

The LSD Lab

Guide for:

Navigating RStudio

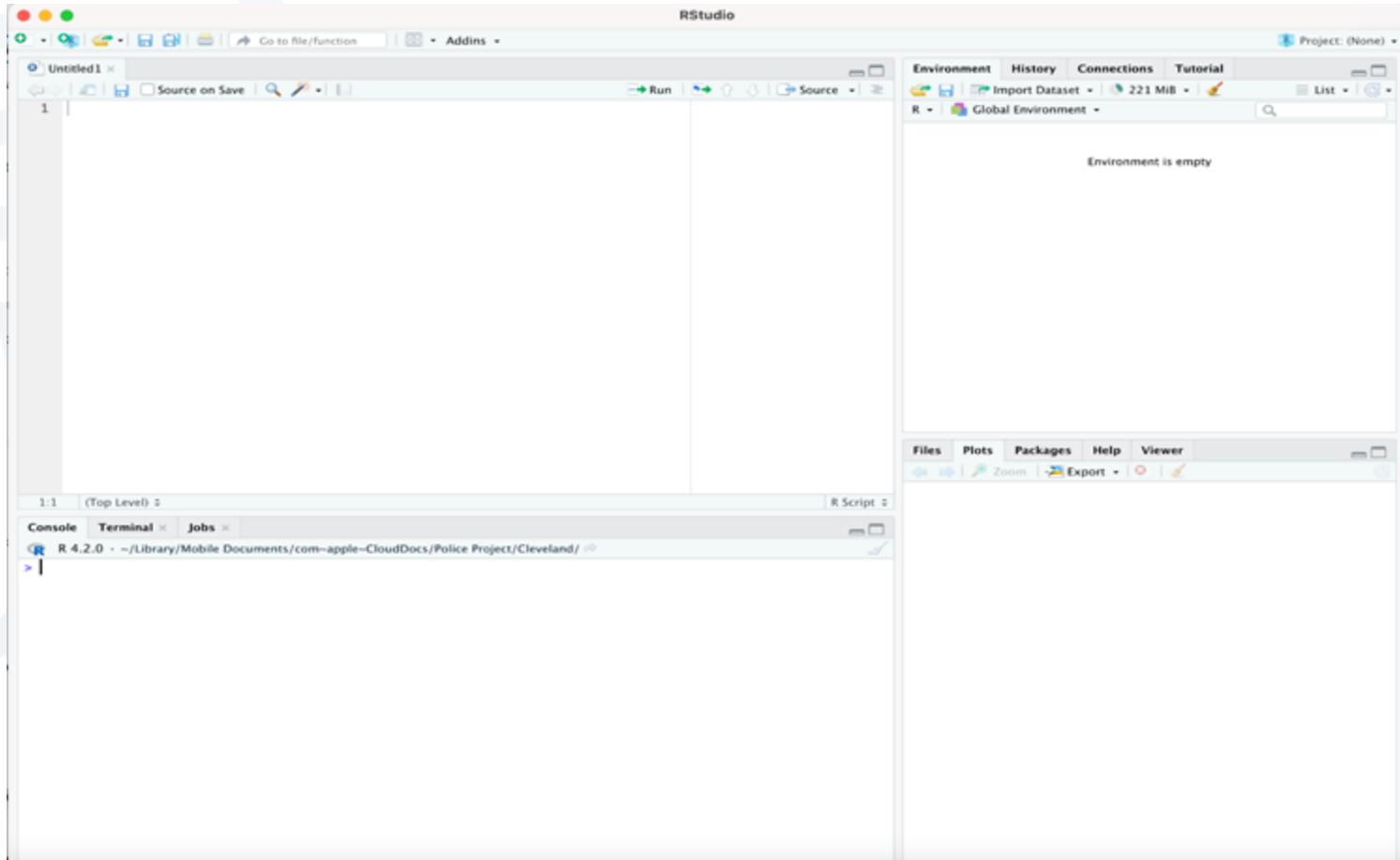


Getting Started in RStudio

- Now that you've installed Base R and RStudio, it's time to get comfortable in the space where you'll be doing your work.
- RStudio is designed to make R easier to write, read, organize, and explore.
- This walkthrough shows you what everything is, what it does, and how to take your first steps using RStudio.

