GNU/Linux SysAdmin 101

Journée Ubuntu et Logiciel Libre à ISET Jendouba

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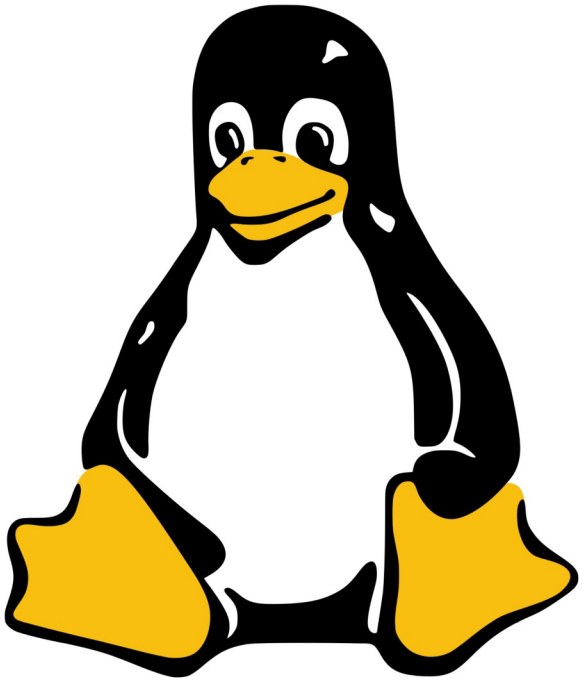
whoami



ubuntu

OSSA
OPEN SOURCE SOFTWARE ASSURANCE

More about me → nzoueidi.com

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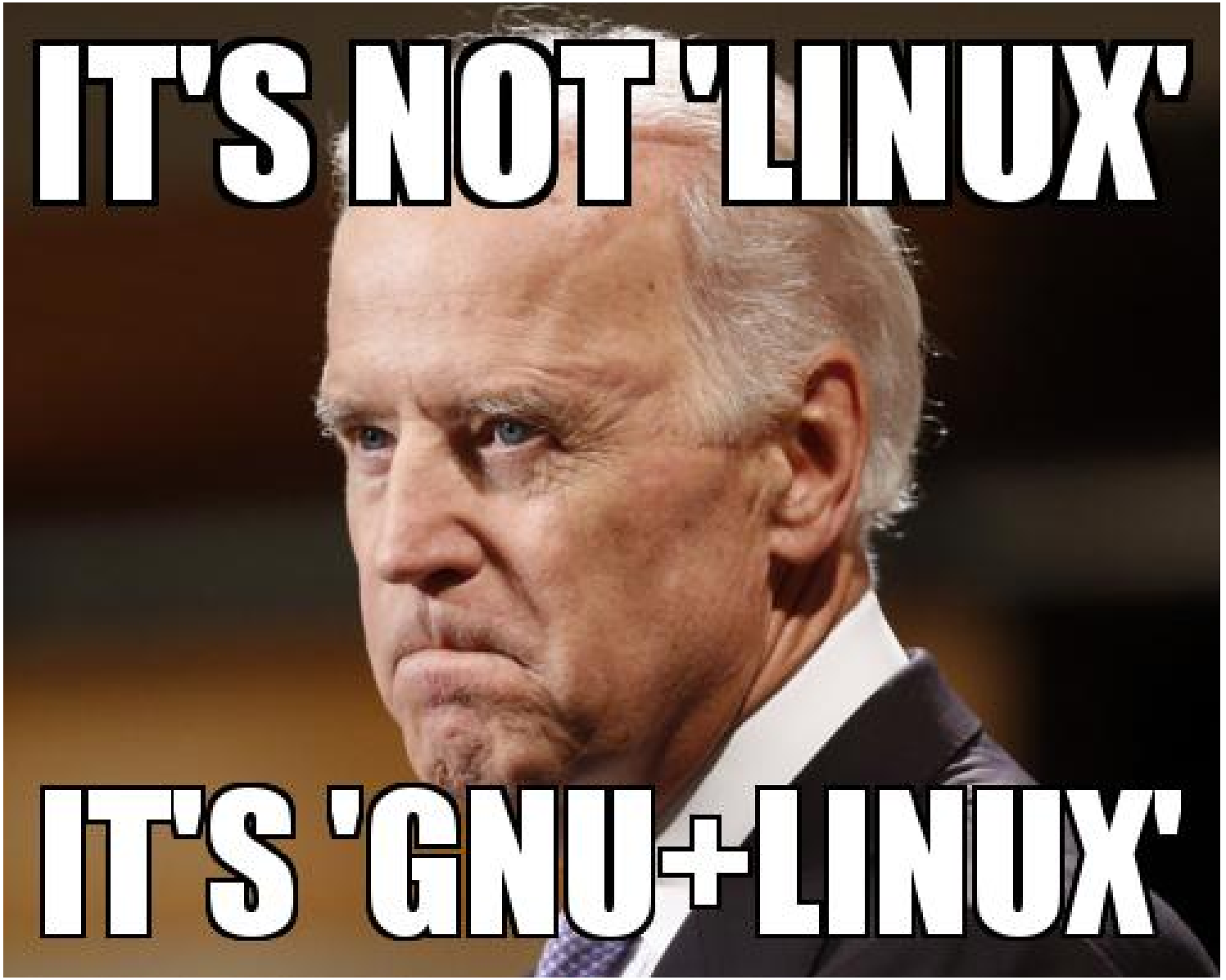

