

# BCBGSO Advanced UNIX Workshop Reference Sheet

Mar 2 2017

Setup	What it does
ssh <your-netid>@training.las.iastate.edu	Logs into the server through SecureShell
bash	Open Bash Shell
git clone <a href="https://github.com/cmmann/basic-unix-workshop.git">https://github.com/cmmann/basic-unix-workshop.git</a>	Clone the workshop files to your workspace
Tips and Tricks	
[Up] Arrow	Previous Command
[Down] Arrow	Next Command
[Ctrl]+[C]	Stop command execution
[Tab]	autofill name
history	display history
man <commandname>	Display the manual and options for <commandname>
Lesson 1: Nano	
nano <file>	Opens <file> (or creates it if it doesn't exist) and allows you to edit <file>
[Ctrl]+[x]	Close nano
[Ctrl]+[y]	Scroll up in nano
[Ctrl]+[v]	Scroll down in nano
Lesson 2: Shell Scripts	
chmod u+x	Give owner execute permission
chmod 755	Give owner execute, group read and execute, and global read and execute permissions
./shellscript.sh	Execute shellscript.sh
Bash shellscript.sh	Have bash read shellscript.sh and then execute the commands within it
#	At the beginning of a line in a script, creates a comment
echo "words"	Prints "words" to the console
Lesson 3: wc, grep, sort, uniq	
wc <filename>	Outputs number of lines, words, bytes, and <filename>
wc -l	Output only the number of lines and the filename
wc -w	Output only the number of words and the filename
wc -m	Output only the number of characters and the filename
Command1   Command2	Pipes the output of command1 to command2

sort <file>	Sorts the contents of <file> alphabetically
sort -n	Sort numerically, lowest to highest
sort -r	Sort in reverse order
sort -u	Sort only unique items
Text   uniq	Finds unique occurrences in Text
uniq -c	Count the occurrences of the unique line
uniq -d	Print only non-unique lines
uniq -u	Print only unique lines
<b>GREP</b>	
grep <pattern> <filename>	Looks for <pattern> in the contents of <filename>
grep -c	Count how many lines on which pattern occurs
grep -o	Show only the part of a line that matches a pattern
grep -v	Invert match to select things that DON'T match pattern
grep -i	Case insensitive matching
grep -l	List the files with a match
grep -L	List the files that don't have a match
<b>Lesson 4: Regular Expressions</b>	
grep -E OR egrep	Grep using regular expressions
[A-Z]	Match any single character, A-Z
[0-9]	Match any single digit, 0-9
\b	Match only if the match occurs at the beginning of a word
^A	Match 'A' only if it is the beginning of a line
This   That	Match This or That
[] {n}	Match the preceding item n times
[] {n,m}	Match the preceding item at least n times, but not more than m times
[] *	Match the preceding item 0 or more times
[] +	Match the preceding item 1 or more times
[] ?	Match the preceding item once if it happens, but matching is optional
<b>Lesson 5: AWK</b>	
awk 'condition {procedure}'	Perform procedure if condition is true
awk '{print \$1}'	Print the first field
awk -F '\t' '{print \$1}'	Change the delimiter to a tab and print the first field
awk '\$1 > 10 {print \$1}'	Print \$1 if it is larger than 10

Miscellaneous:

. Current directory

/ all directories

.. Directory one level above you

\* any