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## DevOps Shack

### Top 300 Linux Commands Asked in Interviews

1. **ls** – Lists files and directories in the current directory.
2. **ls -al** – Lists all files, including hidden ones, with detailed information.
3. **pwd** – Prints the current working directory.
4. **cd /path/to/directory** – Changes the directory to the specified path.
5. **cd ..** – Moves up one directory level.
6. **mkdir new\_directory** – Creates a new directory.
7. **rmdir empty\_directory** – Removes an empty directory.
8. **rm -rf directory\_name** – Deletes a directory and its contents recursively.
9. **touch file.txt** – Creates a new empty file.
10. **cat file.txt** – Displays the contents of a file.

11. **`tac file.txt`** – Displays the contents of a file in reverse order.

12. **`nano file.txt`** – Opens a file in the nano text editor.

13. **`vim file.txt`** – Opens a file in the Vim editor.

14. **`vi file.txt`** – Opens a file in the vi editor.

15. **`echo "Hello, World!"`** – Prints text to the terminal.

16. **`echo "Hello" > file.txt`** – Writes text to a file (overwrites existing content).

17. **`echo "Hello" >> file.txt`** – Appends text to a file.

18. **`cp source.txt destination.txt`** – Copies a file.

19. **`cp -r source_directory destination_directory`** – Copies a directory recursively.

20. **`mv old_name.txt new_name.txt`** – Renames a file.

21. **`mv file.txt /path/to/destination/`** – Moves a file to another directory.

22. **`rm file.txt`** – Deletes a file.



23. **find / -name "file.txt"** – Searches for a file by name starting from the root directory.

24. **find . -type f -name "\*.log"** – Finds all log files in the current directory.

25. **locate file.txt** – Finds the location of a file using a pre-built index.

26. **updatedb** – Updates the locate command's index.

27. **grep "search\_term" file.txt** – Searches for a term inside a file.

28. **grep -i "search\_term" file.txt** – Case-insensitive search.

29. **grep -r "search\_term" /path/to/search/** – Searches recursively in a directory.

30. **awk '{print \$1}' file.txt** – Prints the first column of a file.

31. **awk -F: '{print \$1}' /etc/passwd** – Prints the first field of the `/etc/passwd` file, separated by colons.

32. **sed 's/old/new/g' file.txt** – Replaces all occurrences of "old" with "new" in a file.

33. **sed -i 's/old/new/g' file.txt** – Replaces text in a file in place.

34. **sort file.txt** – Sorts lines in a file.



35.**sort -r file.txt** – Sorts lines in reverse order.

36.**uniq file.txt** – Removes duplicate lines from a sorted file.

37.**wc -l file.txt** – Counts the number of lines in a file.

38.**wc -w file.txt** – Counts the number of words in a file.

39.**wc -c file.txt** – Counts the number of bytes in a file.

40.**head -n 10 file.txt** – Displays the first 10 lines of a file.

41.**tail -n 10 file.txt** – Displays the last 10 lines of a file.

42.**tail -f file.txt** – Continuously monitors a file for changes.

43.**df -h** – Shows disk space usage in a human-readable format.

44.**du -sh directory\_name** – Shows the size of a directory.

45.**free -m** – Displays memory usage in megabytes.

46.**uptime** – Shows system uptime and load average.

47.**who** – Displays currently logged-in users.

48.**whoami** – Displays the current logged-in username.

49.**id** – Displays the user ID (UID) and group ID (GID).

50.**groups username** – Displays groups a user belongs to.

51.**ps aux** – Displays running processes.

52.**top** – Displays real-time process information.

53.**htop** – An interactive process viewer (if installed).

54.**kill -9 PID** – Forcefully terminates a process.

55.**pkill process\_name** – Kills processes by name.

56.**killall process\_name** – Kills all processes with a specific name.

57.**jobs** – Lists background jobs.

58.**bg** – Resumes a background job.

59.**fg** – Brings a background job to the foreground.

60.**nohup command &** – Runs a command in the background, ignoring hangups.

61.**crontab -e** – Edits the crontab file to schedule tasks.