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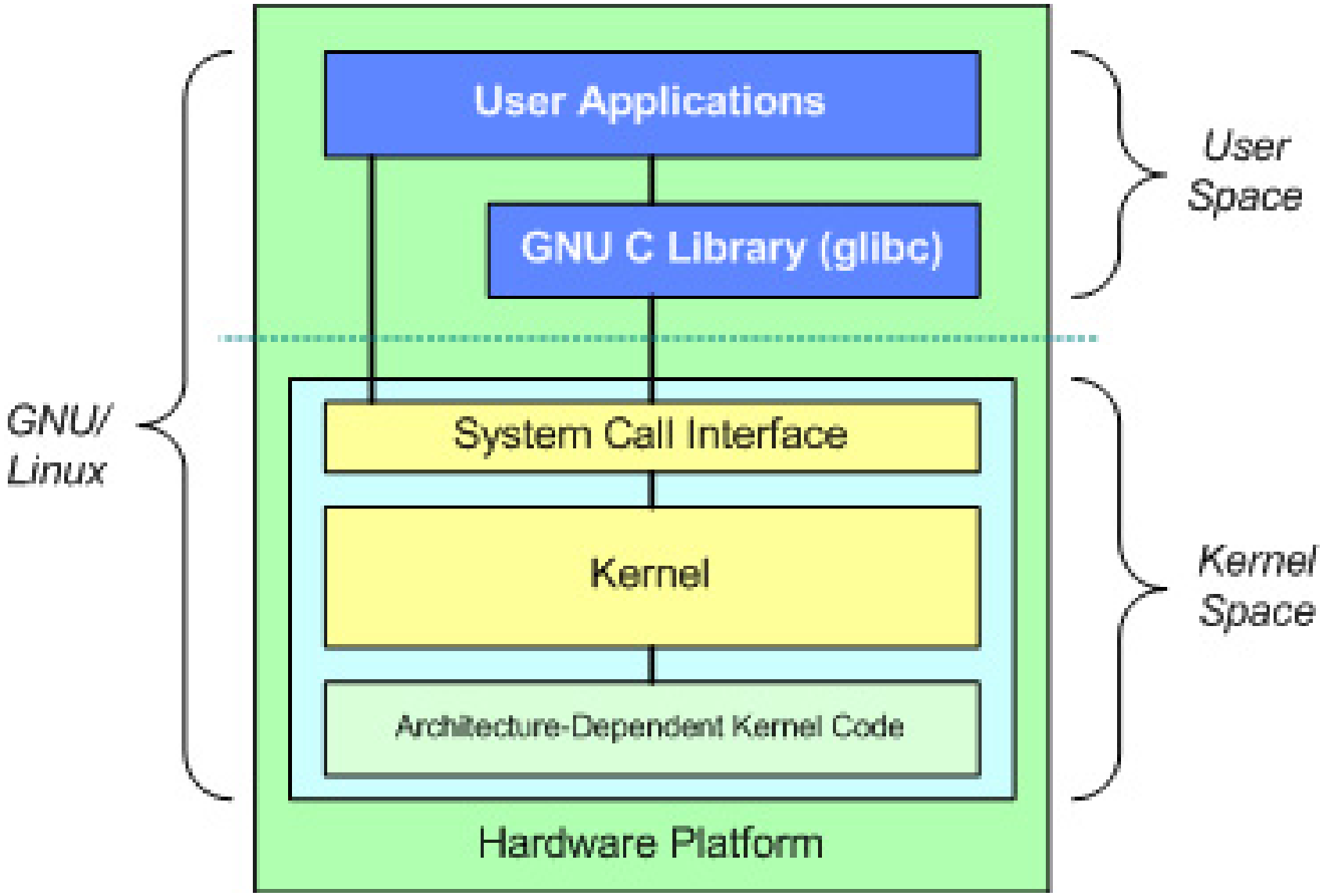

