**Linux Fundamentals**

* Directories are like folders.
* / “Root” is the top of the file system hierarchy.
* /bin is where binaries and other executable programs.
* /etc is where System configuration files reside.
* /home is where home directories live.
* /opt Optional or thirdy party software.
* /tmp Temporary space, typically cleared on reboot.
* /usr user related programs.
* /var is where variable data, most notably log files.
* Applications that are not part of the base OS usually go in /usr/loca or /opt.

**The Shell**

* Command line is more powerful.
* The shell is the default user interface.
* There will always be a command line.
* Servers don’t have GUI’s sometimes.
* Normal user will have just a ~ in the prompt. The root will have a :~
* Root is all powerful.
* Restricted to Sys admins. May be required to install, start, or stop and application.
* Day to day activities are usually with normal accounts.
* Very much like an admin account in Windows.
* The ~ points to your home account.
* ~jason = /home/jason
* ~pat = /home/pat
* ~root = /root
* ~ftp = /srv/ftp

**Basic Commands**

* ls – Lists directory contents.
* cd – change directory
* pwd – Displays the present working directory
* cat – Concatenates and displays contents of a file.
* echo – Displays arguments to the screen
* man – Displays the online manual
* exit – Exits the shell
* clear – Clears the screen.

**Getting Help at Command Line**

* Environment variables are storage locations that are name/value pairs.
* They are typically uppercase.
* PATH controls the command search path. Echo $PATH will list these directories, that are searched for a command in sequential order. These directories are seperated by a colon.
* Contains a list of directories.
* which command name will let you locate a command.
* You might have multiple commands with the same name. The command that is executed is the first one that is found.
* Ask commands for help with –help or –h.
* Search man pages by using man –k.

**Directories**

* A single directory as a single dot. The dot dot is the parent directory.
* cd – changes to the previous directory.
* ./ is the syntax to execute something in the current directory.
* mkdir to create a directory
* mkdir –p will create parents as well, even if they don’t exist.
* rmdir to remove a directory that’s empty
* rm –rf directory to remove directory and everything within.
* There is no undo for deleting in linux CL. No trash can to get back.

**lf or list files**

* Hidden files begin with a period. They are not displayed by default. Use ls –a to show hidden files.
* ls –F to reveal file types. / is a directory, @ is a link, and \* is an executable.
* A symbolic link is a special kind of file entry that points to the actual file or directory on a disk, like a shortcut in windows.
* ls – t Lists files by time.
* ls – r reverse order
* ls – latr Long listing including all files reverse sorted by time.
* ls – R lists files recursively.
* tree –d Lists directories only, but visual
* tree – C Colorize output.
* ls –d Lists directory name, not contents.
* ls –color colorize the output.