

Dr. T-J's Guide

For:

Navigating RStudio

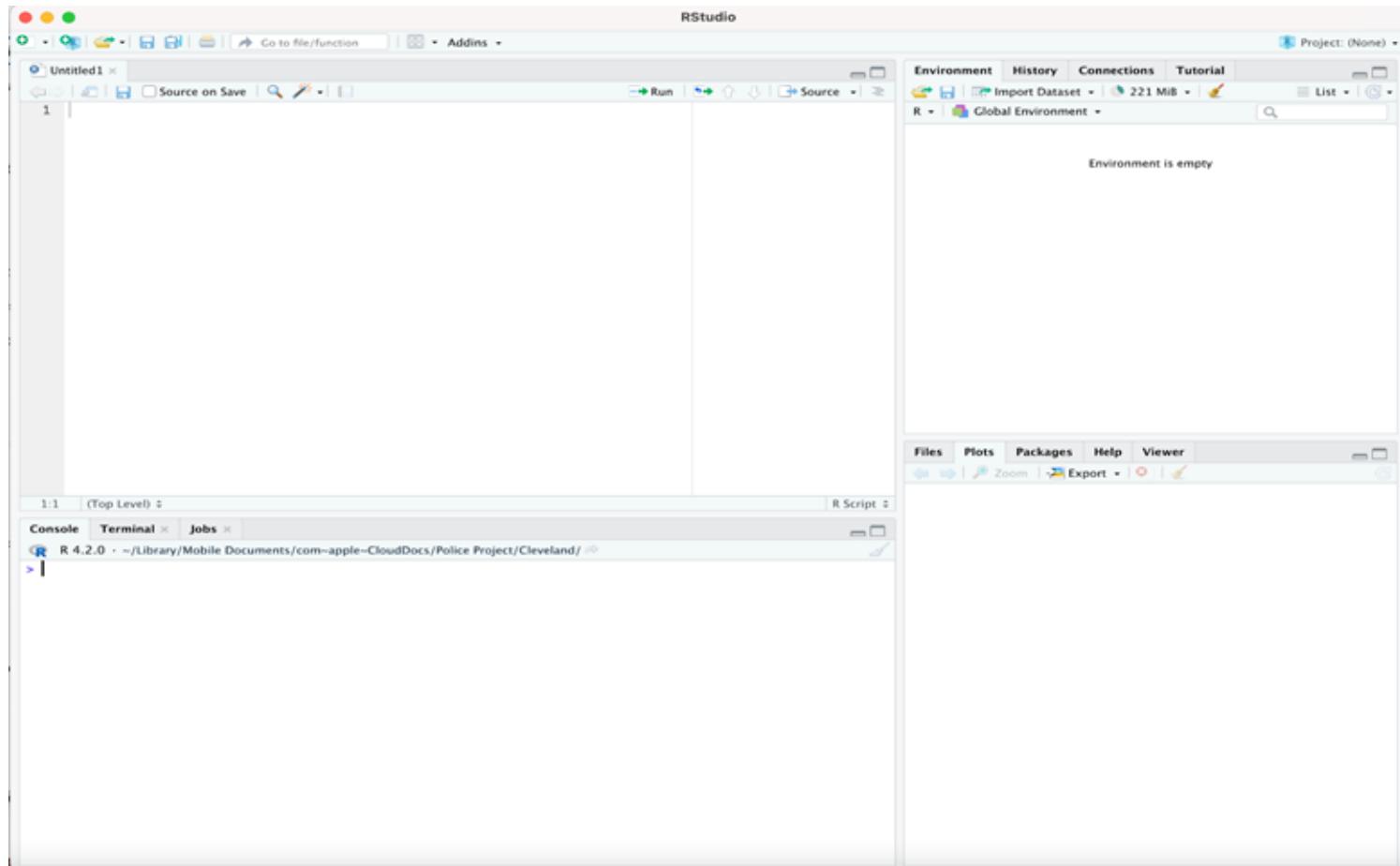


Getting Started in RStudio

- 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.

