LINUX BASICS COMMANDS

Common SSH Commands or Linux Shell Commands,

- ls : list files/directories in a directory, comparable to dir in windows/dos.
- ls -al : shows all files (including ones that start with a period), directories, and details attributes for each file.
- cd : change directory · · cd /usr/local/apache : go to /usr/local/apache/ directory
- cd ~ : go to your home directory
- cd - : go to the last directory you were in
- cd .. : go up a directory cat : print file contents to the screen
- cat filename.txt : cat the contents of filename.txt to your screen
- chmod: changes file access permissions

The set of 3 go in this order from left to right:

USER - GROUP - EVERONE

0 = --- No permission

1 = --X Execute only

2 = -W- Write only

3 = -WX Write and execute

4 = R-- Read only

5 = R-X Read and execute

6 = RW- Read and write

7 = RWX Read, write and execute

Usage:

- chmod numberpermissions filename
- chmod 000 : No one can access
- chmod 644: Usually for HTML pages
- chmod 755: Usually for CGI scripts
- chown: changes file ownership permissions

The set of 2 go in this order from left to right:

USER - GROUP

- chown root myfile.txt : Changes the owner of the file to root
- chown root.root myfile.txt : Changes the owner and group of the file to root

- tail : like cat, but only reads the end of the file
- tail /var/log/messages : see the last 20 (by default) lines of /var/log/messages
- tail -f /var/log/messages : watch the file continuously, while it's being updated
- tail -200 /var/log/messages : print the last 200 lines of the file to the screen

- more : like cat, but opens the file one screen at a time rather than all at once
- more /etc/userdomains : browse through the userdomains file. hit Spaceto go to the next page, q to quit
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- pico : friendly, easy to use file editor
- pico /home/burst/public_html/index.html : edit the index page for the user's website.

File Editing with VI ssh commands

- vi : another editor, tons of features, harder to use at first than pico
- vi /home/burst/public_html/index.html : edit the index page for the user's website.

Whie in the vi program you can use the following useful commands, you will need to hit SHIFT + : to go into command mode

- :q! : This force quits the file without saving and exits vi
- :w : This writes the file to disk, saves it
- :wq : This saves the file to disk and exists vi
- :LINENUMBER : EG :25 : Takes you to line 25 within the file

- :$: Takes you to the last line of the file
- :0 : Takes you to the first line of the file

- grep : looks for patterns in files
- grep root /etc/passwd : shows all matches of root in /etc/passwd
- grep -v root /etc/passwd : shows all lines that do not match root

- ln : create's "links" between files and directories
- ln -s /usr/local/apache/conf/httpd.conf /etc/httpd.conf : Now you can edit /etc/httpd.conf rather than the original. changes will affect the orginal, however you can delete the link and it will not delete the original.

- last : shows who logged in and when
- last -20 : shows only the last 20 logins
- last -20 -a : shows last 20 logins, with the hostname in the last field

- w : shows who is currently logged in and where they are logged in from.
- who : This also shows who is on the server in an shell.

- netstat : shows all current network connections.
- netstat -an : shows all connections to the server, the source and destination ips and ports.
- netstat -rn : shows routing table for all ips bound to the server.
- netstat –tunlp : to check all ports listing
  - -t - Show TCP ports.
  - -u - Show UDP ports.
  - -n - Show numerical addresses instead of resolving hosts.
  - -l - Show only listening ports.
  - -p - Show the PID and name of the listener's process. This information is shown only if you run the command as root or sudo user.
- lscpu: to check cpu info

- top : shows live system processes in a nice table, memory information, uptime and other useful info. This is excellent for managing your system processes, resources and ensure everything is working fine and your server isn't bogged down.
- top then type Shift + M to sort by memory usage or Shift + P to sort by CPU usage
- top –c : show which process take more load
- free –th : to check RAM of the pc

- ps: ps is short for process status, which is similar to the top command. It's used to show currently running processes and their PID.

A process ID is a unique number that identifies a process, with that you can kill or terminate a running program on your server (see kill command).

- ps U username : shows processes for a certain user
- ps aux : shows all system processes
- ps aux --forest : shows all system processes like the above but organizes in a hierarchy that's very useful!

- touch : create an empty file
- touch /home/burst/public_html/404.html : create an empty file called 404.html in the directory /home/burst/public_html/

- file : attempts to guess what type of file a file is by looking at it's content.
- file * : prints out a list of all files/directories in a directory

- du : shows disk usage.
- du -sh : shows a summary, in human-readble form, of total disk space used in the current directory, including subdirectories.
- du -sh * : same thing, but for each file and directory. helpful when finding large files taking up space.

