

# **LINUX INTERVIEW QUESTIONS**

Crack Your Next Interview with Confidence!



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## **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`
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## 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`
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## 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`

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## 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`



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## 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`
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## 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.

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