

# **100+ Linux Technical Interview Questions:**

1. **Give any 3 examples of operating systems.**
  - Windows, Linux, and macOS.
2. **What is the root home directory?**
  - The root home directory is /root.
3. **Your company has terminated a server administrator. What is the first thing as an administrator you should do to enhance the security?**
  - Change the root password.
4. **How to check kernel version?**
  - Use the command `uname -a`.
5. **How to become a root user from a regular user?**
  - Use `su -` or `sudo su` to switch to the root user.
6. **How to check the computer name or hostname in Linux?**
  - Use the `hostname` command.
7. **List 3 basic commands to navigate the filesystem.**
  - `cd`, `pwd`, and `ls`.
8. **How to check network interfaces in Linux?**
  - Use `ifconfig`, `ip addr`, or `ip a`.
9. **List 3 different methods of adding a user.**
  - Methods include using `useradd`, `adduser`, or manually editing `/etc/passwd` and `/etc/shadow` files.
10. **What is the command to create a new user?**
  - `useradd username`.
11. **How to change a user password?**
  - Use the command `passwd username`.
12. **Which directory has all the configuration files?**
  - The `/etc` directory.
13. **List any 4 Linux distributions.**
  - Kali, Red Hat, CentOS, Ubuntu, and SUSE.
14. **How to log off from the system?**
  - Use the `exit` command.
15. **How to create a directory?**
  - Use the `mkdir` command.
16. **Explain the purpose of the “touch” command.**
  - `touch` is used to create an empty file or update the timestamp of an existing file.
17. **If a command hangs, how to stop it and get the prompt back?**
  - Press `Ctrl + C`.
18. **Which command is used to count words or lines?**
  - `wc`.
19. **How to rename a file or directory?**
  - Use the `mv` command.

**20. How to change a hostname in Linux?**

- Edit /etc/hostname and /etc/hosts, then restart the system or use hostnamectl set-hostname newname.

**21. What is the command to change file/directory permissions?**

- Use chmod.

**22. What is the purpose of pipe (|)?**

- To pass the output of one command as input to another command.

**23. What is /etc directory used for?**

- It contains configuration files for the system.

**24. Which command is used to list files in a directory?**

- ls -l.

**25. There is a command which gives you information about other commands, please explain that command and what is it used for?**

- man is used to display the manual pages for other commands, providing detailed information on usage and options.

**26. How to delete a file and a directory?**

- Use rm filename for files and rmdir dirname for directories.

**27. What is the difference between “tail” and “tail -10”?**

- tail displays the last 10 lines of a file by default, while tail -10 explicitly specifies to display the last 10 lines.

**28. List 4 commands to display or read a file's contents.**

- cat, more, less, vi.

**29. Which command is used to read the top 5 lines of a file?**

- head -5 filename.

**30. What are the different commands or methods to write to a file?**

- echo > filename, vi filename, cat > filename.

**31. What are the different types of shells?**

- sh, bash, ksh, csh, zsh.

**32. Which is the core of the operating system?**

- Kernel.

**33. Which among the following interacts directly with system hardware?**

- Kernel.

**34. List a few commands that are used in troubleshooting network-related issues?**

- netstat: Displays network connections.
- tcpdump: Captures and analyzes network traffic.
- ping: Tests connectivity to another host.
- traceroute: Traces the route packets take to a network host.

**35. How to combine 2 files into 1? E.g., you have 3 lines in file “A” and 5 lines in file “B”, which command syntax to use that will combine into one file of 3+5 = 8 lines?**

- cat fileA fileB > combinedfile.

**36. What is the echo command used for?**

- The echo command is used to display a line of text or output a string to the screen.

**37. What does the following command do?**

- `echo "This year the summer will be great" > file1`
- It creates a new file named "file1" and writes the text "This year the summer will be great" into it. If the file already exists, it will be overwritten.

**38. When you login you get "\$" prompt, what is the prompt for root?**

- The prompt for the root user is typically #.

**39. Explain the difference between grep and egrep.**

- `grep` is used for basic regular expression pattern matching, while `egrep` (or `grep -E`) supports extended regular expressions, which allow more complex pattern matching.

**40. What is the port number for DNS, NTP, and NFS?**

- DNS: 53, NTP: 123, NFS: 111 (portmapper) and 2049 (NFS).

**41. What is the configuration file name of DNS and where is it located?**

- The DNS configuration file is named `named.conf` and is typically located in `/etc`.

**42. How many new directories will be created after running the following command `mkdir {a..c}{1..3}`?**

- 9 directories will be created: `a1`, `a2`, `a3`, `b1`, `b2`, `b3`, `c1`, `c2`, `c3`.

