BCBGSO Advanced UNIX Workshop Reference Sheet

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| Setup | What it does |
| ssh <your-netid>@training.las.iastate.edu | Logs into the server through SecureShell |
| bash | Open Bash Shell |
| git clone https://github.com/cmmann/basic-unix-workshop.git | Clone the workshop files to your workspace |
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| 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> |
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| 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 |
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| Lesson 2: Shell Scripts |  |
| chmod u+x | Give owner execute permission |
| chmod 755 | Give owner all, 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 |
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| Lesson 3: Condo and Slurm |  |
| sbatch <slurmscript.sh> | Submits <slurmscript.sh> to Slurm |
| squeue | Display the Slurm job queue |
| squeue –u <user> | Display <user>’s jobs in the Slurm job queue |
| scancel <jobid> | Immediately stop running <jobid> or remove <jobid> from the Slurm job queue |
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| Lesson 4: wc, 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 |
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| GREP |  |
| grep <pattern> <filename> | Looks for <pattern> in the contents of <filename> |
| grep –c <pattern> | Count how many lines on which <pattern> occurs |
| grep –o <pattern> | Show only the part of a line that matches <pattern> |
| grep –v <pattern> | Invert match to select things that DON’T match <pattern> |
| grep –i <pattern> | Case insensitive matching of <pattern> |
| grep –l <pattern> | List the files with a match to <pattern> |
| grep –L <pattern> | List the files that don’t have a match to <pattern> |
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| Lesson 5: Regular Expressions |  |
| 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 |

Miscellaneous:

. Current directory

/ all directories

.. Directory one level above you

\* any