

LINUX INTERVIEW QUESTIONS



1. Filesystem Basics

1. What is the command to create an empty file?
● `touch filename`
2. How do you create a new directory?
● `mkdir directory_name`
3. How do you list all files in a directory?
● `ls`
4. How do you list all files, including hidden ones?
● `ls -a`
5. How do you display the current working directory?
● `pwd`
6. How do you move or rename a file?
● `mv source_file destination_file`
7. How do you copy a file?
● `cp source_file destination_file`
8. What command is used to delete a file?
● `rm filename`

9. How do you delete a directory and its contents?
● `rm -r directory_name`
 10. How do you display the contents of a file?
● `cat filename`
 11. How do you display the first 10 lines of a file?
● `head filename`
 12. How do you display the last 10 lines of a file?
● `tail filename`
 13. How do you check free disk space?
● `df -h`
 14. How do you display disk usage of a directory?
● `du -sh directory_name`
 15. How do you search for a file by name in a directory?
● `find /path/to/directory -name filename`
 16. How do you compress a file using gzip?
● `gzip filename`
 17. How do you decompress a gzip file?
● `gunzip filename.gz`
 18. How do you archive multiple files using tar?
● `tar -czvf archive.tar.gz files`
 19. How do you extract a tar.gz archive?
● `tar -xzvf archive.tar.gz`
 20. How do you mount a filesystem?
● `mount device_name mount_point`
 21. How do you unmount a filesystem?
● `umount mount_point`
 22. How do you create a symbolic link?
● `ln -s target_file link_name`
 23. How do you view file types in a directory?
● `file filename`
 24. How do you remove an empty directory?
● `rmdir directory_name`
 25. How do you check for file existence?
● `test -f filename`
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2. File Permissions and Ownership

26. How do you change file permissions?
● `chmod permissions filename`

27. How do you change file ownership?
● `chown user:group filename`
28. How do you view file permissions in a directory?
● `ls -l`
29. How do you recursively change permissions for a directory?
● `chmod -R permissions directory_name`
30. What does the `chmod 777` command do?
● Grants read, write, and execute permissions to everyone
31. How do you view a file's access control list (ACL)?
● `getfacl filename`
32. How do you set a default ACL for a directory?
● `setfacl -d -m u:user:permissions directory_name`
33. How do you set permissions for a script to be executable?
● `chmod +x script.sh`
34. What is the significance of the `sticky bit` in Linux?
● It restricts file deletion in shared directories like `/tmp`.
35. How do you add the sticky bit to a directory?
● `chmod +t directory_name`
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3. Process Management

36. How do you view running processes?
● `ps -aux`
37. How do you kill a process by PID?
● `kill PID`
38. How do you find the PID of a running process by name?
● `pgrep process_name`
39. How do you display processes in real-time?
● `top or htop`
40. How do you stop a process gracefully?
● `kill -15 PID`
41. How do you stop a process forcefully?
● `kill -9 PID`
42. How do you start a background process?
● `command &`
43. How do you bring a background job to the foreground?
● `fg %job_id`
44. How do you monitor resource usage by a process?
● `pidstat`

45. How do you view system logs for a process?
● `journalctl -u service_name`
46. How do you create a custom alias for a command?
● `alias alias_name='command'`
47. How do you remove an alias?
● `unalias alias_name`
48. How do you run a command as another user?
● `sudo -u username command`
49. How do you list all environment variables?
● `printenv` or `env`
50. How do you export a variable in Linux?
● `export VAR=value`
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4. Networking

51. How do you find the IP address of your system?
● `ip addr` or `ifconfig`
52. How do you check active network connections?
● `ss -tuln` or `netstat -tuln`
53. How do you ping a host to check connectivity?
● `ping host`
54. How do you test port connectivity?
● `telnet hostname port`
55. How do you display routing information?
● `route`
56. How do you check open ports on your system?
● `lsof -i`
57. How do you download files from the internet?
● `wget URL`
58. How do you transfer files between systems using SCP?
● `scp source_file user@remote_host:/destination_path`
59. How do you use SSH to connect to a remote server?
● `ssh user@remote_host`
60. How do you set up a static IP address?
● Edit the network configuration file (e.g., `/etc/network/interfaces`)
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5. User Management

61. How do you create a new user in Linux?
● `adduser username`
62. How do you delete a user?
● `userdel username`
63. How do you lock a user account?
● `passwd -l username`
64. How do you unlock a user account?
● `passwd -u username`
65. How do you switch to another user?
● `su - username`
66. How do you view currently logged-in users?
● `who` or `w`
67. How do you check user account information?
● `id username`
68. How do you list all users on the system?
● `cat /etc/passwd`
69. How do you create a group in Linux?
● `groupadd group_name`
70. How do you add a user to a group?
● `usermod -aG group_name username`
71. How do you change a user's default shell?
● `chsh -s /bin/bash username`
72. How do you change a user's home directory?
● `usermod -d /new/home/dir username`
73. How do you create a system user without a home directory?
● `adduser --system --no-create-home username`
74. How do you set or reset a user's password?
● `passwd username`
75. How do you check group memberships of a user?
● `groups username`