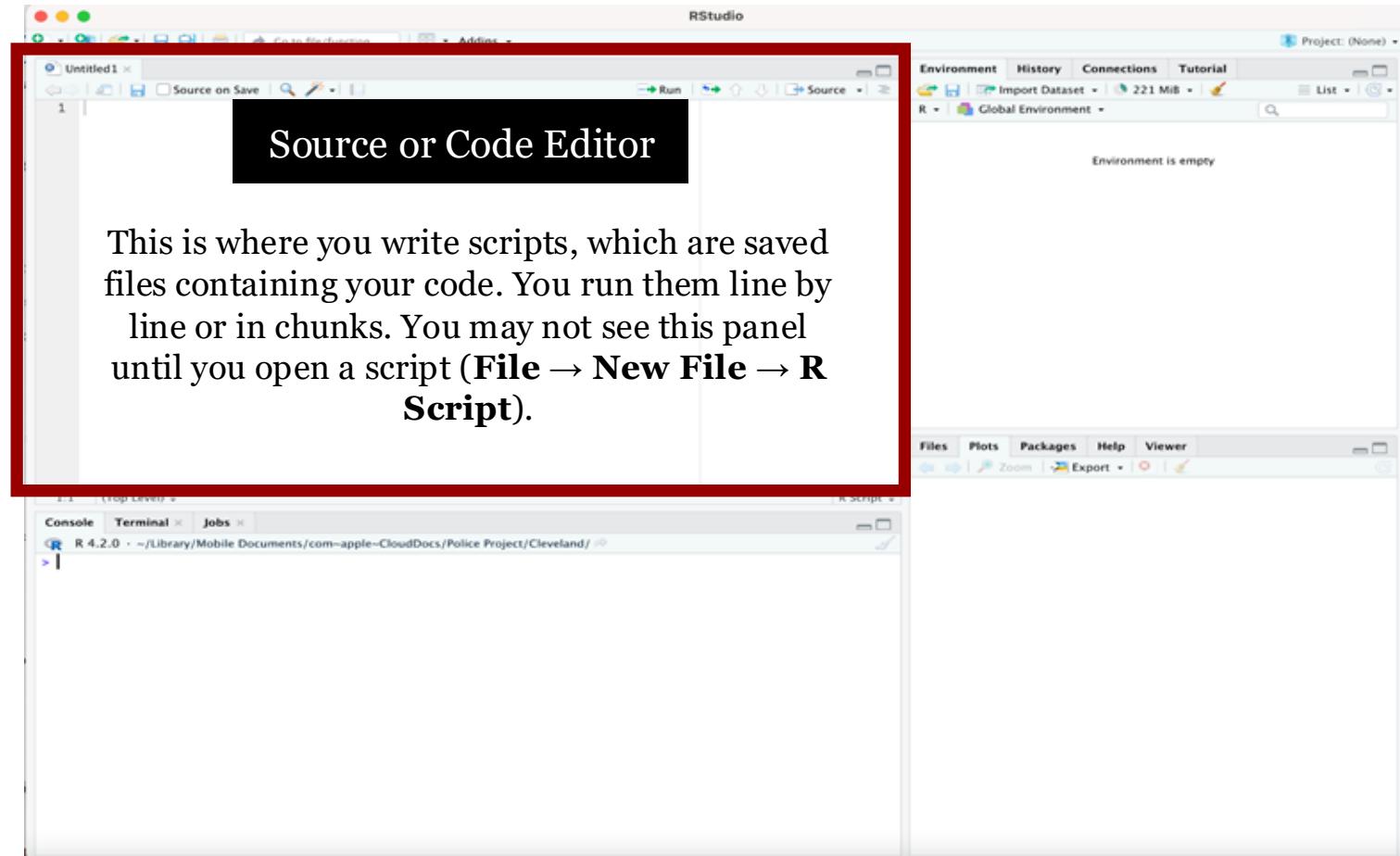
1. The Four Main Panels in RStudio

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



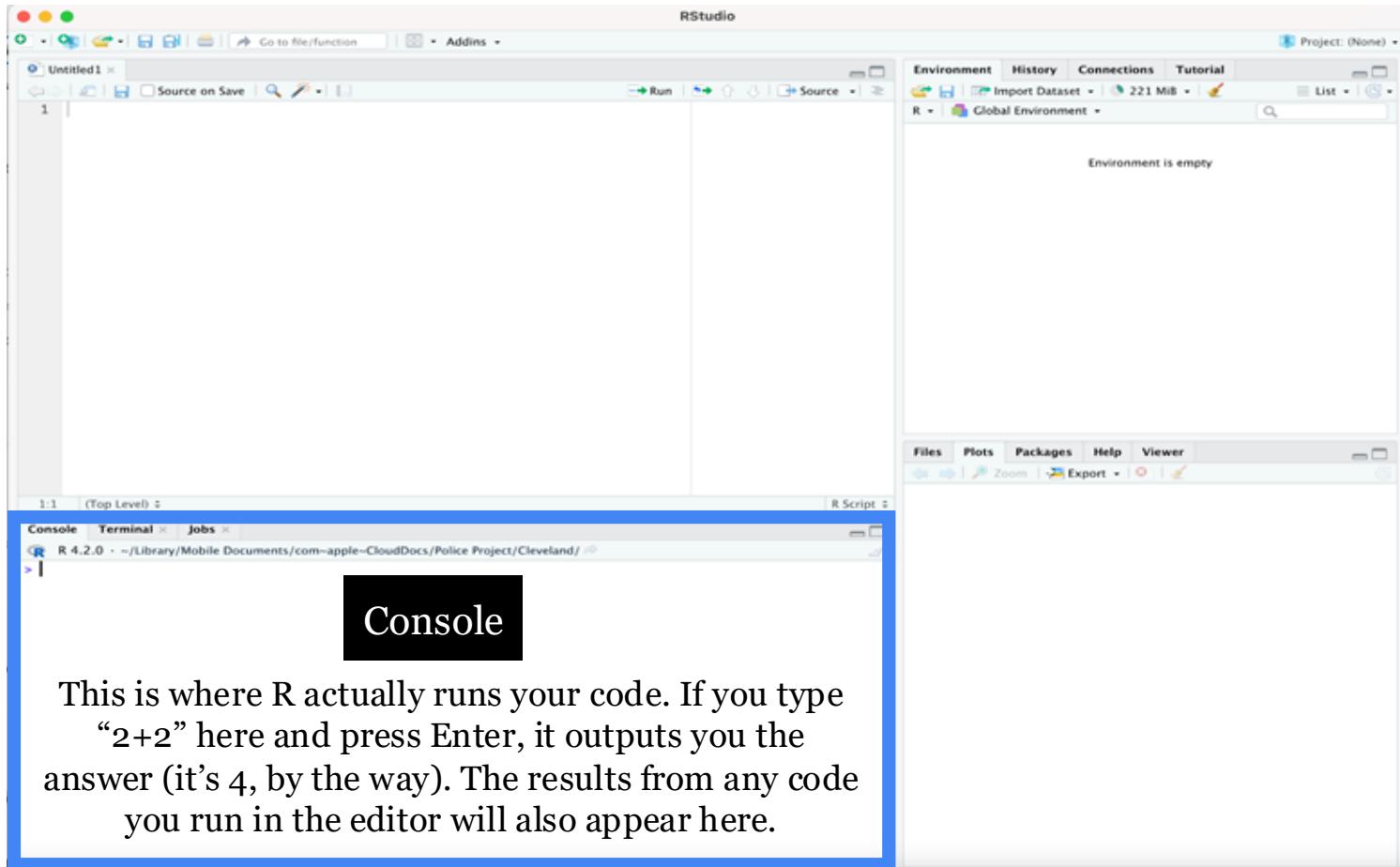
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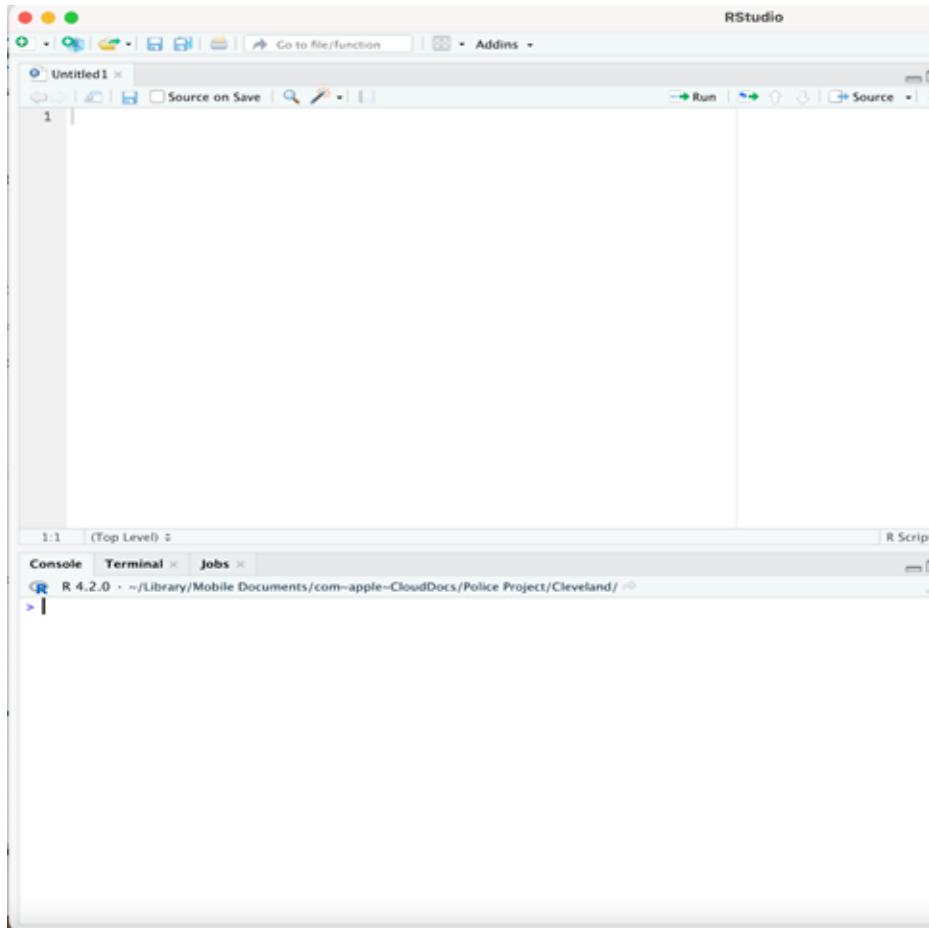
When you open RStudio, you'll see four main panels. Each serves a different purpose.



This is where R actually runs your code. If you type “`2+2`” here and press Enter, it outputs you the answer (it’s 4, by the way). The results from any code you run in the editor will also appear here.

