

# RStudio Cloud Tour

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Introduction to R



## Spaces

Your Workspace

Intro to Chromebook Data Science

New Space

## Info

Learn

Feedback and Questions

Terms and Conditions

## Your Projects

New Project



No Projects

## Options



Search Projects



## Sort Projects

 By name By date created

## Your Workspace

Welcome to your workspace in RStudio Cloud.

Keep in mind that work you do here can be viewed by all other RStudio Cloud users. Likewise, you can see and learn from the work other users create in their workspaces.

## Your Other Spaces

Intro to Chromebook Data Science

New Space

Spaces

Your Workspace

Intro to Chromebook Data Science

+ New Space

Info

Learn

Feedback and Questions

Terms and Conditions

File Edit Code View Plots Session Build Debug Profile Tools Help

Go to file/function Addins

R 3.4.4

Console Terminal

```
/cloud/project/ ↵  
R version 3.4.4 (2018-03-15) -- "Someone to Lean On"  
Copyright (C) 2018 The R Foundation for Statistical Computing  
Platform: x86_64-pc-linux-gnu (64-bit)
```

```
R is free software and comes with ABSOLUTELY NO WARRANTY.  
You are welcome to redistribute it under certain conditions.  
Type 'license()' or 'licence()' for distribution details.
```

```
R is a collaborative project with many contributors.  
Type 'contributors()' for more information and  
'citation()' on how to cite R or R packages in publications.
```

```
Type 'demo()' for some demos, 'help()' for on-line help, or  
'help.start()' for an HTML browser interface to help.  
Type 'q()' to quit R.
```

&gt;

Environment History Connections

Import Dataset

Global Environment

Environment is empty

Files Plots Packages Help Viewer

More

/ cloud &gt; project

Name	Size	Modified
..		
.Rhistory	0 B	May 14, 2018, 2:16 PM
project.Rproj	205 B	May 14, 2018, 2:16 PM

File Edit Code View Plots Session Build Debug Profile Tools Help

New File

Open File...

Recent Files

Import Dataset

Save

Save As...

Rename

Save All

Print...

Close

Close All

Close All Except Current

R Script

R Notebook

R Markdown...

Shiny Web App...

Text File

C++ File

Python File

R Sweave

R HTML

R Presentation

R Documentation

'?function()' for on-line help, or  
'help.start()' for an HTML browser interface to help.  
Type 'q()' to quit R.

>

File Edit Code View Plots Session Build Debug Profile Tools Help

Go to file/function

R 3.4.4

Untitled1 x

Source on Save |

Run

Source

1

1:1 (Top Level) R Script

Console Terminal

/cloud/project/ ↗

R is free software and comes with ABSOLUTELY NO WARRANTY.  
You are welcome to redistribute it under certain conditions.  
Type 'license()' or 'licence()' for distribution details.

R is a collaborative project with many contributors.  
Type 'contributors()' for more information and  
'citation()' on how to cite R or R packages in publications.

Type 'demo()' for some demos, 'help()' for on-line help, or  
'help.start()' for an HTML browser interface to help.  
Type 'q()' to quit R.

>

Environment History Connections

Import Dataset

Global Environment

List

Environment is empty

Files Plots Packages Help Viewer

New Folder Upload Delete Rename More

cloud > project

Name	Size	Modified
..		
.Rhistory	0 B	May 14, 2018, 2:16 PM
project.Rproj	205 B	May 14, 2018, 2:16 PM

