LINUX

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1. Which command displays the current working directory?

A. ls
B. pwd
C. cd
D. whoami

Answer: B

Explanation: ‘pwd‘ prints the full path of the directory you’re currently in, allowing you to confirm your location in the filesystem.

2. What does the ‘chmod 755 file‘ command set?

A. rwxr-xr-x permissions
B. rw-r--r--
C. r-xr-xr-x
D. rwxrwxr-x

Answer: A

Explanation: Mode 755 grants the owner read/write/execute and others read/execute, which is a common setting for executables and directories.

3. Which file lists mounted filesystems?

A. /etc/fstab
B. /proc/mounts
C. /etc/mtab
D. /proc/filesystems

Answer: B

Explanation: ‘/proc/mounts‘ reflects the current mount table maintained by the kernel, listing active mounts; ‘/etc/fstab‘ defines persistent mount configuration.

4. What is the default shell for most Linux distributions?

A. csh
B. bash
C. zsh
D. fish

Answer: B

Explanation: Bash (Bourne Again Shell) is widely used as the default interactive shell on many Linux distributions due to its features and compatibility.

5. Which command shows disk usage of directory recursively?

A. du -sh

B. df -h
C. ls -lh
D. free -h
Answer: A
Explanation: ‘du‘ reports disk usage per directory; ‘-s‘ summarizes totals and ‘-h‘ makes output human-readable.

6. What does ‘grep -i pattern file‘ do?

A. Search case-insensitively for pattern in file
B. Search only uppercase pattern
C. Search interactively
D. Search recursively
Answer: A
Explanation: The ‘-i‘ flag ignores case, matching patterns regardless of letter case, useful for case-insensitive searches.

7. Which command adds execute permission for user on file?

A. chmod u+x file
B. chmod +x file
C. Both A and B
D. chmod x+u file
Answer: C
Explanation: ‘chmod u+x‘ explicitly targets the user, while ‘chmod +x‘ adds execute for all classes (user, group, others), both giving the owner execute permission.

8. Where are user password hashes stored in modern Linux systems?

A. /etc/passwd
B. /etc/shadow
C. /etc/login.defs
D. /etc/group
Answer: B
Explanation: ‘/etc/shadow‘ stores hashed passwords with restricted permissions, while ‘/etc/passwd‘ contains account metadata visible to all users.

9. What does the ‘tar -czf archive.tar.gz dir‘ command do?

A. Create gzip compressed tar archive of dir
B. Extract archive
C. List archive contents
D. Copy directory
Answer: A
Explanation: ‘tar‘ with ‘-c‘ creates an archive, ‘-z‘ compresses with gzip, and ‘-f‘ specifies the output file name.

10. Which command shows running processes in real time?

A. top
B. ps -ef
C. htop (if installed)
D. Both A and C
Answer: D
Explanation: ‘top‘ is built-in for real-time process monitoring; ‘htop‘ is a more user-friendly alternative offering similar live views.

11. How do you display last lines of file continuously?

A. tail -f file
B. tail file
C. less file
D. watch file
Answer: A
Explanation: ‘tail -f‘ follows a file and prints new lines as they are appended, commonly used for monitoring logs.

12. Which file contains system-wide environment variables?

A. /etc/profile
B. ~/.bashrc
C. /etc/environment
D. All of the above depending on context
Answer: D
Explanation: System-wide variables can be set in ‘/etc/environment‘ or scripts under ‘/etc/profile.d/‘; user-specific shells use dotfiles such as ‘.bashrc‘.

13. What is the effect of ‘sudo‘?

A. Execute command with elevated privileges configured by sudoers
B. Switch user
C. Schedule tasks
D. Manage groups
Answer: A
Explanation: ‘sudo‘ runs commands as another user (often root) according to ‘/etc/sudoers‘, providing controlled privilege escalation.

14. Which command changes file ownership?

A. chown user:group file
B. chmod user:group file
C. chgrp user file
D. usermod file
Answer: A

Explanation: ‘chown‘ adjusts owner and group for files or directories; ‘chgrp‘ only changes group, and ‘chmod‘ modifies permissions.

