

INTRO TO UNIX

LOGGING IN AND THE COMMAND LINE

ssh [username]@login.rc.fas.harvard.edu
whoami, who am i, id, clear, exit, logout
history, ![number], !!, ![command],
![command]:p, [command] !\$, [up arrow]
[ctrl-r] [string to search for] [ctrl-r]
[ctrl-c] (kill foreground process)
[command] & (run command in background)
[ctrl-z], bg (put foreground process into
background)
jobs, fg [number] (list background processes,
bring one to the foreground)

DIRECTORIES AND FILES

cd [., .., /, -, [dir], ~, ~[uname]]
ls [file, dir] (-al, -ltr, -lX, -lS, -lrS, -lh)
([a]ll, [l]ong, mod [t]ime [r]everse, e[X]tension,
[S]ize/[r]everse, [h]uman-readable)
wildcards: * (any number of characters)
? (1 character)

HELP

man [command] ([spacebar], [ctrl-f], [ctrl-b],
[up/down arrows], [scroll], g, G, /[string], q)
man man, man [1-8] intro
apropos [search term]
[command] --help

CREATING, MODIFYING, AND DELETING FILES AND DIRECTORIES

[command] > myfile.dat (output to file)
ls -l ~ > myhomedir.txt
editors: nano, vim, emacs
mkdir -p [dir]
cp [source] [destination]
mv [file] [new name] (rename file)
mv [file] [dir]
chmod [u,g,o,a][-,+]=[r,w,x] [file]
(e.g. chmod u+w myfile)
chmod 700 myfile
chgrp [group] [file] (you must be in dest. group)
umask 0022 (read by everybody, and write by
owner), execute is disabled by default
umask 0002 (read by everybody, and write by
owner and group)
rm [file], rm -rf [file] ([r]ecursive, [f]orce)
rmdir [dir]
rm and rmdir permanently delete files and dirs!!

STREAMS (INPUT, OUTPUT, ERROR)

cat < inputfile
cat < inputfile > outputfile
cat < inputfile 2> errorlog
cat < inputfile &> outanderror
cat < inputfile | tee outputfile
cat < inputfile | grep content
cat < inputfile 2> errorlog | tee outputfile | grep
content

replace > with >> to append

VIEWING FILE CONTENTS

more, less (same navigation as man), cat,
head (-n [num]), tail (-n [num]), diff -u [file1]
[file2] (or -U[#]) (or -y)

FINDING FILES

find . -name test.txt
find /home -name test.txt
find / -type d -name test
which

TRANSFERRING FILES

scp -r [localdir] [server]:[destination-dir]
rsync -avz [localdir] [server]:[dest-dir]
([a]rchive(ownership, permission, timestamps),
[v]erbose, [z]ip)
tar -cvzf [filename].tar.gz [directory to tar]
([c]reate, [v]erbose, g[zip], [f]ilename)
tar -xvzf [filename].tar.gz (e[x]tract)
tar -tvzf [filename].tar.gz (lis[t])

ADDITIONAL TOOLS

screen, tmux (terminal emulators)
screen -S [sessionname]
[ctrl-a],d ([d]etach)
screen -ls (list running screens)
screen -r [sessionname] ([r]e-attach)
sort data.txt
sort -r data.txt ([r]everse)
sort -f data.txt (ignore case)
sort -k 2 data.txt (by 2nd field)
uniq, wc, wc -l (lines), wc -m (chars)

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