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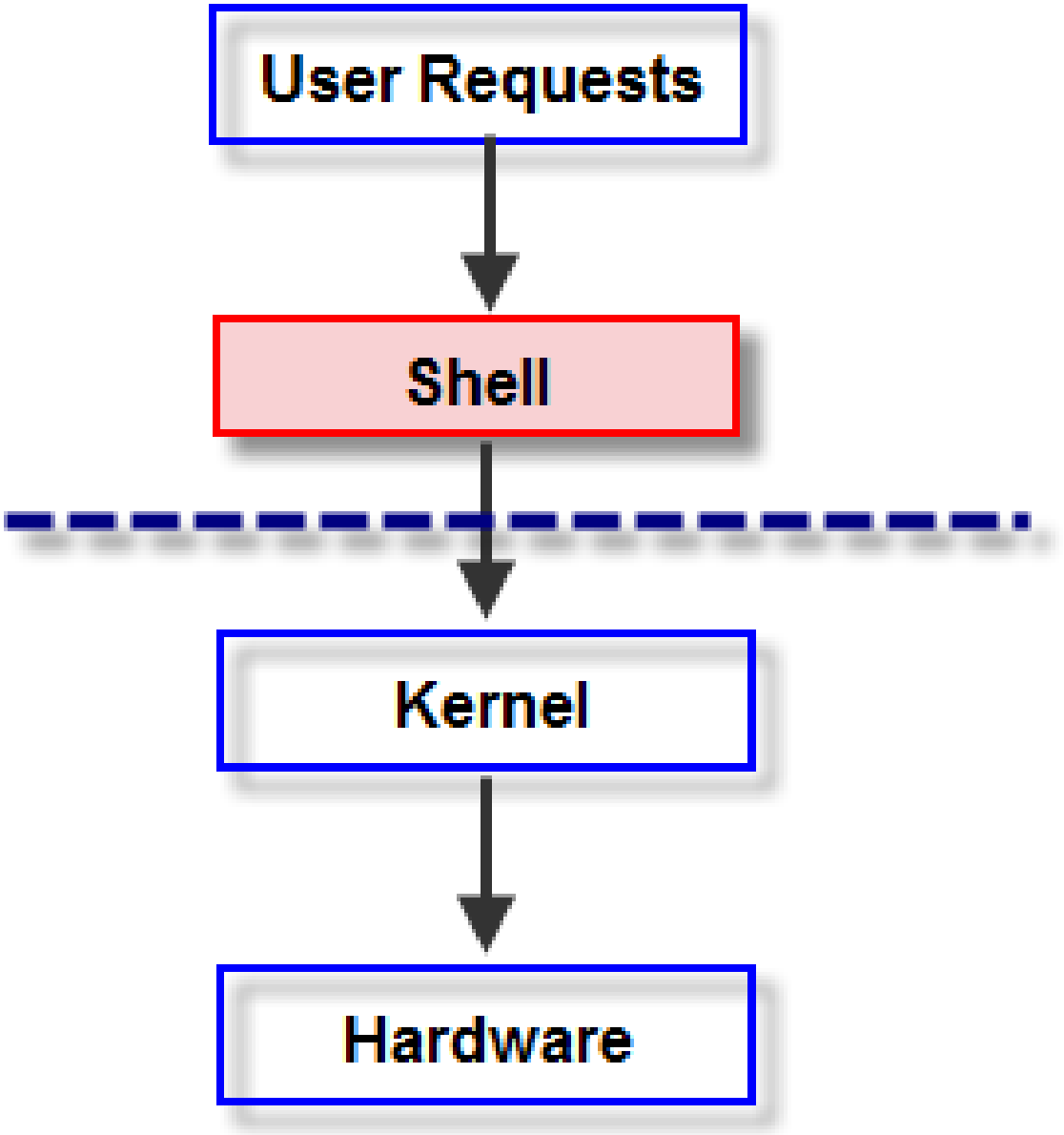