15. How do you find listening ports on system?

A. netstat -tulnp (if available) or ss -tulnp
B. lsof -i
C. Both A and B
D. ping -l

Answer: C

Explanation: ‘ss‘ and ‘netstat‘ list sockets, including listening ports; ‘lsof -i‘ shows open network files, providing similar visibility.

16. What is the purpose of ‘/etc/hosts‘?

A. Static hostname to IP address mapping
B. DNS cache
C. Hostname configuration only
D. Firewall rules

Answer: A

Explanation: ‘/etc/hosts‘ maps hostnames to IP addresses locally, bypassing DNS for defined entries.

17. Which command searches for files by name?

A. find /path -name "pattern"
B. locate pattern
C. Both A and B (with updatedb for locate)
D. search pattern

Answer: C

Explanation: ‘find‘ traverses directories in real time; ‘locate‘ uses a prebuilt database for fast lookup, requiring periodic updates.

18. What does ‘df -h‘ display?

A. Disk filesystem usage in human-readable format
B. Directory sizes
C. File system errors
D. File descriptors

Answer: A

Explanation: ‘df‘ reports free and used space per filesystem; ‘-h‘ converts sizes into human-friendly units (MB, GB).

19. How do you schedule a one-time job at specific time?

A. at 10:00 < command
B. cron
C. systemd timer

D. anacron

Answer: A

Explanation: The ‘at‘ command schedules one-off tasks for a given time, unlike cron which handles recurring jobs.

20. Which command extracts fields from text using delimiters?

A. cut -d’:’ -f1 file

B. awk -F’:’ ’{print $1}’

C. Both A and B

D. sed -n1

Answer: C

Explanation: Both ‘cut‘ and ‘awk‘ can split text based on delimiters, returning specific fields from structured text.

21. What is the default runlevel equivalent in systemd?

A. Target units like multi-user.target

B. service levels

C. runlevel 3

D. runlevel 5

Answer: A

Explanation: Systemd uses target units (e.g., ‘multi-user.target‘, ‘graphical.target‘) to represent states that replace SysV runlevels.

22. Which command lists network interfaces?

A. ip addr

B. ifconfig (legacy)

C. Both A and B

D. netstat -i

Answer: C

Explanation: ‘ip addr‘ is the modern tool for interface details; ‘ifconfig‘ provides similar information but is deprecated on some systems.

23. How do you compare two files line by line?

A. diff file1 file2

B. cmp file1 file2

C. Both (diff more human-readable)

D. compare file1 file2

Answer: C

Explanation: ‘diff‘ outputs textual differences, while ‘cmp‘ reports the byte offset of the first difference; both compare files.

24. Which directory stores system logs on most Linux systems?

A. /var/log

B. /etc/log
C. /log
D. /usr/log
Answer: A
Explanation: ‘/var/log‘ holds logs such as ‘syslog‘, ‘messages‘, and application logs, serving as the central log directory.

25. What does ‘useradd -m username‘ do?

A. Adds user and creates home directory
B. Adds user without home
C. Modifies user
D. Deletes user
Answer: A
Explanation: ‘useradd -m‘ ensures that a home directory is created for the new user, copying skeleton files from ‘/etc/skel‘.

26. How do you list installed packages on Debian-based systems?

A. dpkg -l
B. apt list --installed
C. Both A and B
D. rpm -qa
Answer: C
Explanation: ‘dpkg -l‘ and ‘apt list --installed‘ show installed packages; ‘rpm -qa‘ applies to RPM-based systems.

27. Which file controls SSH daemon configuration?

A. /etc/ssh/sshd_config
B. /etc/ssh/ssh_config
C. ~/.ssh/config
D. /etc/default/ssh
Answer: A
Explanation: ‘sshd_config‘ governs server-side settings such as authentication options, ports, and access control.

28. What does ‘uname -a‘ show?

A. Kernel name, version, architecture, host info
B. User info
C. Network info
D. CPU usage
Answer: A
Explanation: ‘uname -a‘ prints comprehensive system information including kernel version, hardware, and hostname.

29. Which command compresses files with high ratio but slower speed?

A. gzip
B. bzip2
C. xz
D. compress
Answer: C
Explanation: ‘xz‘ typically achieves higher compression ratios than gzip or bzip2, though it takes longer and is more CPU intensive.