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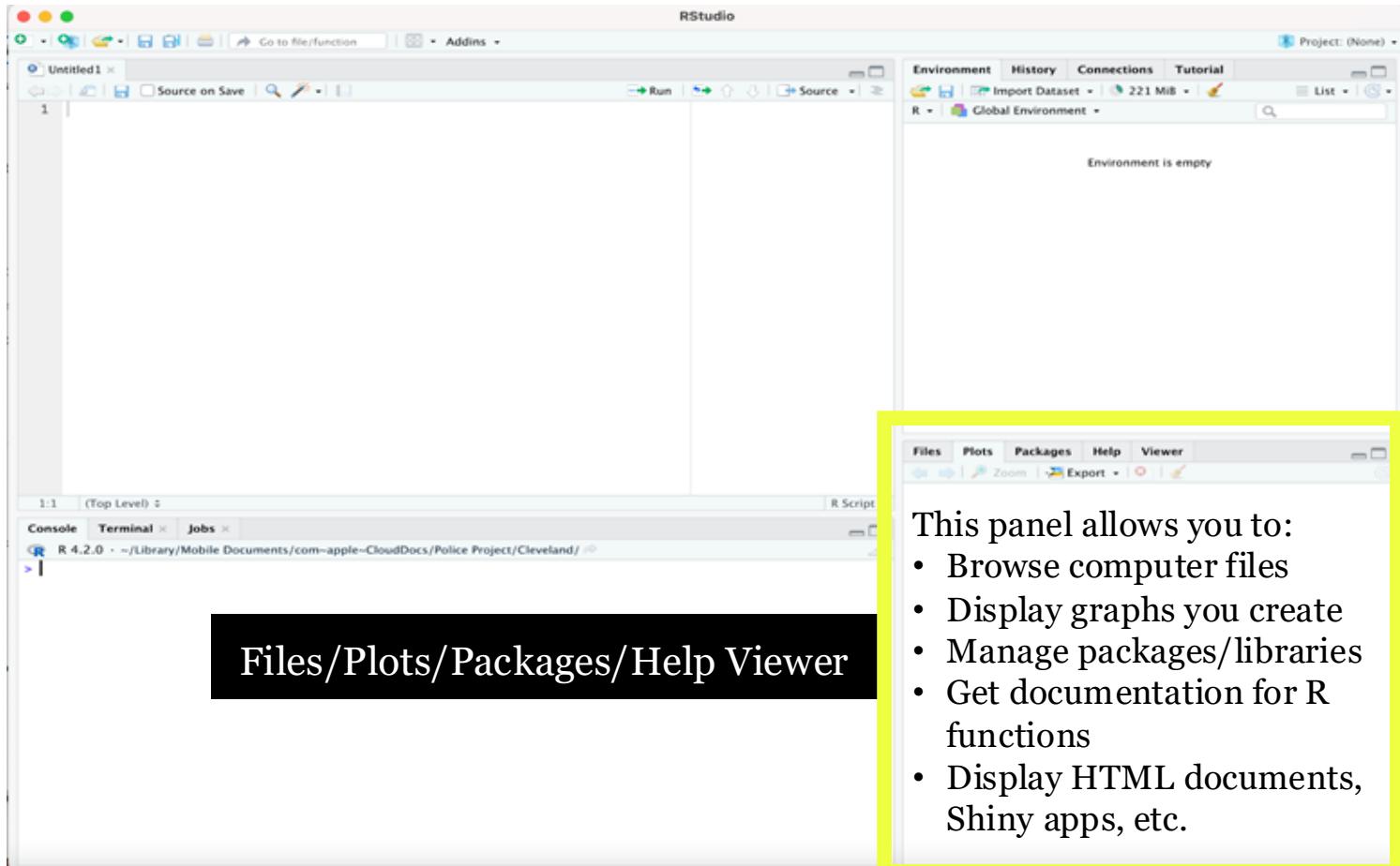
Environment/History

A zoomed-in view of the RStudio Environment and History panels. The Environment panel shows a message 'Environment is empty'. The History panel is also empty. A green box highlights the tabs 'Environment' and 'History' at the top of the panel area. Below the tabs are buttons for 'Import Dataset', 'List', and search. The bottom of the panel has tabs for 'Files', 'Plots', 'Packages', 'Help', and 'Viewer'.