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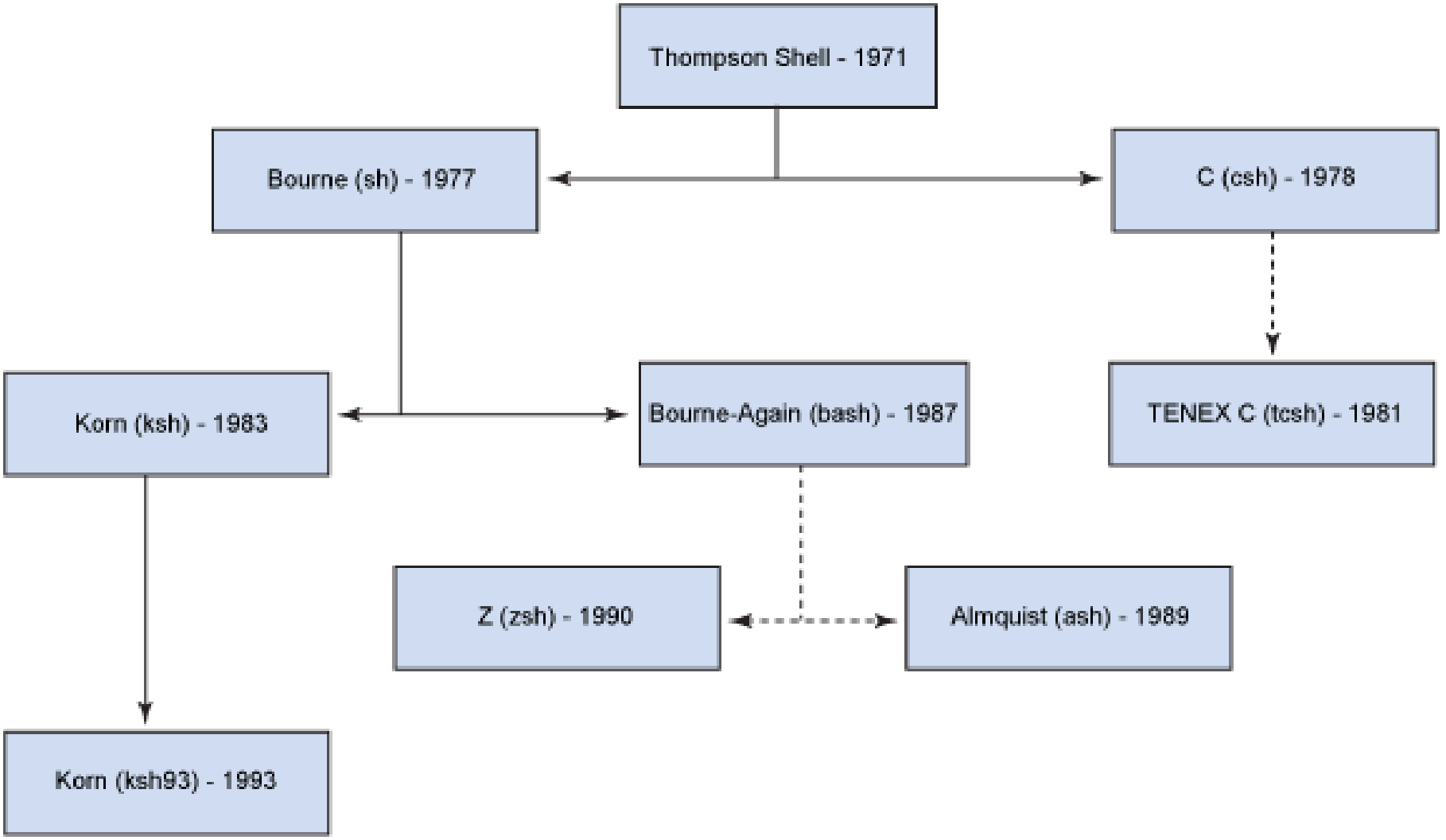

