

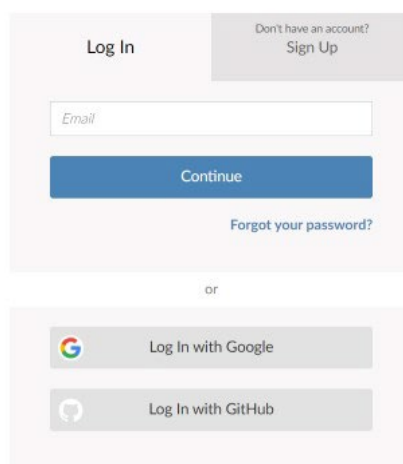
A short introduction to running R on the net (URL: posit.cloud).

R is a free software environment for statistical computing and graphics.

This document is a short introduction to executing and training in the drc package (Dose-Response Curve (DRC)) with pre-programmed R code on the internet. The URL: is

<https://posit.cloud/project/3498499>

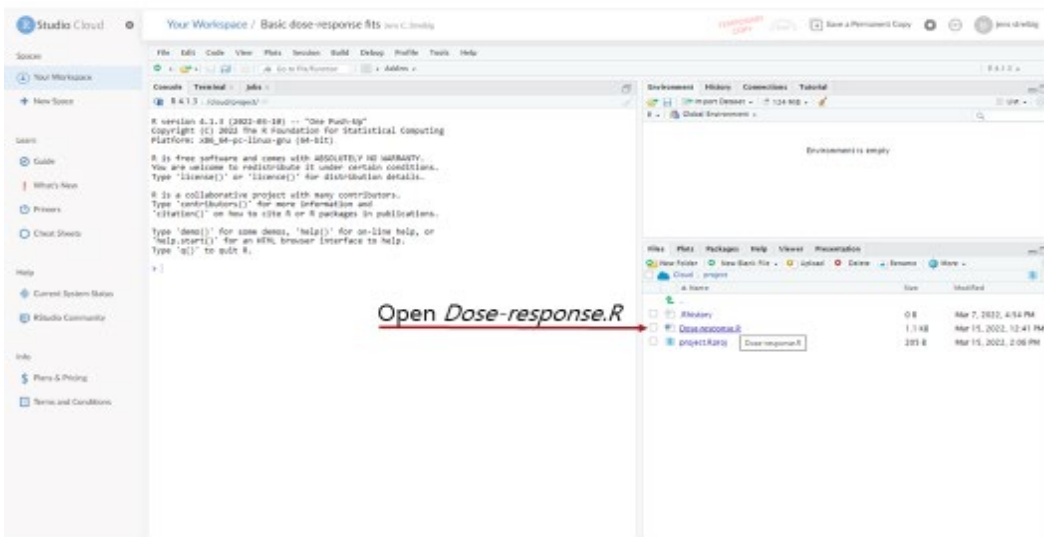
The following screen may pop up.



