

Physics 309 Handout 3

Linux/Unix Command-Line Survival Skills

You can find some very bare Unix essentials at

http://www.physics.ubc.ca/computer/unix_intro.phtml

Much more detail, including LaTeX and C/C++ is at

http://www.roadmap.ubc.ca/quick/UNIX/unix_quickref.html.

Also available on paper in the Bookstore (get the “Advanced Tools” volume).

On the lab computers, you can use graphical “point and click” interface to make folders (subdirectories), move, rename, and delete files, so you can get by without the command line.

Minimal terminal-commands to check your files

“ls” lists files in present directory

“ls a*.dat” lists files beginning with letter “a” and ending with “.dat”

“ls -l” gives long listing with time stamps, permissions

“cd dirname” goes down to subdirectory “dirname”

“cd ..” goes up one level

“cd” with no argument goes back to your home directory

“pwd” tells you the present working directory

Minimal commands to manage your files

“mkdir dirname” creates subdirectory “dirname”

“mv filename dirname” moves “filename” from present directory to subdirectory “dirname”

“mv name1 name2” renames file called “name1” to file called “name2” in the same directory

“cp name1 name2” makes file called “name2” with same data as file “name1”

“rm filename” deletes “filename”

“rm -r dirname” deletes directory “dirname” and all its contents

File management gotchas

The result of “mv” depends if the second name is a directory or not, so a typo will rename the file rather than moving it!

“mv” and “cp” will quickly and irrevocably overwrite “name2” if it already exists!

“rm” means delete irrevocably and immediately.

File Viewing and Editing

“head filename” shows the first few lines of a file

“tail filename” shows the last few lines of a file

“more filename” lets you page forward through a file with space bar, “q” to quit

“less filename” lets you page forward and backward

pico is the editor from the Pine email program. It’s cursor-based, simple, limited.

vi is a an old Unix cursor-based editor with cryptic commands, but universally available

xedit is a simple GUI editor, nearly universally available. It uses the mouse, simple if you know any X, but limited. There is (usually) no undo, for instance!

emacs/xemacs is a highly programmable GUI editor. It’s great for serious use, but not trivial to learn. It comes with several games and amusements

Networking

“ssh username@physics.ubc.ca” logs on to physics.ubc.ca as username. You will need to type your physics password. “exit” logs you back out to the local machine.

“scp localfile username@physics:” copies localfile to the physics home directory of username. Note that if you leave the colon at the end off, you will end up changing the name of “localfile” to “username@physics”

“scp -r localdir username@physics:remotedir” copies the entire contents of directory localdir to the remote directory named remotedir (creating remotedir if necessary)

“scp username@physics:remotefile localfile” copies “remotefile” from your account at physics.ubc.ca as name “localfile” in the present local directory. Use “-r” for directories.

One terminal window ssh'd to physics and another for scp commands is useful.