Source

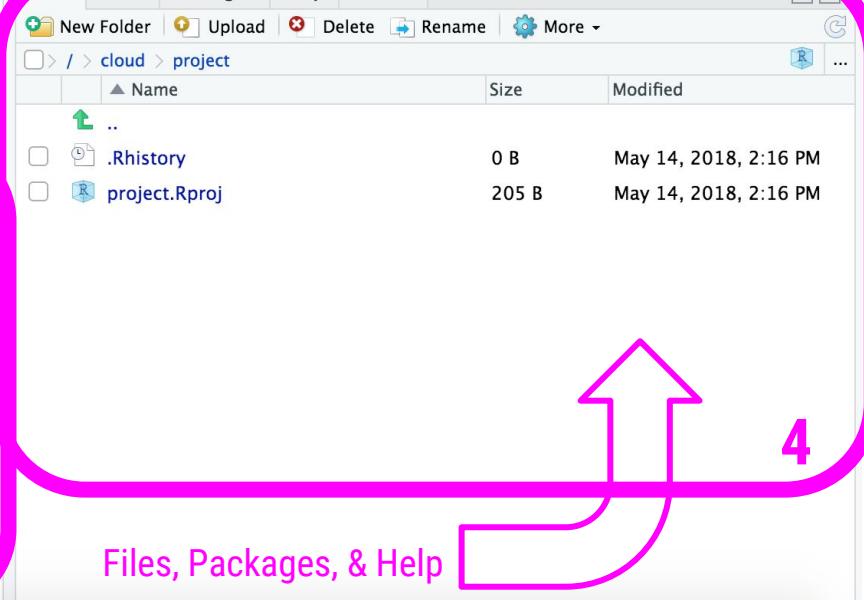
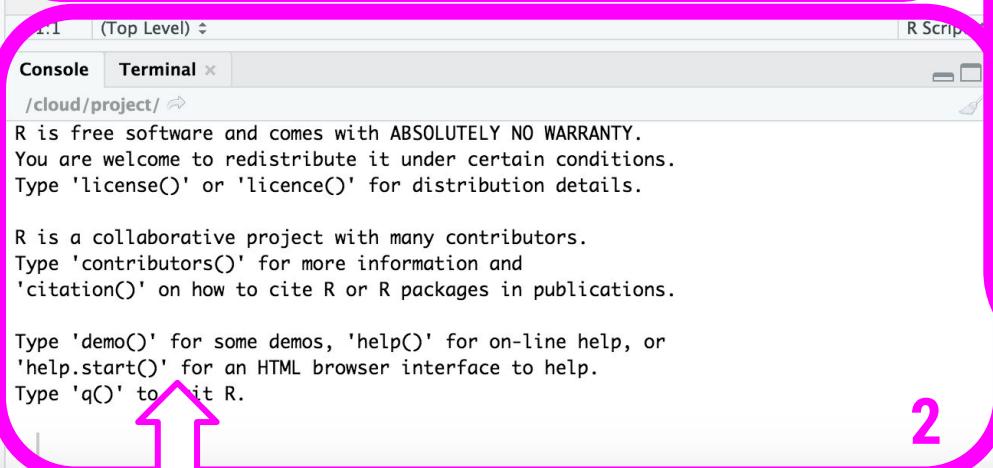
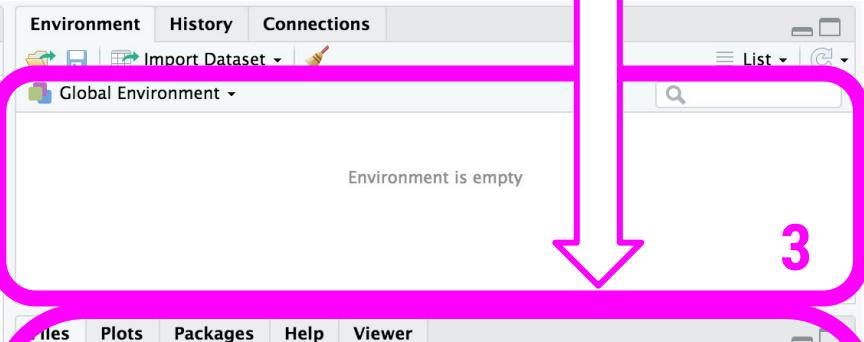
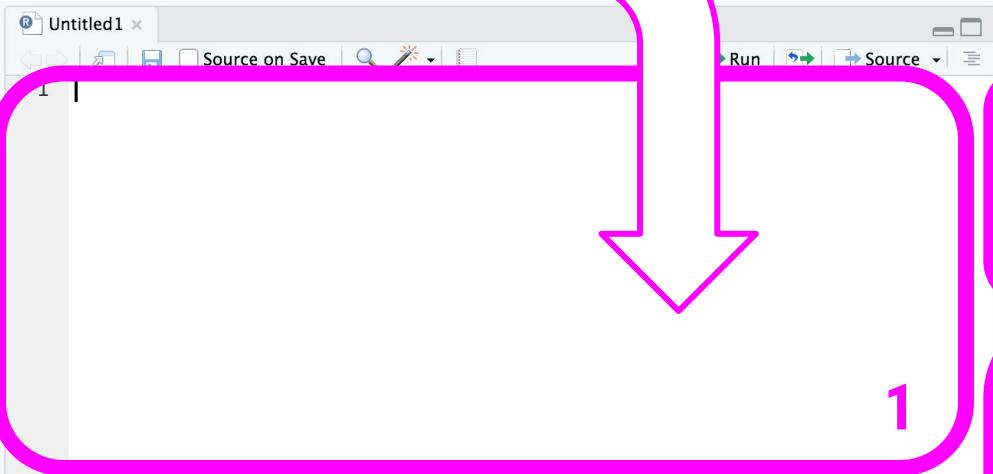
Environment