62.**crontab -l** – Lists scheduled cron jobs.

63.**crontab -r** – Removes all scheduled cron jobs.

64.**history** – Displays command history.

65.**!100** – Runs command number 100 from history.

66.**chmod 755 file.sh** – Changes file permissions.

67.**chown user:group file.txt** – Changes file ownership.

68.**chgrp group\_name file.txt** – Changes file group ownership.

69.**ls -l | grep "^d"** – Lists only directories.

70.**df -i** – Shows inode usage.

71.**du -a** – Shows size of all files and directories.

72.**tar -cvf archive.tar directory/** – Creates a tar archive.

73.**tar -xvf archive.tar** – Extracts a tar archive.

74.**tar -czvf archive.tar.gz directory/** – Creates a compressed tar archive.



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75. **tar -xzvf archive.tar.gz** – Extracts a compressed tar archive.

76. **zip -r archive.zip directory/** – Compresses a directory into a zip file.

77. **unzip archive.zip** – Extracts a zip file.

78. **scp file.txt user@remote:/path/** – Securely copies a file to a remote server.

79. **scp -r directory user@remote:/path/** – Securely copies a directory to a remote server.

80. **rsync -av source/ destination/** – Synchronizes directories.

81. **wget URL** – Downloads a file from a URL.

82. **curl -O URL** – Downloads a file from a URL.

83. **curl -I URL** – Retrieves HTTP headers from a URL.

84. **ping google.com** – Checks network connectivity.

85. **traceroute google.com** – Traces network route to a server.

86. **netstat -tulnp** – Shows network connections and listening ports.

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87. **ss -tulnp** – Displays active connections (alternative to netstat).

88. **ip a** – Shows IP addresses.

89. **ifconfig** – Displays network interfaces (deprecated).

90. **hostname** – Displays the system hostname.

91. **uptime** – Shows system uptime.

92. **uname -a** – Displays system information.

93. **lscpu** – Shows CPU details.

94. **lsblk** – Lists information about storage devices.

95. **blkid** – Shows UUIDs of partitions.

96. **mount /dev/sdb1 /mnt** – Mounts a device.

97. **umount /mnt** – Unmounts a device.

98. **df -Th** – Displays file system types and disk usage.

99. **fdisk -l** – Lists partition tables.

100. **mkfs.ext4 /dev/sdb1** – Formats a partition with ext4.



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101. **fsck /dev/sdb1** – Checks a filesystem for errors.
  102. **echo \$?** – Displays the exit status of the last command.
  103. **time command** – Measures command execution time.
  104. **date** – Displays the current date and time.
  105. **cal** – Displays a calendar.
  106. **env** – Displays environment variables.
  107. **export VAR=value** – Sets an environment variable.
  108. **unset VAR** – Unsets an environment variable.
  109. **alias ll='ls -al'** – Creates a command alias.
  110. **unalias ll** – Removes an alias.
  111. **basename /path/to/file.txt** – Extracts the filename from a given path.
  112. **dirname /path/to/file.txt** – Extracts the directory path from a given file path.
  113. **diff file1.txt file2.txt** – Compares two files line by line.

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114. `cmp file1.txt file2.txt` – Compares two files byte by byte.
  115. `stat file.txt` – Displays detailed information about a file.
  116. `file file.txt` – Determines the file type.
  117. `cut -d ':' -f1 /etc/passwd` – Extracts the first field from a colon-separated file.
  118. `paste file1.txt file2.txt` – Merges two files line by line.
  119. `tee file.txt` – Writes output to both a file and the standard output.
  120. `yes "text"` – Continuously outputs "text" until interrupted.
  121. `watch -n 5 df -h` – Runs a command every 5 seconds.
  122. `lsattr` – Lists file attributes.
  123. `chattr +i file.txt` – Makes a file immutable (cannot be modified or deleted).
  124. `chattr -i file.txt` – Removes immutability from a file.
  125. `nohup command &` – Runs a command in the background and ignores hangups.