30. How do you extract ‘.tar.gz‘ archive?

A. tar -xzf archive.tar.gz
B. tar -czf archive.tar.gz
C. gzip -d archive.tar.gz
D. unzip archive.tar.gz
Answer: A
Explanation: ‘tar -xzf‘ extracts (‘-x‘) a gzipped tar archive (‘-z‘), writing files to the working directory.

31. What is the effect of ‘set -e‘ in shell script?

A. Exit immediately if any command returns non-zero
B. Echo commands
C. Enable interactive mode
D. Evaluate arithmetic
Answer: A
Explanation: ‘set -e‘ (errexit) causes the shell to exit on failures, preventing scripts from continuing after an error unless handled.

32. Which command counts number of lines in file?

A. wc -l file
B. nl file
C. lines file
D. count file
Answer: A
Explanation: ‘wc -l‘ counts newline characters, effectively reporting the number of lines in the given file.

33. How do you view environment variables?

A. env
B. printenv
C. echo $VAR
D. All of the above (C for specific var)
Answer: D

Explanation: ‘env‘ and ‘printenv‘ list current environment variables; ‘echo‘ displays an individual variable’s value.

34. What does ‘/etc/sudoers‘ control?

A. Privilege escalation rules for sudo
B. System users
C. Groups
D. Service configuration

Answer: A

Explanation: ‘/etc/sudoers‘ defines who may run commands via sudo and under what conditions, edited safely via ‘visudo‘.

35. Which command monitors file changes in real-time?

A. inotifywait -m
B. tail -f
C. watch
D. Both A and B (for file content)

Answer: D

Explanation: ‘inotifywait‘ watches filesystem events, while ‘tail -f‘ monitors appended content; both provide live updates depending on need.

36. How do you check open files by a process?

A. lsof -p PID
B. ps -o files PID
C. top -o files
D. procinfo PID

Answer: A

Explanation: ‘lsof‘ lists open files for processes; ‘-p PID‘ narrows to a specific process, aiding troubleshooting.

37. What is the default editor variable used by many CLI tools?

A. $EDITOR
B. $VISUAL
C. Both possible
D. $EDITOR only

Answer: C

Explanation: Many programs consult ‘$VISUAL‘ first for GUI editors, falling back to ‘$EDITOR‘, so setting both ensures consistent behavior.

38. Which command sets system time manually?

A. timedatectl set-time "2024-07-01 12:00:00"
B. date -s "2024-07-01 12:00:00"
C. Both A and B (depending on privileges)

D. clock settime

Answer: C

Explanation: ‘timedatectl‘ (systemd) and ‘date -s‘ can set the system clock, requiring root privileges if a hardware clock update is needed.

39. What does ‘ssh-keygen‘ do?

A. Generates SSH key pairs

B. Connect to SSH server

C. Manage SSH sessions

D. Start SSH daemon

Answer: A

Explanation: ‘ssh-keygen‘ creates public/private key pairs used for SSH authentication and can also manage existing keys.

40. How do you append command output to a file?

A. command >> file

B. command > file

C. command | file

D. command &> file

Answer: A

Explanation: ‘>>‘ appends to existing file contents, whereas ‘>‘ overwrites; piping directly to a file isn’t valid syntax.

41. Which directory contains systemd unit files installed by packages?

A. /usr/lib/systemd/system (or /lib/systemd/system)

B. /etc/systemd/system for overrides

C. Both depending on context

D. /var/systemd/system

Answer: C

Explanation: Vendor unit files live under ‘/usr/lib/systemd/system‘, while administrators place overrides in ‘/etc/systemd/system‘.

42. How do you check current runlevel in systemd-based systems?

A. runlevel command

B. systemctl get-default

C. who -r

D. Both B and C

Answer: D

Explanation: ‘systemctl get-default‘ shows the default target, while ‘who -r‘ and ‘runlevel‘ display the current runlevel/target.

43. What is the difference between hard link and soft link?

A. Hard link references same inode; soft link references path

B. Soft link duplicates file
C. Hard link cannot span filesystem but soft link can
D. Both statements A and C correct
Answer: D
Explanation: Hard links share the same inode within a filesystem; symbolic (soft) links point to a path and can cross filesystem boundaries.

