**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**](http://www.linux.org) 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.

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| **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.

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| **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.

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| **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.

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| **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.

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| **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. |