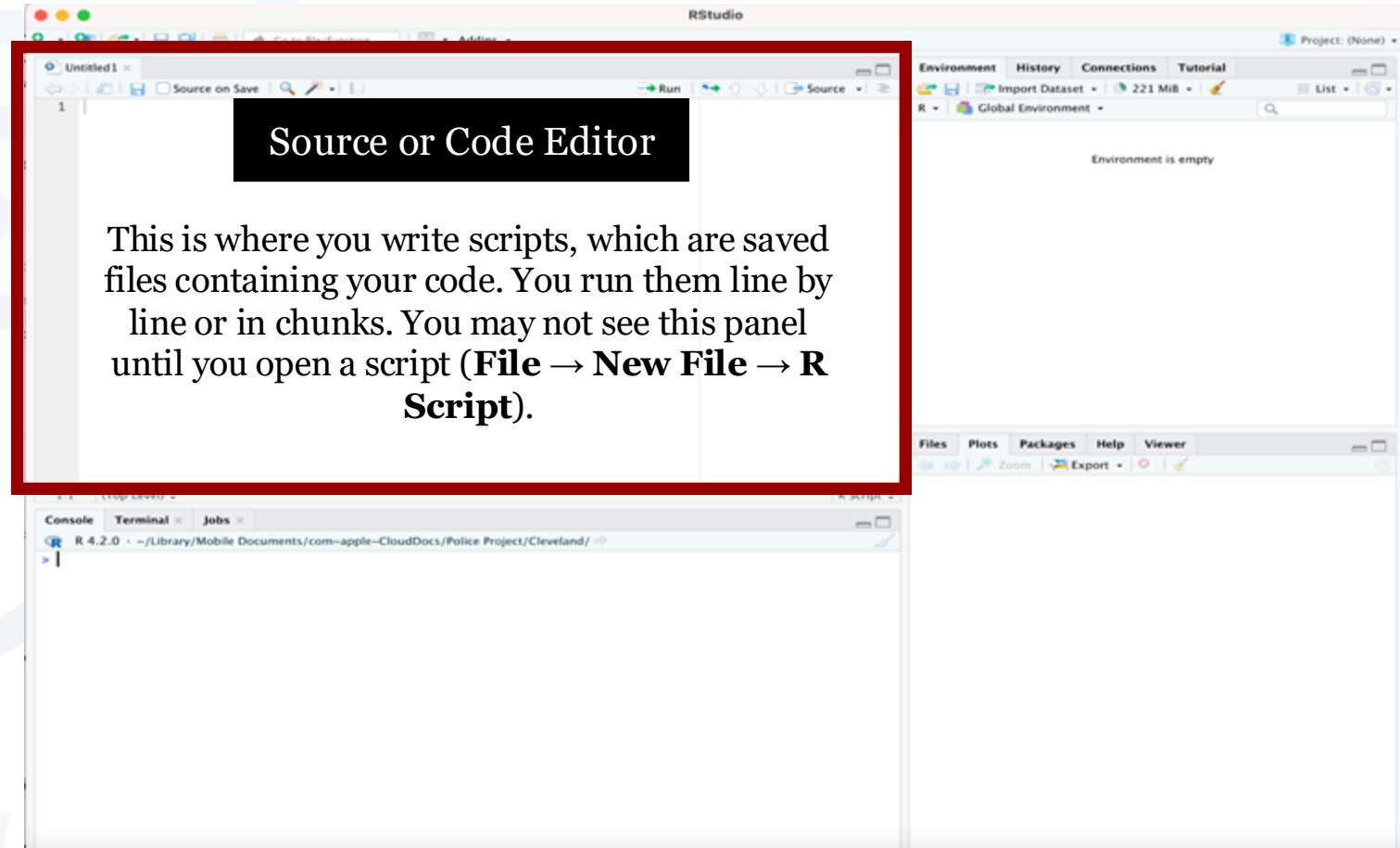
1. The Four Main Panels in RStudio

When you open RStudio, you'll see four main panels. Each serves a different purpose.



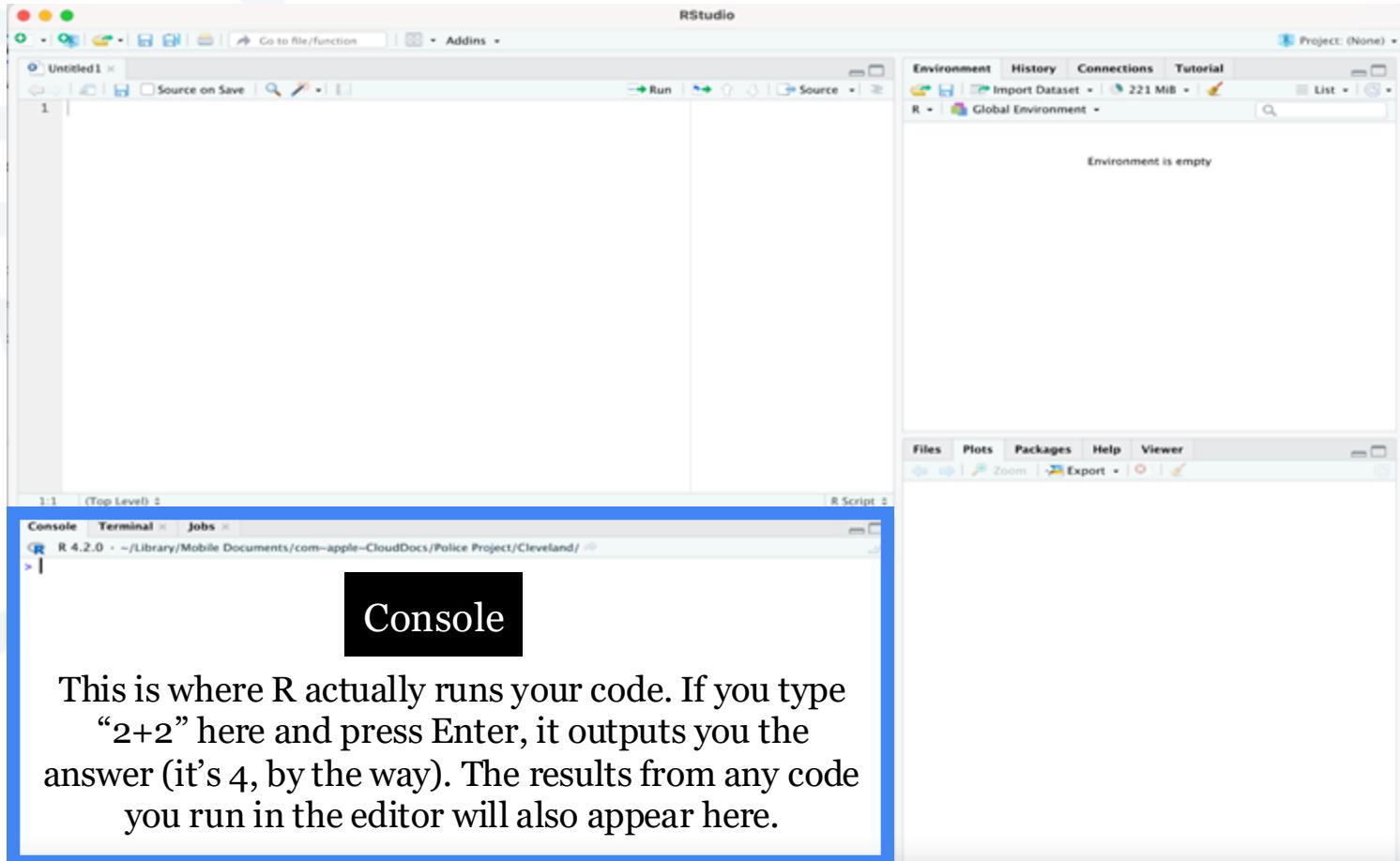
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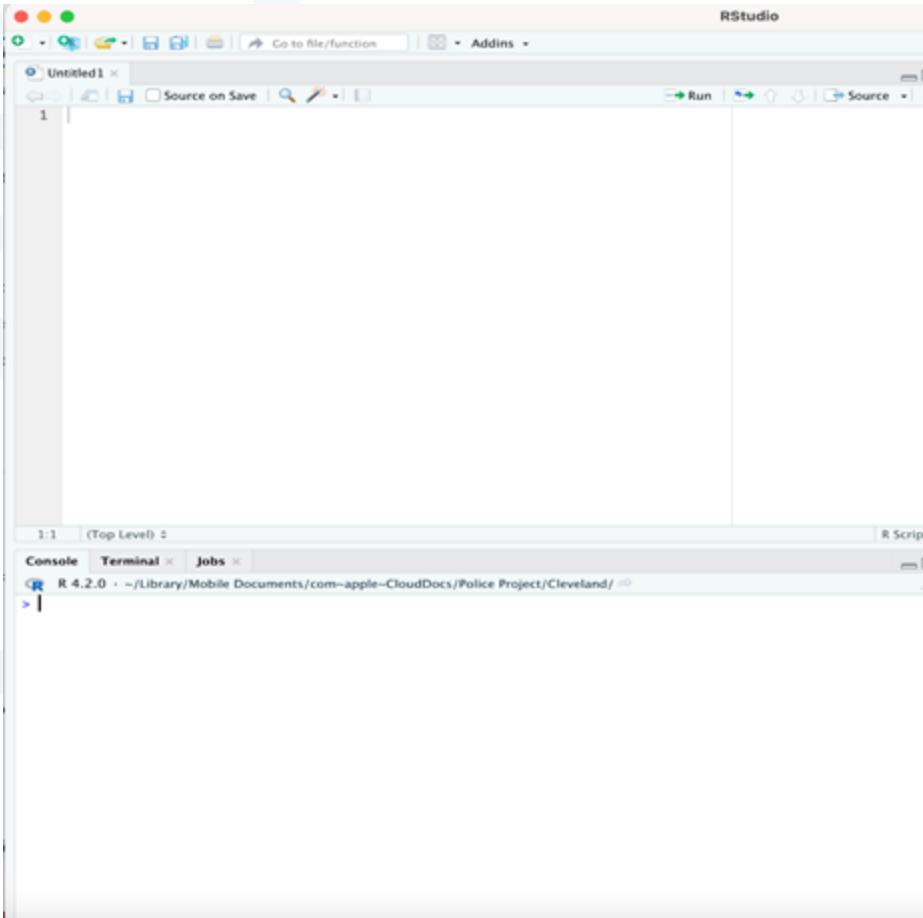
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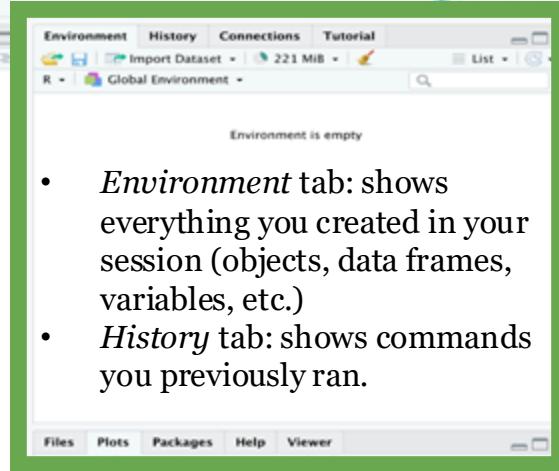


