Linux Commands Cheatsheet

1. Basic Navigation & File Operations

`pwd` - Show current directory path
`ls` - List files and directories
`ls -l` - Long listing with permissions, owner, size, date
`ls -a` - List including hidden files
`cd dir_name` - Change directory
`cd ..` - Go up one directory
`cd /` - Go to root directory
`touch file.txt` - Create an empty file
`cat file.txt` - View file contents
`more file.txt` - View file page-by-page
`less file.txt` - Scrollable file viewing
`head file.txt` - First 10 lines
`tail file.txt` - Last 10 lines
`tail -f file.log` - Live log monitoring
`cp file1 file2` - Copy file
`cp -r dir1 dir2` - Copy directory recursively
`mv old new` - Rename or move file/directory
`rm file` - Delete file
`rm -r dir` - Delete directory recursively
`mkdir dir_name` - Create directory
`rmdir dir_name` - Remove empty directory

2. File Viewing & Searching

`find /path -name "file.txt"` - Find file by name
`find /path -type f -size +10M` - Find files bigger than 10MB
`grep "word" file.txt` - Search for word in file
`grep -r "word" /path` - Recursive search
`grep -i "word" file.txt` - Case-insensitive search
`wc -l file.txt` - Count lines
`du -sh dir/` - Directory size
`df -h` - Disk space usage
`file filename` - Detect file type

3. User Management

`whoami` - Show current username
`id` - Show user ID and groups
`who` - Show logged in users
`w` - Show logged in users + activity
`adduser username` - Create new user
`passwd username` - Change password
`usermod -aG group username` - Add user to group
`groups username` - Show user's groups
`deluser username` - Remove user

4. Permissions & Ownership

`ls -l` - Show permissions
`chmod 755 file` - Change permissions (rwxr-xr-x)
`chmod +x script.sh` - Add execute permission
`chown user file` - Change file owner
`chown user:group file` - Change owner and group

5. Networking

`ping google.com` - Check connectivity
`curl http://example.com` - Fetch web content
`wget http://example.com/file.zip` - Download file
`ifconfig` / `ip a` - Show network interfaces
`netstat -tulnp` - Show listening ports
`ss -tulnp` - Modern alternative to netstat
`scp file user@host:/path` - Copy file to remote
`rsync -av src/ dest/` - Sync directories
`ssh user@host` - Remote login
`traceroute host` - Trace network route

6. System Monitoring

`top` - Show running processes
`htop` - Interactive process monitor
`ps aux` - List all processes
`kill PID` - Kill process
`kill -9 PID` - Force kill
`free -h` - Show memory usage
`uptime` - System uptime
`dmesg` - Kernel messages
`journalctl` - View system logs
`vmstat` - Performance statistics
`iostat` - CPU & disk usage

7. Package Management - Debian/Ubuntu

`apt update` - Update package list
`apt upgrade` - Upgrade packages
`apt install pkg` - Install package
`apt remove pkg` - Remove package
`dpkg -i file.deb` - Install .deb file

7. Package Management - CentOS/RHEL

`yum install pkg` - Install package
`yum remove pkg` - Remove package
`yum update` - Update packages

8. Archiving & Compression

`tar -cvf file.tar dir/` - Create tar archive
`tar -xvf file.tar` - Extract tar archive
`tar -czvf file.tar.gz dir/` - Create compressed archive

`tar -xzvf file.tar.gz` - Extract compressed archive
`zip file.zip file1 file2` - Create zip
`unzip file.zip` - Extract zip

9. Advanced / Pro-Level

`chmod $(stat -c "%a" file)` - Programmatic permission setting
`xargs` - Pass output as arguments to other commands
`awk '{print $1}' file.txt` - Process text columns
`sed 's/old/new/g' file.txt` - Replace text in file
`tee file.txt` - Write to file and stdout
`crontab -e` - Schedule tasks
`at 5pm` - Schedule one-time task
`screen` / `tmux` - Persistent terminal sessions
`lsof` - List open files and ports
`strace command` - Trace system calls
`tcpdump` - Packet capture
`ufw allow 80` - Open firewall port
`mount /dev/sdX /mnt` - Mount device
`umount /mnt` - Unmount device
`parted` / `fdisk` - Disk partitioning
`dd if=/dev/sdX of=image.img` - Disk cloning
`systemctl status service` - Check service status
`systemctl start/stop service` - Control services