44. Which command lists user login history?

A. last
B. who
C. w
D. All show session info (last for history)
Answer: A
Explanation: ‘last‘ reads ‘/var/log/wtmp‘ to show historical logins, while ‘who‘ and ‘w‘ show current sessions.

45. How do you view services status on systemd?

A. systemctl status service
B. service service status
C. Both work (depending)
D. chkconfig --status
Answer: C
Explanation: ‘systemctl status‘ is native; ‘service‘ command acts as wrapper for compatibility, depending on distribution.

46. Which command sends signal to process by name?

A. pkill processname
B. killall processname
C. Both A and B
D. kill -p processname
Answer: C
Explanation: ‘pkill‘ and ‘killall‘ target processes by name, sending signals like SIGTERM; ‘kill‘ requires PIDs.

47. What is the function of ‘/etc/resolv.conf‘?

A. Configure DNS resolvers
B. Manage routes
C. Configure hosts file
D. Set timezone
Answer: A
Explanation: ‘/etc/resolv.conf‘ specifies DNS servers and search domains used by the resolver to look up hostnames.

48. How can you check which package provided a file on RPM-based systems?

A. rpm -qf /path/file
B. yum provides /path/file
C. Both A and B
D. rpm -ql package
Answer: C
Explanation: ‘rpm -qf‘ returns the owning package; ‘yum provides‘ (or ‘dnf provides‘) also resolves the package supplying a specific file.

49. Which command writes message to system log?

A. logger "message"
B. echo "message" > /var/log/syslog
C. syslog message
D. logwrite message
Answer: A
Explanation: ‘logger‘ sends messages to syslog via ‘/dev/log‘, respecting facility/severity options without manually editing log files.

50. How do you make script executable and run it?

A. chmod +x script.sh && ./script.sh
B. ./script.sh directly
C. bash script.sh
D. Both A and C (C without chmod)
Answer: D
Explanation: Adding execute permission allows direct execution (‘./script.sh‘); alternatively, invoking the interpreter (‘bash script.sh‘) runs without changing mode.

51. What does ‘alias ll=’ls -alF’‘ do?

A. Creates alias ll for ls -alF command
B. Runs command
C. Creates hard link
D. None
Answer: A
Explanation: The ‘alias‘ command defines a shorthand (‘ll‘) that expands to ‘ls -alF‘, streamlining common commands in the shell.

52. Which command displays routing table?

A. ip route
B. route -n
C. netstat -rn
D. All of the above
Answer: D

Explanation: ‘ip route‘ is the modern tool; ‘route‘ and ‘netstat -rn‘ provide similar information, though they may be deprecated on some systems.

53. How do you set default target to graphical in systemd?

A. systemctl set-default graphical.target
B. systemctl default graphical
C. default-target graphical.target
D. runlevel set 5

Answer: A

Explanation: ‘systemctl set-default‘ changes the default boot target; setting it to ‘graphical.target‘ ensures GUI login after boot.

54. What does the shebang ‘#!/usr/bin/env python3‘ indicate?

A. Use env to locate python3 interpreter to run script
B. Comments only
C. Sets environment variable
D. Runs bash

Answer: A

Explanation: Using ‘env‘ allows the script to find ‘python3‘ in the user’s PATH, making it portable across systems.

55. Which command extracts a column from whitespace-separated file?

A. awk ’{print $2}’
B. cut -d’ ’ -f2
C. Both (with appropriate options)
D. column -f2

Answer: C

Explanation: ‘awk‘ handles arbitrary whitespace by default, and ‘cut‘ can target specific fields given correct delimiters and options.

56. How do you check memory usage?

A. free -h
B. vmstat
C. top
D. All of the above

Answer: D

Explanation: ‘free‘ shows overall memory usage, ‘vmstat‘ reports system statistics, and ‘top‘ displays per-process memory consumption in real time.

57. What is ‘umask‘?

A. Default permission mask for new files/directories
B. File permission command
C. User mask

D. Process ID

Answer: A

Explanation: ‘umask‘ subtracts permissions from new files; for example, umask 022 results in files with 755 directories/644 files.

