

LAB 1

1. Execute and familiarize with Linux environment and commands

File Commands	System Info
ls - directory listing ls -al - formatted listing with hidden files cd dir - change directory to <i>dir</i> cd - change to home pwd - show current directory mkdir dir - create a directory <i>dir</i> rm file - delete <i>file</i> rm -r dir - delete directory <i>dir</i> rm -f file - force remove <i>file</i> rm -rf dir - force remove directory <i>dir</i> * cp file1 file2 - copy <i>file1</i> to <i>file2</i> cp -r dir1 dir2 - copy <i>dir1</i> to <i>dir2</i> ; create <i>dir2</i> if it doesn't exist mv file1 file2 - rename or move <i>file1</i> to <i>file2</i> if <i>file2</i> is an existing directory, moves <i>file1</i> into directory <i>file2</i> ln -s file link - create symbolic link <i>link</i> to <i>file</i> touch file - create or update <i>file</i> cat > file - places standard input into <i>file</i> more file - output the contents of <i>file</i> head file - output the first 10 lines of <i>file</i> tail file - output the last 10 lines of <i>file</i> tail -f file - output the contents of <i>file</i> as it grows, starting with the last 10 lines	date - show the current date and time cal - show this month's calendar uptime - show current uptime w - display who is online whoami - who you are logged in as finger user - display information about <i>user</i> uname -a - show kernel information cat /proc/cpuinfo - cpu information cat /proc/meminfo - memory information man command - show the manual for <i>command</i> df - show disk usage du - show directory space usage free - show memory and swap usage whereis app - show possible locations of <i>app</i> which app - show which <i>app</i> will be run by default
Process Management	Compression
ps - display your currently active processes top - display all running processes kill pid - kill process id <i>pid</i> killall proc - kill all processes named <i>proc</i> * bg - lists stopped or background jobs; resume a stopped job in the background fg - brings the most recent job to foreground fg n - brings job <i>n</i> to the foreground	tar cf file.tar files - create a tar named <i>file.tar</i> containing <i>files</i> tar xf file.tar - extract the files from <i>file.tar</i> tar czf file.tar.gz files - create a tar with Gzip compression tar xzf file.tar.gz - extract a tar using Gzip tar cjf file.tar.bz2 - create a tar with Bzip2 compression tar xjf file.tar.bz2 - extract a tar using Bzip2 gzip file - compresses <i>file</i> and renames it to <i>file.gz</i> gzip -d file.gz - decompresses <i>file.gz</i> back to <i>file</i>
File Permissions	Network
chmod octal file - change the permissions of <i>file</i> to <i>octal</i> , which can be found separately for user, group, and world by adding: <ul style="list-style-type: none"> 4 - read (r) 2 - write (w) 1 - execute (x) Examples: chmod 777 - read, write, execute for all chmod 755 - rwx for owner, rx for group and world For more options, see man chmod .	ping host - ping <i>host</i> and output results whois domain - get whois information for <i>domain</i> dig domain - get DNS information for <i>domain</i> dig -x host - reverse lookup <i>host</i> wget file - download <i>file</i> wget -c file - continue a stopped download
SSH	Installation
ssh user@host - connect to <i>host</i> as <i>user</i> ssh -p port user@host - connect to <i>host</i> on port <i>port</i> as <i>user</i> ssh-copy-id user@host - add your key to <i>host</i> for <i>user</i> to enable a keyed or passwordless login	Install from source: ./configure make make install dpkg -i pkg.deb - install a package (Debian) rpm -Uvh pkg.rpm - install a package (RPM)
Searching	Shortcuts
grep pattern files - search for <i>pattern</i> in <i>files</i> grep -r pattern dir - search recursively for <i>pattern</i> in <i>dir</i> command grep pattern - search for <i>pattern</i> in the output of <i>command</i> locate file - find all instances of <i>file</i>	Ctrl+C - halts the current command Ctrl+Z - stops the current command, resume with fg in the foreground or bg in the background Ctrl+D - log out of current session, similar to exit Ctrl+W - erases one word in the current line Ctrl+U - erases the whole line Ctrl+R - type to bring up a recent command !! - repeats the last command exit - log out of current session
	* use with extreme caution. 