6. Package Management

76. How do you install a package on Debian-based systems?
● `apt install package_name`
77. How do you update all packages on a Debian-based system?
● `apt update && apt upgrade`

78. How do you remove a package on Debian-based systems?

● `apt remove package_name`

79. How do you install a package on RHEL-based systems?

● `yum install package_name` or `dnf install package_name`

80. How do you remove a package on RHEL-based systems?

● `yum remove package_name` or `dnf remove package_name`

81. How do you search for a package in Debian repositories?

● `apt search package_name`

82. How do you list all installed packages?

● `dpkg -l` (Debian) or `rpm -qa` (RHEL)

83. How do you check which package a file belongs to?

● `dpkg -S filename` (Debian) or `rpm -qf filename` (RHEL)

84. How do you clean up cached packages on Debian-based systems?

● `apt clean`

85. How do you enable or disable a repository in RHEL-based systems?

● `yum-config-manager --enable repo_name` or `--disable repo_name`

7. System Monitoring and Performance

86. How do you check system uptime?

● `uptime`

87. How do you display memory usage?

● `free -h`

88. How do you monitor disk I/O in real-time?

● `iostat`

89. How do you check CPU usage?

● `top` or `htop`

90. How do you check running services?

● `systemctl list-units --type=service`

91. How do you enable a service to start on boot?

● `systemctl enable service_name`

92. How do you check system load averages?

● `uptime` or `cat /proc/loadavg`

93. How do you monitor network traffic in real-time?

● `iftop` or `nload`

94. How do you list hardware information?

● `lshw`

95. How do you check kernel version?

● `uname -r`

96. How do you check currently mounted filesystems?

● `mount` or `df -h`

97. How do you list active cron jobs?

● `crontab -l`

98. How do you check log files?

● `tail -f /var/log/syslog` or `journalctl`

99. How do you analyze disk usage by directories?

● `du -h --max-depth=1`

10. Advanced Networking

100. How do you configure a network interface?

● `ip addr add IP_ADDRESS dev interface`

101. How do you bring an interface up or down?

● `ip link set interface up` or `ip link set interface down`

102. How do you test DNS resolution?

● `nslookup domain_name`

103. How do you display ARP table entries?

● `arp -a`

104. How do you configure a firewall using iptables?

● `iptables -A INPUT -p tcp --dport port -j ACCEPT`

105. How do you save iptables rules?

● `iptables-save > /etc/iptables/rules.v4`

106. How do you check open ports on a system?

● `ss -tuln`

107. How do you trace the route to a host?

● `traceroute hostname`

108. How do you monitor packet flow?

● `tcpdump`

109. How do you edit the hosts file?

● `nano /etc/hosts`

11. Scripting and Automation

110. How do you create a simple shell script?

● `#!/bin/bash`

111. How do you make a script executable?

● `chmod +x script_name`

112. How do you run a script?

● `./script_name`

113. How do you use variables in a shell script?
● `variable=value` and use with `$variable`
 114. How do you accept input in a script?
● `read variable_name`
 115. How do you pass arguments to a script?
● Use `$1, $2`, etc., for positional arguments
 116. How do you write an if-else condition in a script?
●
`bash if [condition]; then commands else commands fi`
 117. How do you write a for loop in a script?
●
`bash for i in {1..5}; do echo $i done`
 118. How do you schedule a script using cron?
● `crontab -e` and add the schedule entry
 119. How do you debug a script?
● `bash -x script_name`
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12. Advanced Topics

120. What is SELinux?
● Security-Enhanced Linux for access control
121. How do you check SELinux status?
● `sestatus`
122. How do you change SELinux mode?
● `setenforce 0` (permissive) or `setenforce 1` (enforcing)
123. How do you view running containers in Docker?
● `docker ps`
124. How do you stop a running Docker container?
● `docker stop container_id`
125. How do you create an SSH key pair?
● `ssh-keygen`
126. How do you use rsync for file transfer?
● `rsync -avz source destination`
127. How do you check the default gateway?
● `ip route`
128. How do you monitor file changes in real-time?
● `inotifywait`
129. How do you create a virtual environment in Python?
● `python3 -m venv env_name`

13. Disk Management

130. How do you check swap usage?
● `swapon --show` or `free -h`
 131. How do you list disk partitions?
● `lsblk`
 132. How do you format a disk to ext4?
● `mkfs.ext4 /dev/sdX`
 133. How do you create a swap partition?
● `mkswap /dev/sdX`
 134. How do you check disk usage?
● `df -h`
 135. How do you check inodes usage?
● `df -i`
 136. How do you mount a disk?
● `mount /dev/sdX /mount_point`
 137. How do you unmount a disk?
● `umount /mount_point`
 138. How do you resize a partition?
● Use `resize2fs` and `fdisk`
 139. How do you check SMART status of a disk?
● `smartctl -a /dev/sdX`
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14. Process Management

