

# Assignment-5

- Q: What is a shell in Linux OS? How many categories of shell is currently exists in Linux? Why bash shell is very popular in Linux distribution?

A: Shell is a command interpreter between user and OS. Types include Bourne shell, C shell, Korn shell, Z shell, and Bash. Bash is popular because it is default in most Linux distros, supports scripting, and is user-friendly.

- Q: What does the ls -Z command display?

A: It displays SELinux security context information for files.

- Q: Write a command to list all hidden files in the current directory.

A: Command: `ls -a`

- Q: Explain the difference between hard links and soft links (symbolic links) in Linux.

A: Hard links are direct references to the same inode, work only within same filesystem. Soft links are shortcuts pointing to a file path, can cross filesystems, and break if target is deleted.

- Q: A file has permissions -rwxr-x-x. Explain who can read, write, and execute it.

A: Owner: read, write, execute. Group: read, execute. Others: execute only.

- Q: Write the command to change the group ownership of a file data.txt to group staff.

A: Command: `chgrp staff data.txt`

- Q: Why is it dangerous to give 777 permissions to a file? Explain with an example.

A: 777 gives full access to everyone (read, write, execute). This can cause security risks. Example: if a script with 777 is in /tmp, any user can modify and execute it maliciously.

- Q: What is the difference between apropos (i.e., `man -k`) and whatis (i.e., `man -f`)?

A: 'apropos' searches manual pages for keywords. 'whatis' gives one-line descriptions of commands.

- Q: Write a command to redirect the error output of a command to a file named error.log.

A: Command: `somecommand 2> error.log`

- Q: How can you use the tee command to append output to a file instead of overwriting it?

A: Command: `ls | tee -a file.txt`. '-a' flag appends output instead of overwriting.

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