58. What does ‘passwd username‘ do?

A. Change user’s password interactively

B. Set default shell

C. Create user

D. Delete user

Answer: A

Explanation: Running ‘passwd username‘ prompts for a new password, updating the hash in ‘/etc/shadow‘.

59. Which command checks SELinux status?

A. sestatus

B. getenforce

C. Both A and B

D. selinux status

Answer: C

Explanation: ‘getenforce‘ returns enforcing/permissive/disabled; ‘sestatus‘ provides detailed status, policy, and contexts.

60. How do you list running services in SysV init?

A. service --status-all

B. chkconfig --list

C. Both

D. systemctl list-units

Answer: A

Explanation: ‘service --status-all‘ shows the status of SysV services; ‘chkconfig --list‘ displays runlevel configuration rather than current status.

61. Which command displays file type?

A. file filename

B. stat filename

C. ls -l filename

D. type filename

Answer: A

Explanation: The ‘file‘ command inspects file headers to determine type (e.g., ELF binary, text), whereas ‘stat‘ shows metadata.

62. How can you recursively change ownership?

A. chown -R user:group directory

B. chmod -R user:group directory
C. chgrp -R user directory
D. chown directory -R user
Answer: A
Explanation: The ‘-R‘ flag applies ownership changes to all files and subdirectories inside the target directory.

63. What is the default location for system crontab?

A. /etc/crontab
B. /etc/cron.d
C. /etc/cron.daily
D. All exist but system crontab is /etc/crontab
Answer: D
Explanation: ‘/etc/crontab‘ is the main system-wide crontab; directories like ‘/etc/cron.daily‘ contain scripts executed by anacron/cron at scheduled intervals.

64. How do you locate binary in PATH?

A. which command
B. whereis command
C. type command
D. All useful (which for PATH)
Answer: D
Explanation: ‘which‘ and ‘type‘ show the command’s path in the current shell; ‘whereis‘ additionally lists source/man page locations.

65. What does ‘nohup command &‘ achieve?

A. Run command immune to hangups and in background
B. Run command in foreground
C. Run command with high priority
D. Run command as root
Answer: A
Explanation: ‘nohup‘ prevents SIGHUP termination if the terminal closes, and ‘&‘ runs the process in the background.

66. How do you create a new group?

A. groupadd groupname
B. useradd groupname
C. addgroup groupname
D. Both A and C depending on distro
Answer: D
Explanation: ‘groupadd‘ is standard; some distributions provide ‘addgroup‘ as a friendly wrapper, achieving the same outcome.

67. What is the function of ‘/var/spool/mail/user‘?

A. Stores local user mailbox
B. Spool printing jobs
C. Log storage
D. Cron jobs
Answer: A
Explanation: Traditional MTAs deposit incoming mail in ‘/var/spool/mail/<user>‘ for local delivery until clients retrieve it.

68. Which command changes shell for a user?

A. chsh -s /bin/zsh username
B. usermod -s /bin/zsh username
C. Both A and B
D. passwd -s
Answer: C
Explanation: ‘chsh‘ and ‘usermod -s‘ both modify a user’s login shell; the former is interactive, the latter scriptable.

69. How do you mount ISO image?

A. mount -o loop file.iso /mnt/iso
B. mount file.iso /mnt/iso
C. iso-mount file.iso
D. loop-mount file.iso
Answer: A
Explanation: The ‘-o loop‘ option mounts an ISO as a loop device, giving read-only access to its contents under the mount point.

70. What does ‘systemctl daemon-reload‘ do?

A. Reloads systemd manager configuration after unit file changes
B. Restart daemon
C. Reload services
D. Reboot system
Answer: A
Explanation: After modifying unit files, ‘systemctl daemon-reload‘ forces systemd to re-read definitions so subsequent ‘start‘ or ‘restart‘ use updated configuration.

71. Which command displays CPU information?

A. lscpu
B. cat /proc/cpuinfo
C. Both
D. cpuinfo
Answer: C

Explanation: ‘lscpu‘ summarizes CPU architecture, while ‘/proc/cpuinfo‘ lists detailed per-core information pulled from procfs.

