

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`.

Demo1

Listing Files by Type

Use `ls -F` to reveal file types.

/	Directory
@	Link
*	Executable

Symbolic Links

- A link is a 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.

Demo 2

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.

Demo 3

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.

Demo 4

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.

Demo 5

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 colored 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.