Day 19

SYSTEM COMMANDS

ALL commands:

• uname
• uname -r
• uname -a
• clear / Ctrl + L
• uptime
• uptime -p
• hostname
• hostname -i
• hostnamectl set-hostname
• ip addr
• ip route
• ifconfig
• date
• timedatectl
• timedatectl set-timezone
• who
• whoami
• ps
• kill -9 PID

• date
• date +"%d"
• date +"%m"
• date +"%y"
• date +"%H"
• date +"%M"
• date +"%S"
• date +"%D"
• date +"%F"
• date +"%A"
• date +"%B"

1. uname

Command: uname
Why it is used: To get the type of operating system
Purpose: OS identification
Result: Displays OS name

2. uname -r

Command: uname -r
Why it is used: To get kernel version
Purpose: Kernel verification
Result: Displays kernel version

3. uname -a

Command: uname -a
Why it is used: To get complete OS information
Purpose: System details
Result: Displays full OS and kernel details

4. clear

Command: clear
Why it is used: To clear the terminal screen
Purpose: Clean terminal view
Result: Terminal screen cleared

5. uptime

Command: uptime
Why it is used: To check how long the system is running
Purpose: System monitoring
Result: Displays running time and load average

6. uptime -p

Command: uptime -p
Why it is used: To show uptime in readable format
Purpose: Easy uptime understanding
Result: Displays uptime in hours/minutes

7. hostname

Command: hostname
Why it is used: To get system hostname
Purpose: System identification
Result: Displays hostname

8. hostname -i

Command: hostname -i
Why it is used: To get private IP address
Purpose: Network identification
Result: Displays private IP

9. hostnamectl set-hostname swiggy

Command: hostnamectl set-hostname swiggy
Why it is used: To change system hostname
Purpose: Hostname configuration
Result: Hostname changed to swiggy

10. ip addr

Command: ip addr
Why it is used: To view IP address details
Purpose: Network configuration
Result: Displays IP information

11. ip route

Command: ip route
Why it is used: To view routing table
Purpose: Network routing check
Result: Displays routing details

12. ifconfig

Command: ifconfig
Why it is used: To view network interface details
Purpose: Network verification
Result: Displays interface and IP details

13. date

Command: date
Why it is used: To display system date and time
Purpose: Time verification
Result: Displays current date and time

14. timedatectl

Command: timedatectl
Why it is used: To view timezone information
Purpose: Timezone management
Result: Displays timezone details

15. timedatectl set-timezone Asia/Kolkata

Command: timedatectl set-timezone Asia/Kolkata
Why it is used: To change system timezone
Purpose: Timezone configuration
Result: Timezone changed to IST

16. who

Command: who
Why it is used: To see logged-in users
Purpose: User session monitoring
Result: Displays logged-in users

17. whoami

Command: whoami
Why it is used: To know current user
Purpose: User identification
Result: Displays current username

18. ps

Command: ps
Why it is used: To view running processes
Purpose: Process monitoring
Result: Displays active processes

19. kill -9 PID

Command: kill -9 PID
Why it is used: To terminate a process forcefully
Purpose: Process control
Result: Process terminated

20. date +"%d"

Command: date +"%d"
Why it is used: To display day of the month
Purpose: Day extraction
Result: Prints day of the month (01–31)

21. date +"%m"

Command: date +"%m"
Why it is used: To display month number
Purpose: Month extraction
Result: Prints month of the year (01–12)

22. date +"%y"

Command: date +"%y"
Why it is used: To display last two digits of year
Purpose: Year extraction
Result: Prints last two digits of the year

23. date +"%H"

Command: date +"%H"
Why it is used: To display hour of the day
Purpose: Hour extraction
Result: Prints hour in 24-hour format (00–23)

24. date +"%M"

Command: date +"%M"
Why it is used: To display minutes
Purpose: Minute extraction
Result: Prints minute of the hour (00–59)

25. date +"%S"

Command: date +"%S"
Why it is used: To display seconds
Purpose: Seconds extraction
Result: Prints current seconds (00–60)

26. date +"%D"

Command: date +"%D"
Why it is used: To display date in short format
Purpose: Date formatting
Result: Prints date in MM/DD/YY format

27. date +"%F"

Command: date +"%F"
Why it is used: To display full date
Purpose: Standard date format
Result: Prints date as YYYY-MM-DD

28. date +"%A"

Command: date +"%A"
Why it is used: To display day name
Purpose: Day identification
Result: Prints full day name (Monday–Sunday)

29. date +"%B"

Command: date +"%B"
Why it is used: To display month name
Purpose: Month identification
Result: Prints full month name (January–December)