- *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

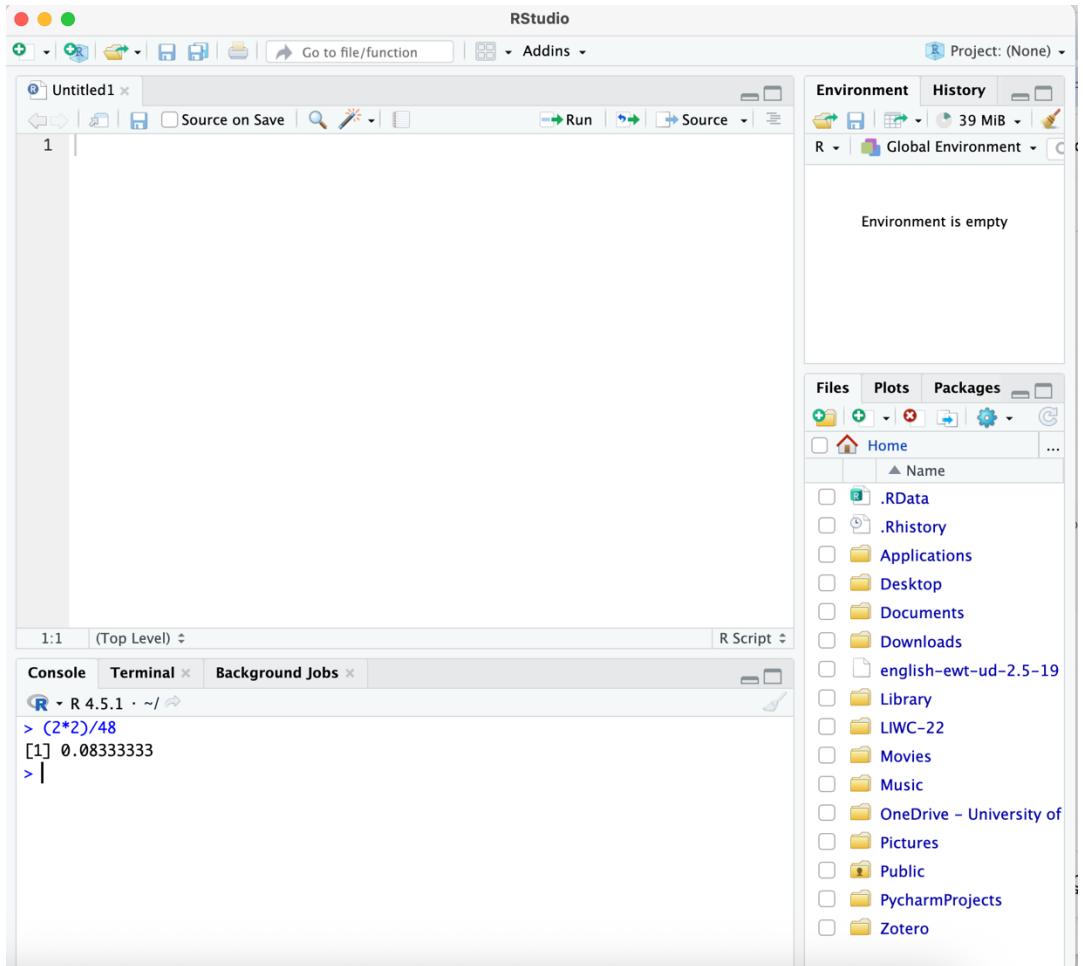
When you open RStudio, you'll see four main panels. Each serves a different purpose.



- 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:



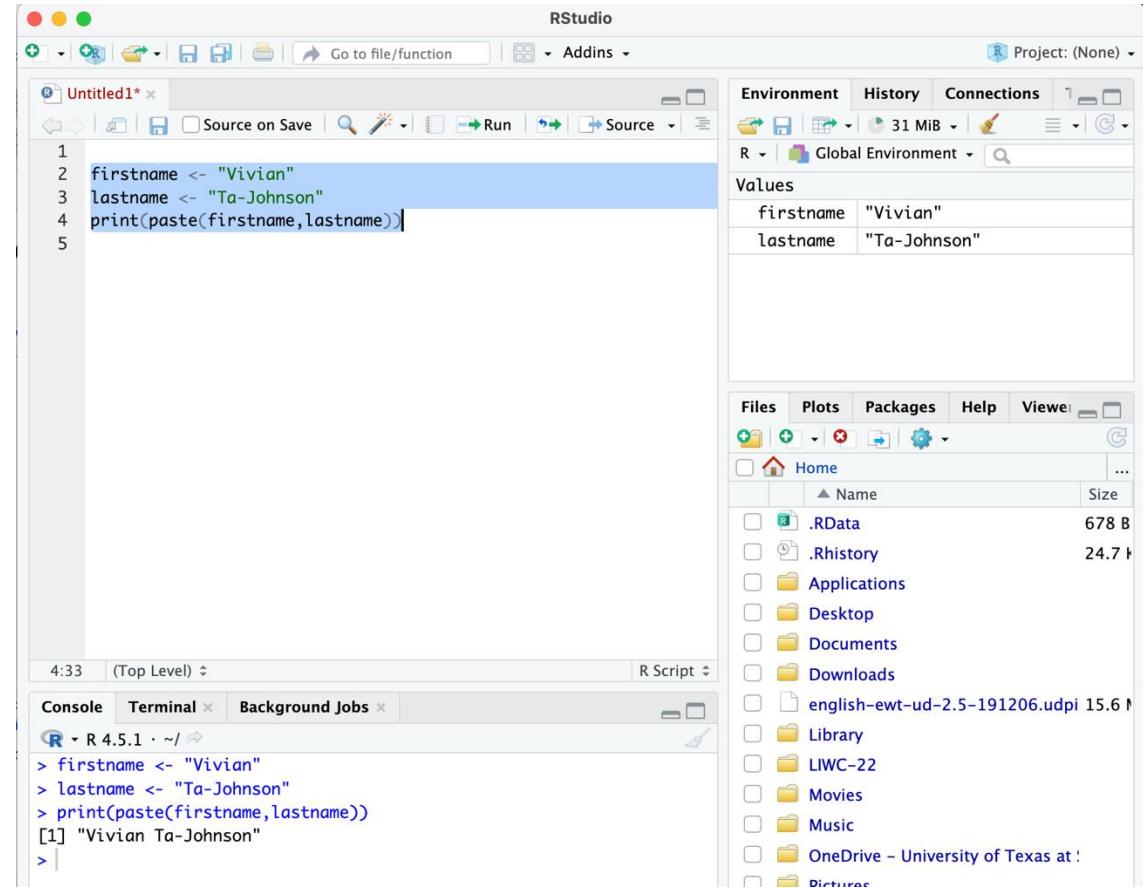
A. In the Console

- 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. The code editor window titled "Untitled1" contains the following R code:

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

The "Console" tab at the bottom shows the output of running the code:

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

The "Files" panel on the right shows the current directory structure:

Name	Size
.RData	678 B
.Rhistory	24.7 B
Applications	
Desktop	
Documents	
Downloads	
english-ewt-ud-2.5-191206.udpi	15.6 M
Library	
LIWC-22	
Movies	
Music	
OneDrive – University of Texas at	
Pictures	

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

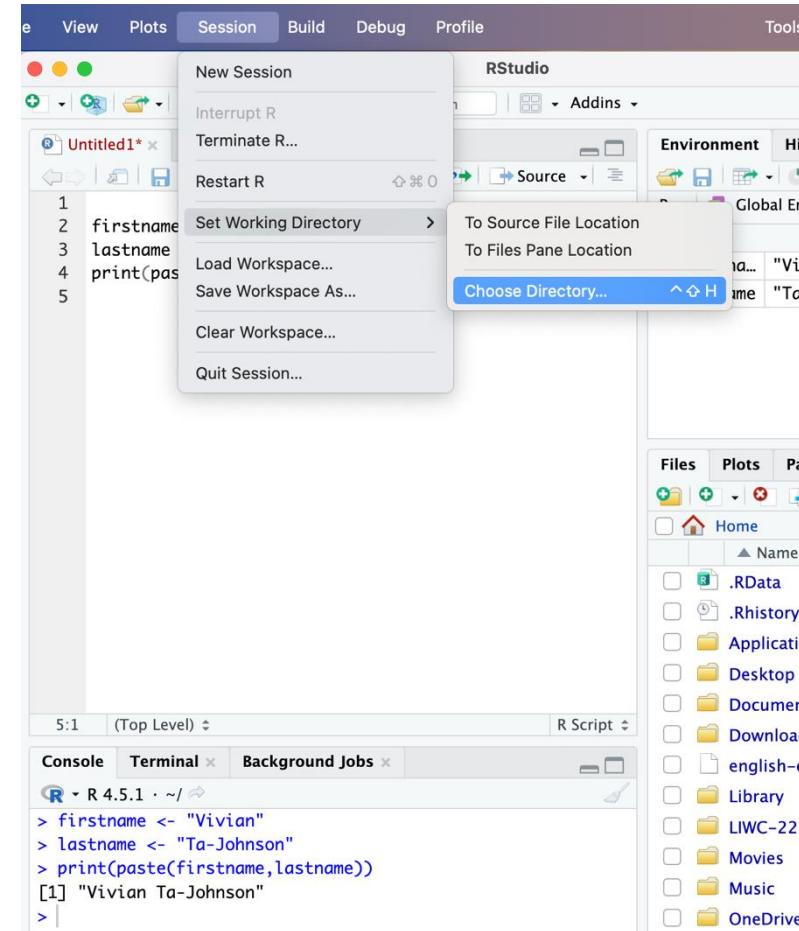
3. Setting Your Working Directory

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" with the following code:

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

The bottom panel shows the R Console with the following output:

```
9:83 (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")
> |
```

3. Setting Your Working Directory

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

The screenshot shows the RStudio interface. The top part is the script editor titled "Untitled1*". It contains 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 part is the "Console" tab, which shows the output of the `getwd()` command:

```
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 output line "[1] "/Users/vivianta/Library/Mobile Documents/com~apple~CloudDocs/R/r_practice"".

This prints the path to
your current wd.

4. Loading Data

Let's load a CSV file named exampledata.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("exampledata.csv")
```