1

3

4

Console



File Edit Code View Plots Session Build Debug Profile Tools Help



New file



Open file



Go to file/function



Change panel  
organization

Addins



Untitled1



Source on Save



Source

Save file

Run the code  
you've  
written

**File**

Edit

Code

View

Plots

S

New File

 Open File... ⌘O

Reopen with Encoding...

Recent Files

Import Dataset

 Save ⌘S

Save As...

Rename

Save with Encoding...

 Save All ⌘⌥S

 Knit Document ⌘K

 Compile Report...

 Print...

Close ⌘W

Close All ⌘W

Close All Except Current ⌘⌃W

File Edit Code View Plots Session Build Debug Profile Tools Help



R Untitled1 ×

← → | ↗ ↘ | ↕ |  Source on Save

1

-  Interrupt R
-  Terminate R...
-  Restart R ⌘F10
-  Set Working Directory ►
-  Load Workspace...
-  Save Workspace As...
-  Clear Workspace...

Run | Source |

1:1 (Top Level) ▾

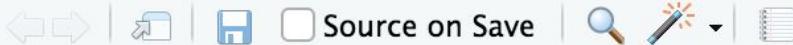
R Script ▾

File Edit Code View Plots Session Build Debug Profile

Tools Help



R Untitled1 x



1

1:1 (Top Level) ▾

R Script ▾

Install Packages...

Check for Package Updates...

Version Control

Shell...

Terminal

Addins

Keyboard Shortcuts Help ⌘K

Modify Keyboard Shortcuts...

Project Options... ⌘,

Global Options... ⌘,

Console

Terminal x

/cloud/project/ ↵

> 1+1

[1] 2

> |

File Edit Code View Plots Session Build Debug Profile Tools Help

+ ↻ ⌂ ↻ Go to file/function

R 3.4.4

R Untitled1\*

Source on Save



1 example <- matrix(c(1, 2, 3, 4, 5, 6, 7, 8), nrow=4, ncol=2)



1:61 (Top Level) R Script

Console Terminal

/cloud/project/ ↻

>

Environment History Connections



Global Environment



Environment is empty

Files Plots Packages Help Viewer



New Folder



Upload



Delete



Rename



More



..

.Rhistory

0 B

May 14, 2018, 2:16 PM

project.Rproj

205 B

May 14, 2018, 2:16 PM



R Untitled1\* x

Source on Save | Run | Source |

```
1 example <- matrix(c(1, 2, 3, 4, 5, 6, 7, 8), nrow=4, ncol=2)
2
```

2:1 (Top Level) ▾ R Script ▾

Console Terminal x

/cloud/project/ ↵

```
> example <- matrix(c(1, 2, 3, 4, 5, 6, 7, 8), nrow=4, ncol=2)
> |
```

Environment History Connections

Import Dataset | Global Environment |

Data

example num [1:4, 1:2] 1 2 3 4 5 6 7 8

Files Plots Packages Help Viewer

New Folder Upload Delete Rename More

/ cloud project

	Name	Size	Modified
..			
	.Rhistory	0 B	May 14, 2018, 2:16 PM
	project.Rproj	205 B	May 14, 2018, 2:16 PM

File Edit Code View Plots Session Build Debug Profile Tools Help

+ Go to file/function

R 3.4.4 ▾

Untitled1\* example

Filter

V1	V2	
1	1	5
2	2	6
3	3	7
4	4	8

Showing 1 to 4 of 4 entries

Console Terminal

/cloud/project/ ↵

```
> example <- matrix(c(1, 2, 3, 4, 5, 6, 7, 8), nrow=4, ncol=2)
> View(example)
> |
```

