Devops Shack

MASTER LINUX IN 300 COMMANDS

BY DEVOPS SHACK

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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. `im 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.

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.

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.

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.

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.

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.

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.

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.

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.

`iptables -A INPUT -p tcp --dport 22 -ACCEPT` – Allows SSH access.

`iptables -A INPUT -p tcp --dport 80 -DROP` – Blocks HTTP access.

`iptables -D INPUT -p tcp --dport 80 -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.

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. `iotop` – 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. `iotop -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.

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.

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.

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.

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.

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.

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.

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.

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.