

How to access Rstudio

Before you begin, you'll need access to the programme that runs the code used to create the workshop activities. This is available free online, or can be freely downloaded and installed on your own device.

I am providing instructions for how to access the online version only, but I will also include a link at the bottom of this document for how to download and install the full software.

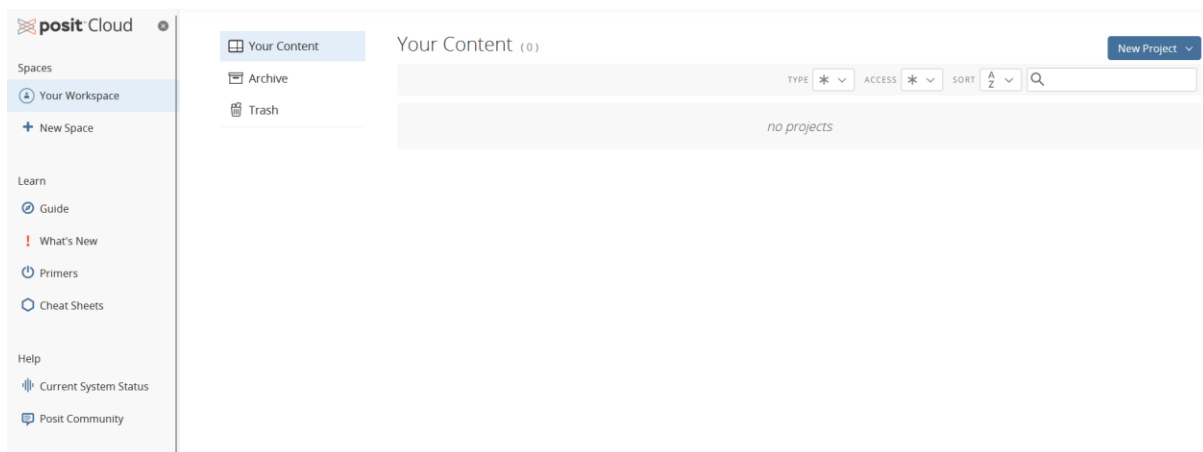
R is a lot of fun, so if you have a personal device (laptop or computer) that you have permission to install software on, I recommend it!

Accessing Rstudio online

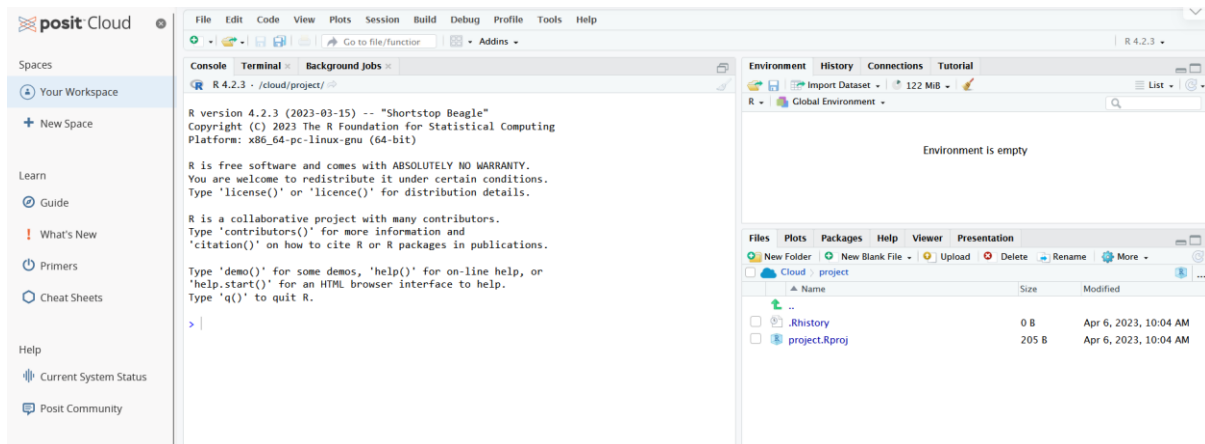
1. Go to <https://posit.cloud/plans/free>
2. Click 'Sign Up' and make a free account. Alternatively, sign up with an existing Google account.
3. Verify your email, then continue to log in.