Environment History Connections

Import Dataset

Global Environment

Data

example num [1:4, 1:2] 1 2 3 4 5 6 7 8

Files Plots Packages Help Viewer

New Folder Upload Delete Rename More

cloud project

	Name	Size	Modified
..			
	.Rhistory	0 B	May 14, 2018, 2:16 PM
	project.Rproj	205 B	May 14, 2018, 2:16 PM

Untitled1\* example

Filter

	V1	V2
1	1	5
2	2	6
3	3	7
4	4	8

Showing 1 to 4 of 4 entries

Console Terminal

/cloud/project/ ↗

```
> example <- matrix(c(1, 2, 3, 4, 5, 6, 7, 8), nrow=4, ncol=2)
> View(example)
> |
```

Environment History Connections

To Console To Source

1+1

```
example <- matrix(c(1, 2, 3, 4, 5, 6, 7, 8), nrow=4, ncol=2)
View(example)
```

Files Plots Packages Help Viewer

File Edit Code View Plots Session Build Debug Profile Tools Help

+ Go to file/function

R 3.4.4

Untitled1\* example

```
1 example <- matrix(c(1, 2, 3, 4, 5, 6, 7, 8), nrow=4, ncol=2)
2
```

Environment History Connections

To Console To Source

1+1 example <- matrix(c(1, 2, 3, 4, 5, 6, 7, 8), nrow=4, ncol=2)

View(example)

2:1 (Top Level) R Script

Console Terminal

/cloud/project/

>

Files Plots Packages Help Viewer

File Edit Code View Plots Session Build Debug Profile Tools Help

Go to file/function

R 3.4.4

Untitled1\* example

```
1 example <- matrix(c(1, 2, 3, 4, 5, 6, 7, 8), nrow=4, ncol=2)
2 View(example)
```

Environment History Connections

To Console To Source

1+1

```
example <- matrix(c(1, 2, 3, 4, 5, 6, 7, 8), nrow=4, ncol=2)
```

```
View(example)
```

3:1 (Top Level) R Script

Console Terminal

/cloud/project/

>

Files Plots Packages Help Viewer

File Edit Code View Plots Session Build Debug Profile Tools Help

Go to file/function

R 3.4.4

Untitled1\* example

```
1 example <- matrix(c(1, 2, 3, 4, 5, 6, 7, 8), nrow=4, ncol=2)
2 View(example)
3
```

