LINUX COMMANDS

- ☑ ~~Intro to Linux~~
- ☑ ~~Basic CLI commands~~
- ☑ ~~Understanding files in Linux~~
- ☑ ~~Filters and redirections~~
- ☑ ~~users and groups~~
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Open Source

software with source code that anyone can inspect, modify and enhance

Linux Principles

1. Everything is a file
2. small single purpose programs
3. Ability to chan programs together for complex operations
4. Avoid capitative UI
5. configuration datas stored in text files

Why Linux

1. open source
2. support wide variety of hardware
3. community
4. customisation
5. Most Services runs on linux
6. Automation

kernel + utilities

Architecture of Linux

popular distos

1. Redhat enterprise linux
2. ubuntu server
3. centos
4. Garuda
5. kali linux
6. suse enterprise linux .....

Some important directories

dir	path
Home directories	/, /root, /home/username
user Executable	/bin
System Executable	/sbin
other mount points	/media, /mnt

config	/etc
temp	/temp
kernel and boot	/boot
server	/var, /serv
system info	/proc, /sys
shared lib, lib	/lib

Basic File Commands

Command	use
whoami	user
pwd	present working dir
cat	content, edit, create
$	normal user
#	root
cd	change directory
mkdir	create dir
cd ..	back one dir
cd ~	directed to home
ls	list of files
touch	create empty files
cp	copy
mv	move
ln -s source des	softlink
ls -l	full description
vim <filename>	example notepad
Insert	Vim Edit mode
esc+:wq	save
esc+:q!	not save
file <fileName/path>	file type

Command	use
mkdir -P	creating Hierarchy dir
d	dir
-	normal file
l	link

Filter Commands

command	use
grep <key_word> <filename>	search and it’s case sensitive
grep -i <key_word> <filename>	not case sensitive
grep -iR firewall *	all files and including dir file
grep -vi firewall *	except search keyword
less filename	reader —→ q
more filename	reader —→ percentage
head filename	first 10 lines
head -number filename	first number lines
tail filename	last 10 lines
tail -number filename	last num lines
cut -d: -f1 filename	fetch field data
vim :%s/search/replace/g	search replace
sed ‘s/search/replace/g’ file name	display replace it will not save
sed -i ‘s/search/replace/g’ file name	save the content to the file with replaced content

Redirections

process where we can copy output of a command, files into a new files.

command	use
>	create
>>	append
free -m	ram, virtual memeory
uptime	system uptime
date	date
df -h	disk utilization
/dev/null	empty file. Black hole
free -m 1 >	1 : stdoutput
free -m 2 >	2: stderror
free -m & >	3: both output and std error
echo	print
wc -l filename	number of lines
|	output of one command will be input of another command

USERS AND GROUPS

1. users and group are used to control access to files and resources
2. user login to the system by supplying their username and password
3. every file on the system owned by a user and associated groups
4. every user of the system is assigned a unique userId
5. username and uid are stored in /etc/passwd
6. user passwords stored in /etc/shadow in encrypted form

7. users cannot read, write or execute each others files without permission.

user			
root	root	0	/root
regular	vagrant, username	1000 to 6000	/home/vagrant,
service	ftp, ssh,	1 to 999	/var/ftp

/etc/passwd	user details
/etc/group	group details
id user/group	user/group id details
useradd	adding user
userdel	deleting the user
passwd username	passord set or rest
groupadd	adding group
groupdel	deleting group
su - username	login to username

File Permissions

- -rw-------. 1 root root 2081 Sep 11 03:14 anaconda-ks.cfg
  drwxr-xr-x. 2 root root 61 Sep 11 03:47 devopsdir
  -rw-------

1. r: Read
2. w: write
3. x: execute

-: file type

COMMAND	USE
chown	change owner

chmod	change permissioms
chmod g+x filepath	
chmod 754 filepath	

SUDO

sudo gives power to a normal user to execute commands which is owned by root user

command	use
sudo	root user capabilities
/etc/sudoers	edit when user want sudo capabilities

SOFTWARE MANAGEMENT

RPM — yum

command	use
curl	url dpwnload
wget	
rpm -ivh	install

SERVICES AND PROCESS:

“Program that run in background and perform specific task without human intervention”

command	use
systemctl start pname	start
systemctl stop pname	stop
systemctl reload pname	reload when config changes
systemctl restart pname	restart
systemctl enable pname	enable when boot is complete

ps aux	all process list
ps -ef	with PID, PPID
kill pid	process stop
kill -9 pid	process stop (hard).