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



The screenshot shows the RStudio interface. In the top-left, there is a script editor window titled "Untitled1" containing 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
13  data <- read.csv("exampledata.csv")
14
15
```

In the bottom-left, the "Console" tab shows the command `> data <- read.csv("exampledata.csv")` being run. To the right of the console are the "Plots", "Packages", "Help", "Viewer", and "Project" tabs. The "Environment" pane on the right displays the variable "data" with 8 observations and 3 variables, showing the values for "firstname" and "lastname". A yellow box highlights the "Environment" pane.

The screenshot shows the RStudio interface with the "Environment" pane highlighted. The variable "data" is listed as a data frame with 8 observations and 3 variables. Below the variable name, the "Values" section shows the contents of the data frame:

	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 IDE interface. The code editor window (top left) contains the following R code:

```
1
2 install.packages("tidyverse")
3
4
5
```

The environment pane (top right) shows the global environment with the following objects:

data	8 obs. of 3
firstname	"Vivian"
lastname	"Ta-Johnson"

The file browser (bottom right) shows the following directory structure:

- .RData
- .Rhistory
- Applications
- Desktop
- Documents
- Downloads
- english-ewt-ud-2
- Library
- LIWC-22
- Movies
- Music
- OneDrive – Univers
- Pictures
- Public
- PycharmProjects
- Zotero

The console window (bottom) displays the output of the package installation command:

```
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'