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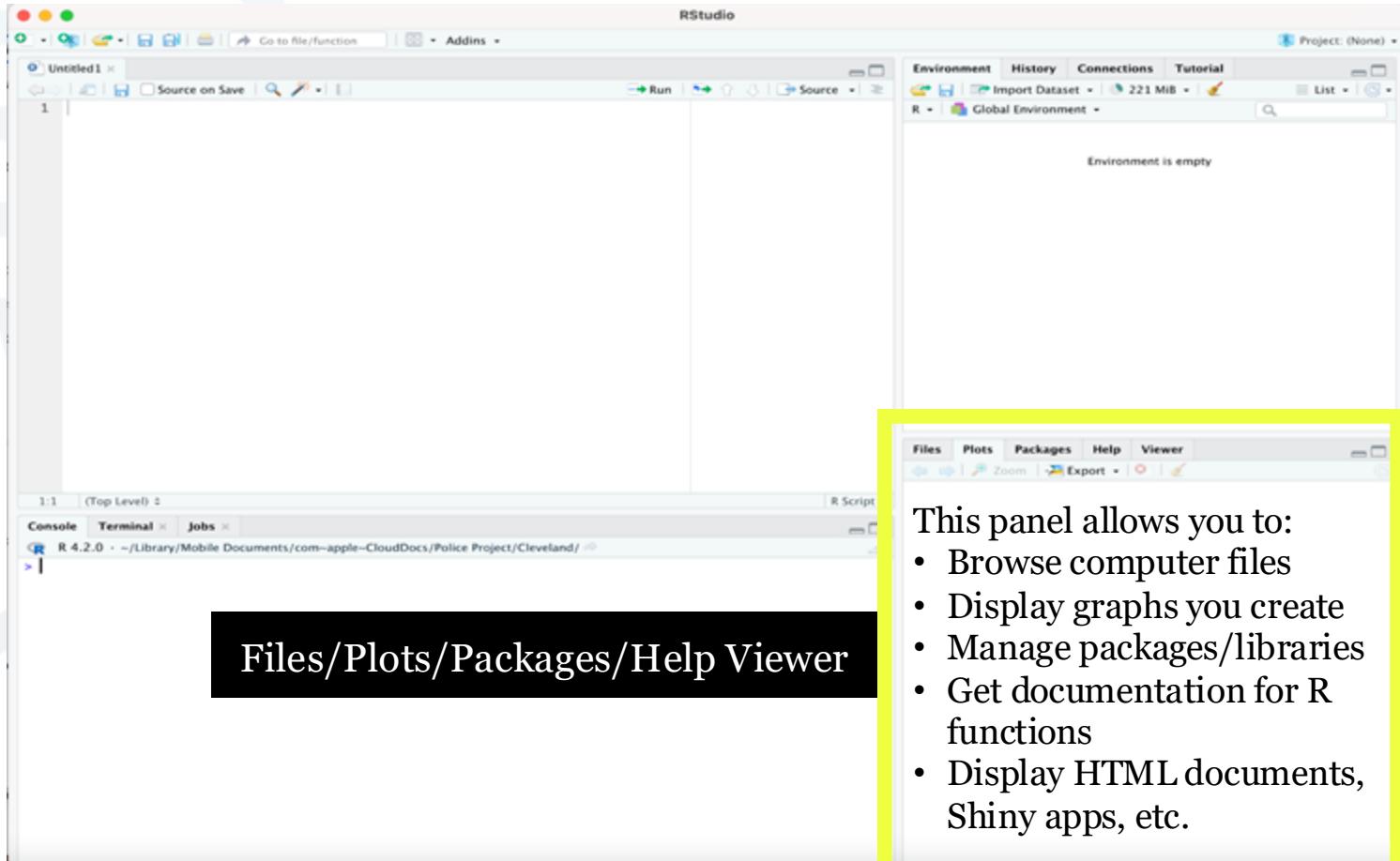
Environment/History



- *Environment* tab: shows everything you created in your session (objects, data frames, variables, etc.)
- *History* tab: shows commands you previously ran.

1. The Four Main Panels in RStudio

When you open RStudio, you'll see four main panels. Each serves a different purpose.