3:1 (Top Level) R Script

Console Terminal

/cloud/project/

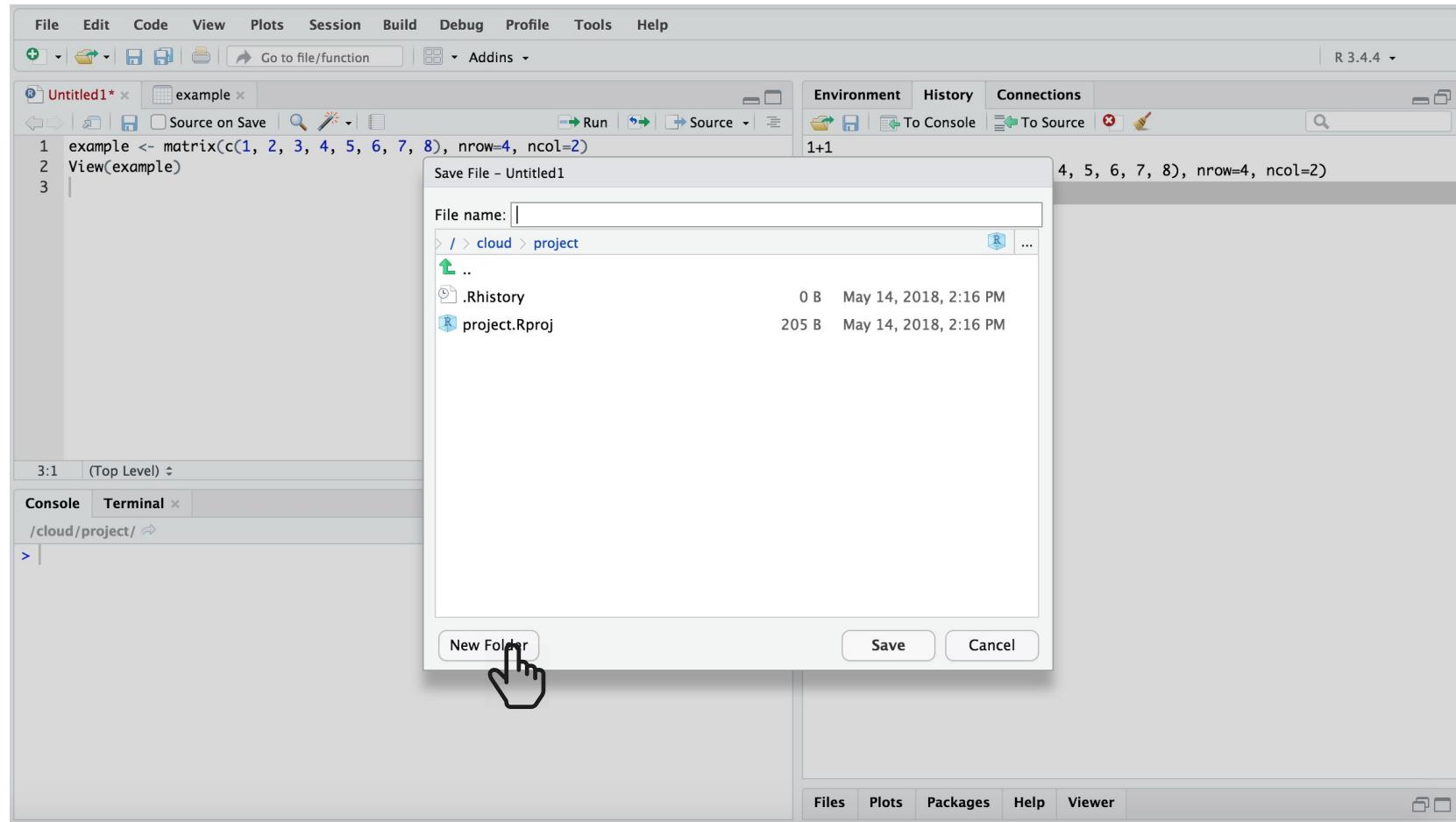
>

Environment History Connections

To Console To Source

```
1+1
example <- matrix(c(1, 2, 3, 4, 5, 6, 7, 8), nrow=4, ncol=2)
View(example)
```

Files Plots Packages Help Viewer



## Save File – Untitled1

File name:

> / > cloud > project



...



..  
.Rhistory

0 B May 14, 2018, 2:16 PM

project.Rproj

205 B May 14, 2018, 2:16 PM

New Folder

Folder name

|

OK

Cancel

New Folder

Save

Cancel

## Save File – Untitled1

File name:

> / > cloud > project



...



..

.Rhistory

0 B May 14, 2018, 2:16 PM

project.Rproj

205 B May 14. 2018, 2:16 PM

New Folder

Folder name

code

OK



Cancel

New Folder

Save

Cancel

## Save File - Untitled1

File name:

> / > cloud > project > code



...



..

### New Folder

Folder name

raw\_code

OK

Cancel



New Folder

Save

Cancel

## Save File – Untitled1

File name: R\_basics.R

> / > cloud > project > code > raw\_code



...



..

New Folder

Save

Cancel



File Edit Code View Plots Session Build Debug Profile Tools Help

+ Go to file/function

R 3.4.4

R\_basics.R

example

```
1 example <- matrix(c(1, 2, 3, 4, 5, 6, 7, 8), nrow=4, ncol=2)
2 View(example)
3
```

3:1 (Top Level) R Script

Console

Terminal /cloud/project/

>

Environment History Connections

Import Dataset

Global Environment

Data

example num [1:4, 1:2] 1 2 3 4 5 6 7 8

Files

Plots

Packages

Help

Viewer

R\_basics.R

example

```
1 example <- matrix(c(1, 2, 3, 4, 5, 6, 7, 8), nrow=4, ncol=2)
2 View(example)
3
```

