

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.