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Linux filesystem structure

The hard drive? A file.
Network card? That’s a file, too

Yes, **EVERYTHING** is file!

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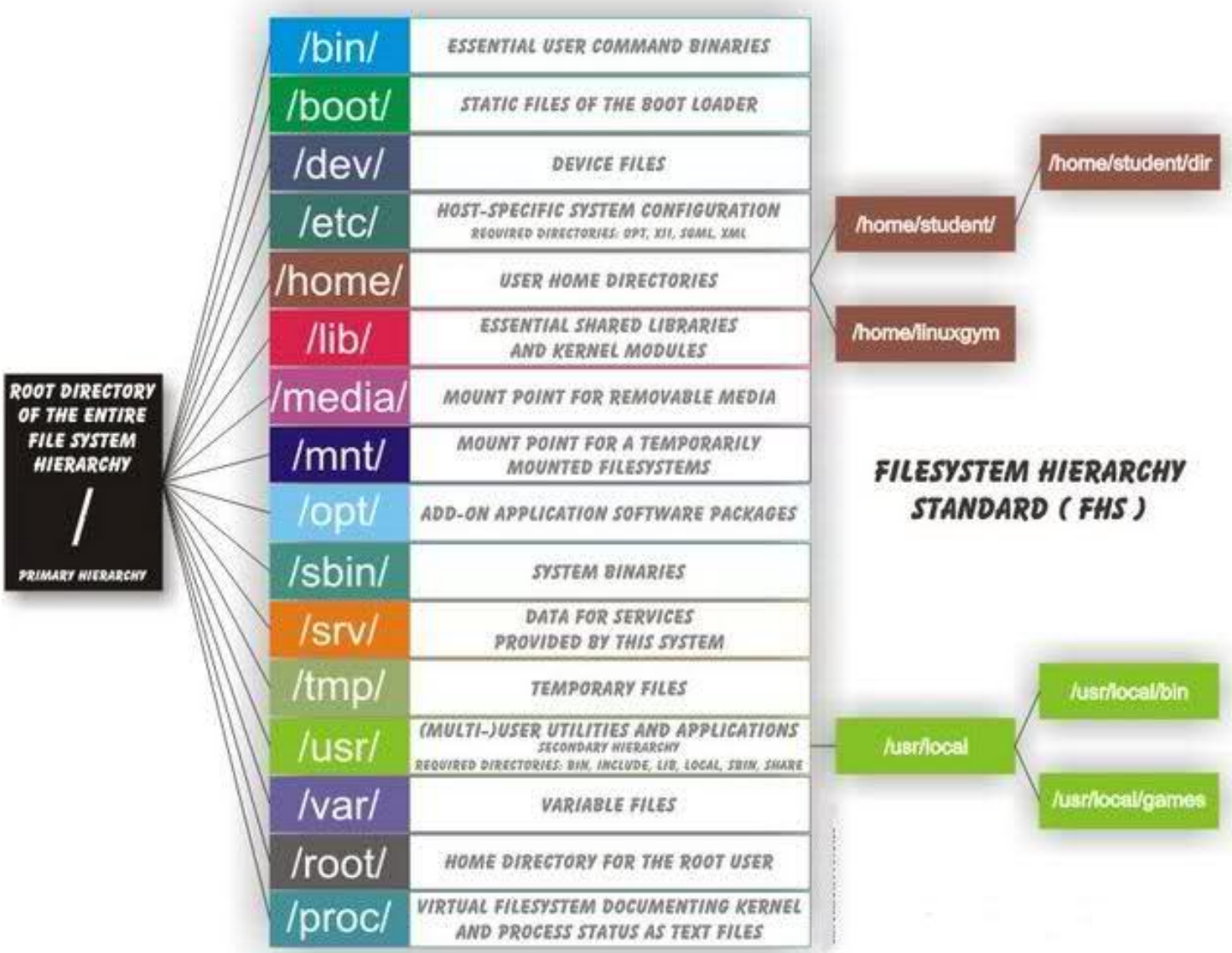

