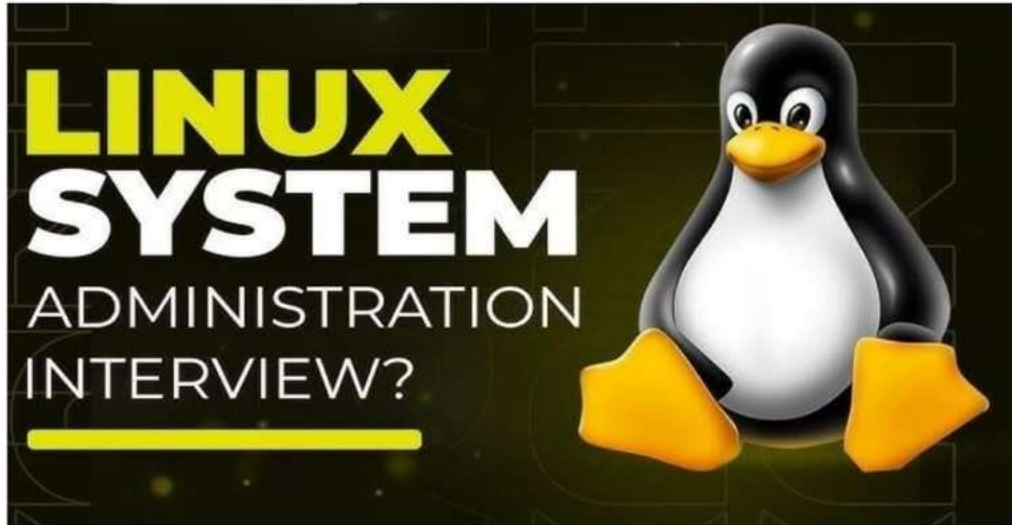


# LINUX INTERVIEW QUESTIONS



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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.