🐧 LINUX COMMAND COURSE (Beginner → Advanced)

Includes concepts, examples, and practice tasks.

🟩 BEGINNER LEVEL (Level 1–3)

Perfect for:
✔ New Linux users
✔ Windows/macOS users switching to Linux
✔ Anyone learning ethical hacking, DevOps, or server admin

LEVEL 1 — Basic Navigation & Files

Essential Commands

```
pwd         # current directory
ls          # list files
cd          # change directory
clear       # clear terminal
echo        # print text
```

File & Folder Commands

```
mkdir test_folder
touch file.txt
cp file1 file2
mv oldname newname
rm file.txt
rmdir empty_folder
```

View Files

```
cat file
less file
```

```
head file
tail file
```

Mini Practice

1. Create a folder named *projects*
2. Inside it, make a file called *notes.txt*
3. Write "hello" using `echo`
4. Copy the file
5. Delete the copy

LEVEL 2 — System Info & Help

System Info

```
uname -a
whoami
id
df -h
du -sh .
free -h
date
```

Help System

```
man ls
ls --help
whatis grep
apropos network
```

Mini practice

- Find your OS version
- List commands related to "disk" using `apropos`

LEVEL 3 — Permissions & Users

Permissions

```
chmod 755 script.sh
chown user:user file
```

```
chgrp developers file
```

Users & Groups

```
useradd user1
passwd user1
groupadd devs
usermod -aG devs user1
```

Mini practice

- Change a file's permissions so **only you can read/write it**
- Add a new user called `student`

🟨 INTERMEDIATE LEVEL (Level 4–6)

Perfect for:
✔ Support engineers
✔ IT students
✔ Ethical hackers
✔ DevOps beginners

LEVEL 4 — Text Processing Superpowers

Search

```
grep "error" logfile
grep -r "password" /etc
```

Sort & Filter

```
sort file
uniq file
cut -d ':' -f 1 /etc/passwd
```

Stream Editing

```
sed 's/apple/banana/' file
```

Advanced Text Processing

```
awk '{print $1}' file
```

Mini Practice

- Extract the first column of `/etc/passwd`
- Replace "hello" with "hi" in a file

LEVEL 5 — Processes & Jobs

```
ps aux
top
htop
kill 1234
killall firefox
jobs
bg
fg
```

System Logs

```
journalctl -xe
dmesg | tail
```

Mini Practice

- Find the process using the most memory
- Kill a running process by name

LEVEL 6 — Networking

Network inspection

```
ip a
ip r
ss -tuln
ping google.com
```

File Transfer

```
wget URL
curl -O URL
scp file user@host:/path
```

DNS Tools

```
dig google.com
nslookup linux.org
```

Mini Practice

- Show all open ports
- Ping 8.8.8.8 five times

🟥 ADVANCED LEVEL (Level 7–10)

Perfect for:
✔ DevOps
✔ SysAdmins
✔ Cybersecurity
✔ Backend engineers
✔ Cloud engineers

LEVEL 7 — Shell Scripting

Basic script

```
#!/bin/bash
echo "Hello world"
```

Variables

```
name="Bob"
echo "Hi $name"
```

IF statements

```
if [ -f file.txt ]; then
  echo "File exists"
```

```
  fi
```

Loops

```
for i in *.txt; do
  echo $i
done
```

LEVEL 8 — Package Management

Debian/Ubuntu

```
apt update
apt upgrade
apt install nginx
```

RedHat/CentOS/Fedora

```
dnf install nginx
rpm -qa
```

Arch

```
pacman -Syu
```

LEVEL 9 — Systemd & Services

```
systemctl start nginx
systemctl stop nginx
systemctl status nginx
systemctl enable ssh
journalctl -u nginx
```

Timers

```
systemctl list-timers
```

LEVEL 10 — Storage, Partitions, LVM

```
lsblk
fdisk /dev/sda
mkfs.ext4 /dev/sda1
mount /dev/sda1 /mnt
vgcreate
lvcreate
resize2fs
```

🏆 BONUS: ADVANCED SHELL TRICKS

```
history | grep ssh
!!      # run last command
!ls     # run last command starting with "ls"
ctrl+r  # search command history
xargs   # pass input as arguments
```