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Cli commands

FILE COMMANDS

- ls - directory listing
- ls -al - formatted listing with hidden files
- cd dir - change directory to dir
- cd - change to home
- pwd - show current directory
- mkdir dir - create a directory dir
- rm file - delete file
- rm -r dir - delete directory dir
- rm -f file - force remove file
- rm -rf dir - force remove directory dir *
- cp file1 file2 - copy file1 to file2
- cp -r dir1 dir2 - copy dir1 to dir2; create dir2 if it doesn't exist
- mv file1 file2 - rename or move file1 to file2 if file2 is an existing directory, moves file1 into directory file2
- ln -s file link - create symbolic link link to file
- touch file - create or update file
- cat > file - places standard input into file
- more file - output the contents of file
- head file - output the first 10 lines of file
- tail file - output the last 10 lines of file
- tail -f file - output the contents of file as it grows, starting with the last 10 lines

SEARCHING

- grep pattern files - search for pattern in files
- grep -r pattern dir - search recursively for pattern in dir
- command | grep pattern - search for pattern in the output of command
- locate file - find all instances of file

PROCESS MANAGEMENT

- ps - display your currently active processes
- top - display all running processes
- kill pid - kill process id pid
- killall proc - kill all processes named proc (use with extreme caution)
- bg - lists stopped or background jobs; resume a stopped job in the background
- fg - brings the most recent job to foreground
- fg n - brings job n to the foreground

SHORTCUTS

- Ctrl+C - halts the current command
- Ctrl+Z - stops the current command, resume with fg in the foreground or bg in the background
- Ctrl+D - log out of current session, similar to exit
- Ctrl+W - erases one word in the current line
- Ctrl+U - erases the whole line
- Ctrl+R - type to bring up a recent command
- !! - repeats the last command
- exit - log out of current session

SYSTEM INFO

- date - show the current date and time
- cal - show this month's calendar
- uptime - show current uptime
- w - display who is online
- whoami - who you are logged in as
- finger user - display information about user
- uname -a - show kernel information
- cat /proc/cpuinfo - cpu information
- cat /proc/meminfo - memory information
- man command - show the manual for command
- df - show disk usage
- du - show directory space usage
- free - show memory and swap usage
- whereis app - show possible locations of app
- which app - show which app will be run by default

COMPRESSION

- tar cf file.tar files - create a tar named file.tar containing files
- tar xf file.tar - extract the files from file.tar
- tar czf file.tar.gz files - create a tar with Gzip compression
- tar xzf file.tar.gz - extract a tar using Gzip
- tar cjf file.tar.bz2 - create a tar with Bzip2 compression
- tar xjf file.tar.bz2 - extract a tar using Bzip2
- gzip file - compresses file and renames it to file.gz
- gzip -d file.gz - decompresses file.gz back to file