Files/Plots/Packages/Help Viewer

This panel allows you to:

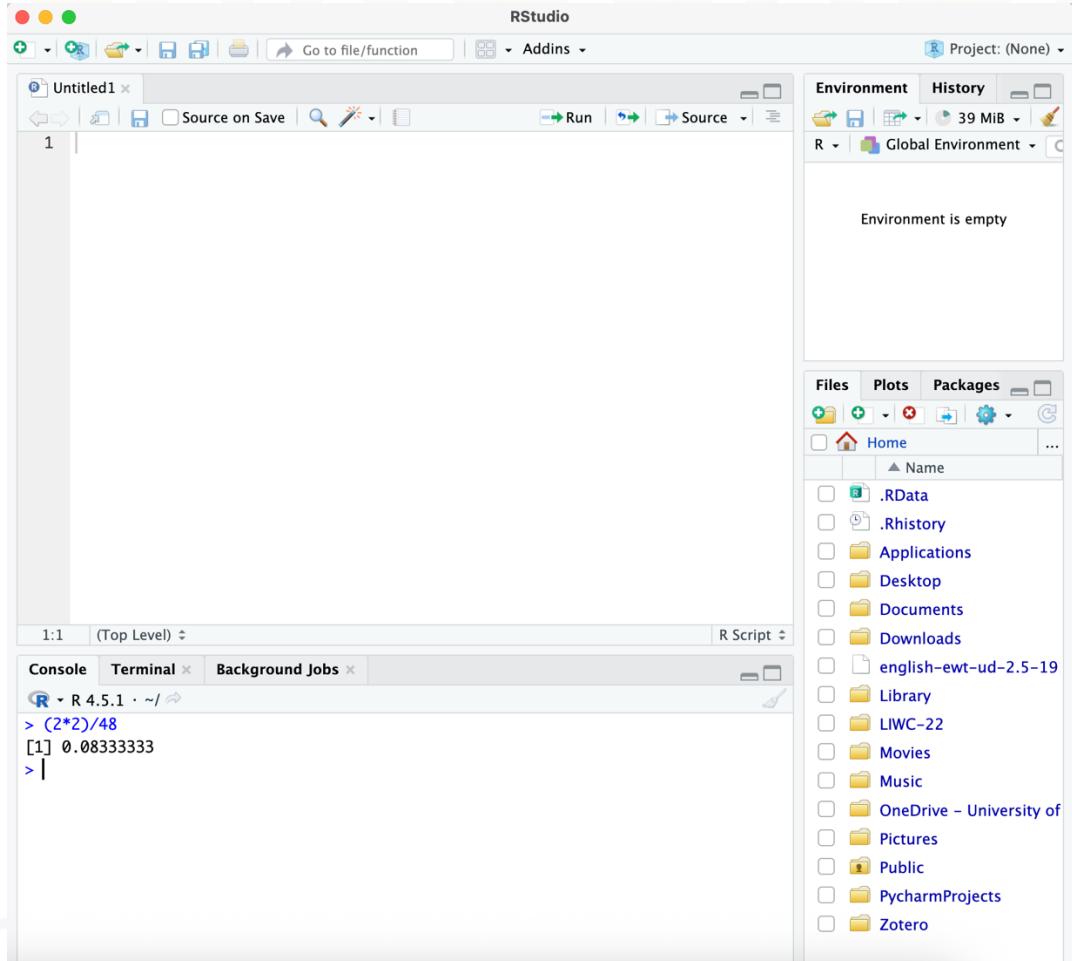
- Browse computer files
- Display graphs you create
- Manage packages/libraries
- Get documentation for R functions
- Display HTML documents, Shiny apps, etc.

2. Running Code: Console vs. Script

You can run R code in two ways:

A. In the Console

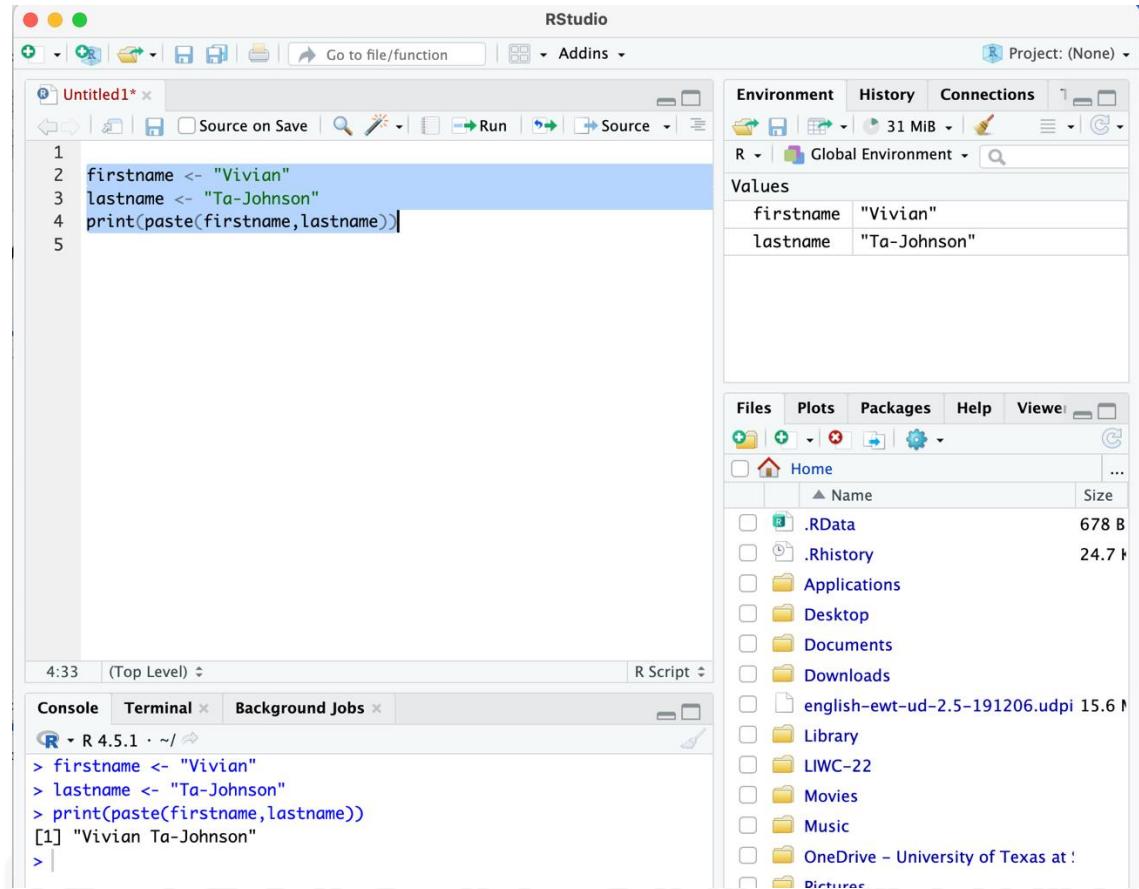
- Use this for quick checks or experimenting.
- Example: 



2. Running Code: Console vs. Script

B. In the Code Editor (recommended for real work)

- Create script:
File → New File → R Script
- Insert code in code editor.
- To run a line/chunk of code, highlight it and either A) click “Run” or B) press:
 - **Cmd + Enter** (macOS)
 - **Ctrl + Enter** (Windows)
- This sends your code to the Console to execute.



