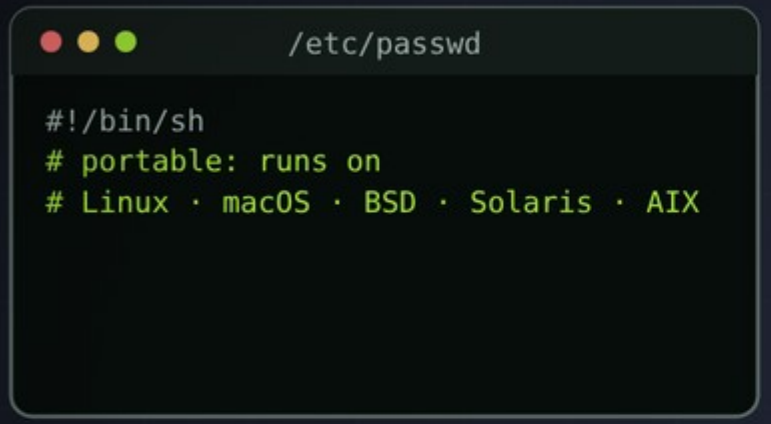
LESSON 3



UNIX

UNIX Shells

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UNIX OS

LESSON 3

Shells and Portable Commands

sh, csh, ksh, bash and zsh, POSIX commands, and GNU vs BSD differences

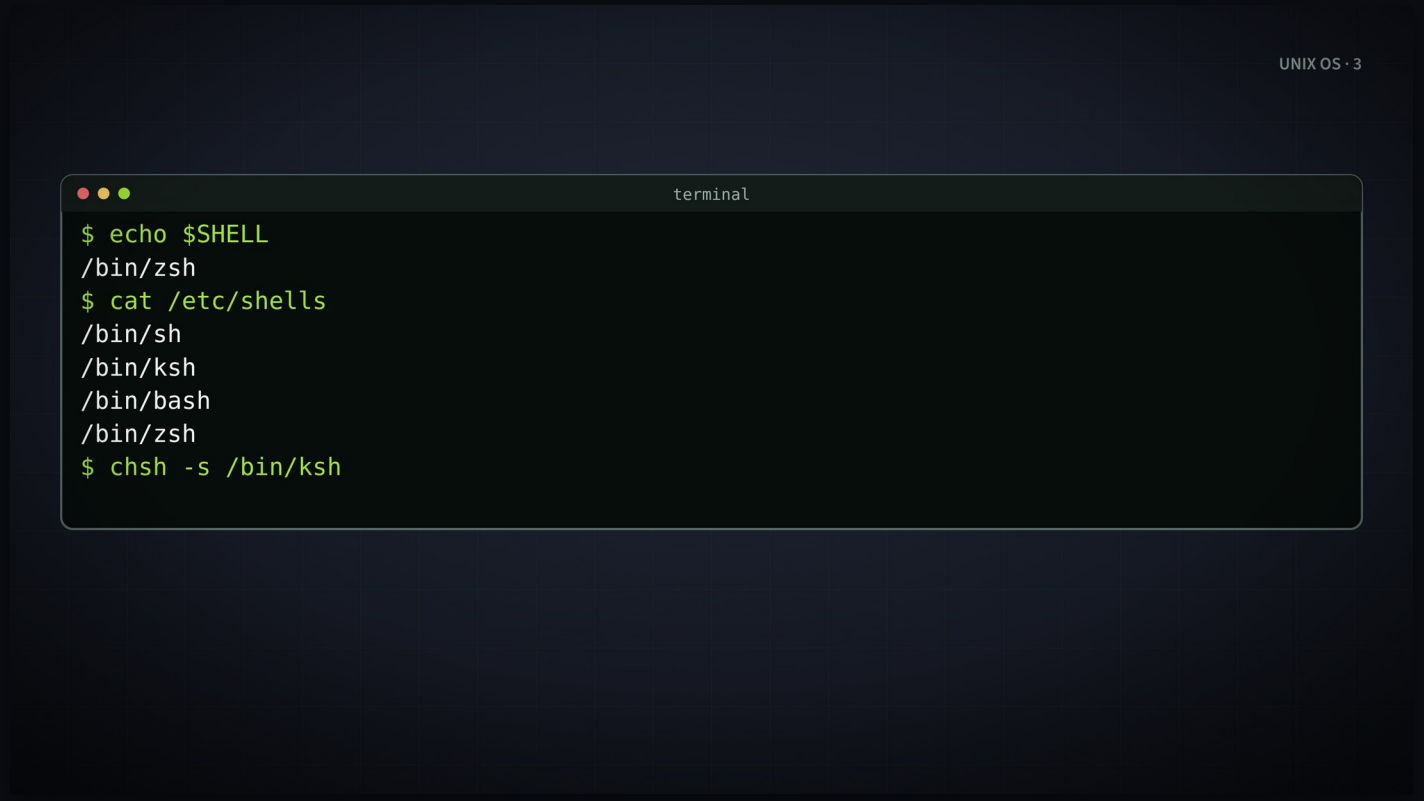
The UNIX Shells

Shell	Year	Default on
sh	1979	scripts everywhere (POSIX)
csh / tcsh	1978	FreeBSD root (tcsh)
ksh	1983	AIX, older Solaris
bash	1989	Linux
zsh	1990	macOS (since 2019)

- The Bourne shell, sh, from 1979, is the ancestor and the scripting standard. The C shell, ...
- bash dominates Linux, and zsh is the default on macOS since 2019.

01

Which Shell Am I Using?