**43. Your PC is configured with a DNS server address but not the default gateway. Can the PC access the internet?**

- No, without a default gateway, the PC cannot access the internet.

**44. What is the difference between IP and Gateway?**

- An IP address is a unique identifier for a device on a network, while a gateway is a network point that acts as an entrance to another network, often used to connect local networks to external networks like the internet.

**45. Can you assign one static IP to 2 computers, if not then why?**

- No, assigning the same static IP to two computers will create an IP conflict, causing network communication issues.

**46. How to change IP address to static?**

- You can change the IP address to static by editing the network configuration files, such as `/etc/network/interfaces` on Debian-based systems or `/etc/sysconfig/network-scripts/ifcfg-eth0` on Red Hat-based systems, and setting the IP address manually.

**47. You are trying to ping a server by hostname and you get an error message, "ping: unknown host ...". What could be the reason and how to solve the problem so you can ping it by hostname?**

- The issue could be due to a missing hostname-to-IP mapping in the `/etc/hosts` file or an incorrect DNS configuration. Check and update these files to resolve the issue.

**48. Explain the difference between relative and absolute path.**

- An absolute path starts from the root directory `/` and specifies the complete path to a file or directory. A relative path is based on the current directory and does not start with `/`.

**49. What is the command to change file/directory ownership and group?**

- Use `chown` to change ownership and `chgrp` to change the group.
50. **List any 3 types of filesystem.**
- `ext4`, `NTFS`, and `FAT`.
51. **When you login you get a message on the screen. What is the name of that file and where is it located?**
- The file is `/etc/motd` (Message of the Day).
52. **What is the `/bin` directory used for?**
- The `/bin` directory contains essential binary executables needed for booting and system repair.
53. **What are the different types of DNS Server?**
- Master (Primary) and Secondary (Slave) DNS servers.
54. **Where are the zone files located for DNS service?**
- Typically located in `/var/named/zonefiles`.
55. **How many megabytes in 1 gigabyte?**
- There are 1024 megabytes in 1 gigabyte.
56. **What is the purpose of having different network ports?**
- Different network ports allow multiple applications to communicate over the network simultaneously without interference.
57. **How to display the first column of a file?**
- Use `cat filename | awk '{print $1}'` or `awk '{print $1}' filename`.
58. **What is the name of the DNS rpm package?**
- The package is called `bind`.
59. **What is the difference between `nslookup` and `dig` commands?**
- `nslookup` is a simple tool for querying DNS servers, while `dig` provides more detailed information and is more flexible for DNS troubleshooting.
60. **How to check your user id and group id?**
- Use the `id` command.
61. **What is the difference between “`kill`” and “`kill -9`” command?**
- `kill` sends a signal to terminate a process gracefully, allowing it to clean up resources. `kill -9` sends a `SIGKILL` signal, forcing the process to terminate immediately without cleanup.
62. **What is a subnet?**
- A subnet is a segmented piece of a larger network, designed to improve performance and security by grouping devices with similar network requirements.
63. **You are troubleshooting an issue with Redhat support and they have asked you to send the contents of `/etc` directory. How and which method will you use to transfer the contents?**
- Compress the `/etc` directory using `tar` and transfer it using `ftp` or `scp`.
64. **What is `syslogd` daemon and its purpose?**
- `rsyslogd` is a system utility providing support for message logging. It is an enhanced version of `syslogd`.
65. **What is the command to untar a tarred file?**

- Use `tar -xvf filename.tar`.

**66. What is the `/proc` directory used for?**

- The `/proc` directory contains virtual files that provide a view into the kernel's view of the system.

**67. What is the purpose of the `nsswitch.conf` file?**

- It specifies the sources from which to obtain name-service information in a range of categories and in what order.

**68. Which service/daemon should be running on the server that allows you to connect remotely?**

- `sshd` (SSH Daemon).

**69. What is the purpose of a firewall?**

- A firewall controls incoming and outgoing network traffic based on predetermined security rules.

**70. List any 3 IT components.**

- Hardware, Operating System, and Applications.

**71. Which directory has all the commands we use, e.g., `ls`, `cd`, etc.?**

- `/usr/bin` or `/bin`.

**72. What is the difference between memory, virtual memory, and cache?**

- Memory (RAM) is the physical hardware inside a computer that temporarily stores data.
- Virtual memory is a memory management capability that uses disk space as an extension of RAM.
- Cache is a smaller, faster memory component that stores copies of frequently accessed data for quick access.

**73. Correct order of interaction:**

- a. User >> Operating System >> Hardware.

**74. Which of the following is a communication command?**

- `mail`.