The screenshot shows the RStudio interface. On the left, an 'Untitled1' script file contains the following R code:

```
1
2   firstname <- "Vivian"
3   lastname <- "Ta-Johnson"
4   print(paste(firstname,lastname))
```

The code is highlighted from line 1 to line 4. On the right, the 'Environment' tab shows the variables `firstname` and `lastname` defined with their respective values. Below the environment, the 'Files' panel lists several files and folders in the current directory, including `.RData`, `.Rhistory`, and `english-ewt-ud-2.5-191206.udpi`. At the bottom, the 'Console' tab displays the executed code and its output:

```
> firstname <- "Vivian"
> lastname <- "Ta-Johnson"
> print(paste(firstname,lastname))
[1] "Vivian Ta-Johnson"
>
```

Note: Scripts can be saved and reused; the Console cannot.

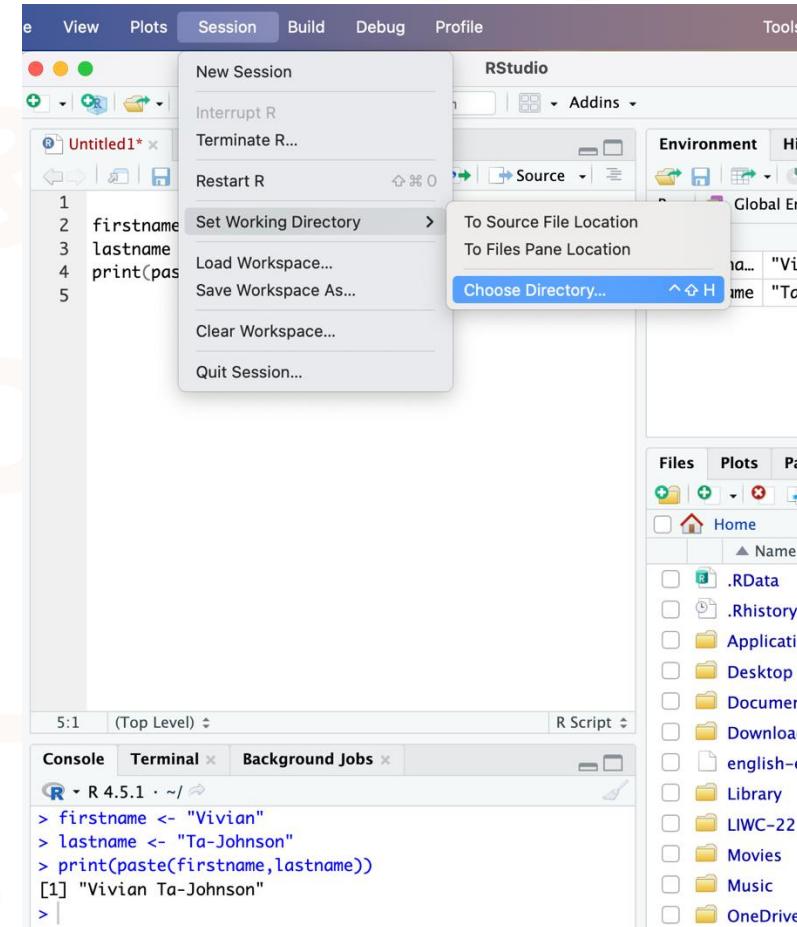
3. Setting Your Working Directory

R needs to know where your files live which is called your working directory (wd).

There are two ways to set your wd.

A. Set wd via menu

Click **Session** → **Set Working Directory** → **Choose Directory...**



Then choose your wd.

3. Setting Your Working Directory

B. Set wd via code using setwd()

```
setwd("insert/folder/path")
```

Note: make sure to use forward slashes.

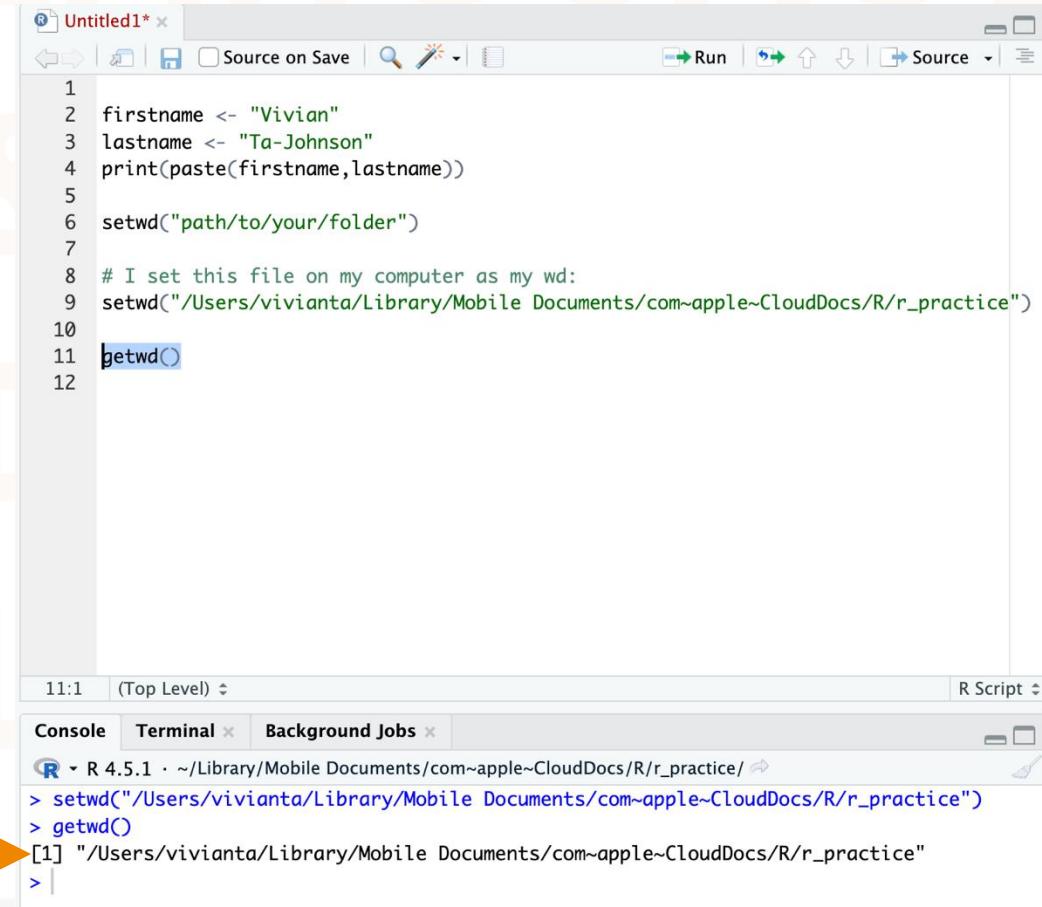
The screenshot shows the RStudio interface. The top panel displays an R script titled "Untitled1". The script contains the following code:

```
1
2   firstname <- "Vivian"
3   lastname <- "Ta-Johnson"
4   print(paste(firstname,lastname))
5
6   setwd("path/to/your/folder")
7
8   # I set this file on my computer as my wd:
9   setwd("/Users/vivianta/Library/Mobile Documents/com~apple~CloudDocs/R/r_practice")
10
```

