Listing Files

And Understanding `ls` Output

What You Will Learn

What the long listing format components are.

How to see hidden files and directories.

How to list files by type.

How to list files sorted by time.

How to handle spaces in file names.

What symbolic links are.

Decoding `ls -l` Output

```
$ ls -l
-rw-rw-r-- 1 jason users 10400 Sep 27 08:52 sales.data
```

Permissions	-rw-rw-r--
Number of links	1
Owner name	jason
Group name	users
Number of bytes in the file	10400
Last modification time	Sep 27 08:52
File name	sales.data

Listing All Files, Including Hidden Files

Hidden files begin with a period.

Sometimes called "dot files."

Hidden files are not displayed by default.

To show hidden files with `ls`, use `ls -a`.

Command options can be combined.

`ls -l -a` is the same as `ls -la` and `ls -al`.

Listing Files by Type

Use `ls -F` to reveal file types.

/	Directory
@	Link
*	Executable

Symbolic Links

A link points to the actual file or directory.

Use the link as if it were the file.

A link can be used to create a shortcut.
Use for long file or directory names.
Use to indicate the current version of software.

Listing Files by Time and in Reverse

`ls -t`   List files by time.

`ls -r`   Reverse order.

`ls -latr` Long listing including all files
      reverse sorted by time.

Listing Files Recursively

`ls -R`   Lists files recursively

The `tree` Command

Similar to `ls -R`, but creates visual output.

```
tree -d        List directories only.
tree -C        Colorize output.
```

List Directories, Not Contents

`ls -d`   List directory name, not contents.

Listing Files with Color

`ls --color`   Colorize the output.

Working with Spaces in Names

Just say no to spaces!

Alternatives:

Hyphens (–)

Underscores (_)

CamelCase

Working with Spaces in Names

Encapsulate the entire file name in quotes.

Use a backslash (\) to escape spaces.

Summary

Useful `ls` options

Symbolic links

Hidden files and directories

Spaces in file names

`ls` Options

`-a`	List all files, including hidden files.
`--color`	List files with colorized output.
`-d`	List directory names, not contents.
`-l`	Use the long listing format.
`-r`	Reverse the order.
`-R`	List files recursively.
`-t`	Sort by time, most recent first.