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126. **jobs** – Lists active background jobs.
  127. **fg %1** – Brings job number 1 to the foreground.
  128. **bg %1** – Resumes a background job.
  129. **disown -h %1** – Removes a job from the shell's job table.
  130. **xargs** – Passes standard input as command arguments.
  131. **ls | xargs rm** – Deletes all files in a directory.
  132. **echo "file1 file2" | xargs rm** – Deletes specified files.
  133. **uptime -p** – Shows how long the system has been running.
  134. **uptime -s** – Shows the system start time.
  135. **who -b** – Displays the last system boot time.
  136. **last reboot** – Shows the system reboot history.
  137. **dmesg | tail** – Displays the latest kernel messages.
  138. **dmesg | grep error** – Searches the kernel logs for errors.
  139. **journalctl -xe** – Views system logs.

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140. **journalctl -f** – Monitors logs in real time.
  141. **systemctl status service\_name** – Checks the status of a systemd service.
  142. **systemctl start service\_name** – Starts a systemd service.
  143. **systemctl stop service\_name** – Stops a systemd service.
  144. **systemctl restart service\_name** – Restarts a systemd service.
  145. **systemctl enable service\_name** – Enables a service to start on boot.
  146. **systemctl disable service\_name** – Disables a service from starting on boot.
  147. **systemctl list-units --type=service** – Lists all active system services.
  148. **systemctl daemon-reload** – Reloads systemd configuration files.
  149. **service service\_name status** – Checks the status of a SysV service.
  150. **service service\_name start** – Starts a SysV service.

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151. `service service_name stop` – Stops a SysV service.
  152. `chkconfig --list` – Lists services managed by SysV init.
  153. `chkconfig service_name on` – Enables a service on boot using SysV.
  154. `chkconfig service_name off` – Disables a service from boot using SysV.
  155. `modprobe module_name` – Loads a kernel module.
  156. `lsmod` – Lists currently loaded kernel modules.
  157. `rmmod module_name` – Removes a kernel module.
  158. `insmod module.ko` – Inserts a module into the kernel.
  159. `uname -r` – Displays the currently running kernel version.
  160. `cat /proc/version` – Shows kernel version details.
  161. `hostnamectl` – Displays and modifies the hostname.
  162. `nmcli device status` – Shows network interfaces and their statuses.
  163. `nmcli connection show` – Lists saved network connections.

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164. `nmcli connection up eth0` – Brings up a network interface.
  165. `nmcli connection down eth0` – Brings down a network interface.
  166. `dhclient -r` – Releases the DHCP lease.
  167. `dhclient eth0` – Obtains a new DHCP lease.
  168. `ip link set eth0 up` – Brings up an interface.
  169. `ip link set eth0 down` – Brings down an interface.
  170. `tcpdump -i eth0` – Captures network packets on an interface.
  171. `tcpdump -nn port 80` – Captures HTTP traffic.
  172. `tcpdump -c 10 -i eth0` – Captures 10 packets and exits.
  173. `iptables -L` – Lists firewall rules.
  174. `iptables -A INPUT -p tcp --dport 22 -j ACCEPT` – Allows SSH access.
  175. `iptables -A INPUT -p tcp --dport 80 -j DROP` – Blocks HTTP access.
  176. `iptables -D INPUT -p tcp --dport 80 -j DROP` –

Removes a firewall rule.

177. **firewall-cmd --list-all** – Lists active firewall rules (Firewalld).

178. **firewall-cmd --permanent --add-port=443/tcp** – Opens port 443 permanently.

179. **firewall-cmd --reload** – Reloads the firewall rules.

180. **ufw status** – Checks UFW firewall status.

181. **ufw allow 22/tcp** – Allows SSH access.

182. **ufw deny 80/tcp** – Blocks HTTP access.

183. **ufw delete allow 22/tcp** – Removes an allowed rule.

184. **df -T** – Displays filesystem type.

185. **ls -lh** – Lists files with human-readable sizes.

186. **du -ch** – Shows total disk usage in human-readable format.

187. **htop** – Interactive process monitoring.

188. **top -o %MEM** – Sorts processes by memory usage.