The line `setwd("/Users/vivianta/Library/Mobile Documents/com~apple~CloudDocs/R/r_practice")` is highlighted in green, indicating it is a user-defined path. Below the script, the R console window is visible, showing the command `> setwd("/Users/vivianta/Library/Mobile Documents/com~apple~CloudDocs/R/r_practice")` and its execution results.

3. Setting Your Working Directory

To check what your current wd is, run `getwd()`



The screenshot shows an RStudio interface. The top panel displays a script named "Untitled1" with the following R code:

```
1
2   firstname <- "Vivian"
3   lastname <- "Ta-Johnson"
4   print(paste(firstname, lastname))
5
6   setwd("path/to/your/folder")
7
8   # I set this file on my computer as my wd:
9   setwd("/Users/vivianta/Library/Mobile Documents/com~apple~CloudDocs/R/r_practice")
10
11  getwd()
12
```

The bottom panel shows the R console output:

```
11:1 (Top Level) R Script
Console Terminal Background Jobs
R 4.5.1 · ~/Library/Mobile Documents/com~apple~CloudDocs/R/r_practice/
> setwd("/Users/vivianta/Library/Mobile Documents/com~apple~CloudDocs/R/r_practice")
> getwd()
[1] "/Users/vivianta/Library/Mobile Documents/com~apple~CloudDocs/R/r_practice"
>
```

An orange arrow points from the text "This prints the path to your current wd." to the line "[1] "/Users/vivianta/Library/Mobile Documents/com~apple~CloudDocs/R/r_practice"" in the console output.

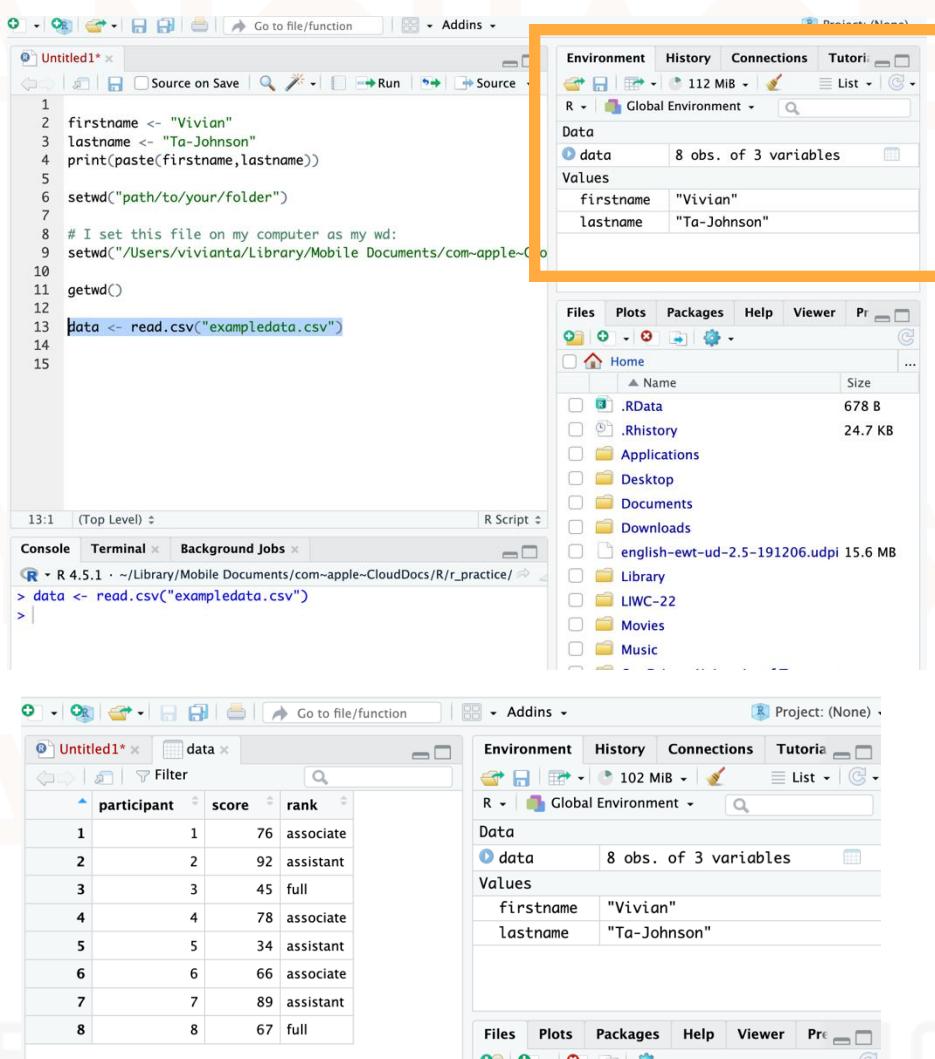
This prints the path to
your current wd.

4. Loading Data

Let's load a CSV file named `exampledadata.csv` using `read.csv()`. It is currently in my wd and I want to name it "data" after loading it into RStudio:

```
data <- read.csv("exampledadata.csv")
```

"data" now appears in the Environment pane. Clicking its name lets you view it like a spreadsheet.