72. How can you view manual page for command?

A. man command
B. info command
C. command --help
D. All provide documentation (man primary)
Answer: A
Explanation: ‘man‘ displays manual pages; other options like ‘--help‘ give quick usage, but ‘man‘ is the canonical reference.

73. What does ‘iptables -L‘ display?

A. Current firewall rules
B. Network routes
C. Logging levels
D. IP addresses
Answer: A
Explanation: ‘iptables -L‘ lists filter table rules; other tables require specifying ‘-t‘, such as ‘nat‘.

74. How do you create empty file or update timestamp?

A. touch filename
B. cat > filename
C. echo "" > filename
D. All create file, but touch updates timestamp without modifying content
Answer: A
Explanation: ‘touch‘ creates new zero-byte files or updates timestamps without altering content, whereas redirection overwrites contents.

75. Which command prints unique lines of sorted input?

A. sort -u file
B. uniq file
C. sort file | uniq
D. All (A single command)
Answer: A
Explanation: ‘sort -u‘ sorts and removes duplicates in one step; ‘uniq‘ needs sorted input to work effectively.

76. How do you check kernel ring buffer messages?

A. dmesg
B. journalctl -k
C. Both

D. /var/log/kern.log

Answer: C

Explanation: ‘dmesg‘ reads the ring buffer directly; ‘journalctl -k‘ accesses kernel messages stored in the journal for persistent viewing.

77. What does ‘ps aux‘ show?

A. All processes for all users

B. Processes for current user

C. Running services

D. CPU usage only

Answer: A

Explanation: ‘ps aux‘ combines BSD-style flags to list all processes including those without controlling terminals, along with resource metrics.

78. How do you change a user’s password expiry?

A. chage command

B. passwd -x

C. Both (chage recommended)

D. usermod -p

Answer: C

Explanation: ‘chage‘ manages password aging, allowing interactive or command-line configuration; ‘passwd -x‘ sets maximum days before expiration.

79. Which command prints file content with line numbers?

A. nl file

B. cat -n file

C. Both A and B

D. less -n file

Answer: C

Explanation: ‘nl‘ and ‘cat -n‘ number lines in their output; ‘less -N‘ shows line numbers interactively while viewing a file.

80. What does ‘head -n 20 file‘ do?

A. Display first 20 lines

B. Display last 20 lines

C. Display first 20 characters

D. Display 20 words

Answer: A

Explanation: ‘head‘ prints the beginning of a file; ‘-n 20‘ limits output to the first 20 lines.

81. How do you check disk health on drives with SMART?

A. smartctl -H /dev/sda

B. smartctl -a /dev/sda
C. Both for info and health
D. fsck /dev/sda
Answer: C
Explanation: ‘smartctl -H‘ gives overall health, while ‘-a‘ displays full SMART attributes; ‘fsck‘ checks filesystem integrity, not disk health.

82. Which command lists loaded kernel modules?

A. lsmod
B. modprobe -l
C. Both show modules (lsmod loaded)
D. module list
Answer: A
Explanation: ‘lsmod‘ displays currently loaded modules; ‘modprobe -l‘ lists available modules on disk.

83. How do you load kernel module?

A. modprobe module_name
B. insmod module.ko
C. Both (modprobe handles dependencies)
D. loadmodule module
Answer: C
Explanation: ‘modprobe‘ manages dependencies and module loading; ‘insmod‘ loads a single module without dependency resolution.

84. What is the function of ‘/etc/sysctl.conf‘?

A. Persistent kernel parameter settings
B. System control commands
C. Logging config
D. Service settings
Answer: A
Explanation: ‘/etc/sysctl.conf‘ stores sysctl key-value pairs applied at boot via ‘sysctl --system‘, ensuring kernel tunables persist.

85. How do you apply sysctl change immediately?

A. sysctl -w key=value
B. sysctl --system
C. Both depending on need
D. sysctl apply
Answer: C
Explanation: ‘sysctl -w‘ writes a single value immediately; ‘sysctl --system‘ reloads all configuration files including ‘/etc/sysctl.conf‘ and directories.

86. Which command shows currently logged-in users?

A. who
B. w
C. users
D. All provide related info
Answer: D
Explanation: ‘who‘ lists logged-in users, ‘w‘ adds activity and resource usage, and ‘users‘ prints usernames only.

