Some Basic UNIX Commands

by Donald Hyatt

The UNIX operating system has for many years formed the backbone of the Internet, especially for large servers and most major university campuses. However, a free version of UNIX called **Linux** has been making significant gains against Macintosh and the Microsoft Windows 95/98/NT environments, so often associated with personal computers. Developed by a number of volunteers on the Internet such as the Linux group and the GNU project, much of the open-source software is copyrighted, but available for free. This is especially valuable for those in educational environments where budgets are often limited.

UNIX commands can often be grouped together to make even more powerful commands with capabilities known as **I/O redirection** (< for getting input from a file input and > for outputing to a file) and **piping** using | to feed the output of one command as input to the next. Please investigate manuals in the lab for more examples than the few offered here.

The following charts offer a summary of some simple UNIX commands. These are certainly not all of the commands available in this robust operating system, but these will help you get started.

Ten ESSENTIAL UNIX Commands

These are ten commands that you really need to know in order to get started with UNIX. They are probably similar to commands you already know for another operating system.

Command	Example	Description
1. **ls**	ls ls -alF	Lists files in current directory List in long format
2. **cd**	cd tempdir cd .. cd ~dhyatt/web-docs	Change directory to tempdir Move back one directory Move into dhyatt's web-docs directory
3. **mkdir**	mkdir graphics	Make a directory called graphics
4. **rmdir**	rmdir emptydir	Remove directory (must be empty)
5. **cp**	cp file1 web-docs cp file1 file1.bak	Copy file into directory Make backup of file1
6. **rm**	rm file1.bak rm *.tmp	Remove or delete file Remove all file
7. **mv**	mv old.html new.html	Move or rename files
8. **more**	more index.html	Look at file, one page at a time
9. **lpr**	lpr index.html	Send file to printer

10. **man**	man ls	Online manual (help) about command

Ten VALUABLE UNIX Commands

Once you have mastered the basic UNIX commands, these will be quite valuable in managing your own account.

Command	Example	Description
1. **grep <str> <files>**	grep "bad word" *	Find which files contain a certain word
2. **chmod <opt> <file>**	chmod 644 *.html chmod 755 file.exe	Change file permissions read only Change file permissions to executable
3. **passwd**	passwd	Change passwd
4. **ps <opt>**	ps aux ps aux | grep dhyatt	List all running processes by #ID List process #ID's running by dhyatt
5. **kill <opt> <ID>**	kill -9 8453	Kill process with ID #8453
6. **gcc (g++) <source>**	gcc file.c -o file g++ fil2.cpp -o fil2	Compile a program written in C Compile a program written in C++
7. **gzip <file>**	gzip bigfile gunzip bigfile.gz	Compress file Uncompress file
8. **mail** **(pine)**	mail me@tjhsst.edu < file1 pine	Send file1 by email to someone Read mail using pine
9. **telnet <host>** **ssh <host>**	telnet vortex.tjhsst.edu ssh -l dhyatt jazz.tjhsst.edu	Open a connection to vortex Open a secure connection to jazz as user dhyatt
10. **ftp <host>** **ncftp <host/directory>**	ftp station1.tjhsst.edu ncftp metalab.unc.edu	Upload or Download files to station1 Connect to archives at UNC

Ten FUN UNIX Commands

These are ten commands that you might find interesting or amusing. They are actually quite helpful at times, and should not be considered idle entertainment.

Command	Example	Description
1. **who**	who	Lists who is logged on your machine
2. **finger**	finger	Lists who is on computers in the lab
3. **ytalk <user@place>**	ytalk dhyatt@threat	Talk online with dhyatt who is on threat
4. **history**	history	Lists commands you've done recently
5. **fortune**	fortune	Print random humerous message
6. **date**	date	Print out current date
7. **cal <mo> <yr>**	cal 9 2000	Print calendar for September 2000
8. **xeyes**	xeyes &	Keep track of cursor (in "background")
9. **xcalc**	xcalc &	Calculator ("background" process)
10. **mpage <opt> <file>**	mpage -8 file1 | lpr	Print 8 pages on a single sheet and send to printer (the font will be small!)

Ten HELPFUL UNIX Commands

These ten commands are very helpful, especially with graphics and word processing type applications.

Command	Example	Description
1. **netscape**	netscape &	Run Netscape browser
2. **xv**	xv &	Run graphics file converter
3. **xfig / xpaint**	xfig & (xpaint &)	Run drawing program
4. **gimp**	gimp &	Run photoshop type program
5. **ispell <fname>**	ispell file1	Spell check file1

6. **latex <fname>**	latex file.tex	Run LaTeX, a scientific document tool
7. **xemacs / pico**	xemacs (or pico)	Different editors
8. **soffice**	soffice &	Run StarOffice, a full word processor
9. **m-tools (mdir, mcopy, mdel, mformat, etc.)**	mdir a: mcopy file1 a:	DOS commands from UNIX (dir A:) Copy file1 to A:
10. **gnuplot**	gnuplot	Plot data graphically

Ten USEFUL UNIX Commands:

These ten commands are useful for monitoring system access, or simplifying your own environment.

Command	Example	Description
1. **df**	df	See how much free disk space
2. **du**	du -b subdir	Estimate disk usage of directory in Bytes
3. **alias**	alias lls="ls -alF"	Create new command "lls" for long format of ls
4. **xhost**	xhost + threat.tjhsst.edu xhost -	Permit window to display from x-window program from threat Allow no x-window access from other systems
5. **fold**	fold -s file1 | lpr	Fold or break long lines at 60 characters and send to printer
6. **tar**	tar -cf subdir.tar subdir tar -xvf subdir.tar	Create an archive called subdir.tar of a directory Extract files from an archive file
7. **ghostview (gv)**	gv filename.ps	View a Postscript file
8. **ping (traceroute)**	ping threat.tjhsst.edu traceroute www.yahoo.com	See if machine is alive Print data path to a machine
9. **top**	top	Print system usage and top resource hogs
10. **logout (exit)**	logout or exit	How to quit a UNIX shell.

Some Other Useful Pages

- Some Useful Files and UNIX Commands: pipe, fork, system(), etc.
- Getting Started with **vi**
- The Basics of HTML
- Making a Web Page
- Using LaTeX
- Generating Graphs with GNU Plot