The screenshot displays the RStudio interface with the following details:

- Code Editor:** Shows an R script with the following code:

```
1
2   firstname <- "Vivian"
3   lastname <- "Ta-Johnson"
4   print(paste(firstname,lastname))
5
6   setwd("path/to/your/folder")
7
8   # I set this file on my computer as my wd:
9   setwd("~/Users/vivianta/Library/Mobile Documents/com~apple~CloudDocs/R/r_practice")
10
11  getwd()
12
13  data <- read.csv("exampledadata.csv")
14
15
```
- Console:** Shows the command `data <- read.csv("exampledadata.csv")` being run and completed successfully.
- Environment:** Shows the variable `data` has been created, containing 8 observations of 3 variables: `firstname` and `lastname`, both set to "Vivian" and "Ta-Johnson".
- File Browser:** Shows the current working directory (`~/Users/vivianta/Library/Mobile Documents/com~apple~CloudDocs/R/r_practice`) with files like `.RData`, `.Rhistory`, and various document and media files.
- Table View:** Shows the contents of the `data` variable as a table:

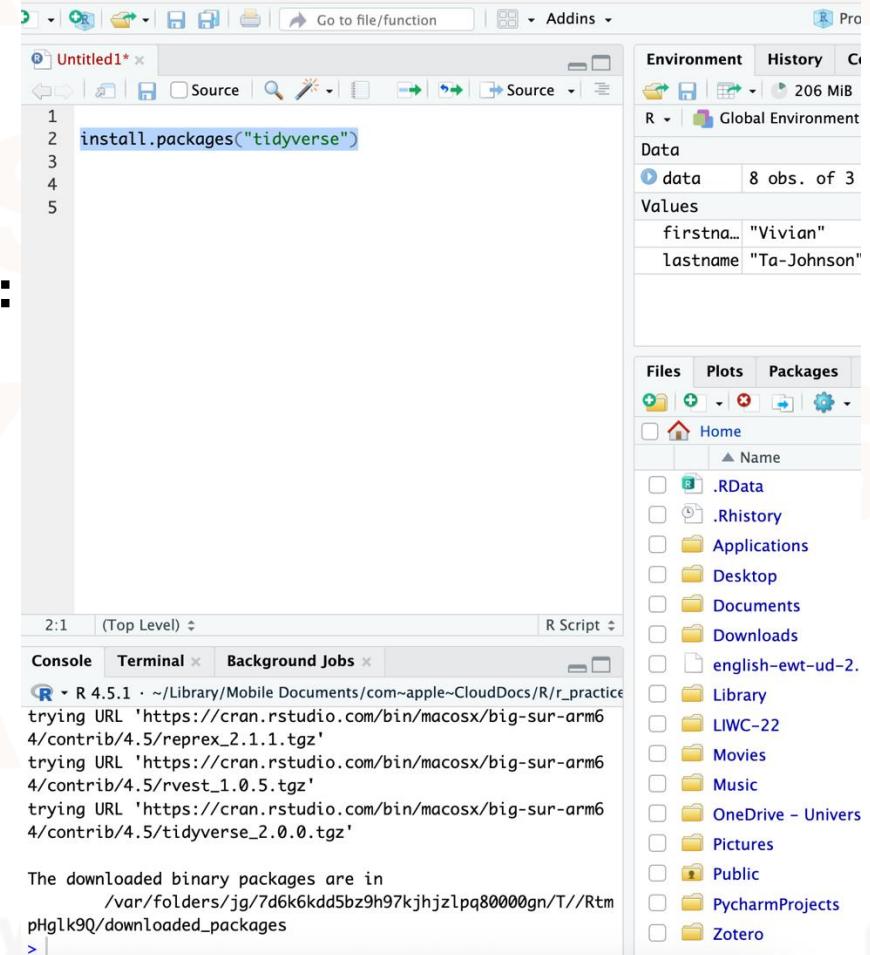
	participant	score	rank
1	1	76	associate
2	2	92	assistant
3	3	45	full
4	4	78	associate
5	5	34	assistant
6	6	66	associate
7	7	89	assistant
8	8	67	full

5. Installing and Loading Packages

Packages extend R's abilities. You can install packages:

A. Via code using `install.packages()`:

```
install.packages("tidyverse")
```



The screenshot shows the RStudio interface with the following details:

- Script Editor:** Untitled1.R contains the code:

```
1
2 install.packages("tidyverse")
3
4
5
```
- Console:** The output of the command is shown:

```
2:1 (Top Level) R Script
Console Terminal Background Jobs
R 4.5.1 · ~/Library/Mobile Documents/com~apple~CloudDocs/R/r_practice
trying URL 'https://cran.rstudio.com/bin/macosx/big-sur-arm6
4/contrib/4.5/reprex_2.1.1.tgz'
trying URL 'https://cran.rstudio.com/bin/macosx/big-sur-arm6
4/contrib/4.5/rvest_1.0.5.tgz'
trying URL 'https://cran.rstudio.com/bin/macosx/big-sur-arm6
4/contrib/4.5/tidyverse_2.0.0.tgz'

The downloaded binary packages are in
/var/folders/jg/7d6k6kdd5bz9h97kjhzlpq80000gn/T//Rtm
pHgkQd/downloaded_packages
> |
```
- Environment:** The tidyverse package is listed in the Global Environment:

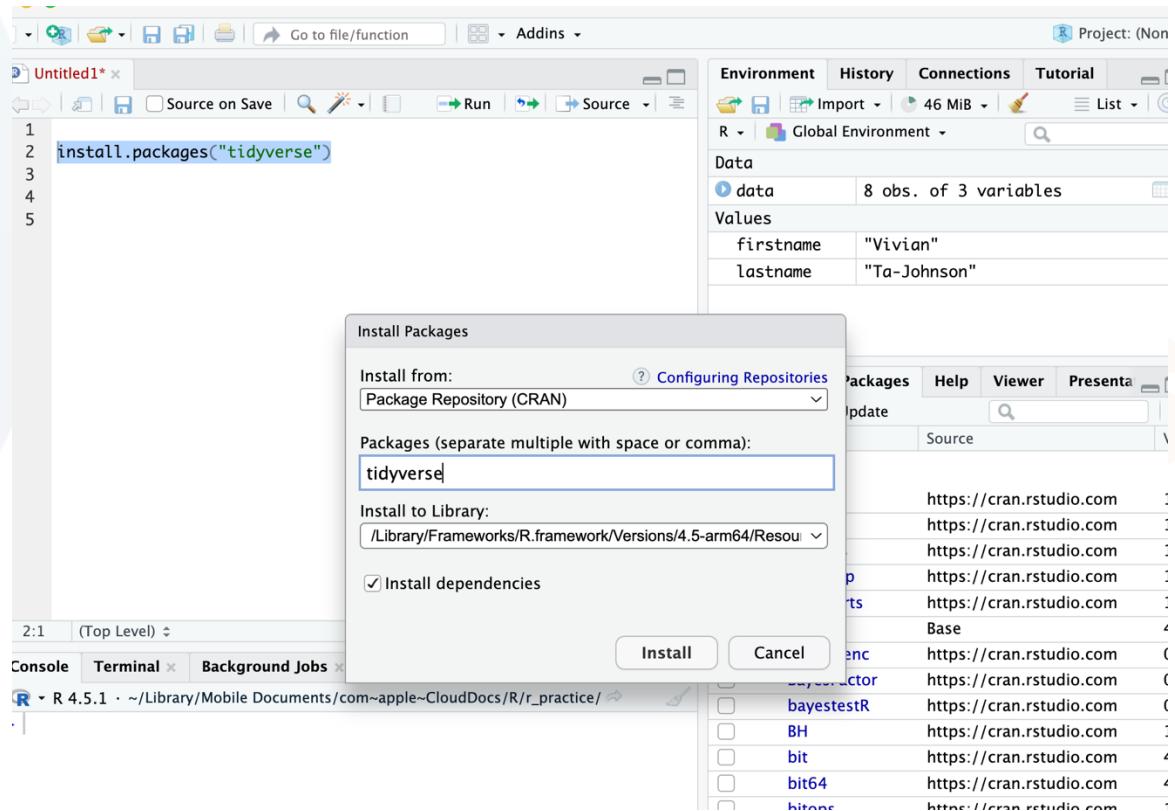
data	8 obs. of 3
firstna...	"Vivian"
lastnam...	"Ta-Johnson"
- Files:** A sidebar shows various files and folders.

