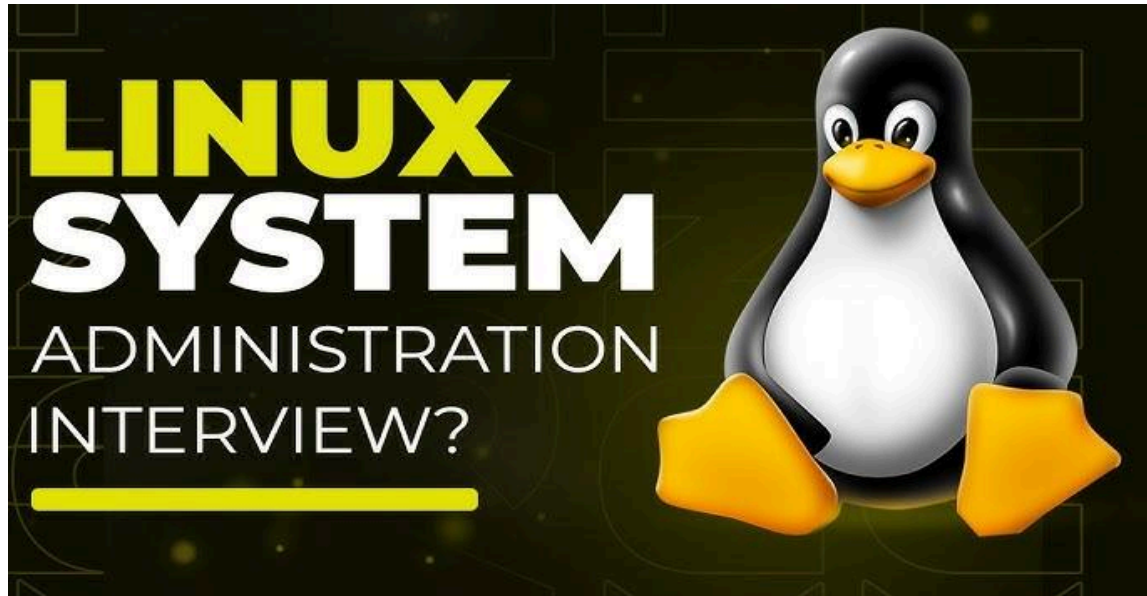


LINUX INTERVIEW QUESTIONS

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`

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`

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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