

Linux Command Reference

This document provides a quick reference for commonly used Linux commands.

1. ls

- **Purpose:** List files and directories.
- **Examples:**

```
ls          # List files
ls -l      # Detailed list
ls -a      # Include hidden files
```

2. cd

- **Purpose:** Change directory.
- **Examples:**

```
cd /home/user/Documents # Go to Documents
cd ..                  # Go up one directory
cd ~                   # Go to home directory
```

3. pwd

- **Purpose:** Print working directory.
- **Example:**

```
pwd
# Output: /home/user/Documents
```

4. mkdir

- **Purpose:** Create directory.
- **Examples:**

```
mkdir myfolder          # Create 'myfolder'
mkdir -p parent/child   # Create nested directories
```

5. rm

- **Purpose:** Remove files or directories.
- **Examples:**

```
rm file.txt          # Remove a file  
rm -r folder        # Remove folder recursively
```

6. cp

- **Purpose:** Copy files or directories.
- **Examples:**

```
cp file1.txt file2.txt    # Copy file1.txt to file2.txt  
cp -r folder1 folder2    # Copy folder recursively
```

7. mv

- **Purpose:** Move or rename files/directories.
- **Examples:**

```
mv oldname.txt newname.txt    # Rename file  
mv file.txt /path/to/dest/    # Move file
```

8. cat

- **Purpose:** View or concatenate files.
- **Examples:**

```
cat file.txt          # Display content  
cat file1.txt file2.txt    # Combine contents
```

9. tail

- **Purpose:** View last lines of a file.
- **Examples:**

```
tail file.txt          # Last 10 lines  
tail -n 20 file.txt    # Last 20 lines  
tail -f file.txt       # Follow updates
```

10. head

- **Purpose:** View first lines of a file.
- **Examples:**

```
head file.txt          # First 10 lines
head -n 5 file.txt    # First 5 lines
```

11. grep

- **Purpose:** Search for patterns in files.
- **Examples:**

```
grep "hello" file.txt      # Find 'hello'
grep -i "hello" file.txt   # Case-insensitive
grep -r "hello" /path       # Recursive search
```

12. find

- **Purpose:** Search files or directories.
- **Examples:**

```
find /home/user -name "*.txt"    # Find .txt files
find . -type d -name "test*"     # Find directories starting with 'test'
```

13. chmod

- **Purpose:** Change permissions.
- **Examples:**

```
chmod 755 file.sh        # rwx for owner, rx for others
chmod +x script.sh       # Add execute permission
```

14. chown

- **Purpose:** Change owner and group.
- **Examples:**

```
chown user file.txt        # Change owner
chown user:group file.txt  # Change owner and group
chown -R user:group folder  # Recursive change
```

15. ps

- **Purpose:** Display running processes.
- **Examples:**

```
ps          # Show processes for current user  
ps aux     # Show all processes with details
```

16. top

- **Purpose:** Real-time system and process monitoring.
- **Example:**

```
top          # Open system activity dashboard
```

17. Background Jobs

- **Purpose:** Run processes in background.
- **Examples:**

```
command &      # Run command in background  
jobs          # List running background jobs  
fg %1         # Bring job 1 to foreground  
bg %1         # Resume background job 1
```

18. ssh

- **Purpose:** Secure remote login.
- **Examples:**

```
ssh user@192.168.1.5      # Connect to remote server  
ssh -p 2222 user@host     # Connect using custom port
```

19. Users & Groups

```
whoami        # Show current username  
id           # Display user and group IDs  
adduser test # Add a new user  
sudo passwd test # Set password for user
```

```
groupadd dev      # Create group  
usermod -aG dev test # Add user to group
```

20. Basic Networking

using ifconfig / ip

```
ifconfig          # Show network interfaces (old method)  
ip a             # Show IP info  
ip link set eth0 up # Enable interface
```

netstat

```
netstat -tulpn    # Show open ports and services  
netstat -a         # All connections
```

21. Package Managers

```
apt update && apt install package  # Debian/Ubuntu  
yum install package               # RHEL/CentOS  
dnf install package               # Fedora
```

This reference can be used as a quick guide while working in Linux environments.