



Linux Basic Commands

Y.Shashidhar shashi@cse.iitb.ac.in





Basic Linux Commands

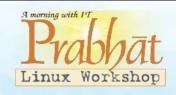


- File Handling
- Text Processing
- System Administration
- Process Management
- Archival
- Network
- File Systems
- Advanced Commands





Sources to learn commands??

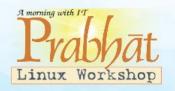


- Primary man(manual) pages.
 - man <command> shows all information about the command
 - <command> --help shows the available options for that command
- Secondary Books and Internet





File Handling commands



- mkdir make directories
 - Usage: mkdir [OPTION] DIRECTORY...
 - eg. mkdir prabhat
- **ls** list directory contents
 - Usage: ls [OPTION]... [FILE]...
 - eg. ls, ls -l, ls prabhat
- cd changes directories
 - Usage: cd [DIRECTORY]
 - eg. cd prabhat





File Handling(contd...)



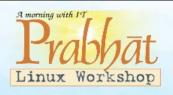
• pwd - print name of current working directory Usage: pwd

vim – Vi Improved, a programmers text editor
 Usage: vim [OPTION] [file]...
 eg. vim file1.txt





File Handling(contd...)



cp – copy files and directories

Usage: cp [OPTION]... SOURCE DEST

eg. cp sample.txt sample_copy.txt

cp sample_copy.txt target_dir

mv – move (rename) files

Usage: mv [OPTION]... SOURCE DEST

eg. mv source.txt target_dir

mv old.txt new.txt







File Handling(contd...)

- rm remove files or directories

 Usage: rm [OPTION]... FILE...

 eg. rm file1.txt, rm -rf some_dir
- find search for files in a directory hierarchy Usage: find [OPTION] [path] [pattern] eg. find file1.txt, find -name file1.txt
- history prints recently used commands
 Usage: history





Pattern



A Pattern is an expression that describes a set of strings which is used to give a concise description of a set, without having to list all elements.

eg. ab*cd matches anything that starts with ab and ends with cd etc.

Is *.txt - prints all text files





Text Processing



• cat – concatenate files and print on the standard output

Usage: cat [OPTION] [FILE]...

eg. cat file1.txt file2.txt

cat -n file1.txt

• echo – display a line of text

Usage: echo [OPTION] [string] ...

eg. echo I love India

echo \$HOME









• grep - print lines matching a pattern

Usage: grep [OPTION] PATTERN [FILE]...

eg. grep -i apple sample.txt

• wc - print the number of newlines, words, and bytes in files

Usage: wc [OPTION]... [FILE]...

eg. wc file1.txt

wc -L file1.txt





Text Processing(contd...)



• **sort** – sort lines of text files

Usage: sort [OPTION]... [FILE]...

eg. sort file1.txt

sort -r file1.txt







Linux File Permissions

- 3 types of file permissions read, write, execute
- 10 bit format from 'ls -l' command

1 234 567 8910

file type owner group others

- eg. drwxrw-r-- means owner has all three permissions, group has read and write, others have only read permission
- read permission 4, write 2, execute -1 eg. rwxrw-r-- = 764

$$673 = rw-rwx-wx$$



System Administration



chmod – change file access permissions

Usage: chmod [OPTION] [MODE] [FILE]

eg. chmod 744 calculate.sh

chown – change file owner and group

Usage: chown [OPTION]... OWNER[:[GROUP]] FILE...

eg. chown remo myfile.txt





System Administration (contd...)



- su change user ID or become super-user Usage: su [OPTION] [LOGIN]
 eg. su remo, su
- passwd update a user's authentication tokens(s)
 Usage: passwd [OPTION]
 eg. passwd
- who show who is logged on Usage: who [OPTION]
 eg. who , who -b , who -q







• ps – report a snapshot of the current processes

Usage: ps [OPTION]

eg. ps, ps -el

• kill – to kill a process(using signal mechanism)

Usage: kill [OPTION] pid

eg. kill -9 2275





Archival



tar – to archive a file

Usage: tar [OPTION] DEST SOURCE

eg. tar -cvf /home/archive.tar /home/original tar -xvf /home/archive.tar

- zip package and compress (archive) files
 Usage: zip [OPTION] DEST SOURSE
 eg. zip original.zip original
- unzip list, test and extract compressed files in a ZIP archive

Usage: unzip filename



eg. unzip original.zip





Network

• ssh – SSH client (remote login program)

"ssh is a program for logging into a remote machine and for executing commands on a remote machine"

Usage: ssh [options] [user]@hostname

eg. ssh -X guest@10.105.11.20

scp – secure copy (remote file copy program)
 "scp copies files between hosts on a network"

Usage: scp [options] [[user]@host1:file1] [[user]@host2:file2]

eg. scp file1.txt guest@10.105.11.20:~/Desktop/







- fdisk partition manipulator
 eg. sudo fdisk -l
- mount mount a file system
 Usage: mount -t type device dir
 eg. mount /dev/sda5 /media/target
- umount unmount file systems
 Usage: umount [OPTIONS] dir | device...
 eg. umount /media/target









- du estimate file space usage
 Usage: du [OPTION]... [FILE]...
 eg. du
- df report filesystem disk space usage Usage: df [OPTION]... [FILE]... eg. df
- quota display disk usage and limits
 Usage: quota [OPTION]
 eg. quota -v



Advanced Commands



reboot – reboot the system

Usage: reboot [OPTION]

eg. reboot

• **poweroff** – power off the system

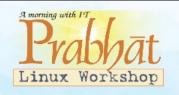
Usage: poweroff [OPTION]

eg. poweroff





Suggested Material



- The UNIX Programming Environment by Kernighan and Pike (PrenticeHall)
- Your UNIX: The Ultimate Guide by Sumitabha Das







Thank You









kate – KDE Advanced Text Editor

Usage: kate [options][file(s)]

eg. kate file1.txt file2.txt

• vim – Vi Improved, a programmers text editor

Usage: vim [OPTION] [file]...

eg. vi hello.c

• gedit - A text Editor. Used to create and edit files.

Usage: gedit [OPTION] [FILE]...

eg. gedit





- bg make a foreground process to run in background
 Usage: type 'ctrl+z' and then 'bg <job id>'
- fg to make background process as foreground process
 Usage: fg [jobid]
- jobs displays the names and ids of background jobs
 Usage: jobs





Advanced Commands (contd...)



• sed - stream editor for filtering and transforming text Usage: sed [OPTION] [input-file]... eg. sed 's/love/hate/g' loveletter.txt

• awk - pattern scanning and processing language eg. awk -F: '{ print \$1 }' sample_awk.txt







- find search for files in a directory hierarchy

 Usage: find [OPTION] [path] [pattern]

 eg. find -name file1.txt
- locate find or locate a file
 Usage: locate [OPTION]... FILE...
 eg. locate file1.txt