Image of all System Commands:

```
controlplane:~$ uname
Linux
controlplane:~$ uname -r
6.8.0-90-generic
controlplane:~$ uname -a
Linux YASH 6.8.0-90-generic #91-Ubuntu SMP PREEMPT_DYNAMIC Tue Nov 18 14:14:30 UTC 2025 x86_64 x86_64 x86_64
 GNU/Linux
controlplane:~$ uptime
 05:35:53 up 53 min,  1 user,  load average: 0.91, 0.56, 0.28
controlplane:~$ uptime -p
up 53 minutes
controlplane:~$ hostname
YASH
controlplane:~$ hostname -i
hostname: Name or service not known
controlplane:~$ hostnamectl set-hostname "controlplane"
controlplane:~$ hostname -i
127.0.0.1
controlplane:~$ ip addr
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
       valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host noprefixroute
       valid_lft forever preferred_lft forever
2: enp1s0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
    link/ether 0e:36:b1:4f:85:22 brd ff:ff:ff:ff:ff:ff
    inet 172.30.1.2/24 brd 172.30.1.255 scope global dynamic noprefixroute enp1s0
       valid_lft 86310357sec preferred_lft 75521157sec
    inet6 fe80::e005:ba84:496b:21f9/64 scope link
       valid_lft forever preferred_lft forever
3: docker0: <NO-CARRIER,BROADCAST,MULTICAST,UP> mtu 1454 qdisc noqueue state DOWN group default
```

```
3: docker0: <NO-CARRIER,BROADCAST,MULTICAST,UP> mtu 1454 qdisc noqueue state DOWN group default
    link/ether 1a:56:bd:e3:36:1a brd ff:ff:ff:ff:ff:ff
    inet 172.17.0.1/16 brd 172.17.255.255 scope global docker0
        valid_lft forever preferred_lft forever
4: flannel.1: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1450 qdisc noqueue state UNKNOWN group default
    link/ether 6a:ca:1a:c7:fb:eb brd ff:ff:ff:ff:ff:ff
    inet 192.168.0.0/32 brd 192.168.0.0 scope global flannel.1
        valid_lft forever preferred_lft forever
    inet6 fe80::68ca:1aff:fec7:fbeb/64 scope link
        valid_lft forever preferred_lft forever
7: calif463e5c4e7f@if3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue state UP group default
    link/ether ee:ee:ee:ee:ee:ee brd ff:ff:ff:ff:ff:ff link-netns cni-c7ee45ed-8be8-7d6f-0bc5-547f11cd4b83
    inet6 fe80::ecee:eeff:feee:eeee/64 scope link
        valid_lft forever preferred_lft forever
8: cali51b2d5e391a@if3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue state UP group default
    link/ether ee:ee:ee:ee:ee:ee brd ff:ff:ff:ff:ff:ff link-netns cni-8447c10f-7dd6-78fd-94d8-e376733fdf8e
    inet6 fe80::ecee:eeff:feee:eeee/64 scope link
        valid_lft forever preferred_lft forever
controlplane:~$ ip route
default via 172.30.1.1 dev enp1s0 proto dhcp src 172.30.1.2 metric 1002 mtu 1500
172.17.0.0/16 dev docker0 proto kernel scope link src 172.17.0.1 linkdown
172.30.1.0/24 dev enp1s0 proto dhcp scope link src 172.30.1.2 metric 1002 mtu 1500
192.168.0.2 dev calif463e5c4e7f scope link
192.168.0.3 dev cali51b2d5e391a scope link
192.168.1.0/24 via 192.168.1.0 dev flannel.1 onlink
controlplane:~$ ipconfig
Command 'ipconfig' not found, did you mean:
  command 'hipconfig' from deb hipcc (5.2.3-12)
  command 'iconfig' from deb ipmiutil (3.1.9-3)
  command 'ifconfig' from deb net-tools (2.10-0.1ubuntu4.4)
  command 'iwconfig' from deb wireless-tools (30~pre9-13.1ubuntu4)
Try: apt install <deb name>
controlplane:~$ date
```

```
controlplane:~$ date
Sat Jan 31 05:37:12 UTC 2026
controlplane:~$ timedatectl
               Local time: Sat 2026-01-31 05:37:24 UTC
           Universal time: Sat 2026-01-31 05:37:24 UTC
                 RTC time: Sat 2026-01-31 05:37:24
                Time zone: Etc/UTC (UTC, +0000)
System clock synchronized: yes
              NTP service: active
          RTC in local TZ: no
controlplane:~$ timedatectl set-timezone Asia/Kolkata
controlplane:~$ timedatectl
               Local time: Sat 2026-01-31 11:07:47 IST
           Universal time: Sat 2026-01-31 05:37:47 UTC
                 RTC time: Sat 2026-01-31 05:37:47
                Time zone: Asia/Kolkata (IST, +0530)
System clock synchronized: yes
              NTP service: active
          RTC in local TZ: no
controlplane:~$ who
controlplane:~$ whoami
root
controlplane:~$ ps
    PID TTY          TIME CMD
  16551 pts/0    00:00:00 bash
  30224 pts/0    00:00:00 ps
controlplane:~$ date
Sat Jan 31 11:08:14 IST 2026
controlplane:~$ date +"%d"
31
controlplane:~$ date +"%m"
01
controlplane:~$ date +"%y"
```

```
controlplane:~$ date
Sat Jan 31 11:08:14 IST 2026
controlplane:~$ date +"%d"
31
controlplane:~$ date +"%m"
01
controlplane:~$ date +"%y"
26
controlplane:~$ date +"%H"
11
controlplane:~$ date +"%M"
15
controlplane:~$ date +"%S"
12
controlplane:~$ date +"%D"
01/31/26
controlplane:~$ date +"%F"
2026-01-31
controlplane:~$ date +"%A"
Saturday
controlplane:~$ date +"%B"
January
controlplane:~$ 
```

