chit_sheet.pdf -> ../linux-content/linux_ch
it_sheet.pdf
Narayans-MacBook-Pro:temp narayan$ whereis ls
/bin/ls
Narayans-MacBook-Pro:temp narayan$ ls /bin
[          dd          ksh          pax          stty
bash       df          launchctl  ps           sync
cat        echo         link       pwd          tcsh
chmod      ed          ln         rm           test
cp         expr        ls         rmdir        unlink
csh        hostname   mkdir      sh           wait4path
date       kill       mv         sleep        zsh
Narayans-MacBook-Pro:temp narayan$ man ls

```

Copy test file into test1

Move test1 file into test2

Link test file in temp dir

Link linux_chit_sheet pdf to QuickLink in home dir

Note on listing shows the location of actual file

Locate commands using
whereis

Looking up bin folder in
root dir

Lookup Command using man.
Use q to quit

the **-P** option.

- l** (The lowercase letter ``ell''.) List in long format. (See below.) If the output is to a terminal, a total sum for all the file sizes is output on a line before the long listing.
- m** Stream output format; list files across the page, separated by commas.
- n** Display user and group IDs numerically, rather than converting to a user or group name in a long (**-l**) output. This option turns on the **-l** option.
- O** Include the file flags in a long (**-l**) output.
- o** List in long format, but omit the group id.
- P** If argument is a symbolic link, list the link itself rather than the object the link references. This option cancels the **-H** and **-L** options.
- p** Write a slash (``/'') after each filename if that file is a directory.
- q** Force printing of non-graphic characters in file names as the character ``?'; this is the default when output is to a terminal.
- R** Recursively list subdirectories encountered.

- change direch to etc
- list the passwd file
- change to previous direchy.
- View the file
- Browse the file line by line
- Display first 10 lines of the /etc/passwd file
- Display last 10 lines of /etc/passwd file.

View & Browse Files

```
Narayans-MacBook-Pro:temp narayan$ ls -l /etc/passwd
-rw-r--r--  1 root  wheel  6804 Feb 26  2019 /etc/passwd
Narayans-MacBook-Pro:temp narayan$ less /etc/passwd
Narayans-MacBook-Pro:temp narayan$ head /etc/passwd
```

List in Long Format /etc/passwd file

Browsing the passwd file using less

```
##
# User Database
#
# Note that this file is consulted directly only when the system is running
# in single-user mode.  At other times this information is provided by
# Open Directory.
#
# See the opendirectoryd(8) man page for additional information about
# Open Directory.
```

Display first 10 lines from top

```
##
Narayans-MacBook-Pro:temp narayan$ tail -2 /etc/passwd
_timed:*:266:266:Time Sync Daemon:/var/db/timed:/usr/bin/false
_reportmemoryexception:*:269:269:ReportMemoryException:/var/db/reportmemoryexception:/usr/bin/false
Narayans-MacBook-Pro:temp narayan$ cat /etc/passwd
```

Display last 2 lines from bottom

Browsing the complete file

Pipe & Grep Commands

- cmd1 | cmd2
stdout of cmd1 to cmd2
- find all directories in the current working directory.
- find passwd file in /etc/
- find all files in the /etc/ directory

```
TerminalCommands $ find . -size +5M
./linux-content/linux_chit_sheet.pdf
./linux-content/.git/objects/b6/04c4fde493cb44468855d37d0ae0973164cc67
./linux-content/.git/objects/2b/b9e2d5d41336c901d25a51b89a6adaa578c946
./linux-content/linux_problem_sheet.pdf
TerminalCommands $ find . -name *.pdf -size +5M
./linux-content/linux_chit_sheet.pdf
./linux-content/linux_problem_sheet.pdf
TerminalCommands $ find . -size +5M | grep pdf
./linux-content/linux_chit_sheet.pdf
./linux-content/linux_problem_sheet.pdf
TerminalCommands $ find . -name data*
./linux-content/data.csv
TerminalCommands $ grep CAPTAIN linux-content/data.csv
2  GARY          CAPTAIN          155966  245131      137811  538909  538909
3  ALBERT        CAPTAIN          212739  106088      16452   335279  335279
12 PATRICIA      CAPTAIN          99722   87082       110804  297608  297608
TerminalCommands $ grep -r CAPTAIN .
./linux-content/data.csv:2  GARY          CAPTAIN          155966  245131      137811  538
909  538909
./linux-content/data.csv:3  ALBERT        CAPTAIN          212739  106088      16452   335
279  335279
./linux-content/data.csv:12 PATRICIA      CAPTAIN          99722   87082       110804  297
608  297608
TerminalCommands $
```

Find file size greater the 5M

Find pdf files greater than 5M

Find pdf files greater than 5M using pipe and grep command

Find files starting with data
grep CAPTAIN in data.csv file

Recursively grep CAPTAIN in the Current Directory

temp — bash — 96x27

```
Narayans-MacBook-Pro:temp narayan$ ls -p | grep /  
temp/
```

Using Pipe i.e. | to show all Folders

```
Narayans-MacBook-Pro:temp narayan$ ls -p | grep -v /  
test  
test2
```

Using Pipe to show all Files

```
Narayans-MacBook-Pro:temp narayan$ env
```

```
TERM_PROGRAM=Apple_Terminal  
SHELL=/bin/bash  
TERM=xterm-256color  
TMPDIR=/var/folders/sz/zlcpnpgd10qlcr6xf3frycq3h0000gn/T/  
Apple_PubSub_Socket_Render=/private/tmp/com.apple.launchd.k04qruz78/Render  
TERM_PROGRAM_VERSION=421.2  
OLDPWD=/Users/narayan/Development/TerminalCommands  
TERM_SESSION_ID=FEB0A322-0260-4F1F-9A39-A2B3CE5D10E9  
USER=narayan  
SSH_AUTH_SOCK=/private/tmp/com.apple.launchd.kfSZSOYnZs/Listeners  
PATH=/usr/local/bin:/usr/bin:/bin:/usr/sbin:/sbin  
PWD=/Users/narayan/Development/TerminalCommands/temp  
XPC_FLAGS=0x0  
XPC_SERVICE_NAME=0  
SHLVL=1  
HOME=/Users/narayan  
LOGNAME=narayan  
LC_CTYPE=UTF-8  
_=/usr/bin/env  
Narayans-MacBook-Pro:temp narayan$ env | grep USER  
USER=narayan
```

Displaying Environment Variables

Using pipe to Grep USER Variable



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Thank you