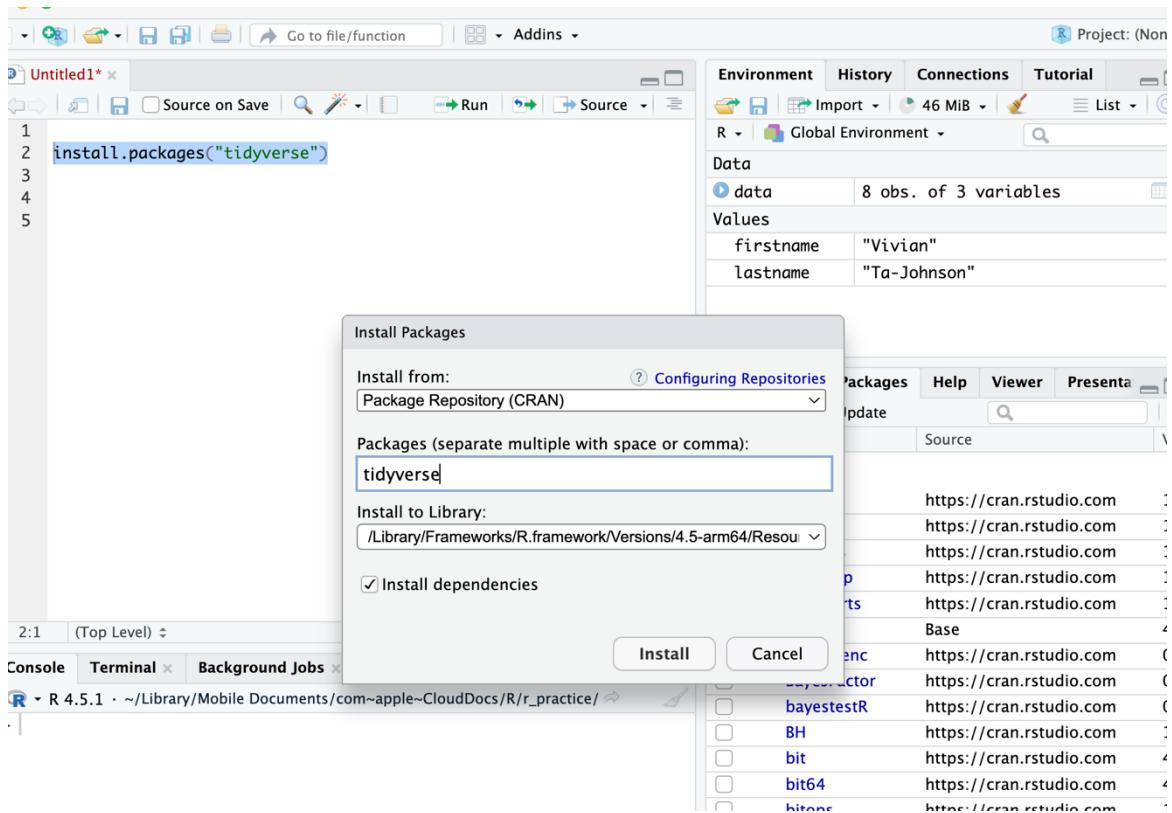
The downloaded binary packages are in
/var/folders/jg/7d6k6kdd5bz9h97kjhzlpq80000gn/T//Rtm
pHgk9Q/downloaded_packages
>
```

5. Installing and Loading Packages

B. Via menu

In the packages panel, click:

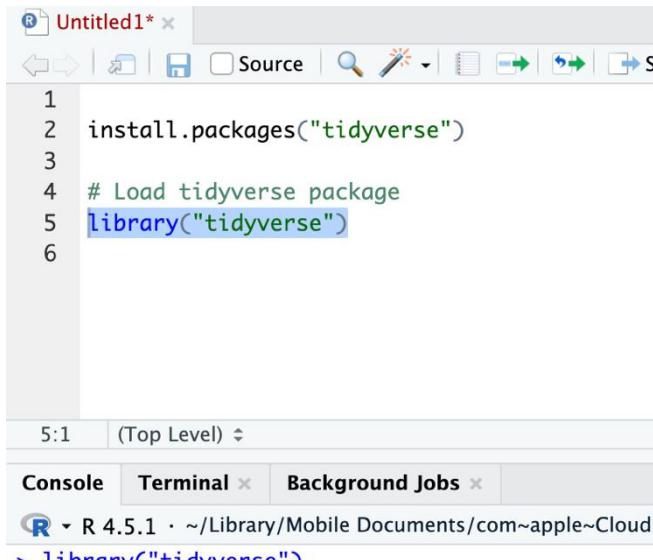
**Packages → Install →
Type in name of package
in “Packages” → Install**



5. Installing and Loading Packages

After installation, you can load a package:

A. Via code using `library()`:



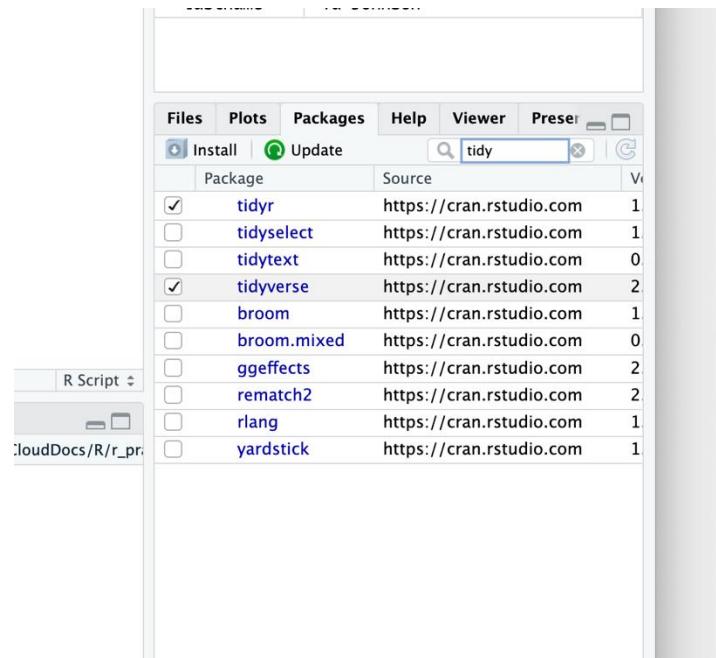
The screenshot shows an RStudio interface. In the top-left corner, there's a tab labeled "Untitled1*". Below the tabs are several icons: a left arrow, a right arrow, a file icon, a magnifying glass, a pencil, and a square icon. The main workspace contains the following R code:

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

At the bottom, there's a "Console" tab, a "Terminal" tab, and a "Background Jobs" tab. The console window shows the command "library("tidyverse")" being typed.

OR

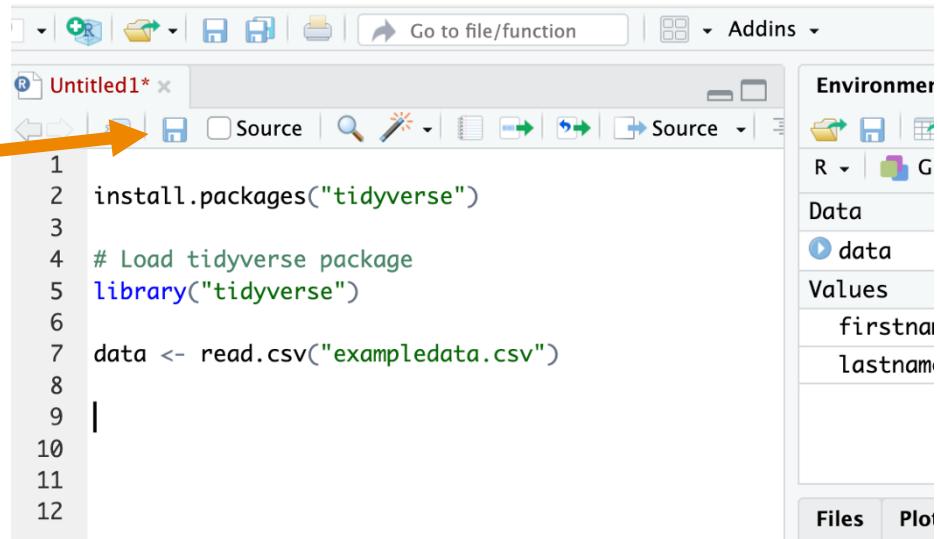
B. Via the Packages menu by selecting the package:



6. Saving Your Script

To save your script in your wd:

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



```
1 install.packages("tidyverse")
2
3
4 # Load tidyverse package
5 library("tidyverse")
6
7 data <- read.csv("exampledata.csv")
8
9
10
11
12
```

The screenshot shows the RStudio interface. On the left is the script editor with the code provided. On the right is the environment pane showing variables like 'data'. The toolbar at the top has a 'Save' icon highlighted by an orange arrow.