- echo dollar SHELL shows your login shell, and the file slash etc slash shells lists the …
- For scripts that must run on any UNIX, write for plain sh and start them with hash bang …

02

Commands That Work Everywhere



- Files — ls cp mv rm find
- Text — grep sed awk sort cut
- Processes — ps kill nice

03

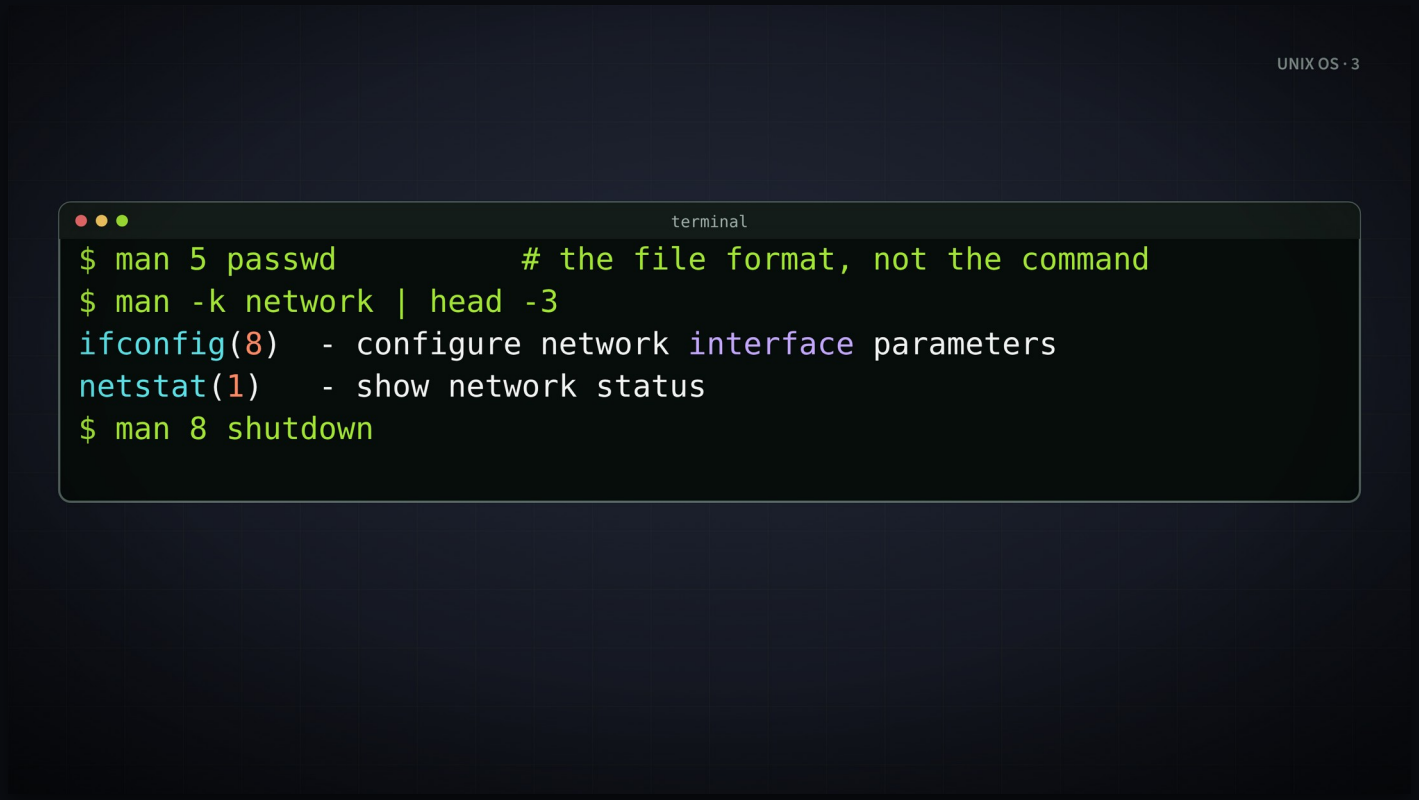
GNU vs BSD Options

Task	GNU (Linux)	BSD (macOS)
edit in place	`sed -i 's/a/b/' f`	`sed -i '' 's/a/b/' f`
all processes	`ps -ef` or `ps aux`	`ps aux`
file date	`date -d yesterday`	`date -v-1d`
human sizes	`ls -lh --color`	`ls -lhG`

- Linux uses GNU tools with many extra long options. macOS and BSD use BSD versions with …
- A classic trap: sed dash i edits in place on Linux, but on macOS it needs an empty backup …

04

man Pages Across UNIX



- Every UNIX has man pages, organized in numbered sections: 1 for commands, 5 for file …
- man dash k searches by keyword. When a system behaves differently, its own man page is …

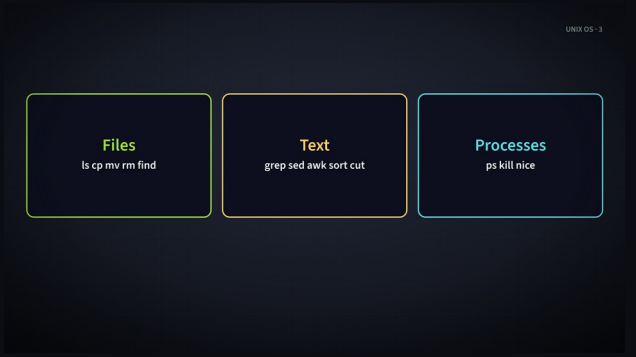
05

Lesson Map


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The UNIX Shells
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Which Shell Am I Using?
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Commands That Work Everywhere
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GNU vs BSD Options
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man Pages Across UNIX

Sources and Further Reading





Thank you for watching

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