

Using the Shell

Objectives

- Understand the what and why of the shell
- Use the shell to navigate your computer's file system
- Use RStudio projects to simplify file system navigation
- Know your options for finding help

Lesson outline

- Review of last week
 - What happened as you were trying to re-organize projects or R code? Victories? Stumbling blocks?
- Slides: Intro to the shell
 - What is the shell?
 - What does the shell let us do?
 - Why would we want to learn how to use the shell?
- Breakout rooms: Shell installation
 - Instructor notes include links to git installation for both Mac and Windows.
 - Split into 2 breakout rooms to install on different OS's.
- Break to all download shell-lesson-data
 - Link
 - Put it on your Desktop
 - Unzip using point-and-click
- Live coding: Setup RStudio
 - Open RStudio
 - Tour panes: files and terminal
 - Set up terminal pane to use bash
- Live coding: Navigating filesystems in files pane
 - Use file pane to navigate to shell-lesson-data
- Live coding: Navigate to shell-lesson-data in Terminal
 - Identify the prompt and note that it is different in zsh (%)
 - pwd
 - cd
 - ls
 - Use ls flags to explain anatomy of a shell command
 - Show man ls to show flag options for the ls command
- Live coding: Synchronizing file panes
 - Show “Go to current directory” to bring Terminal to files pane
 - Show “New terminal here” to create a terminal in files pane

- Show that Rstudio's working directory is not automatically wherever either Terminal or the file pane is
- Live coding: using Rprojects to simplify filesystems
 - Create an R project
 - Show that, upon opening, Terminal, getwd(), and file pane are all on the same page
- Live coding: cp and move
 - Copy shell_lesson_data to the Rproject.
 - Tell them we need cp, then use `cp --help` to get the options
 - Repeat using `ls` to explore contents of shell_lesson_data and mirror files pane
- Live coding/discussion: options for finding help
 - `--help` flag
 - man pages
 - Manual pages: ? in R, package websites
 - StackOverflow
 - ChatGPT
- Homework for next session
 - Read <https://peerj.com/preprints/3159/> git (Version control prep)
 - Create a diagram of your file system and note your most frequently used directories

Installation & materials

1. Slides
2. macOS git installation
3. Windows git installation (detailed step-by-step here)
4. Software Carpentry Unix Shell episode #1
5. Software Carpentry Unix Shell episode #2
6. Software Carpentry Unix Shell episode #3 (time permitting)