

Linux Basic Commands

✓ 1. Navigation Commands

`pwd` – Print Working Directory

Shows the current location in the filesystem.

```
pwd
```

📌 Output example:

```
/Users/yourname/projects
```

`ls` – List Directory Contents

Lists files and folders in the current directory.

```
ls
```

- `ls -l` → Detailed list (permissions, size, date)
 - `ls -a` → Shows hidden files (those starting with `.`)
 - `ls -la` → Combined
-

`cd` – Change Directory

Moves into a directory.

```
cd folder_name
```

Examples:

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

```
Last login: Wed Sep 10 13:57:51 on ttys006
vaibhavkumar@VAIBHAVs-MacBook-Air ~ % pwd
/Users/vaibhavkumar
vaibhavkumar@VAIBHAVs-MacBook-Air ~ %
```

```
Last login: Wed Sep 10 14:30:23 on ttys005
vaibhavkumar@VAIBHAVs-MacBook-Air ~ % ls
1_scripts.sh      File.txt2      odd.c.save
1_scripts.sh.save File1.c         parent
5                file1.txt      parent_folder
a.out            file2          Pictures
abc.txt          file2.c        project
abcd.txt         file3          Public
abcd2.txt        file4.txt      punjab
bmi              FILE5          qw.82
bmi.c            file1.txt      qw24.sh
c.txt            folder         qw25.sh
child1           hello.c        qw26.sh
child2           hello.c.save   qw27.sh
CODE 1           lab            qw28.sh
CODE.txt         lab.c          qw29.sh
code12           lab5           qw30.sh
data             lab5.md        ram.c
data.txt         lab5.md.save   ram.c.save
Desktop          lab5.txt       scripts
Documents        Library        scripts.h
Downloads         LINUX LAB     scripts.sh
ds_starter       linux.txt      scripts.sh.save
even             Movies         starterkit
even.c           Music          text_file1.txt
even.c           myfirstwebsite triangle.c
file             myfolder      triangle.c
file.c           odd            trigangle.c
file.txt         odd.c
vaibhavkumar@VAIBHAVs-MacBook-Air ~ %
```

✓ 2. File and Directory Management

mkdir – Make Directory

Creates a new folder.

```
mkdir new_folder
```

touch – Create File

Creates an empty file.

```
touch file.txt
```

cp – Copy Files or Directories

```
cp source.txt destination.txt
```

- Copy folder:

```
cp -r folder1 folder2
```

mv – Move or Rename Files

```
mv oldname.txt newname.txt
```

```
mv file.txt ~/Documents/      # Move file
```

rm – Remove Files

```
rm file.txt          # Delete file  
rm -r folder_name    # Delete folder (recursively)
```

⚠ **Be careful!** There is no undo.

```
(vaibhavkumar@VAIBHAVs-MacBook-Air ~ % mkdir new_folder
mkdir: new_folder: File exists
vaibhavkumar@VAIBHAVs-MacBook-Air ~ % touch file.txt
vaibhavkumar@VAIBHAVs-MacBook-Air ~ % cp file.txt destination.txt
vaibhavkumar@VAIBHAVs-MacBook-Air ~ %
```

✅ 3. File Viewing & Editing

cat – View File Contents

Displays content in terminal.

```
cat file.txt
```

nano – Edit Files in Terminal

A basic terminal-based text editor.

```
nano file.txt
```

- Use arrows to move
- **CTRL + O** to save
- **CTRL + X** to exit

clear – Clears the Terminal

```
clear
```

Shortcut: **CTRL + L**

```
[vaibhavkumar@VAIBHAVs-MacBook-Air ~ % clear]
[vaibhavkumar@VAIBHAVs-MacBook-Air ~ % cat file.txt]
#include<stdio.h>
int main () {
    int a, b, c;
    printf("Enter the first number");
    scanf("%d\n", &a);
    printf("Enter the second number");
    scanf("%d\n", &b);
    printf("Enter the third number");
    scanf("%d\n", &c);
    if(a<b && a<c)
        printf("%d is the youngest number", a);
    if(b<a && b<c)
        printf("%d is the youngest number", b);
    if(c<a && c<b)
        printf("%d is the youngest number", c);
    return 0;
}
[vaibhavkumar@VAIBHAVs-MacBook-Air ~ % nano file.txt]
[vaibhavkumar@VAIBHAVs-MacBook-Air ~ % clear]
```

✓ 4. System Commands

echo – Print Text

Useful for debugging or scripting.

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

```
Last login: Wed Sep 10 14:31:11 on ttys005
vaibhavkumar@VAIBHAVs-MacBook-Air ~ % nano file.txt
vaibhavkumar@VAIBHAVs-MacBook-Air ~ % chmod +x file.txt
vaibhavkumar@VAIBHAVs-MacBook-Air ~ % ./file.txt
Hello, World!
vaibhavkumar@VAIBHAVs-MacBook-Air ~ % █
```

whoami – Show Current User

```
whoami
```

```
Last login: Wed Sep 10 14:31:11 on ttys005
(vaibhavkumar@VAIBHAVs-MacBook-Air ~ % nano file.txt
(vaibhavkumar@VAIBHAVs-MacBook-Air ~ % chmod +x file.txt
(vaibhavkumar@VAIBHAVs-MacBook-Air ~ % ./file.txt
Hello, World!
(vaibhavkumar@VAIBHAVs-MacBook-Air ~ % clear
```

```
(vaibhavkumar@VAIBHAVs-MacBook-Air ~ % whoami
vaibhavkumar
(vaibhavkumar@VAIBHAVs-MacBook-Air ~ % █
```

man – Manual for Any Command

```
man ls
```

Use **q** to quit the manual.

