

Linux Commands & Shell Scripting Cheat Sheet

1. 100 Most Common Linux Commands

File & Directory Management

pwd – Print current working directory
ls – List files
ls -l – Detailed list
ls -a – Show hidden files
cd – Change directory
cd .. – Move back
mkdir dirname – Create directory
rmdir dirname – Remove empty directory
touch file.txt – Create file
cp file1 file2 – Copy file
mv file1 file2 – Move/Rename
rm file.txt – Remove file
rm -r dir – Remove directory with files
find / -name file.txt – Search file
locate file.txt – Locate file
tree – Show directory tree

File Viewing & Editing

cat file.txt – Show content
tac file.txt – Show reverse content
less file.txt – Page view
more file.txt – Page view (old)
head -n 10 file.txt – First 10 lines
tail -n 10 file.txt – Last 10 lines
tail -f log.txt – Live follow logs
nano file.txt – Edit with Nano
vim file.txt – Edit with Vim

User & Group Management

whoami – Current user
id – Show UID, GID
who – Show logged in users
w – Show active users
su user – Switch user
sudo command – Run as root
adduser username – Add user
useradd username – Add user basic
passwd username – Set password
deluser username – Delete user
usermod -aG group user – Add user to group
groupadd groupname – Create group
groupdel groupname – Delete group
groups username – Show groups

Permissions & Ownership

ls -l – Show permissions
chmod 755 file – Change permission
chmod u+x file.sh – Execute permission
chown user file – Change owner
chgrp group file – Change group
umask – Show default permission

File Compression & Archiving

zip file.zip file.txt – Zip file
zip -r folder.zip folder/ – Zip folder
unzip file.zip – Unzip
tar -cvf file.tar files/ – Create tar
tar -xvf file.tar – Extract tar
tar -czvf file.tar.gz folder/ – Create tar.gz
tar -xzvf file.tar.gz – Extract tar.gz
gzip file.txt – Compress
gunzip file.txt.gz – Decompress

Process Management

ps – Show processes
ps aux – Detailed processes
top – Live processes
htop – Interactive processes
kill PID – Kill process
kill -9 PID – Force kill
jobs – Show background jobs
fg %1 – Foreground job
bg %1 – Background job

Networking

ping google.com – Test network
ifconfig – Show IP (old)
ip addr – Show IP (new)
curl url – Fetch webpage
wget url – Download file
scp file user@ip:/path/ – Secure copy
ssh user@ip – SSH login
netstat -tulnp – Show ports
ss -tulnp – Show sockets

System Info & Monitoring

uname -a – System info
hostname – Show hostname
uptime – Show uptime
df -h – Disk usage
du -sh folder – Folder size
free -h – RAM usage
dmesg – Kernel logs
history – Command history
clear – Clear screen

Package Management

apt update – Update packages
apt upgrade – Upgrade packages
apt install pkg – Install package
apt remove pkg – Remove package
apt search pkg – Search package
yum install pkg – Install package (RedHat)
dnf install pkg – Install package (Fedora)

Miscellaneous

echo Hello – Print
date – Show date
cal – Calendar
man ls – Manual page
alias ll="ls -l" – Shortcut

unalias ll – Remove shortcut
exit – Exit terminal
reboot – Restart
shutdown now – Shutdown now
shutdown -h +10 – Shutdown in 10 min

2. Root, Directories & Home

- Root user: Superuser with full permissions (# prompt).
- Normal user: (\$ prompt).
- **Important Directories:**
 - / – Root directory
 - /root – Root user's home
 - /home/username – User's home
 - /bin – Binaries
 - /etc – Config files
 - /var – Logs & variable data
 - /tmp – Temporary files
 - /dev – Device files

3. 10 Basic Shell Scripting Questions

Hello World:

```
echo "Hello, World!"
```

Check Even/Odd:

```
if (( num % 2 == 0 )); then echo Even; else echo Odd; fi
```

Leap Year:

```
if (( (y % 4 == 0 && y % 100 != 0) || y % 400 == 0 )); then echo Leap; else echo Not; fi
```

Factorial:

```
fact=1; for ((i=1;i<=n;i++)); do fact=$((fact*i)); done; echo $fact
```

Fibonacci:

```
a=0; b=1; for ((i=0;i<10;i++)); do echo -n "$a "; fn=$((a+b)); a=$b; b=$fn; done
```

Check File:

```
if [ -f "$f" ]; then echo Exists; else echo Not Found; fi
```

Calculator:

```
case $c in 1) echo $((a+b));; 2) echo $((a-b));; 3) echo $((a*b));; 4) echo $((a/b));; esac
```

Prime Check:

```
for ((i=2;i<=n/2;i++)); do if (( n % i == 0 )); then prime=0; fi; done
```

Sum of Digits:

```
sum=0; while ((n>0)); do sum=$((sum+n%10)); n=$((n/10)); done; echo $sum
```

Reverse String:

```
rev=$(echo $str | rev); echo $rev
```