

## NWSTC Hydrology - Linux Commands Refresher

### Remember: Linux is case-sensitive!

1. To open a terminal window:
  - a. hold down the **LEFT** mouse button and highlight **Terminal** then release.
  - b. Or... click the RedHat logo > System Tools > Terminal
2. To close a terminal window:
  - a. type **exit**
  - b. Or... type **<Ctrl>-D**
  - c. Or... **click the X in the upper right corner**
3. To copy text:
  - a. hold down the **LEFT** mouse button and highlight it (**drag** the mouse over it), then release
  - b. Or... you can double-click on one continuous word or phrase (i.e., with no blank spaces) to select it
4. To paste text:
  - a. press the **MIDDLE** mouse button one time
5. To reset your <Backspace> key if it quits working when you **'ssh'** to another workstation or server, or if you **'su'** to another account:
  - a. **stty erase <Backspace> <Enter>**
6. To view your present working directory...
  - a. **pwd <Enter>**
7. To list the files in a directory...
  - a. **ls <Enter>** (lists all the regular file names)
  - b. **ls -al <Enter>** (lists ALL file names, including "hidden" files... those starting with a "." like **.Apps\_defaults\_site** ... and file attributes like size, date modified, etc.)
  - c. **ls -al \*.cfg** \* is wild for 1 or more characters
  - d. **ls -al shefdecode\_2010032?.log** ? is wild for 1 character only
  - e. **ll <Enter>** (this is usually an alias for **ls -al** but on AWIPS is often aliased as **ls -latf** ... which is why the colors show up (executable file names are green, etc.)
  - f. **ls -al | less <Enter>** (to print file names one screen at a time)

8. To create a file, you can use any of these editors...
  - a. vi
  - b. gedit
  - c. nedit
  - d. emacs
  - e. kedit
  - f. kate
  - g. kwrite
  - h. probably others also
  
9. To view a MS Office Document, use Open Office:
  - a. Red Hat logo > File > Office >
  
10. To print a file (on the screen):
  - a. **cat <filename> <Enter>** (short for **concatenate**)
  - b. Or... **less <filename> <Enter>**
  - c. Or... **more <filename> <Enter>** but there is a saying in Unix/Linux that "less is more"...meaning.."less" is the preferred command
  
11. To print a file (on the printer):
  - a. **lp <filename> <Enter>**
  - b. **lp -d lp2 <filename> <Enter>** (to print to lp2...usually the color printer)
  
12. To list the used space, unused space, and filesystem mount-point in "human-readable" sizes (KB/MB/GB) using "-h"
  - a. **df -h** df info for all mounted filesystems
  - b. **df -h .** df info only for current directory (pwd)
  - c. **df -h /awips/hydroapps** df info for the hydroapps home directory.
  - Note it IS NFS-mounted (nas1), so any change made to any file in any part of this directory or any subdirectory affects ALL servers and workstations!
  - your home directory is something like mine...

Filesystem	Size	Used	Avail	Use%	Mounted on
nas1:/vol/awips_home	9.0G	4.4G	4.7G	49%	/home

  - Important info - if you fill up **/home** the system may become unstable/crash...so be careful. If it's over 90%, see your ITO/ESA or call NCF (they monitor this space and will probably call you first, anyway).
  
13. To repeat your previous commands in a terminal window:
  - a. Press the **(up)** arrow or **(down)** arrow
  - b. or... type **history <Enter>** to see what commands you ran since opening that terminal session

14. To get into **dx1** from your lx1 (or other workstation):  
a. **ssh dx1 <Enter>**

15. **ps -fu oper <Enter>** (Do this on dx1 ... ) to see processes running that are owned by the user **oper** which is the hydrology group account. On dx1, you normally see..  
**process\_dpafiles**  
**gage\_pp.LX**  
**shefdecode.LX** ( may be owned by another user - like if you stopped & started shefdecode through HydroBase)

**NOTE:** the **PID** is the Process ID..and the **PPID** is the Parent Process ID. PPID = 1 means that process was started by "init", which is the main process started by root at system boot.

16. To see the running shefdecode process on dx1..  
a. **ps -ef | grep shef <Enter>**  
b. **ps -wef |grep shef <Enter>** This option lists the full command string that started **shefdecode**

17. **exit <Enter>** to leave the **dx1** and return to **your workstation.**

18. ssh to dx1 without leaving your workstation...just to see if shefdecode is really running:

a. **ssh dx1 'ps -ef |grep shef' <Enter>** This returns the results of the commands in the string (inside the ' ... ') and but stays at your workstation.

19. **man ps <Enter>** This displays the "man" (manual) page for a command on the system. Note: there are some built-in commands that display a little differently than other system commands.

a. **man man <Enter>** man page for the man command  
b. [http://www.kernel.org/doc/man-pages/online\\_pages.html](http://www.kernel.org/doc/man-pages/online_pages.html)

20. **man -aW printf <Enter>** lists the location of all the man pages for the command printf ... note that there are 2 sections.. **printf(1)** and **printf(3)** are defined in /usr/share/man/man1 and /usr/share/man/man3. Toward the bottom of any man page, there is a section labeled "**SEE ALSO**". By default, man printf displayed **printf(1)**. To see the other page...do this..

**man 3 printf <Enter>** lists the **printf(3)** page