

BCBGSO Advanced UNIX Workshop Reference Sheet

Setup	What it does
<code>ssh <your-netid>@training.las.iastate.edu</code>	Logs into the server through SecureShell
<code>bash</code>	Open Bash Shell
<code>git clone https://github.com/cmmann/basic-unix-workshop.git</code>	Clone the workshop files to your workspace
Tips and Tricks	
<code>[Up]</code> Arrow	Previous Command
<code>[Down]</code> Arrow	Next Command
<code>[Ctrl]+[C]</code>	Stop command execution
<code>[Tab]</code>	Autofill name
<code>history</code>	Display history
<code>man <commandname></code>	Display the manual and options for <commandname>
Lesson 1: Nano	
<code>nano <file></code>	Opens <file> (or creates it if it doesn't exist) and allows you to edit <file>
<code>[Ctrl]+[x]</code>	Close nano
<code>[Ctrl]+[y]</code>	Scroll up in nano
<code>[Ctrl]+[v]</code>	Scroll down in nano
Lesson 2: Shell Scripts	
<code>chmod u+x</code>	Give owner execute permission
<code>chmod 755</code>	Give owner all, group read and execute, and global read and execute permissions
<code>./shellscript.sh</code>	Execute shellscript.sh
<code>bash shellscript.sh</code>	Have bash read shellscript.sh and then execute the commands within it
<code>#</code>	At the beginning of a line in a script, creates a comment
<code>echo "words"</code>	Prints "words" to the console
Lesson 3: Condo and Slurm	
<code>sbatch <slurmscript.sh></code>	Submits <slurmscript.sh> to Slurm
<code>squeue</code>	Display the Slurm job queue
<code>squeue -u <user></code>	Display <user>'s jobs in the Slurm job queue
<code>scancel <jobid></code>	Immediately stop running <jobid> or remove <jobid> from the Slurm job queue

Lesson 4: wc, sort, uniq	
<code>wc <filename></code>	Outputs number of lines, words, bytes, and <filename>
<code>wc -l</code>	Output only the number of lines and the filename
<code>wc -w</code>	Output only the number of words and the filename
<code>wc -m</code>	Output only the number of characters and the filename
<code>Command1 Command2</code>	Pipes the output of command1 to command2
<code>sort <file></code>	Sorts the contents of <file> alphabetically
<code>sort -n</code>	Sort numerically, lowest to highest
<code>sort -r</code>	Sort in reverse order
<code>sort -u</code>	Sort only unique items
<code>Text uniq</code>	Finds unique occurrences in Text
<code>uniq -c</code>	Count the occurrences of the unique line
<code>uniq -d</code>	Print only non-unique lines
<code>uniq -u</code>	Print only unique lines
GREP	
<code>grep <pattern> <filename></code>	Looks for <pattern> in the contents of <filename>
<code>grep -c <pattern></code>	Count how many lines on which <pattern> occurs
<code>grep -o <pattern></code>	Show only the part of a line that matches <pattern>
<code>grep -v <pattern></code>	Invert match to select things that DON'T match <pattern>
<code>grep -i <pattern></code>	Case insensitive matching of <pattern>
<code>grep -l <pattern></code>	List the files with a match to <pattern>
<code>grep -L <pattern></code>	List the files that don't have a match to <pattern>
Lesson 5: Regular Expressions	
<code>grep -E</code> OR <code>egrep</code>	grep using regular expressions
<code>[A-Z]</code>	Match any single character, A-Z
<code>[0-9]</code>	Match any single digit, 0-9
<code>\b</code>	Match only if the match occurs at the beginning of a word
<code>^A</code>	Match 'A' only if it is the beginning of a line
<code>This That</code>	Match This or That
<code>[]{n}</code>	Match the preceding item n times
<code>[]{n,m}</code>	Match the preceding item at least n times, but not more than m times
<code>[]*</code>	Match the preceding item 0 or more times
<code>[]+</code>	Match the preceding item 1 or more times

[] ?	Match the preceding item once if it happens, but matching is optional
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Miscellaneous:

. Current directory

/ all directories

.. Directory one level above you

* any