5. Installing and Loading Packages

B. Via menu

In the packages panel, click:

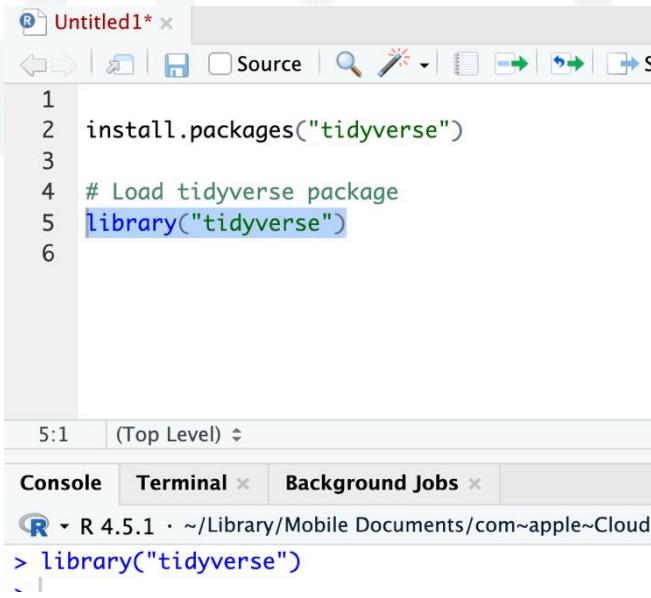
Packages → Install →
Type in name of package
in “Packages” → Install



5. Installing and Loading Packages

After installation, you can load a package:

A. Via code using `library()`:

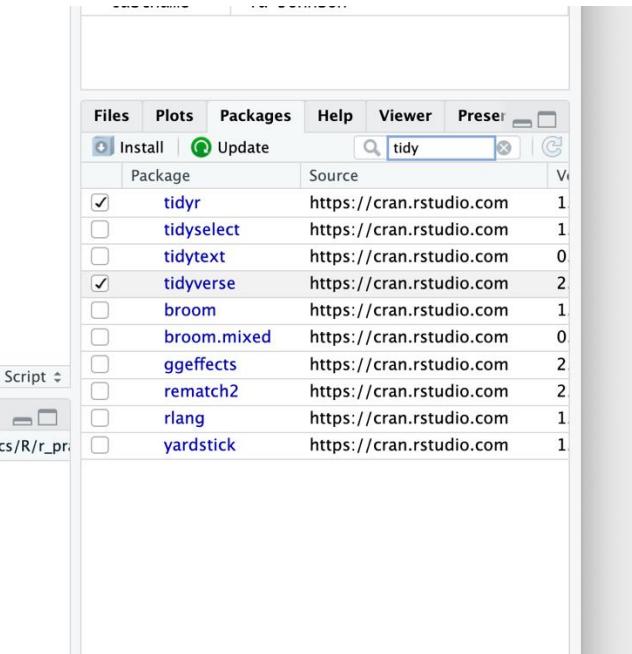


The screenshot shows the RStudio interface. In the top-left corner, there's a file named "Untitled1*". Below the title bar, there are several icons: back, forward, search, and others. The main workspace contains the following R code:

```
1
2 install.packages("tidyverse")
3
4 # Load tidyverse package
5 library("tidyverse")
6
```

At the bottom of the screen, there's a tab bar with "Console", "Terminal", and "Background Jobs". The "Console" tab is active. In the console area, the command `> library("tidyverse")` is visible.

B. Via the Packages menu by selecting the package:

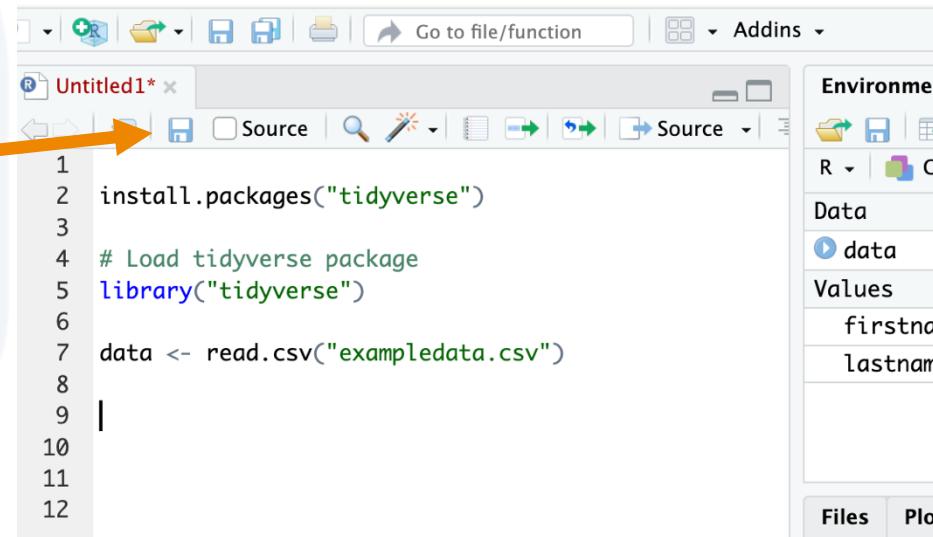


OR

6. Saving Your Script

To save your script in your wd:

- Click Save
- Name it (e.g., my_first_rscript.R)



The screenshot shows the RStudio interface. The main window displays an R script named "Untitled1" with the following code:

```
1 install.packages("tidyverse")
2
3 # Load tidyverse package
4 library("tidyverse")
5
6 data <- read.csv("exampledata.csv")
```

The code is numbered from 1 to 12. An orange arrow points to the "Save" icon in the top toolbar. The right sidebar shows the "Environment" tab with variables like "data", "firstnam", and "lastnam".