

### File Commands Cont.

**cp file1 file2** - used to copy the contents of one file into another file

**mv** - used to rename files and directories

**cat filename** - it allows us to create, view and concatenate files

**head filename** - prints the first 10 lines of a file

**tail filename** - prints the last 10 lines of a file

**sort** - will sort the contents of a text file line by line

**more/less** - two similar commands that both show info a page at a time, less is faster more allows user to scroll

### Systems Related

**systemctl cat** - views the content of a unit file

**systemctl status** - shows the status of a system

**Systemctl list-units --type=service --state=running** - will list active services

**Sudo systemctl start** - this will start the service

**Sudo systemctl stop** - this will stop the service

**Sudo systemctl reload** - reloads the unit files for the service

### FILE COMPRESSION

**tar xzf file.tar.gz** - Extracts a tar using Gzip

### To Downlaod a File

**wget file** non-interactive network downloader which is used to download files from the server even when the user has not logged on to the system and it can work in the background without hindering the current process

### Misc SSH Commands

**ssh-keygen** - creates a key pair for public key authentication

**ssh-copy-id** - configures a public key as authorized on a server

**ssh-agent** - agent to hold private key for single sign-on

**ssh-add** - tool to add a key to the agent

**scp** - file transfer client with RCP-like command interface

**sftp** - file transfer client with FTP-like command interface

**sshd** - OpenSSH server

### File Commands

**ls** - lists the content of a directory

**cd** - command is used to change directories

**pwd** - displays the present working directory you are currently in

**mkdir** - will create a new directory so long as it does not already exist

**rm filename** - used to delete a file

**rm -r dir** - used to delete a directory recursively along with its contents

### Other ls commands

**-a** -lists all files even hidden

**-R** -Recursively list subdirectories encountered

**-r** - lists reverse order

**-S** - sorts list by file size

**-t** - sorts by last modified

**-1** - lists one file per line

**-l** - lists in long listing format

### SSH

**SSH** -Secure Shell or Secure Socket Shell, is a network protocol that gives users, particularly system administrators, a secure way to access a computer over an unsecured network

**ssh user@host** connects the user to host



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### Variables

#### env

Show environment variables

#### echo \$NAME

Output value of \$NAME variable

export NAME=value

Set \$NAME to value

#### \$PATH

Executable search path

#### \$HOME

Home directory

#### \$SHELL

Current shell

### Kernel Information

**uname** - When the uname command is used the kernel name is returned.

**uname -r** - The uname -r command will display the release number of the kernel

**uname -v** - The uname -v will display the version number of the kernel

### Notable Directories

**/bin** - Holds essential Unix commands

**/sbin** - holds commands for superuser, useful for system administration

**/boot** - Location where the kernel and other boot files are stored

**/etc** -files used by subsystems, ie.

networking and mail, usually network services or disks to mount on

**/dev** - Contains device files for the interface between the file system and hardware

**/proc** - the interface between the filesystem and running processes

### Disk and System Info

**du**-this command is used to track the files and directories which are consuming space on the hard disk drive

**free** - Displays the total amount of free space available on the system

**df** - Displays information related to file systems about total space and available space

**lsblk** - Lists information about all of the specified block devices

**cat/proc/cpuinfo** - This is a short read-only text file that contains information about the CPUs

### Network Tools

**ifconfig <interface> <address> [up]** : start the interface

**ifconfig <interface> [down|delete]** : stop the interface

**netstat -w [seconds] -I [interface]** :

display network settings and statistics

**udpmt -p [port] -s [bytes] target\_host** : it creates UDP traffic

**udptarget -p [port]** : it's able to receive UDP traffic

**tcpmt -p [port] -s [bytes] target\_host** : it creates TCP traffic

**tcptarget -p [port]\*\*** it's able to receive TCP traffic

### Search Commands

**grep pattern file** - searches for a pattern in files

#### Grep

**-r** - will search recursively

**-v** - performs inverted search

**-i** - performs insensitive search

**-o** - shows a matched part of the file\

**find /dir/ -name " "\*** - finds files with " " in directory

**find /dir/-user " " -finds files owned by " "** in directory

**whereis " "** - will find binary source

**locate " "** - finds file searched by a system index

### Shortcuts Continued

#### !abc

Run last command starting with abc

#### !abc:p

Print last command starting with abc

#### !\$

Last argument of previous command

#### ALT-

Last argument of previous command

#### !\*

All arguments of previous command

### Working with Users

**useradd** -used to create a new user

**passwd** - used to set a password for a new user

**userdel** - to remove a user

**whoami**- this will show the user information

**su "user" passwd** - allows the user to change their password



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### Package Management

**dnf check-update** - this will show a list of packages that are available but it will not perform any updates

**dnf upgrade** - update the system and all of its packages

**dnf search "software"** - to search for new software

**dnf install "software"** - installs new software packages

**dnf remove** - to remove a package from the system

### Alias Command

**Alias** - The command allows you to define your own commands or command shortcuts

### File permissions

**chmod octal file** - Changes the permissions of file to octal, this can be found separately for user, group, and world.

4- read (r)

2- write (w)

1- execute (x)

**chmod 777** - allows all users to read, write and execute

**chmod 755** - example, lets owner read write and execute while the group and the world can read and execute

### Help And Useful Shortcuts

#### MAN PAGES

**man "command"** - a user manual that is built into the terminal shows configuration files, system calls, library routines.

**ctrl c** - stop current command

**ctrl z** - stop the current command, resume with fg in the foreground or bg in the background

**ctrl d** - log out of current session

**ctrl w** - will erase one word on the line

**ctrl u** - erases whole line

**ctrl r** - brings up a recent command

**!!** - repeat last cmd

**exit** - log out of session

### Networking

**ifconfig -a** - Displays network interfaces and ip address

**ifconfig eth0** - displays eth0 address and details

**ethtool eth0** - Query or control network driver and hardware settings

**ping host** - Send ICMP echo request to host

**whois domain** - Display whois info for domain

**dig domain** - Display DNS info for domain

### Networking Cont'd

**dig -x IP\_ADDRESS** - Reverse lookup of IP\_ADDRESS

**host domain** - Display DNS ip address for domain

**hostname -I** - Display all local ip addresses

**hostname -i** - Display the network address of the host name

**netstat -nutlp** - Display listening tcp and udp ports and programs

### Nano Commands

**Ctrl-R**  
Read file

**Ctrl-O**  
Save file

**Ctrl-X**  
Close file

Cut and Paste

**ALT-A**  
Start marking text

**CTRL-K**  
Cut marked text or line

**CTRL-U**  
Paste text

Navigate File

**ALT-/**  
End of file

**CTRL-A**  
Beginning of line

**CTRL-E**  
End of line

**CTRL-C**  
Show line number

**CTRL-\_**  
Go to line number

Search File

**CTRL-W**  
Find

**ALT-W**  
Find next

**\*CTRL-\***  
Search and replace



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