



FILE NAVIGATION

```
$ ls -lah # list all files, sizes
$ ls -lah /var/log # list specific dir
$ cd /etc/nginx # change directory
$ pwd # print current path
$ tree -L 2 # tree view (2 levels)
```

FILE OPERATIONS

```
$ mkdir -p projects/app # create nested
$ touch config.yml # create empty file
$ cp -r src/ dest/ # copy recursively
$ mv old.conf new.conf # rename / move
$ rm -rf /tmp/cache/ # delete dir (careful)
$ cat file.txt # print file contents
$ less /var/log/syslog # scroll through
$ head -20 access.log # first 20 lines
$ tail -f error.log # follow live log
```

SEARCH & FILTER

```
$ grep -r "error" /var/log/ # search
$ find /etc -name "*.conf" # find by name
$ find / -type f -size +100M # find large files
$ cat log | grep 404 | wc -l # count
$ history | grep apt # search history
```

PACKAGE MANAGERS

apt (Ubuntu / Debian)

```
$ sudo apt update # refresh index
$ sudo apt upgrade -y # upgrade all
$ sudo apt install nginx # install
$ sudo apt remove nginx # remove
$ sudo apt autoremove # clean unused
```

dnf (Fedora / RHEL / AlmaLinux)

```
$ sudo dnf check-update
$ sudo dnf install httpd
$ sudo dnf remove httpd
```

pacman (Arch / Manjaro)

FILE PERMISSIONS

```

-rwxr-xr-x
type  owner  group  others
r=4   w=2   x=1   rwx=7  rw=6  r--=4

$ ls -l file.sh # view permissions
$ chmod 755 deploy.sh # rwxr-xr-x
$ chmod 644 config.yml # rw-r--r--
$ chmod +x script.sh # add execute
$ chown user:group /path # change owner
$ chown -R www-data /var/www # recursive
```

USERS & GROUPS

```
$ sudo useradd -m -s /bin/bash john
$ sudo passwd john # set password
$ sudo usermod -aG sudo john # add to sudo
$ groups john # show groups
$ id john # uid/gid info
$ sudo userdel -r john # delete + home
$ who # logged-in users
$ last # login history
```

PROCESSES & SYSTEM

```
$ ps aux # all processes
$ ps aux | grep nginx # find process
$ top # live CPU/RAM view
$ htop # better top
$ kill -9 PID # force kill
$ killall nginx # kill by name
$ free -h # memory usage
$ df -h # disk space
$ du -sh /var/* # dir sizes
$ uptime # load average
```

CRON SYNTAX

```

* * * * * /path/to/command
min hr day mon wday
0 2 * * * /usr/local/bin/backup.sh

$ crontab -e # edit your crontab
$ crontab -l # list cron jobs
```

NETWORKING

```
$ ip addr show # all IPs
$ ip route show # routing table
$ ss -tulnp # listening ports
$ ping -c 4 8.8.8.8 # test connection
$ traceroute google.com # trace path
$ curl -I https://monovm.com # HTTP headers
$ wget https://example.com/file # download
$ nslookup monovm.com # DNS lookup
```

SSH & REMOTE ACCESS

```
$ ssh user@192.168.1.10 # connect
$ ssh -p 2222 user@host # custom port
$ ssh-keygen -t ed25519 # generate key
$ ssh-copy-id user@host # copy pub key
$ scp file.txt user@host:/tmp/ # copy
$ rsync -avz src/ user@host:dest/
```

~/.ssh/config (shortcut aliases)

```
Host vps1
HostName 203.0.113.10 User ubuntu
```

SYSTEMD SERVICES

```
$ sudo systemctl start nginx
$ sudo systemctl stop nginx
$ sudo systemctl restart nginx
$ sudo systemctl enable nginx # start on boot
$ sudo systemctl disable nginx
$ sudo systemctl status nginx # check
$ sudo journalctl -u nginx -f # live logs
$ sudo journalctl -xe # error logs
```

UFW FIREWALL

```
$ sudo ufw status verbose # show rules
$ sudo ufw allow 22/tcp # allow SSH
$ sudo ufw allow 80,443/tcp # HTTP + HTTPS
$ sudo ufw deny 23 # block telnet
$ sudo ufw enable # activate
$ sudo ufw delete allow 23 # remove rule
```