NETWORK

- ping host - ping host and output results
- whois domain - get whois information for domain
- dig domain - get DNS information for domain
- dig -x host - reverse lookup host
- wget file - download file
- wget -c file - continue a stopped download

FILE PERMISSIONS

- chmod octal file - change the permissions of file to octal, which can be found separately for user,

group, and world by adding:

- 4 - read (r)
- 2 - write (w)
- 1 - execute (x)

Examples:

chmod 777 - read, write, execute for all
chmod 755 - rwx for owner, rx for group and world
For more options, see man chmod.

INSTALLATION

- Install from source:
  ./configure
  make
  make install

- dpkg -i pkg.deb - install a package (Debian)
- rpm -Uvh pkg.rpm - install a package (RPM)

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Manipulating files and folders

Move faster!

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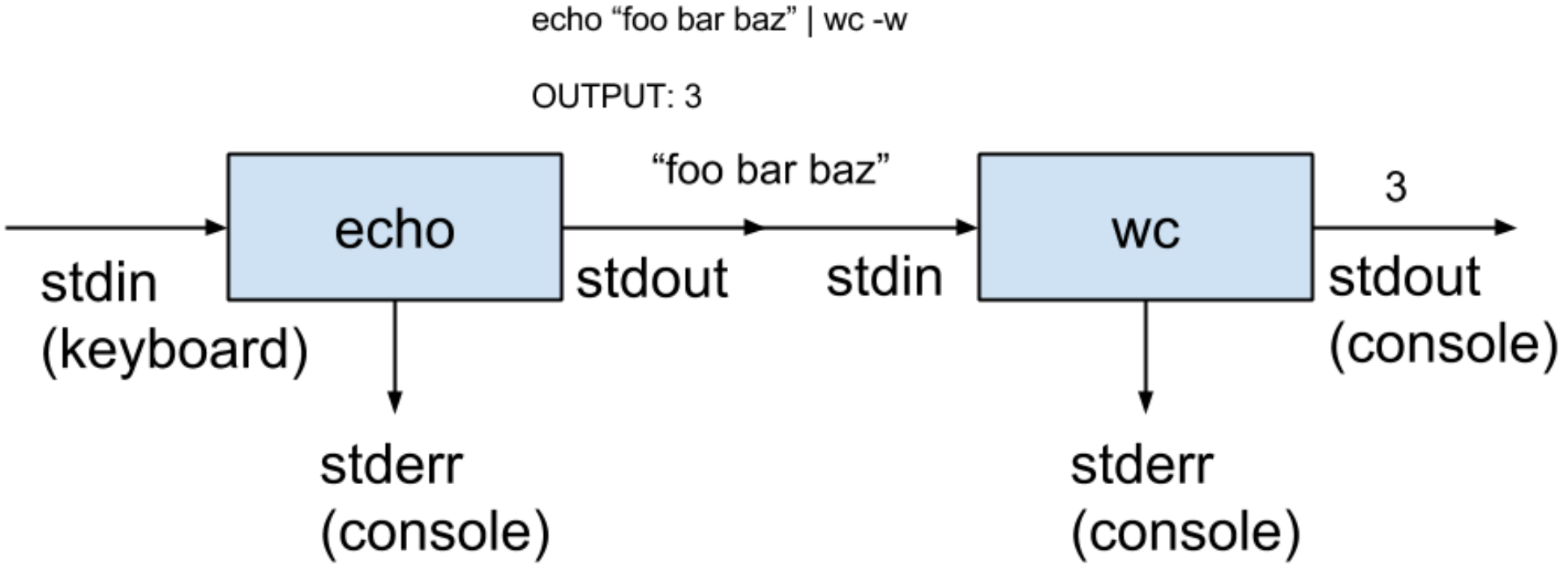
Wildcards/Jokers

Special characters

Redirection Input/Output and Error Flow of the command



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Questions? :D

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