✓ 5. Searching and Finding

find – Locate Files

```
find . -name "*.txt"
```

🔍 Finds all **.txt** files in current folder and subfolders.

grep – Search Inside Files

```
grep "hello" file.txt
```

🔍 Searches for the word **hello** inside **file.txt**.

```
find: ./Library/Caches/CloudKit: Operation not permitted
find: ./Library/Caches/com.apple.Safari: Operation not permitted
find: ./Library/Caches/com.apple.containermanagerd: Operation not permitted
find: ./Library/Caches/FamilyCircle: Operation not permitted
find: ./Library/Caches/com.apple.homed: Operation not permitted
find: ./Library/Caches/com.apple.ap.adprivacyd: Operation not permitted
find: ./Trash: Operation not permitted
vaibhavkumar@VAIBHAVs-MacBook-Air ~ % clear

vaibhavkumar@VAIBHAVs-MacBook-Air ~ % find . -name "file.txt"
./file.txt
find: ./Library/Application Support/CallHistoryTransactions: Operation not permitted
find: ./Library/Application Support/CloudDocs: Operation not permitted
find: ./Library/Application Support/com.apple.sharedfilelist: Operation not permitted
find: ./Library/Application Support/Knowledge: Operation not permitted
find: ./Library/Application Support/com.apple.TCC: Operation not permitted
find: ./Library/Application Support/FileProvider: Operation not permitted
find: ./Library/Application Support/AddressBook: Operation not permitted
find: ./Library/Application Support/FaceTime: Operation not permitted
find: ./Library/Application Support/DifferentialPrivacy: Operation not permitted
find: ./Library/Application Support/com.apple.avfoundation/Frcents: Operation not permitted
find: ./Library/Application Support/CallHistoryDB: Operation not permitted
find: ./Library/Assistant/SiriVocabulary: Operation not permitted
find: ./Library/Daemon Containers: Operation not permitted
find: ./Library/Autosave Information: Operation not permitted
find: ./Library/IdentityServices: Operation not permitted
find: ./Library/Messages: Operation not permitted
find: ./Library/HomeKit: Operation not permitted
find: ./Library/Sharing: Operation not permitted
find: ./Library/com.apple.slm.instrumentation: Operation not permitted
find: ./Library/Mail: Operation not permitted
find: ./Library/Trial: Operation not permitted
find: ./Library/AppleMediaServices: Operation not permitted
find: ./Library/DuetExpertCenter: Operation not permitted
find: ./Library/Accounts: Operation not permitted
find: ./Library/Safari: Operation not permitted
find: ./Library/Biome: Operation not permitted
find: ./Library/IntelligencePlatform: Operation not permitted
find: ./Library/Shortcuts: Operation not permitted
find: ./Library/Suggestions: Operation not permitted
find: ./Library/Weather: Operation not permitted
find: ./Library/Group Containers/group.com.apple.stocks-news: Operation not permitted
find: ./Library/Group Containers/group.com.apple.photolibraryd.private: Operation not permitted
find: ./Library/Group Containers/group.com.apple.feedback: Operation not permitted
find: ./Library/Group Containers/group.com.apple.siri.inference: Operation not permitted
find: ./Library/Group Containers/group.com.apple.setransparency: Operation not permitted
find: ./Library/Group Containers/group.com.apple.coreservices-useractivityd: Operation not permitted
find: ./Library/Group Containers/group.com.apple.accessibility.voicebanking: Operation not permitted
find: ./Library/Group Containers/group.com.apple.siri.referenceResolution: Operation not permitted
find: ./Library/Group Containers/group.com.apple.stocks: Operation not permitted
find: ./Library/Group Containers/group.com.apple.usernoted: Operation not permitted
find: ./Library/Group Containers/group.com.apple.VoiceMemos.shared: Operation not permitted
find: ./Library/Group Containers/group.com.apple.secure-control-center-preferences: Operation not permitted
find: ./Library/Group Containers/group.com.apple.chronod: Operation not permitted
find: ./Library/Group Containers/group.com.apple.private.translation: Operation not permitted
find: ./Library/Group Containers/group.com.apple.appstoreagent: Operation not permitted
find: ./Library/Group Containers/group.com.apple.portrait.BackgroundReplacement: Operation not permitted
find: ./Library/Group Containers/group.com.apple.amsondevicestorage: Operation not permitted
find: ./Library/Group Containers/group.com.apple.SiriTTS: Operation not permitted
find: ./Library/Group Containers/group.com.apple.notes.import: Operation not permitted
find: ./Library/Group Containers/group.com.apple.calender: Operation not permitted
find: ./Library/Group Containers/group.com.apple.news: Operation not permitted
find: ./Library/Group Containers/group.com.apple.ip.redirects: Operation not permitted
find: ./Library/Group Containers/group.com.apple.siri.userfeedbacklearning: Operation not permitted
find: ./Library/Group Containers/group.com.apple.gamecenter: Operation not permitted
```



6. Helpful Shortcuts

Shortcut	Action
Tab	Auto-complete files/folders
↑ / ↓	Browse command history
CTRL + C	Stop a running command
CTRL + L	Clear screen



7. Bonus: Chaining Commands

- Run multiple commands:

```
mkdir test && cd test && touch hello.txt
```

- Run only if previous command succeeds: &&
- Run regardless of success: ;