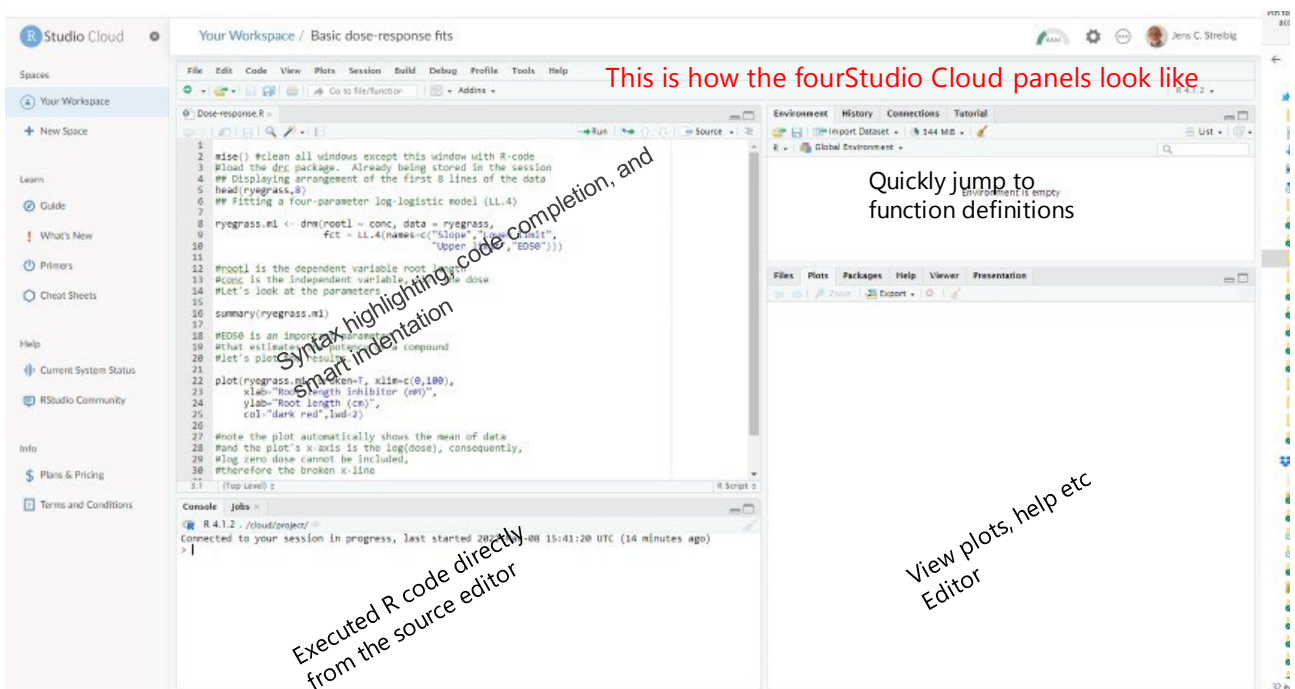
The screenshot shows a login and sign-up interface. At the top left is a "Log In" button, and at the top right is a "Sign Up" button with the text "Don't have an account?" above it. Below these is an input field labeled "Email". Underneath the input field is a blue "Continue" button. Below the "Continue" button is a link that says "Forgot your password?". In the center, the word "or" is displayed. Below "or" are two buttons: "Log In with Google" with the Google logo and "Log In with GitHub" with the GitHub logo.

You need to **Log in** (it is free) or **Sign up** (free too). You do not need to install any R programs on your PC, everything is readily available on the URL above with the project number.

After getting in you are in The Studio Cloud (former called RStudio) as shown below

