Linux Basic Commands Cheat Sheet

File & Directory Management

```
ls                                      - List directory contents
cd <dir>                                - Change directory
pwd                                     - Print working directory
mkdir <dir>                             - Create new directory
rm <file>                               - Remove file
rm -r <dir>                             - Remove directory and contents
cp <src> <dst>                          - Copy file or directory
mv <src> <dst>                          - Move or rename file
touch <file>                            - Create empty file
```

File Viewing & Searching

```
cat <file>                              - View file content
less <file>                             - View file with paging
head <file>                             - View first lines
tail <file>                             - View last lines
grep 'pattern' file                     - Search text in file
find . -name '*.txt'                    - Find files by name
locate <file>                           - Find file using database
```

Text Processing

```
cut -d':' -f1 /etc/passwd               - Cut field using delimiter
awk '{print $1}' file                   - Print first column
sed 's/old/new/g' file                  - Replace text in file
sort file.txt                           - Sort lines in file
uniq file.txt                           - Remove duplicate lines
tr a-z A-Z                              - Translate characters
wc -l file.txt                          - Count lines
xargs                                   - Build command line from input
tee file.txt                            - Redirect output to file and stdout
```

Permissions & Ownership

```
chmod 755 file                          - Set file permissions
chown user:group file                   - Change file owner
ls -l                                   - View file permissions
```

Package Management (Debian-based)

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```
sudo apt update                             - Update package index
sudo apt upgrade                            - Upgrade packages
sudo apt install <pkg>                      - Install package
sudo apt remove <pkg>                       - Remove package
dpkg -i <file>.deb                          - Install .deb file
```

Processes & Services

```
ps aux                                      - List all processes
top                                         - Real-time process monitor
htop                                        - Interactive process viewer
kill <PID>                                  - Terminate process
systemctl status <service>                  - Check service status
systemctl start <service>                   - Start service
systemctl stop <service>                    - Stop service
```

Networking

```
ping <host>                                 - Ping a host
ip a                                        - Show IP addresses
netstat -tulnp                              - List network connections
ss -tuln                                    - Socket statistics
curl <url>                                  - Fetch URL content
wget <url>                                  - Download files
ssh user@host                               - Remote login
```

Disk & Filesystem

```
df -h                                       - Disk usage
du -sh *                                    - Size of folders/files
mount                                       - Mount file system
umount                                      - Unmount file system
lsblk                                       - List block devices
fdisk -l                                    - List partitions
```

Users & Groups

```
adduser <user>                              - Add user
deluser <user>                              - Delete user
usermod -aG <group> <user>                  - Add user to group
groups <user>                               - List user groups
```

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```
whoami                                    - Current user
```

Archiving & Compression

```
tar -czvf archive.tar.gz dir/             - Create compressed archive
tar -xzvf archive.tar.gz                  - Extract archive
zip -r file.zip dir/                      - Create zip file
unzip file.zip                            - Extract zip file
```

Scripting & Automation

```
#!/bin/bash                               - Start a shell script
crontab -e                                - Edit cron jobs
at now + 1 min                            - Schedule one-time task
trap 'echo exiting' SIGINT                - Catch signals
```