3:1 (Top Level) R Script

Console Terminal

/cloud/project/

&gt;

Environment History Connections

Import Dataset

Global Environment

Data

example num [1:4, 1:2] 1 2 3 4 5 6 7 8

Files Plots Packages Help Viewer

New Folder Upload Delete Rename More

/ cloud project

Name	Size	Modified
..	0 B	May 14, 2018, 2:16 PM
.Rhistory	205 B	May 14, 2018, 2:16 PM
project.Rproj		
code		



The screenshot shows the RStudio interface with several panes:

- Top Left:** A code editor with tabs for "R\_basics.R" and "example". The "example" tab is active, displaying the following R code:

```
1 example <- matrix(c(1, 2, 3, 4, 5, 6, 7, 8), nrow=4, ncol=2)
2 View(example)
3
```
- Top Right:** An "Environment" pane showing the "Global Environment" with a single entry: "example" of type "num" [1:4, 1:2] containing values 1, 2, 3, 4, 5, 6, 7, 8.
- Bottom Left:** A "Console" tab showing the path "/cloud/project/" and a prompt ">".
- Bottom Right:** A file browser pane titled "Files" with tabs for "Plots", "Packages", "Help", and "Viewer". It shows a directory structure under "/cloud/project/code":
  - .. (parent)
  - raw\_code (selected folder, highlighted with a pink box and a hand cursor icon)

R\_basics.R x example x

Source on Save | Run | Source | List | C |

```
1 example <- matrix(c(1, 2, 3, 4, 5, 6, 7, 8), nrow=4, ncol=2)
2 View(example)
3
```

3:1 (Top Level) R Script

Console Terminal x

/cloud/project/ ↗

>

Environment History Connections

Import Dataset | Global Environment | List | C |

Data

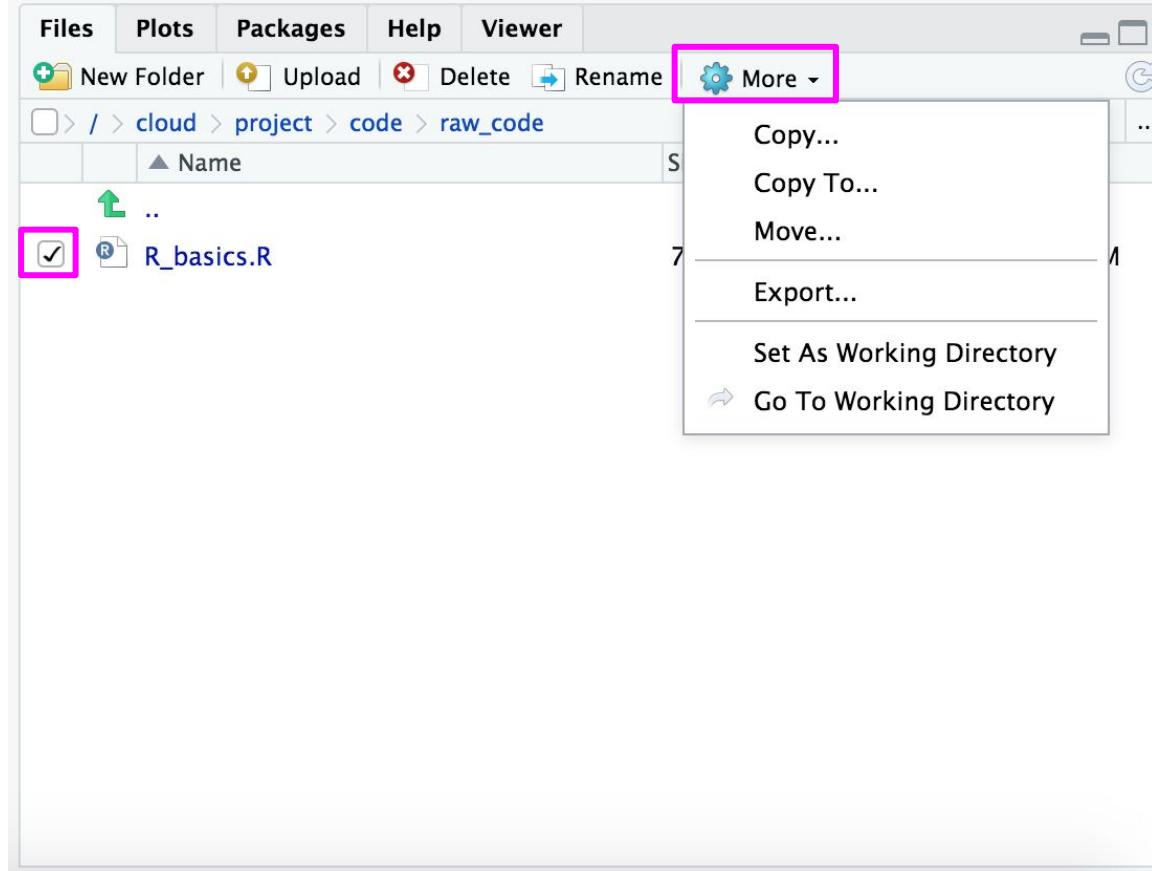
example	num [1:4, 1:2]	1 2 3 4 5 6 7 8
---------	----------------	-----------------

