

Linux commands for troubleshooting, along with examples

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1. `ls`: List files and directories.

Example: `ls -l /var/log` to list files in the `/var/log` directory with detailed information.

2. `ps`: Display information about active processes.

Example: `ps aux | grep firefox` to find information about the Firefox process.

3. `top`: Display Linux processes.

Example: `top -c` to display processes with command line options.

4. `netstat`: Display network connections, routing tables, interface statistics, masquerade connections, and multicast memberships.

Example: `netstat -tuln` to display listening TCP and UDP ports.

5. `ping`: Test a network connection.

Example: `ping google.com` to test connectivity to `google.com`.

6. `traceroute`: Trace the route taken by packets over an IP network.

Example: `traceroute google.com` to trace the route to `google.com`.

7. `ifconfig`: Display or configure network interface parameters.

Example: `ifconfig eth0` to display information about the network interface `eth0`.

8. `grep`: Search for patterns in files.

Example: `grep -i error /var/log/syslog` to search for the word “error” case-insensitively in the `syslog` file.

9. `tail`: Display the last part of a file.

Example: `tail -n 20 /var/log/messages` to display the last 20 lines of the `messages` file.

10. `dmesg`: Display or control the kernel ring buffer.

Example: `dmesg | grep -i error` to display kernel messages containing the word “error”.

11. `journalctl`: Query and display messages from the `systemd` journal.

Example: `journalctl -u sshd.service` to view logs related to the SSH daemon service.

12. `uptime`: Display how long the system has been running.

Example: `uptime` to see how long the system has been up and running.

13. `free`: Display amount of free and used memory in the system.

Example: `free -h` to display memory usage in human-readable format.

14. `df`: Display disk space usage.

Example: `df -h` to display disk space usage in human-readable format.

15. `lsof`: List open files and processes.

Example: `lsof -i :80` to list processes using port 80.

16. `iwconfig`: Configure wireless network interfaces.

Example: `iwconfig wlan0` to display wireless interface configuration.

17. `route`: Show or manipulate the IP routing table.

Example: `route -n` to display the routing table in numeric format.

18. `scp`: Securely copy files between hosts on a network.

Example: `scp file.txt user@remotehost:/path/to/destination` to copy `file.txt` to a remote host.

19. `chmod`: Change file mode bits (permissions).

Example: `chmod 644 file.txt` to change permissions of `file.txt` to read/write for owner and read-only for group and others.

20. `chown`: Change file owner and group.

Example: `chown user:group file.txt` to change the owner and group of `file.txt`.

21. `find`: Search for files in a directory hierarchy.

Example: `find /home/user -name "*.txt"` to find all files with a `.txt` extension in the `/home/user` directory.

22. `grep`: Search for patterns in files.

Example: `grep -r "pattern" /path/to/directory` to recursively search for “pattern” in files within a directory.

23. awk: Pattern scanning and text processing language.

Example: `awk '{print $1}' file.txt` to print the first column of data in file.txt.

24. sed: Stream editor for filtering and transforming text.

Example: `sed 's/old/new/' file.txt` to replace “old” with “new” in file.txt.

25. ssh: Securely connect to a remote system.

Example: `ssh user@hostname` to connect to a remote system as the user “user” on hostname.

26. scp: Securely copy files between hosts on a network.

Example: `scp file.txt user@remotehost:/path/to/destination` to copy file.txt to a remote host.

27. tar: Manipulate archives.

Example: `tar -czvf archive.tar.gz /path/to/directory` to create a compressed tar archive of a directory.

28. curl: Transfer data from or to a server.

Example: `curl http://example.com/file.txt -o file.txt` to download file.txt from a server.

29. ping: Test a network connection.

Example: `ping -c 4 google.com` to send 4 ICMP echo requests to google.com.

30. traceroute: Trace the route taken by packets over an IP network.

Example: `traceroute google.com` to trace the route to google.com.

31. ss: Show socket statistics.

Example: `ss -tuln` to display TCP and UDP listening sockets.

32. nmcli: Command-line tool for controlling NetworkManager.

Example: `nmcli connection show` to show all network connections.

33. iptables: Administration tool for IPv4 packet filtering and NAT.

Example: `iptables -L` to list current firewall rules.

34. ip: Show or manipulate routing, devices, policy routing, and tunnels.

Example: `ip addr show` to display network interfaces and their addresses.

35. du: Estimate file space usage.

Example: `du -sh /path/to/directory` to show total size of a directory.

36. `sshd`: OpenSSH daemon for securely accessing a remote system.

Example: `systemctl status sshd` to check the status of the SSH daemon.

37. `rsync`: Remote file copy and synchronization.

Example: `rsync -avz /local/path user@remote:/remote/path` to synchronize files between local and remote systems.

38. `netcat`: Utility for reading from and writing to network connections.

Example: `nc -vz google.com 80` to check if a connection can be established to port 80 on google.com.

39. `htop`: Interactive process viewer.

Example: Simply run `htop` in the terminal to launch the interactive process viewer.

40. `strace`: Trace system calls and signals.

Example: `strace -p <PID>` to trace system calls of a specific process identified by its PID.

41. `crontab`: Schedule commands or scripts to run at specific times.

Example: `crontab -e` to edit the cron table and schedule tasks.

42. `journalctl`: Query and display messages from the systemd journal.

Example: `journalctl -u nginx.service` to view logs related to the Nginx service.

43. `route`: Show or manipulate the IP routing table.

Example: `route -n` to display the routing table in numeric format.

44. `ss`: Show socket statistics.

Example: `ss -tuln` to display TCP and UDP listening sockets.

45. `nc`: Utility for reading from and writing to network connections.

Example: `nc -l -p 1234` to listen on port 1234 for incoming connections.

46. `watch`: Execute a program periodically, showing output fullscreen.

Example: `watch -n 1 date` to continuously display the current date and time every second.

47. `nmcli`: Command-line tool for controlling NetworkManager.

Example: `nmcli device wifi list` to list available Wi-Fi networks.

48. `sudo`: Execute a command as the superuser or another user.

Example: `sudo apt-get update` to update the package list using sudo privileges.

49. crash: Analyze Linux crash dumps.

Example: `crash /path/to/vmcore` to analyze a crash dump file.

50. tcpdump: Dump traffic on a network.

Example: `tcpdump -i eth0 tcp port 80` to capture TCP traffic on port 80 on interface eth0.