**75. Why is the “`tail -f logfilename`” command used most often and what does it do?**

- It outputs all incoming logs in real-time, useful for monitoring log files as they are updated.

**76. How to sort a file in reverse order?**

- Use `sort -r filename`.

**77. List all byte sizes from smallest to largest.**

- Bit, Byte, Kilobyte (KB), Megabyte (MB), Gigabyte (GB), Terabyte (TB), Petabyte (PB), Exabyte (EB).

**78. How to check the total number of partitions in Linux?**

- Use `fdisk -l`.

**79. How to access a Linux system from a Linux system?**

- Use `ssh`.

**80. Explain the procedure of bonding 2 NICs or interfaces together.**

- Use network bonding to combine two or more NICs into a single bonded interface for redundancy or increased throughput. This typically involves

configuring /etc/network/interfaces or /etc/sysconfig/network-scripts/ifcfg-bond0 and using the bonding kernel module.

81. **What is the exact command syntax to list the 5th column of a file and cut the first 3 letters?**
  - `awk '{print $5}' filename | cut -c1-3.`
82. **What is the /etc/hosts file used for?**
  - It is used to resolve hostnames to IP addresses locally.
83. **List any 3 options of 'df' command and what they are used for.**
  - -h: human-readable format, -i: inodes information, -T: file system type.
84. **What is swap space and how to check swap space?**
  - Swap space is a portion of the hard drive used as an extension of RAM. Check swap space using `swapon -s` or `free`.
85. **What is inode and how to find an inode of a file?**
  - An inode is a data structure on a filesystem that stores information about a file or directory. Use `ls -li filename` to find the inode number.
86. **Which file to edit for kernel tuning?**
  - Edit /etc/sysctl.conf for kernel parameter tuning.
87. **What is the latest version of Redhat?**
  - Search online for the most recent version as it frequently updates.
88. **Name the command to find a specific word from a file.**
  - `grep word filename.`
89. **You have scheduled a job using crontab but it does not run at the time you specified, what could be the reason and how would you troubleshoot?**
  - Check system time, crontab entry syntax, and /var/log/cron for errors.
90. **How to check system hardware information?**
  - Use `dmidecode`.
91. **How to check network interface MAC address?**
  - Use `ifconfig` or `ip link`.
92. **If I don't want others to read my file1, how do I do that?**
  - Remove read permission for others using `chmod o-r file1`.
93. **What is the purpose of "uniq" and "sed" commands?**
  - `uniq` removes duplicate lines from sorted input, `sed` is a stream editor for filtering and transforming text.
94. **Which command is used to list the contents of a directory in the most recent time and in reverse order, meaning the most updated file should be listed on the bottom?**
  - `ls -ltr`.
95. **What is the difference between tar, gzip, and gunzip?**
  - `tar` is used for archiving files, `gzip` compresses files, and `gunzip` decompresses files.
96. **What are the different ways to install an OS?**
  - Using a DVD, DVD ISO, or network boot.
97. **How to view the difference between two files?**

- Use diff file1 file2.

**98. You noticed that one of the Linux servers has no disk space left, how would you troubleshoot that issue?**

- If using LVM, add more disk space and extend the logical volume. If not, add a new disk, create a partition, and link it to an existing filesystem.

**99. How to check Redhat version release?**

- Use cat /etc/redhat-release or uname -a.

**100. What is the difference between TCP and UDP?**

- TCP is connection-oriented and reliable, while UDP is connectionless and faster but less reliable.

**101. What is a zombie process?**

- A zombie process is a process that has completed execution but still has an entry in the process table, waiting for the parent process to read its exit status.

**102. How do you search for a pattern/word in a file and then replace it in an entire file?**

- Use sed for search and replace operations.

**103. How to check the number of users logged in?**

- Use who command.

**104. What is the command to view the calendar of 2024?**

- cal 2024.

**105. Which command is used to view disk space?**

- df -h.

**106. How to create a new group in Linux?**

- groupadd groupname.

**107. What is the command to send a message to everyone who is logged into the system?**

- Use wall command.

**108. Which command is used to check the total number of disks?**

- fdisk -l.

**109. What is a mail server record in DNS?**

- MX (Mail Exchange) record.

**110. What does the following command line do? ps -ef | awk '{print \$1}' | sort | uniq**

- Lists the first column of all running processes, sorts them, and removes duplicates.

**111. You get a call that when a user goes to www.yourwebsite.com it fails and gets an error, how do you troubleshoot?**

- Check user internet connectivity, DNS configuration, server status, and web service availability.

**112. List 4 different directories in /?**

- /etc, /bin, /tmp, /home.

