Linux

1964-bell lab(new jersey)
-purpose-multiuser operating system

1969-withdraw by bell lab
1969-dennis ritchie+ken thomson-start work on the same
-created UNICS(uniplexed information and computing services) OS
1975-UNIX V6-Popular

UNIX VERSION→IBM-AIX(ibm)
→SUN-SOLARIS(sun system)
→MAC-OS(apple)
→HP-UX(hp)
→LINUX
Linus torvald created Linux(1991) from minix
Linux is not an operating system , it is a kernel
1991-free software movement
GNU(many software) movement-free
Linux(kernel)+GNU(software)→OS

Linux version→ RHET(red hat)
→Fedora
→Debina
→others(ubuntu(3rd most used),centos(fastest),amazon linux , kali linux)

OS→ command line interface / graphical user interface

Top level root directory ⇒

windows-C:/ → program files,users,program(x86),perflogs
Linux - / → /root,/home,/boot,/etc,/usr,/bin

/home→home directory for other users
/root→home directory for root user
/boot→contain bootable files for linux
/etc→configuration files
/usr→by default software installed in this
/bin→contain command used by all users(binay)
/sbin→command used by only root users(system binary)
/opt→ optional application software packages
/dev→ essential device files this include terminal devices or any devices attached to this

Commands ⇒

ls
cat file1
cat > file 1 chailsingh
cat >> file 1 rajput
cat file1 file2 > filemix
cat file1>file2
tac file1
touch file1
touch file1 file2 file3
stat file1
touch file1
touch -a file1
stat file1
touch -m file1
vi file1→ enter i then write something,press esc then type :q for quit , :wq for save and quit , :q! For force quit
nano file1
clear
history
mkdir dir1
mkdir dir1 dir2 dir3
mkdir dir1/dir2/dir3
cd dir2
cd .. →go to parent directory
pwd → print working directory
cd ../../..
touch .file → create hidden file
ls -a → show all file including hidden file
mkdir .dir → create hidden directory
cp sourcefile destinationfile → copy content of source file to destination file
mv source destination → cut and paste or move
mv oldname newname →rename file
rmdir dir1 → remove specific directory(empty)
rmdir -p dir1/dir2 → remove both parent and child directory
rmdir -pv → remove all parent and subdirectories along with the verbose
rm -rf dir1 → remove even non empty file or directory
rm -rp →remove non empty directory including parent and subdirectory
rm -r remove empty directory
less file1
head file1 → top 10 line show
Tail file2 → least 10 line show
more file1
hostname → hostname
hostname -i →ip address
Ifconfig → ip address
cat /etc/os-release → version of os
Yum → yellowdog updater modified
yum install httpd → install apache file pkg
yum update httpd → update pkg
Yum remove httpd → delete pkg

service httpd start
service httpd status → start service
chkconfig httpd on → automatic on software whenever we start system
chkconfig httpd off →
which chef
whoami
Echo “msg” →display message
echo “welcome” >file → new welcome msg in file
Echo “world” >>file → write msg into file
Echo > file → delete data from file
yum list installed →list of installed packages
grep root /etc/passwd → search for root word in the passwd file
Sort → alphabetical order

Useradd chail → add new user
Cat /etc/passwd → list of user
Groupadd groupname→ new group add
Cat /etc/group → list of group
Note → if we create user , group name with user itself created automatically but if you add group then user will not be created automatic
gpasswd -a chail newgroup → want to add single user into existing group
gpasswd -M ajay chail avni newgroup → want to add multiple users into existing group
ln file1 backupfile1→ link or backup(update automatic)
ln -s file2 softfile2→ soft link/create soft cut
Tar -cvf dirxtar dirx → it is an archiever used to combine multiple file into one
gzip dirx.tar→ it is a compression tool used to reduce the size of file
gunzip dirx.tar.gz → unzip the dirx.tar.gz file
tar -xvf dirx.tar → extract dirx.tar file
wget url→ it is non interactive network downloader

Access Mode / Permissions ⇒

- **- →file**
- **d →directory**

Access mode →
r →value 4
→read
w →value 2
→write
x →value 1
→ execute file / enter into directory

Commands →

Chmod → change access mode of file
Chown → change owner of file or directory
Chgrp → change group of file or directory

Eg →

1) drwxr_xrw_ 7 chail root   4096 Jul 26 10:31 spring
2) – rw_rw_r_ _ 1 chail chail   122 Aug 29 18:02 first.txt

Case 1 →d⇒this is directory because starts with d
→rwx⇒first rwx belongs to root or owner
→r_x⇒middle rwx belongs to group
→rw_ ⇒last rwx belongs to other user
→ 7 ⇒ symbolic link
→chail ⇒owner
→root ⇒ group
→4096 ⇒ size in bytes
→jul 16 ⇒ date
→ 10:31 ⇒ time
→ spring ⇒ directory name

Case 2 →– ⇒this is file because starts with –
→rw_⇒first rwx belongs to root or owner
→rw_⇒middle rwx belongs to group
→r_ _ ⇒last rwx belongs to otheruser
→ 1 ⇒ symbolic link
→chail ⇒owner
→root ⇒ group
→122 ⇒ size in bytes
→Aug 29 ⇒ date
→ 18:02 ⇒ time
→ first.txt ⇒ directory name

chmod → chmod 777 spring ⇒ (4+2+1)(4+2+1)(4+2+1) spring
→ change the mode of spring to rwxrwxrwx
→ owner,group, other user has full read write executive right on directory

Other ways → chmod u-wx , g+w , o=wx file1

chown → chown chail file1
chgrp →chgrp devops file1