- wc : word count
- wc -l filename.txt : tells how many lines are in filename.txt

- cp : copy a file
- cp filename filename.backup : copies filename to filename.backup
- cp -a /home/burst/new_design/* /home/burst/public_html/ : copies all files, retaining permissions form one directory to another.
- cp -av * ../newdir : Copies all files and directories recurrsively in the current directory INTO newdir

- mv : Move a file command
- mv oldfilename newfilename : Move a file or directory from oldfilename to newfilename
- mv * ../: move All files on back folder

- rm : delete a file
- rm filename.txt : deletes filename.txt, will more than likely ask if you really want to delete it
- rm -f filename.txt : deletes filename.txt, will not ask for confirmation before deleting.
- rm -rf tmp/ : recursively deletes the directory tmp, and all files in it, including subdirectories. BE VERY CAREFULL WITH THIS COMMAND!!!

- TAR: Creating and Extracting .tar.gz and .tar files
- tar -zxvf file.tar.gz : Extracts the file
- tar -xvf file.tar : Extracts the file
- tar -cf archive.tar contents/ : Takes everything from contents/ and puts it into archive.tar
- gzip -d filename.gz : Decompress the file, extract it

- ZIP Files: Extracting .zip files shell command
- unzip file.zip

- Firewall - iptables commands
- iptables -I INPUT -s IPADDRESSHERE -j DROP : This command stops any connections from the IP address
- iptables -L : List all rules in iptables
- iptables -F : Flushes all iptables rules (clears the firewall)
- iptables --save : Saves the currenty ruleset in memory to disk
- service iptables restart : Restarts iptables

Apache Shell Commands

- httpd -v : Outputs the build date and version of the Apache server.
- httpd -l : Lists compiled in Apache modules
- httpd status : Only works if mod_status is enabled and shows a page of active connections
- service httpd restart : Restarted Apache web server

MySQL Shell Commands

- CREATE USER 'qasim'@'localhost' IDENTIFIED WITH BY 'password'; :make user
- GRANT ALL PRIVILEGES ON *.* TO 'qasim'@'localhost' WITH GRANT OPTION; : give acess of all

- mysqladmin processlist : Shows active mysql connections and queries
- mysqladmin drop databasenamehere : Drops/deletes the selected database
- mysqladmin create databasenamehere : Creates a mysql database

Restore MySQL Database Shell Command

- mysql -u root -p -e 'create database wordpress_db'; : make database folder
- mysql wordpress_db < wpdump.sql

- mysqldump -u username –p password databasename < databasefile.sql : Restores a MySQL database from databasefile.sql

Backup MySQL Database Shell Command

- mysqldump -u username -p databasename > databasefile.sql : Backup MySQL database to databasefile.sql
- mysqldump -u root -p wordpress_db > backup.sql

- scp backup.sql root@10.0.0.23:/home :

- scp -i webserver.pem abc.txt ec2-user@52.200.39.122:/

to ransfer file from one instance to other instance

enable root also and give them new password where you are going to paste file

nano /etc/ssh/sshd_config

/etc/init.d/ssh restart

passwd root

- kill: terminate a system process
- kill -9 PID EG: kill -9 431
- kill PID EG: kill 10550
- Use top or ps ux to get system PIDs (Process IDs)

EG:

PID	TTY	TIME	COMMAND
10550	pts/3	0:01	/bin/csh
10574	pts/4	0:02	/bin/csh
10590	pts/4	0:09	APP

Each line represents one process, with a process being loosely defined as a running instance of a program. The column headed PID (process ID) shows the assigned process numbers of the processes. The heading COMMAND shows the location of the executed process.

Putting commands together

Often you will find you need to use different commands on the same line. Here are some examples. Note that the | character is called a pipe, it takes date from one program and pipes it to another.

- means create a new file, overwriting any content already there.
- >> means tp append data to a file, creating a newone if it doesn not already exist.
- < send input from a file back into a command.

- grep User /usr/local/apache/conf/httpd.conf |more

This will dump all lines that match User from the httpd.conf, then print the results to your screen one page at a time.

- last -a > /root/lastlogins.tmp

This will print all the current login history to a file called lastlogins.tmp in /root/

tail -10000 /var/log/exim_mainlog |grep domain.com |more

This will grab the last 10,000 lines from /var/log/exim_mainlog, find all occurances of domain.com (the period represents 'anything',

-- comment it out with a so it will be interpretted literally), then send it to your screen page by page.

- netstat -an |grep :80 |wc -l

Show how many active connections there are to apache (httpd runs on port 80)

- mysqladmin processlist |wc -l

Show how many current open connections there are to mysql