Files Plots Packages Help Viewer

New Folder Upload Delete Rename More

/ cloud project code raw\_code

Name	Size	Modified
..		
R_basics.R	75 B	May 14, 2018, 2:39 PM



R basics.R\* example

```
1 example <- matrix(c(1, 2, 3, 4, 5, 6, 7, 8), nrow=4, ncol=2)
2 View(example)
3
4 plot(wt ~ mpg, data=mtcars)
5
```

Running the code sends it to the console

Console Terminal /cloud/project/

```
> example <- matrix(c(1, 2, 3, 4, 5, 6, 7, 8), nrow=4, ncol=2)
> plot(wt ~ mpg, data=mtcars)
```

The plot() function generates a plot.

Environment History Connections

Import Dataset Global Environment

Data

example	num [1:4, 1:2] 1 2 3 4 5 6 7 8
---------	--------------------------------

Files Plots Packages Help Viewer

Zoom Export Publish

wt

mpg

R\_basics.R\* example

```
1 example <- matrix(c(1, 2, 3, 4, 5, 6, 7, 8), nrow=4, ncol=2)
2 View(example)
3
4 plot(wt ~ mpg, data=mtcars)
5
```

5:1 (Top Level) R Script

Console Terminal

```
/cloud/project/ 
> example <- matrix(c(1, 2, 3, 4, 5, 6, 7, 8), nrow=4, ncol=2)
> plot(wt ~ mpg, data=mtcars)
>
```

Environment History Connections

Files Plots Packages Help Viewer

Install Update Packrat

Name	Description	Version
<b>System Library</b>		
boot	Bootstrap Functions (Originally by Angelo Canty for S)	1.3-20
class	Functions for Classification	7.3-14
cluster	"Finding Groups in Data": Cluster Analysis Extended Rousseeuw et al.	2.0.6
codetools	Code Analysis Tools for R	0.2-15
compiler	The R Compiler Package	3.4.4
<input checked="" type="checkbox"/> datasets	The R Datasets Package	3.4.4
foreign	Read Data Stored by 'Minitab', 'S', 'SAS', 'SPSS', 'Stata', 'Systat', 'Weka', 'dBase', ...	0.8-69
<input checked="" type="checkbox"/> graphics	The R Graphics Package	3.4.4
<input checked="" type="checkbox"/> grDevices	The R Graphics Devices and Support for Colours and Fonts	3.4.4
grid	The Grid Graphics Package	3.4.4
KernSmooth	Functions for Kernel Smoothing Supporting Wand & Jones (1995)	2.23-15
lattice	Trellis Graphics for R	0.20-35
MASS	Support Functions and Datasets for Venables and Ripley's MASS	7.3-49
Matrix	Sparse and Dense Matrix Classes and Methods	1.2-12
<input checked="" type="checkbox"/> methods	Formal Methods and Classes	3.4.4
mgcv	Mixed GAM Computation Vehicle with Automatic Smoothness Estimation	1.8-23
nlme	Linear and Nonlinear Mixed Effects Models	3.1-131.1
nnet	Feed-Forward Neural Networks and Multinomial Log-Linear Models	7.3-12

The screenshot shows the RStudio IDE interface. In the top-left corner, there are two tabs: "R\_basics.R\*" and "example". Below the tabs, the main workspace displays the following R code:

```
1 example <- matrix(c(1, 2, 3, 4, 5, 6, 7, 8), nrow=4, ncol=2)
2 View(example)
3
4 plot(wt ~ mpg, data=mtcars)
5
```

Below the code editor, the status bar indicates "5:1 (Top Level) R Script".