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189. `lsof -i :80` – Lists processes using port 80.
  190. `strace -c ls` – Traces system calls used by a command.
  191. `strace -e open ls` – Shows file open system calls used by ls.
  192. `tcpdump -XX` – Captures packets with hex and ASCII output.
  193. `watch -d -n 5 free -m` – Monitors memory usage every 5 seconds.
  194. `iostat` – Monitors disk I/O usage by processes.
  195. `lsusb` – Lists USB devices.
  196. `lspci` – Lists PCI devices.
  197. `uptime -p` – Shows how long the system has been running in a human-friendly format.
  198. `dmidecode -t memory` – Displays RAM information.
  199. `mpstat 1` – Displays CPU usage statistics.
  200. `iostat -c 2 5` – Shows CPU statistics every 2 seconds for 5 iterations.
  201. `vmstat 1 5` – Displays system performance statistics every second



for 5 iterations.

202. **sar -u 5 3** – Reports CPU usage every 5 seconds for 3 iterations.

203. **sar -r 5 3** – Reports memory usage every 5 seconds for 3 iterations.

204. **uptime -s** – Displays system startup time.

205. **iostat -o** – Shows processes doing the most disk I/O.

206. **dstat** – Displays system resource usage dynamically.

207. **mpstat -P ALL 5** – Displays CPU usage for all cores every 5 seconds.

208. **nice -n 10 command** – Runs a command with lower priority.

209. **renice -n 10 -p PID** – Changes priority of an existing process.

210. **ulimit -a** – Shows system resource limits.

211. **ulimit -n 10240** – Changes the maximum number of open file descriptors.

212. **getfacl file.txt** – Displays ACL (Access Control List) permissions of a file.

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213. **setfacl -m u:username:rwx file.txt** – Grants a user additional file permissions.
214. **setfacl -x u:username file.txt** – Removes ACL permissions for a user.
215. **getsebool -a** – Lists all SELinux booleans and their statuses.
216. **setsebool -P httpd\_can\_network\_connect on** – Allows Apache to make network connections in SELinux.
217. **semanage fcontext -l** – Lists default SELinux file contexts.
218. **restorecon -Rv /var/www/html** – Restores SELinux context for files.
219. **getenforce** – Displays the current SELinux mode (Enforcing/Permissive/Disabled).
220. **setenforce 0** – Switches SELinux to permissive mode.
221. **auditctl -l** – Lists all active audit rules.
222. **ausearch -m avc** – Searches SELinux denial messages.
223. **ausearch -m USER\_LOGIN** – Searches authentication logs using audit logs.

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224. **modinfo module\_name** – Displays information about a kernel module.
225. **modprobe -r module\_name** – Unloads a kernel module.
226. **ls -Z** – Displays SELinux contexts of files.
227. **ps -eZ** – Displays SELinux contexts of processes.
228. **firewall-cmd --list-services** – Lists allowed services in Firewalld.
229. **firewall-cmd --permanent --add-service=https** – Allows HTTPS traffic permanently.
230. **firewall-cmd --permanent --remove-service=https** – Removes HTTPS access.
231. **firewall-cmd --reload** – Reloads Firewalld rules.
232. **ufw enable** – Enables UFW firewall.
233. **ufw disable** – Disables UFW firewall.
234. **ufw status numbered** – Displays UFW rules with numbering.
235. **ufw delete 2** – Deletes UFW rule number 2.

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236. **iptables -P INPUT DROP** – Sets default INPUT policy to DROP.
237. **iptables -P FORWARD DROP** – Drops forwarded packets by default.
238. **iptables -P OUTPUT ACCEPT** – Allows all outgoing traffic by default.
239. **iptables -A INPUT -p tcp --dport 22 -j ACCEPT** – Allows SSH access.
240. **iptables-save > rules.v4** – Saves iptables rules to a file.
241. **iptables-restore < rules.v4** – Restores iptables rules from a file.
242. **lsof -p PID** – Lists open files by a process.
243. **lsof -i :443** – Displays processes using port 443.
244. **lsof /path/to/file** – Shows processes accessing a specific file.
245. **strace -o trace.log -p PID** – Traces system calls of a running process.
246. **strace -c ls** – Summarizes system calls used by a command.
247. **tcpdump -i eth0** – Captures network packets on interface eth0.

