

Basic Linux Commands

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What's a command?

It's a binary file kept under specific directory.

Types of Commands

File and file system management:

cat | cd | chmod | chown | chgrp | cp | du | df | file | fsck | ln | ls | lsof | mkdir | mount | mv | pwd | rm | rmdir | split | touch

Process management:

at | chroot | crontab | kill | killall | nice | pgrep | pidof | pkill | ps | sleep | time | top | wait | watch

User Management/Environment:

env | finger | id | mesg | passwd | su | sudo | uname | uptime | w | wall | who | whoami | write

Text processing:

awk | cut | diff | ex | head | iconv | join | less | more | paste | sed | sort | tail | tr | uniq | wc | xargs

Printing:

lp

Communications:

inetd | netstat | ping | rlogin | traceroute

Searching

find | grep | strings

Miscellaneous:

banner | bc | cal | man | size | yes

Filesystem Utilities

cd – Change to another directory location

ls – List directory contents

cp – Copy a file or directory to another location

pwd – Print the current working directory

info – The GNU alternative to man

man – The standard unix documentation system

mkdir – Make a directory

mv – Move or rename a file or directory

rmdir – Delete an empty directory

touch – Create a new file or update its modification time

rm – Delete a file or directory tree

which - locate a command

Filesystem Utilities (continued..)

wc - print newline, word, and byte counts for each file

less – opposite of more ;)

pwd - print name of current/working directory

locate - find files by name

ln – Link one file/directory to another

df – Report disk space

strings - print the strings of printable characters in files.

find – Search for files through a directory hierarchy

chgrp – Change the group of a file or directory

chmod – Change the permissions of a file or directory

chown – Change the owner of a file or directory

quota – display disk usage and limits

du – Calculate used disk space

HandsOn

```
find /usr -size +10M
```

```
find /home -mtime +120
```

```
find /var -atime -90
```

```
find / -name core -exec rm {} \;
```

Text Processing Commands

echo – display line of text

cat – Concatenate files to standard output

less – Improved more-like text pager

head – Output the first parts of a file

tail - Output the last parts of a file

cut – Remove sections from each line of a file or standard input

paste - merge lines of files

diff – Compare two text files line by line

Text Processing Commands (continued..)

sort - sort lines of text files

cmp – Compare two files byte for byte

join – Join lines of two files on a common field

awk – A pattern scanning and processing language

grep – Print lines matching a pattern

sed - stream editor for filtering and transforming text

HandsOn

command to print the lines that has the the pattern "july" in all the files in a particular directory?

```
grep -i july *
```

```
^$
```

print the file names in a directory that does not contain the word "july"?

```
grep -L july *
```

a command to select only those lines containing "july" as a whole word?

```
grep -w july filename
```

```
grep -r
```

```
grep -A 10
```

```
grep -B 1
```

```
grep -C 4
```

```
grep -n "" file
```

Print the line excluding the pattern using -v option

Text Processing

more – Pager

sed – Stream EDitor

sort – Sort lines of text files

grep – Print lines matching a pattern

split – Split a file into pieces

tail – Output the tail end of files

tee – Read from standard input, write to standard output and files

uudecode – Decodes a binary file that was used for transmission using electronic mail

uuencode – Encodes a binary file for transmission using electronic mail

wc – Word/line/byte count

Text Processing (continued ..)

awk – A pattern scanning and processing language

banner – Creates ascii art version of an input string for printing large banners

cat – Concatenate files to standard output

cksum – Print the CRC checksum and bytecount of a file (see also MD5)

egrep – Extended pattern matching (synonym for "grep -E")

fgrep – Simplified pattern matching (synonym for "grep -F")

fold – Wrap each input line to fit within the given width

iconv – Convert the encoding of the specified files

join – Join lines of two files on a common field

less – Improved more-like text pager

General User Commands

exit - cause normal process termination

logout – terminates login shell

dd - Convert and copy a file (Disk Dump)

dirname – Strip non-directory suffixes from a path

echo – Print to standard output

env – Show environment variables;

run a program with altered environment variables

file (or stat) – Determine the type of a file

nohup – Run a command with immunity to hangups outputting to non-tty

sh – The Bourne shell, the standard Unix shell

uptime – Print how long the system has been running

history - GNU History Library

for -

source - execute commands from filename in the current shell env &
return the exit status of the last command

tr - translate or delete characters

seq - print a sequence of numbers

Archivers and compression

tar – Tape ARchiver, concatenates files

gzip – The gzip file compressor

bzip2 – Block-sorting file compressor

ar – Maintain, modify, and extract from archives. Now largely obsoleted by tar

cpio – A traditional archiving tool/format

zcat – Prints files to stdout from gzip archives without unpacking them to separate file(s)

afio – Compatible superset of cpio with added functionality

p7zip – 7zip for unix/linux

pack, pcat, unpack – included in old versions of ATT Unix. Uses Huffman coding, obsoleted by compress.

pax – POSIX archive tool that handles multiple formats.

Processes and tasks management

Top - display Linux processes

Htop Interactive ncurses-based process viewer that allows scrolling

kill - Send a signal to process, or terminate a process (by PID)

killall - Terminate all processes (in GNU/Linux, it's kill by name)

watch - execute a program periodically, showing output fullscreen

background process &

pkill - look up or signal processes based on name and other attributes

nohup - run a command immune to hangups, with output to a non-tty

Fg - send job in the foreground (interactive)

bg - send job in the background, as if it had been started with &

| - It pipes the standard output of the first program to the standard input of the second program.

> >> :redirect append

&> : redirect all standard stream

Processes and tasks management (continued ..)

`nice` – Alter priorities for processes

`pgrep` – Find PIDs of processes by name

`pidof` – GNU/Linux equivalent of `pgrep`

`pkill` – Send a signal to process, or terminate a process (by name).
Equivalent to Linux `killall`

`ps` – Report process status

`renice` – Alter the priorities of an already running process

`sleep` – Delay for specified time

`time` – Time a command

`top` – Produce a dynamic list of all resident processes

`wait` – Wait for the specified process's exit status

User management and support

chsh – Change user shell

finger – Get details about user

id – Print real/effective UIDs/GIDs

last – show listing of last logged in users

lastlog – show last log in information for users

locale – Get locale specific information

localedef – Compile locale definitions

logname – Print user's login name

man – Manual browser

mesg – Control write access to your terminal

passwd – Change user password

User management and support (continued ..)

su – Start a new process (defaults to shell) as a different user (defaults to root)

sudo – execute a command as a different user.

users – Show who is logged on (only users names)

w – Show logged-in users and their current tasks

whatis – command description from whatis database

whereis – locates the command's binary and manual pages associated with it

which (Unix) – locates where a command is executed from

who – Show who is logged on (with some details)

write – Send a message to another user

Compilers

as – GNU assembler tool.

c99 – C programming language.

cc – C compiler.

dbx – (System V and BSD) Symbolic debugger.

f77 – Fortran 77 compiler.

gcc – GNU Compiler Collection C frontend (also known as GNU C Compiler)

gdb – GNU symbolic debugger.

ld – Program linker.

lex – Lexical scanner generator.

ltrace – (Linux) Trace dynamic library calls in the address space of the watched process.

m4 – Macro language.

make – Automate builds.

nm – List symbols from object files.

size – return the size of the sections of an ELF file.

strace – (Linux) or truss (Solaris) Trace system calls with their arguments and signals. Useful debugging tool, but does not trace calls outside the kernel, in the address space of the process(es) being watched.