HARDWARE COMMANDS

ALL commands:

- lscpu
- cat /proc/cpuinfo
- lsblk -a
- free
- free -m
- cat /proc/meminfo
- df -h

1. lscpu

Command: lscpu
Why it is used: To view CPU architecture details
Purpose: Hardware inspection
Result: Displays CPU information

Image:

2. cat /proc/cpuinfo

Command: cat /proc/cpuinfo
Why it is used: To view detailed CPU information
Purpose: CPU analysis
Result: Displays processor details
Image:

```
controlplane:~$ cat /proc/cpuinfo
processor       : 0
vendor_id       : GenuineIntel
cpu family      : 6
model           : 42
model name      : Intel Xeon E312xx (Sandy Bridge, IBRS update)
stepping        : 1
microcode       : 0x1
cpu MHz         : 3504.000
cache size      : 16384 KB
physical id     : 0
siblings        : 1
core id         : 0
cpu cores       : 1
apicid          : 0
initial apicid  : 0
fpu             : yes
fpu_exception   : yes
cpuid level     : 13
wp              : yes
flags           : fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36 clflush mmx fxsr s
se sse2 syscall nx rdtscp lm constant_tsc rep_good nopl xtopology cpuid tsc_known_freq pni pclmulqdq ssse3 c
x16 pcid sse4_1 sse4_2 x2apic popcnt tsc_deadline_timer aes xsave avx hypervisor lahf_lm cpuid_fault pti ssb
d ibrs ibpb stibp tsc_adjust xsaveopt arat md_clear
```

3. lsblk -a

Command: lsblk -a
Why it is used: To list block devices
Purpose: Storage inspection
Result: Displays disk and partition details
Image:

```
controlplane:~$ lsblk -a
NAME      MAJ:MIN RM   SIZE RO TYPE MOUNTPOINTS
loop0       7:0    0     0B  0 loop
loop1       7:1    0     0B  0 loop
loop2       7:2    0     0B  0 loop
loop3       7:3    0     0B  0 loop
loop4       7:4    0     0B  0 loop
loop5       7:5    0     0B  0 loop
loop6       7:6    0     0B  0 loop
loop7       7:7    0     0B  0 loop
vda       253:0    0    20G  0 disk
|-vda1    253:1    0    19G  0 part /
|-vda14   253:14   0     4M  0 part
|-vda15   253:15   0   106M  0 part /boot/efi
`-vda16   259:0    0   913M  0 part /boot
```

4. free

Command: free
Why it is used: To view RAM details in KB
Purpose: Memory monitoring
Result: Displays memory usage

Image:

```
controlplane:~$ free
              total        used        free      shared  buff/cache   available
Mem:        2300172     1166876      245028        2960     1088760     1133296
Swap:             0           0           0
```

5. free -m

Command: free -m
Why it is used: To view RAM details in MB
Purpose: Memory monitoring
Result: Displays memory usage in MB

Image:

```
controlplane:~$ free -m
              total        used        free      shared  buff/cache   available
Mem:           2246        1139         238           2        1063        1106
Swap:             0           0           0
```

6. cat /proc/meminfo

Command: cat /proc/meminfo
Why it is used: To view detailed memory information
Purpose: RAM analysis
Result: Displays memory details