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248. `tcpdump -nn -s0 -X -i eth0 port 80` – Captures and displays raw HTTP traffic.
249. `nc -zv google.com 443` – Checks if port 443 is open on google.com.
250. `nc -lvp 1234` – Starts a netcat listener on port 1234.
251. `rsync -avz /src/ user@remote:/dest/` – Syncs files securely over SSH.
252. `rsync -a --delete /src/ /dest/` – Synchronizes directories and removes extra files.
253. `scp -P 2222 file.txt user@remote:/path/` – Transfers a file using a non-default SSH port.
254. `ssh user@remote -p 2222` – Connects to a server using a different SSH port.
255. `ssh-keygen -t rsa -b 4096 -C "your_email@example.com"` – Generates an SSH key.
256. `ssh-copy-id user@remote` – Copies the SSH key to a remote host.
257. `ssh-agent bash` – Starts an SSH agent session.

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258. `eval "$(ssh-agent -s)"` – Initializes the SSH agent.
259. `chmod 600 ~/.ssh/id_rsa` – Sets secure permissions on an SSH private key.
260. `chage -l username` – Displays password expiration details for a user.
261. `chage -M 90 username` – Sets the password to expire every 90 days.
262. `passwd username` – Changes a user's password.
263. `useradd -m -s /bin/bash newuser` – Creates a new user with a home directory.
264. `usermod -aG sudo username` – Adds a user to the sudo group.
265. `deluser username` – Removes a user.
266. `groupadd newgroup` – Creates a new group.
267. `usermod -G groupname username` – Adds a user to a group.
268. `groupdel groupname` – Deletes a group.
269. `crontab -e` – Opens the user's crontab for editing.

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270. **crontab -l** – Lists scheduled cron jobs.
271. **crontab -r** – Removes all cron jobs for a user.
272. **echo "0 2 \* \* \* /path/to/script.sh" | crontab -** –  
Schedules a cron job to run a script at 2 AM daily.
273. **at now + 10 minutes** – Schedules a command to run in 10 minutes.
274. **at -l** – Lists pending scheduled jobs.
275. **systemctl list-timers** – Lists active systemd timers.
276. **timedatectl** – Displays system time settings.
277. **timedatectl set-timezone America/New\_York** – Changes system timezone.
278. **hwclock --systohc** – Synchronizes hardware clock with system clock.
279. **date "+%Y-%m-%d %H:%M:%S"** – Displays date and time in a specific format.
280. **find /var/log -type f -mtime +30 -delete** – Deletes log files older than 30 days.

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281. `journalctl --vacuum-time=30d` – Removes journal logs older than 30 days.
  282. `du -ah /var/log | sort -rh | head -10` – Lists the 10 largest log files.
  283. `logrotate -d /etc/logrotate.conf` – Tests log rotation configuration.
  284. `fsck -y /dev/sda1` – Checks and repairs a filesystem.
  285. `tune2fs -m 5 /dev/sda1` – Reserves 5% of space for root user.
  286. `blkid` – Lists partitions and their UUIDs.
  287. `mount -o remount,rw /` – Remounts the root filesystem as read/write.
  288. `mkfs.ext4 /dev/sdb1` – Formats a partition with ext4.
  289. `tune2fs -c 100 /dev/sda1` – Forces a filesystem check every 100 mounts.
  290. `swapoff -a && swapon -a` – Restarts the swap space.
  291. `free -h` – Displays RAM and swap usage in human-readable format.
  292. `grep -i error /var/log/syslog` – Searches syslog for errors.



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- 293. `dmidecode -t memory` – Displays memory module details.
  - 294. `systemctl poweroff` – Shuts down the system.
  - 295. `systemctl reboot` – Reboots the system.
  - 296. `shutdown -h now` – Immediately shuts down the system.
  - 297. `shutdown -r +10` – Reboots the system in 10 minutes.
  - 298. `wall "System maintenance in 5 minutes"` – Broadcasts a message to all users.
  - 299. `uptime` – Displays system uptime and load average.
  - 300. `exit` – Logs out of the shell session.