**Basic information and commands of Linux**

1. Directory structure of Linux.

/ - It is known as root and every single file and directory exists under this.

/root – It is home directory of root user and only root has access to write under this directory.

/bin – It contains binary files of all basic commands.

/sbin – It is similar to the /bin directory but it contains additional binary files which is used by root user or sudo user.

/boot – This directory contains booting files of OS.

/dev – All device related files.

/etc – All configuration files exists under this directory.

/usr – It contains binaries and libraries files. it also contains hard link of sbin and bin directory.

/home – It is the home directory of all normal users.

/lib – Libraries of all binaries which is used by OS.

/tmp – It is temporary directory and data under this directory may be delete after system reboot automatically.

/var – this directory contains variable data files and all system related logs.

/proc – Directory contains information related system processes.

/opt – Directory used for keeping data related applications.

1. Commands to get Basic information about OS:

# cat /etc/redhat-release

# cat /etc/eds-release

# cat /etc/ueng-release

#cat /proc/meminfo: it will display the memory(physical & swap) usage in details

#cat /proc/cpuinfo: It will display the CPU related information.

1. #mkdir <directory name> : To create the directory.

#mkdir -p <directory name> : To create the directories recursively.

1. To create the file :

#cat > file\_name:

#touch file\_name: to create the empty file.

#cat >> file\_name: to add in the end of file.

#vi file\_name: to modify the file.

#echo > file\_name: it will clear all the data inside your file(file\_name).

1. Delete file or directory:

#rm file\_name : it will delete the file.

#rm -r directory\_name : use to delete the directory.

#rm -rf directory\_name : use to delete the directories forcefully.

1. Health Check commands:

#Top: To check the CPU usage, Memory usage, Swap Memory, Cache Size.

#free -h: To check the memory usage (-h for human readable, you can use : -g, -m, -b as well in stead of -h).

#sar -u : To display the CPU usage.

#sar -r: To display the memory usage.

#vmstat -a: It will also display the memory status.

#sar -q: To check the input output statistics of CPU & all partitions.

1. To change the permissions of directories:

#chmod 644 <directory name>

# chmod -R 644 <directory name> : this command will change the permissions all directories/files recursively.

1. To change the ownership of directories:

#chown abc:xyz <directory name> : abc will be the user owner and xyz is group owner of mentioned directory/file.

#chown -R abc:xyz <directory name> : It will change the ownerships of files/directories recursively.

#chgrp xyz <directory name> : To change the group ownership only.

1. User creation:

#useradd <user name> : To add the user.

#useradd -d /home\_directory\_path <user name> : To create the user with mentioned home directory.

#usermod : To modify the user information.

#userdel <user\_name> : To delete the user.

#userdel -r <user\_name> : To delete the user with his home directory.

#chage -l <user name> : it will display the user account expiry.

#cat /etc/passwd : it contains all user information.

#cat /etc/shadow : it contains user’s password information.

#cat /etc/group : contains user’s group information.

1. #crontab -l : To check the cron entries.
2. #alias his=’history’ : to create the alias name of history command.

#unalias his : to remove the alias.

(If you want to create a permanent alias, add this entry in the last of file “/etc/bashrc”.)

1. To download the package:

#rpm -qa (package name) : it will display the mentioned package is installed or not.

#rpm -ivh (package name) : it will install the mentioned package.

#rpm -evh (package name): to remove the package.

We can also download with yum(yellowdog update manager).

#yum install <package name>

#yum clean all : To remove the cache

# yum repolist all : To check the repolist

1. To manage the service :

For Centos/RHEL 5,6:

#service vsftpd status : To check the status of vsftpd service.

#service vsftpd start

# service vsftpd stop

# service vsftpd enable

# service vsftpd disable

For Centos/RHEL 7:

#systemctl status vsftpd

1. #ifconfig -a : To check the interface details.
2. #ethtool <eth0/eth1/eht2> : it will show you the interface details.
3. #netstat -nr : it will show you the routes.
4. #arp -a : it will display, is your system able to read mac address of all interface.
5. #ip -a : same output like ifconfig command.
6. #nslookup google.com : it will display the ip address of domain.
7. Commands to create the LVM on Linux machine:

First of all we need to create the partitions of disk.

#fdisk <disk name> : disk name can be /dev/srX, /dev/srY

#lsblk : To check list of all block devices on system.

Now, we need to create the PV, known as physical volume.

#pvcreate <disk name>

#pvdisplay or pvs : To check the physical volumes.

Now, we will create the VG, which is known as volume group.

#vgcreate vg\_name <disk\_name> : To create the new vg

#vgextend vg\_name <disk\_name> : To extend the vg.

#vgreduce vg\_name <disk\_name> : To reduce the vg space.

#vgdisplay or vgs : To check the volume group informations.

Now, we will create the LV (logical volume)

#lvcreate -L +1G -n lv\_name <path of vg> : this command will create the new LV.

#lvdisplay or lvs : to check the lv’s details.

Now , we need to create the file system.

#mkfs.ext4 <path of LV>

#mount <path of LV> </mnt or /media> :

Below command to extend the LV size. Before running make sure you have enough space in VG

#lvextend -L +500M lv\_path : To increase the lv

#resize2fs lv\_path : make sure we need to run this command after extending the LV size.

Please follow the below link:

<https://linoxide.com/linux-how-to/lvm-configuration-linux/>

**Thankyou!!**