140. How do you list all running processes?
● `ps aux`
141. How do you kill a process by PID?
● `kill PID`
142. How do you kill a process by name?
● `pkill process_name`
143. How do you stop a process?
● `kill -STOP PID`
144. How do you continue a stopped process?
● `kill -CONT PID`
145. How do you view running processes in real-time?
● `top` or `htop`

146. How do you check process memory usage?
● `ps aux --sort=-%mem`
 147. How do you check process CPU usage?
● `ps aux --sort=-%cpu`
 148. How do you check process status?
● `ps -o stat= -p PID`
 149. How do you find a process by name?
● `pgrep process_name`
 150. How do you check the number of processes running?
● `ps aux | wc -l`
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15. System Monitoring

151. How do you monitor CPU usage?
● `top` or `htop`
 152. How do you check system load?
● `uptime`
 153. How do you monitor disk space?
● `df -h`
 154. How do you monitor memory usage?
● `free -h`
 155. How do you monitor swap usage?
● `swapon --show` or `free -h`
 156. How do you check network usage?
● `ifstat`
 157. How do you monitor network interfaces?
● `ip -s link`
 158. How do you monitor real-time log files?
● `tail -f /var/log/syslog`
 159. How do you check system uptime?
● `uptime`
 160. How do you check system resource utilization?
● `vmstat`
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16. Cloud and Automation Tools

161. How do you install AWS CLI?
● `pip install awscli`

162. How do you configure AWS CLI?
● `aws configure`
 163. How do you create an S3 bucket using CLI?
● `aws s3 mb s3://bucket_name`
 164. How do you list running EC2 instances?
● `aws ec2 describe-instances`
 165. How do you create an EC2 instance?
● `aws ec2 run-instances --image-id ami_id --count 1 --instance-type t2.micro`
 166. How do you deploy an application using Ansible?
● Write a playbook and run `ansible-playbook playbook.yml`
 167. How do you configure Ansible inventory?
● Edit `/etc/ansible/hosts`
 168. How do you use Terraform to create infrastructure?
● Write a `tf` file and run `terraform apply`
 169. How do you start a Kubernetes cluster?
● Use `kubeadm init`
 170. How do you install Docker on a system?
● Use `apt-get install docker.io` or `yum install docker`
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17. Advanced File Handling

171. How do you copy a directory recursively?
● `cp -r source_directory destination_directory`
172. How do you move or rename a file?
● `mv old_name new_name`
173. How do you remove a file?
● `rm filename`
174. How do you remove a directory recursively?
● `rm -r directory_name`
175. How do you find files by name?
● `find / -name "filename"`
176. How do you search for text within files?
● `grep "text" file_name`
177. How do you replace text in files?
● `sed -i 's/old_text/new_text/g' file_name`
178. How do you concatenate two files?
● `cat file1 file2 > new_file`
179. How do you compress a file?
● `tar -czf file_name.tar.gz directory_name`

180. How do you decompress a file?

● `tar -xzf file_name.tar.gz`

18. Backup and Recovery

181. How do you create a backup of a directory?

● `tar -cvf backup_name.tar.gz directory_name`

182. How do you restore a backup?

● `tar -xvf backup_name.tar.gz`

183. How do you use `rsync` for incremental backups?

● `rsync -avz source destination`

184. How do you schedule backups with cron?

● `crontab -e` and add a backup command

185. How do you check backup logs?

● `cat /var/log/backup.log`

186. How do you create a full system backup with `dd`?

● `dd if=/dev/sda of=backup.img`

187. How do you restore a system from `dd` backup?

● `dd if=backup.img of=/dev/sda`

188. How do you create an incremental backup with `rsnapshot`?

● Configure `/etc/rsnapshot.conf` and run `rsnapshot daily`

189. How do you mount a backup disk?

● `mount /dev/sdX /mount_point`

190. How do you unmount a backup disk?

● `umount /mount_point`

19. Security and Permissions

191. How do you change file permissions in Linux?

● `chmod permissions file_name`

192. How do you change file ownership in Linux?

● `chown user:group file_name`

193. How do you create a new user in Linux?

● `useradd username`

194. How do you set a password for a user?

● `passwd username`

195. How do you delete a user in Linux?

● `userdel username`

196. How do you add a user to a group?
● `usermod -aG group_name username`
197. How do you list groups in Linux?
● `cat /etc/group`
198. How do you secure SSH access?
● Disable root login by setting `PermitRootLogin no` in
`/etc/ssh/sshd_config`
199. How do you configure SSH key-based authentication?
● Copy the public key to `~/.ssh/authorized_keys` on the remote machine
200. How do you view system logs in Linux?
● `journalctl` or `cat /var/log/syslog`

Tips for Cracking the Interview

- Be practical: Demonstrate how to solve real-world issues.
- Explain clearly: Don't just list commands; explain the reasoning behind them.
- Share scenarios: Mention situations where you applied these skills, like troubleshooting, securing systems, or optimizing performance.