

### Help Commands

#### whatis

Search whatis database for complete words; used to find short descriptions of system commands

#### which

Shows the full path to shell commands

#### whereis

Locate binary, source and man pages for a command

#### apropos

Search through a database of short description to find help and man pages containing certain terms and commands

#### man

Manual pages for commands

### Bash Variables

**env** List current environment variables

**echo** Output value of *\$NAME* variable

**export** set *\$NAME* to value in environment

**set** Change value of shell attributes and positional parameters or display list of shell variables and functions

**\$PATH** Executable search path

**\$HOME** Home directory

**\$SHELL** Current shell

### Partitions and Disk Management

#### df

Report file system disk space usage

#### mount

Show whats mounted or mount a file system

#### umount

Unmount a file system

#### fuser

Identifies processes using files or sockets

#### isof

list open files on the system

### Directory Operations

**clear** clears your screen

**pwd** Shows current directory

**cd** Change directories

**ls** List directory contents

**mkdir** Create a new directory

**rmdir** Delete an empty directory

### File Operations

**cat** Print a file on the screen, concatenate files

**touch** Create an empty file, change file timestamps

**cp** Copy directories or files

**mv** Moves directories or files

### File Operations (cont)

**rm** Removes directories or files (This is how you remove recursively)

**ln** Creates a symbolic or hard link for a file

**less** View a file on page at a time, allows for going backwards

**head** Print the first 10 lines of a file

**tail** Print the last 10 lines of a file

**wc** Count the number of words or characters in a file

**stat** Display file of file system status

**cut** Remove sections from lines of input

**paste** Merge lines of files

### Searching Files

**grep** Search text files for lines containing a matching pattern

**locate** Find files by matching the whole path name

**find** search for files in a directory hierarchy

### Commands to know

**uname** Prints information about a machine and operating system it is run on

**who** Print who is currently logged in

**uptime** Prints system uptime and load

**sudo** Execute a command as another user, usually with higher permissions

**shutdown** Bring the system down in a safe way

### ls Options

**-a** Show all (including hidden)

**-R** Recursive list

**-r** Reverse order

**-t** Sort by last modified

**-S** Sort by file size

**-l** Long listing format

**-1** One file per line

**-m** Comma-separated output

**-Q** Quoted output

### grep Options

**-i** Case insensitive search

**-r** Recursive search

**-** Inverted search

**v**

**-** Show matched part of file

**o** only



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Published 1st April, 2015.

Last updated 12th May, 2016.

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### Process Management

<b>ps</b>	Report on current processes
<b>pstree</b>	Display a tree of processes
<b>top</b>	Show real time processes
<b>kill</b>	Terminate a process by PID
<b>killall</b>	Kill a process by name
<b>pkill</b>	Look up or signal processes based on same and other attributes
<b>pgrep</b>	Grep for process information
<b>ctrl+z</b>	Stop the job but don't end process
<b>&amp;</b>	Place this after a command to put the process in the background
<b>jobs</b>	Display all jobs

### File Permissions

<b>chmod 775 file</b>	Change file permissions to 775
<b>chmod -R 600 folder</b>	Recursively chmod <i>folder</i> to 600
<b>chown user.group file</b>	Change <i>file</i> owner to <i>user</i> and group to <i>group</i>

### File Permission Numbers

First number is the **owner** permission, second is **group** and third is **everyone**

### File Permission Numbers (cont)

Calculate permission digits by adding number below:

```
suid=4  421  421  421
sgid=2  rwx  rwx  rwx
flag=1  owner group world
example: cmod 777 /etc/file.txt
```

### Networking Directories

#### /etc/sysconfig/network-scripts

This folder contains the configuration files for each interface on the system; usually named ifcfg-eth0 or ifcfg-eth1.

#### /etc/resolv.conf

This file contains the permanent Domain Name Server (DNS) settings

### Networking

<b>ifconfig</b>	Configure network interface
<b>route</b>	Show/Manipulate the IP routing table
<b>ip</b>	Show/Manipulate routing, devices, policy and tunnels; replaces ifconfig, arp, and route
<b>ifup</b>	Bring network interface up
<b>ifdown</b>	Bring network interface down
<b>ping</b>	Send ICMP ECHO_REQUEST to network hosts

### Accounts and Security Administration

<b>groupadd</b>	Create a new group
<b>groupdel</b>	Delete a group
<b>groupmod</b>	Modify definition of a specified group
<b>useradd</b>	Create a new user
<b>userdel</b>	Delete a user
<b>usermod</b>	Modify a user account
<b>passwd</b>	Update a user's password
<b>vipw</b>	Edit password, group, shadow-password (Updates etc/shadow)
<b>vigr</b>	Edit password, group, shadow-group (Updates etc/gshadow)
<b>chage</b>	Change password policy