Finding Things (Core)

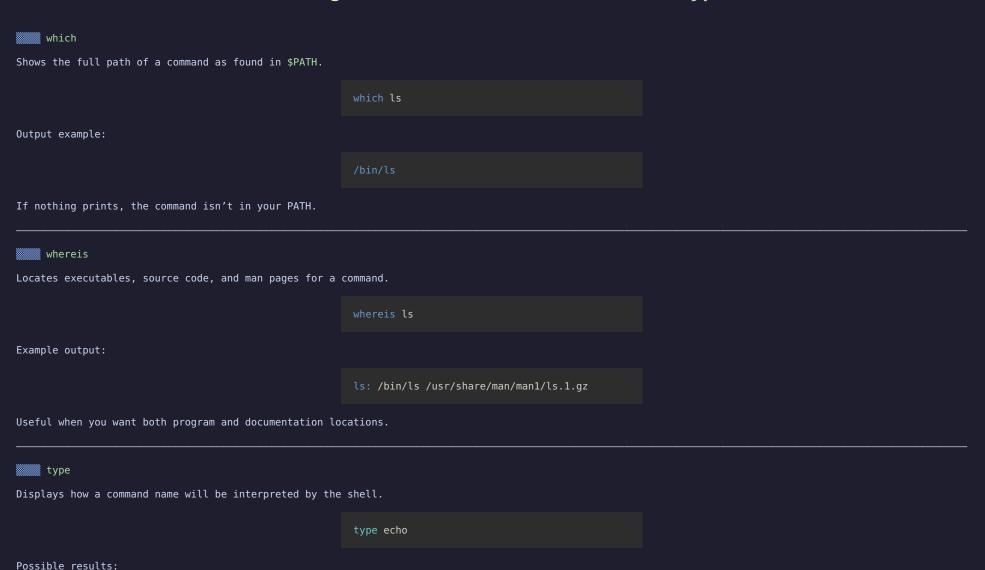
Linux Commands Course · Section 4

Goal

Learn how to find files, commands, and data efficiently in Linux.

You'll master tools that search your filesystem, locate executables, and query system indexes.

Finding Commands — which, whereis, type



builtin — internal to the shell
 alias — shortcut defined by the user

Searching Files — find

find scans directories recursively and matches patterns or conditions. Basic syntax: find [path] [tests] [actions] Example - find files by name:

The dot (.) means "start from current directory".

Search by Type, Size, and Time



Combining Conditions

You can combine filters with logical operators.

Example - find .log files modified recently:

find /var/log -type f -name "*.log" -mtime -1

You can also negate tests:

find /etc -type f ! -name "*.conf"

- every file that is not a .conf file.

Running Actions — -exec

```
Example - list detailed info:

find . -type f -name "*.sh" -exec ls -lh {} \;

Each {} represents the current file; \; ends the -exec clause.

Or remove safely (after verifying!):

find ~/Downloads -type f -name "*.tmp" -exec rm -i {} \;
```

Avoid Unwanted Paths — -prune

Exclude directories from search with -prune.

Example - skip .git folders:

find . -path "./.git" -prune -o -type f -name "*.py" -print

How it works:

- -prune skips matched directories.
- The -o means "OR" only the right side runs when left fails.

Using find with xargs

Locate — database-based search

locate searches a prebuilt database of filenames — muc	h faster than find.	
	locate passwd	
The database is usually updated daily.		
If results seem outdated, refresh manually:		
	sudo updatedb	
locate searches by name only , not by content or modification time.		

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Comparing find vs locate

Feature	find	locate
Searches live filesystem Needs database update Can filter by time/size/type Speed Accuracy	V V Slower Always current	(uses index) X Instant May be outdated

Use locate for quick lookups, and find for precise, real-time results.

Pro Tip — Searching Large Systems

Combine tools for power and safety:

```
sudo updatedb
locate "*.log" | grep "/var/log"
find /var/log -type f -mtime -7 -exec du -h {} + | sort -h | tail
```

This identifies large or recently modified log files.

Recap

- Command locations: which, whereis, type
 File system search: find (name, size, time, exec, prune)
 Indexed search: locate, updatedb
 Combine with xargs for high performance.

These are your search toolkit for any Linux environment.

Practice

- 1. Use which to find the path to bash.

- See which to find the path to bash.
 Run whereis on ls and identify its man page location.
 Search your home directory for files larger than 1 MB.
 Exclude .cache directories from a recursive search.
 Use locate to find any "shadow" file, then refresh the database with updatedb.

Next Up

Text Viewing & Pipelines (Core) — reading, filtering, and connecting commands.