87. How do you monitor I/O statistics?

A. iostat
B. iotop (if installed)
C. Both
D. vmstat
Answer: C
Explanation: ‘iostat‘ reports CPU and device I/O stats; ‘iotop‘ shows per-process I/O usage in real time, requiring root privileges.

88. What is the significance of ‘/proc‘ directory?

A. Virtual filesystem providing process and kernel info
B. Configuration files
C. Device drivers
D. Logs
Answer: A
Explanation: ‘/proc‘ is a pseudo-filesystem exposing runtime kernel data and process information, enabling introspection without disk storage.

89. How do you set file capabilities?

A. setcap
B. getcap (for viewing)
C. Both to manage capabilities
D. capabilities command
Answer: C
Explanation: ‘setcap‘ assigns capabilities to executables, while ‘getcap‘ verifies them, allowing fine-grained privilege assignments without full root.

90. Which command finds free and used inode counts?

A. df -i
B. stat -i
C. ls -i
D. inode -l
Answer: A

Explanation: ‘df -i‘ reports inode usage per filesystem, important when running out of inodes even with available disk space.

91. How do you fix filesystem errors on unmounted partition?

A. fsck /dev/sdb1
B. e2fsck /dev/sdb1
C. Both (depending on FS type)
D. mkfs /dev/sdb1
Answer: C
Explanation: ‘fsck‘ is the generic utility; ‘e2fsck‘ handles ext-based filesystems specifically. These should run on unmounted partitions to prevent corruption.

92. What does ‘/etc/issue‘ display?

A. Pre-login banner text
B. MOTD
C. Kernel info
D. Hostname
Answer: A
Explanation: ‘/etc/issue‘ contents display before login, while ‘/etc/motd‘ displays after successful login; both can contain informational banners.

93. How do you disable a systemd service from starting at boot?

A. systemctl disable service
B. systemctl stop service
C. systemctl mask service
D. Both A prevents enabling; C blocks manual start
Answer: D
Explanation: ‘disable‘ removes symlinks for automatic start; ‘mask‘ links the service to ‘/dev/null‘, preventing manual start as well.

94. Which command lists scheduled cron jobs for user?

A. crontab -l
B. crontab -e
C. cron list
D. at -l
Answer: A
Explanation: ‘crontab -l‘ prints the user’s cron entries; ‘crontab -e‘ edits them in an editor.

95. What does ‘ulimit -n‘ show?

A. Maximum number of open file descriptors
B. Maximum processes
C. Max memory

D. Max CPU usage

Answer: A

Explanation: ‘ulimit -n‘ displays or sets the soft limit for open files, crucial for applications requiring many sockets.

96. How do you display hidden files?

A. ls -a

B. ls -A

C. Both (A excludes . and ..)

D. ls hidden

Answer: C

Explanation: ‘ls -a‘ shows all entries including ‘.‘ and ‘..‘; ‘-A‘ omits those two but shows other dotfiles.

97. What is ‘journalctl -u service‘ used for?

A. View logs for specific systemd unit

B. View kernel logs

C. View authentication logs

D. View boot logs

Answer: A

Explanation: ‘journalctl -u <unit>‘ filters the journal to entries for the named service unit, simplifying troubleshooting.

98. Which command lists block devices?

A. lsblk

B. blkid

C. fdisk -l

D. All list block device info

Answer: D

Explanation: ‘lsblk‘ shows a tree of block devices and mount points, ‘blkid‘ prints UUIDs and filesystem types, and ‘fdisk -l‘ lists partition tables.

99. How do you secure copy file to remote server?

A. scp file user@host:/path

B. rsync file user@host:/path

C. Both use SSH (rsync with -e ssh)

D. ftp file user@host

Answer: C

Explanation: ‘scp‘ transfers over SSH; ‘rsync -e ssh‘ syncs with encryption and optional delta transfers, both secure options.

100. What does ‘hostnamectl‘ manage?

A. System hostname and related settings

B. Network interfaces
C. DNS
D. User accounts
Answer: A
Explanation: ‘hostnamectl‘ controls static, transient, and pretty hostnames and reports chassis and OS information in systemd environments.