

# **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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