How to run the activity code

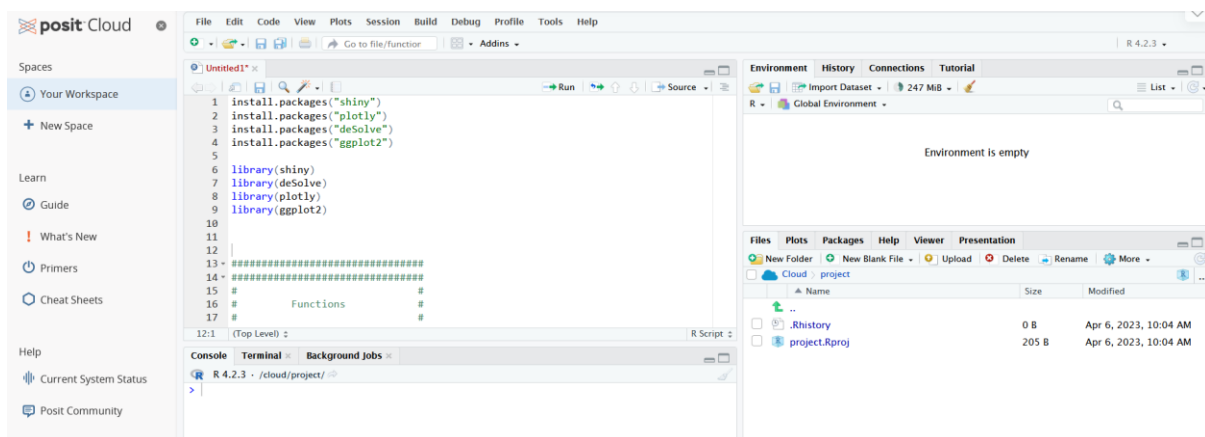
1. Download the two code activities ('Activity_Part_1.R', and 'Activity_Part_2.R').
2. Open the first activity in a plain text editor e.g., Notepad (Windows) or TextEdit (MacOS).
3. Log in to your free account. Your screen should now look like this:



- Click 'New Project' in the top right-hand corner and, select 'New Rstudio Project'. Your screen should now look like this:



- Click the two boxes that are in the top right-hand corner of the left-hand box. This will make a new box appear.
- Copy all of the text from the file you have open in your text editor, and paste it into this new top box. It should now look like this:



- Select all of the code (press ctrl+A), and press 'Run' at the top of this box. A popout will appear (this may take a minute the first time you run it).

/cloud/project - Shiny — Mozilla Firefox
 https://177fa912ad5a4daca1e1555bb11962c.app.posit.cloud/?view=shiny_foreground
 https://177fa912ad5a4daca1e1555bb11962c.app.posit.cloud/p/2d2bd058/ | Open in Browser | Publish

Part 1: Basic Outbreak Simulator

Simulating an outbreak

Explore the effects of changing different transmission parameters on the size and duration of the initial epidemic peak, as well as the equilibrium that the disease reaches in the population.

Basic reproduction number:
 0 5 10
 0 1 2 3 4 5 6 7 8 9 10

Immune period (Months):
 0 12 24
 0 3 6 9 12 15 18 21 24

Outbreak data

When an outbreak occurs, scientists collect samples and run tests to find out who has been infected. A serology test shows the presence of antibodies in individuals who have been infected and since recovered (R).

One year outbreak time series

Peak outbreak size = 49 %. Equilibrium % infected = 6 %.

Whilst playing around with the disease transmission parameters, consider the following questions:

8. Have fun with the app, and repeat steps 4-7 for the second activity.

Download/Install Rstudio

Follow the instructions in the following link to download and install R and Rstudio free software:

<https://rstudio-education.github.io/hopr/starting.html>