In the bottom section, there are two tabs: "Console" and "Terminal". The "Console" tab is active, showing the following R session history:

```
/cloud/project/
> example <- matrix(c(1, 2, 3, 4, 5, 6, 7, 8), nrow=4, ncol=2)
> plot(wt ~ mpg, data=mtcars)
>
```

The screenshot shows the "Help" menu of RStudio expanded. A hand cursor is pointing at the "Help" tab in the top navigation bar. The "Help" menu contains several sections:

- R Resources**:
  - Learning R Online
  - CRAN Task Views
  - R on StackOverflow
  - Getting Help with R
- RStudio**:
  - RStudio IDE Support
  - RStudio Community Forum
  - RStudio Cheat Sheets
  - RStudio Tip of the Day
  - RStudio Packages
  - RStudio Products
- Manuals**:
  - An Introduction to R
  - Writing R Extensions
  - R Data Import/Export
- Reference**:
  - Packages
  - Search Engine & Keywords
- Miscellaneous Material**:
  - About R
  - Authors
  - FAQ
  - License
  - NEWS
  - User Manuals
  - Resources
  - Thanks
  - Technical papers



## Spaces

Your Workspace

CBDS Final Project

Chromebook Data Science

Data Visualization Project

Intro to Chromebook Data Science

Reports

New Space

## Learn

Guide

Primers

DataCamp Courses

Cheat Sheets

Feedback and Questions

## All Projects

New Project

## dataviz\_project

Shannon Ellis

Created Sep 5, 2018 10:41 AM

Copy

## data\_tidying\_project

Shannon Ellis

Created Sep 5, 2018 10:40 AM

Copy

## final\_project

Shannon Ellis

Created Sep 5, 2018 10:42 AM

Copy

## leanpub\_project

Shannon Ellis

Created Sep 5, 2018 11:08 AM

Copy

## swirl

Copy

## Options

## Search Projects

## List Projects

- All
- Shared with everyone
- Yours

## Sort Projects

- By name
- By date created

swirl



Created Sep 5, 2018 12:07 PM



Console

Terminal ×

Jobs ×



/cloud/project/ ↗



> swirl()

I Welcome to swirl! Please sign in. If you've been here before, use the  
I same name as you did then. If you are new, call yourself something  
I unique.

What shall I call you? Jane|

Console

Terminal ×

Jobs ×



/cloud/project/ ↗



I Thanks, Jane. Let's cover a couple of quick housekeeping items before we begin our first lesson. First of all, you should know that when you see '...', that means you should press Enter when you are done reading and ready to continue.

... <-- That's your cue to press Enter to continue

I Also, when you see 'ANSWER:', the R prompt (>), or when you are asked to select from a list, that means it's your turn to enter a response, then press Enter to continue.

Select 1, 2, or 3 and press Enter

1: Continue.

2: Proceed.

3: Let's get going!

Console

Terminal x

Jobs x



/cloud/project/ ↗

Select 1, 2, or 3 and press Enter

- 1: Continue.
- 2: Proceed.
- 3: Let's get going!

Selection: 2

| You can exit swirl and return to the R prompt (>) at any time by  
| pressing the Esc key. If you are already at the prompt, type bye() to  
| exit and save your progress. When you exit properly, you'll see a short  
| message letting you know you've done so.

| When you are at the R prompt (>):  
| -- Typing skip() allows you to skip the current question.  
| -- Typing play() lets you experiment with R on your own; swirl will  
| ignore what you do...  
| -- UNTIL you type nxt() which will regain swirl's attention.  
| -- Typing bye() causes swirl to exit. Your progress will be saved.  
| -- Typing main() returns you to swirl's main menu.  
| -- Typing info() displays these options again.

| Let's get started!

...

| Please choose a course, or type 0 to exit swirl.

- 1: CBDS Introduction to R
- 2: Take me to the swirl course repository!

Selection:





Studio Cloud