Image:

```
controlplane:~$ cat /proc/meminfo
MemTotal:        2300172 kB
MemFree:          240428 kB
MemAvailable:    1130136 kB
Buffers:           52288 kB
Cached:           809808 kB
SwapCached:            0 kB
Active:           744864 kB
Inactive:         917136 kB
Active(anon):     560888 kB
Inactive(anon):   250288 kB
Active(file):     183976 kB
Inactive(file):   666848 kB
Unevictable:       27332 kB
Mlocked:           27284 kB
SwapTotal:             0 kB
SwapFree:              0 kB
Zswap:                 0 kB
Zswapped:              0 kB
Dirty:                32 kB
Writeback:             0 kB
AnonPages:        827236 kB
Mapped:           522944 kB
Shmem:              2960 kB
KReclaimable:     228104 kB
Slab:             308776 kB
SReclaimable:     228104 kB
SUnreclaim:        80672 kB
KernelStack:        8672 kB
```

7. df -h

Command: df -h

Why it is used: To check disk usage

Purpose: Disk space monitoring

Result: Displays disk usage in human-readable format

Image:

```
controlplane:~$ df -h
Filesystem      Size  Used Avail Use% Mounted on
tmpfs           225M  2.6M  223M   2% /run
/dev/vda1        19G  9.9G  8.5G  54% /
tmpfs           1.1G   84K  1.1G   1% /dev/shm
tmpfs           5.0M     0  5.0M   0% /run/lock
/dev/vda16      881M  117M  703M  15% /boot
/dev/vda15      105M  6.2M   99M   6% /boot/efi
tmpfs           225M   96K  225M   1% /run/user/112
shm              64M     0   64M   0% /run/containerd/io.containerd.grpc.v1.cri/sandboxes/c47c6fe4c2de9366f7
551fc20bff3f4c9281745d1543adc5c202dd0ad7e6e318/shm
shm              64M     0   64M   0% /run/containerd/io.containerd.grpc.v1.cri/sandboxes/41851d3b2c81338ea6
f3b5a0e3e212200c12a8174dedd2da9a67e3f3a624debd/shm
shm              64M     0   64M   0% /run/containerd/io.containerd.grpc.v1.cri/sandboxes/d59c39f1374f174efa
184f9d5835a5dd5fe5f8a4c6ccec6177d1a00585020ae0/shm
shm              64M     0   64M   0% /run/containerd/io.containerd.grpc.v1.cri/sandboxes/0294e4f0c6db1856c5
073716e97d568d08ed24500717597c5879a70b133b6dcf/shm
overlay          19G  9.9G  8.5G  54% /run/containerd/io.containerd.runtime.v2.task/k8s.io/41851d3b2c81338ea
6f3b5a0e3e212200c12a8174dedd2da9a67e3f3a624debd/rootfs
overlay          19G  9.9G  8.5G  54% /run/containerd/io.containerd.runtime.v2.task/k8s.io/d59c39f1374f174ef
a184f9d5835a5dd5fe5f8a4c6ccec6177d1a00585020ae0/rootfs
overlay          19G  9.9G  8.5G  54% /run/containerd/io.containerd.runtime.v2.task/k8s.io/c47c6fe4c2de9366f
7551fc20bff3f4c9281745d1543adc5c202dd0ad7e6e318/rootfs
overlay          19G  9.9G  8.5G  54% /run/containerd/io.containerd.runtime.v2.task/k8s.io/0294e4f0c6db1856c
5073716e97d568d08ed24500717597c5879a70b133b6dcf/rootfs
overlay          19G  9.9G  8.5G  54% /run/containerd/io.containerd.runtime.v2.task/k8s.io/a6c3860bdceed26d2
```

GREP COMMANDS

ALL commands:

• grep
• grep -n
• grep -c
• grep -i

1. grep "error" app.log

Command: grep "error" app.log
Why it is used: To search a word in a file
Purpose: Text search
Result: Displays matching lines
Image:

2. grep -n "error" app.log

Command: grep -n "error" app.log
Why it is used: To search with line numbers
Purpose: Debugging
Result: Displays matches with line numbers

3. grep -c "error" app.log

Command: grep -c "error" app.log
Why it is used: To count occurrences
Purpose: Log analysis
Result: Displays number of matches

4. grep -i "error" app.log

Command: grep -i "error" app.log
Why it is used: To ignore case sensitivity
Purpose: Flexible searching
Result: Matches Error, ERROR, error

Image of all Grep Commands :

```
controlplane:~$ ls
ai   data   devops   filesystem
controlplane:~$ vi devops
controlplane:~$ grep "Dev" devops
DevOps is a cultural, technical, and process-driven approach combining software development (Dev)
controlplane:~$ grep -n "Dev" devops
1:DevOps is a cultural, technical, and process-driven approach combining software development (Dev)
controlplane:~$ grep -c "Dev" devops
1
controlplane:~$ grep -i "Dev" devops
DevOps is a cultural, technical, and process-driven approach combining software development (Dev)
and IT operations (Ops) to shorten the development lifecycle.
controlplane:~$
```