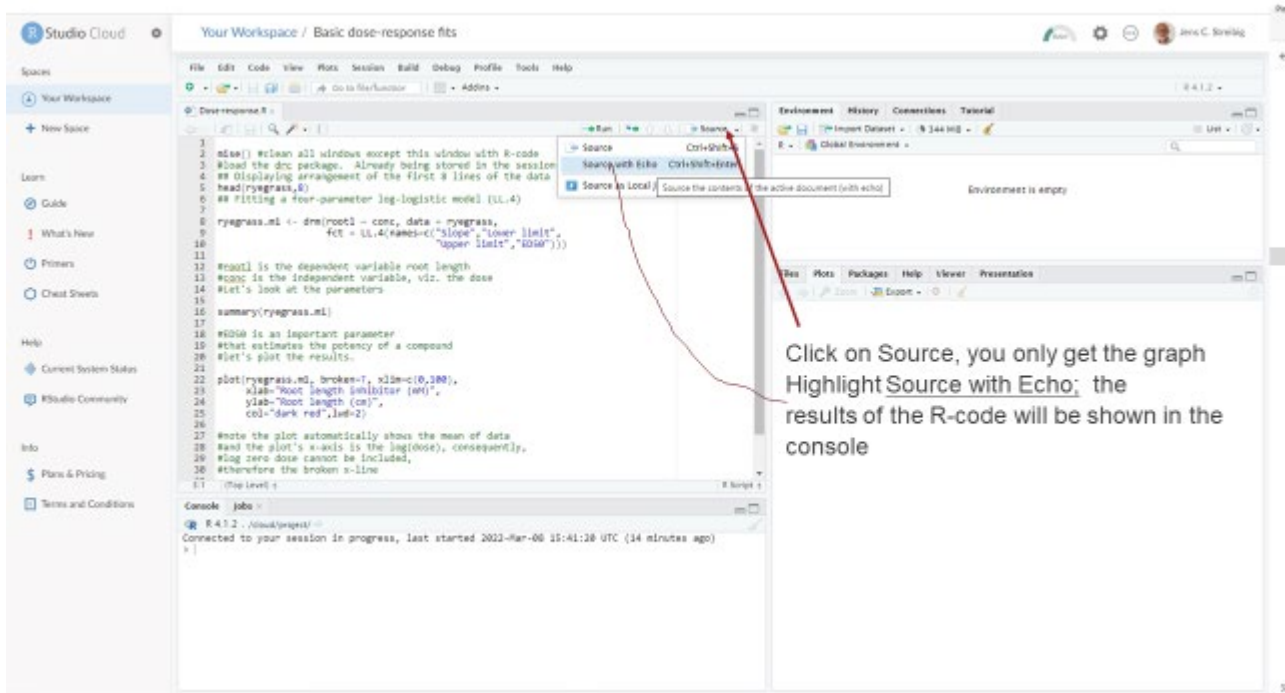


You open *Dose-response.R*, and then the next screen with the code pops up.



You see the four Studio Cloud panels. The first one contains the R-code for a single dose-response curve with data already in the system. See later how to upload new data.

To execute the R-code, you do as shown below.



And the results are now in the bottom left and right panels. Below you can see the parameters. ED50 describes the potency of the compound,

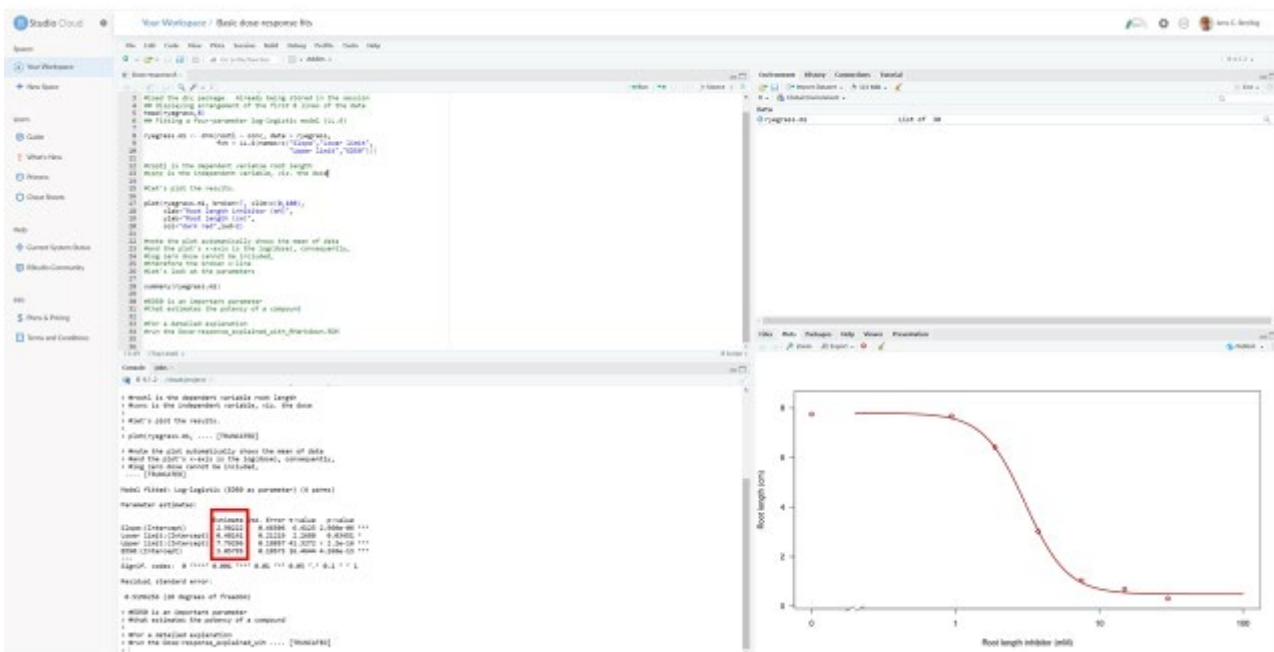
If not shown in the bottom left panel, you scroll down to see another important result the ED10, ED50, and ED90 with associated standard error and lower and upper confidence intervals,

Estimated effective doses

	Estimate	Std. Error	Lower	Upper
e:1:10	1.46371	0.18677	1.07411	1.85330
e:1:50	3.05795	0.18573	2.67053	3.44538
e:1:90	6.38864	0.84510	4.62580	8.15148

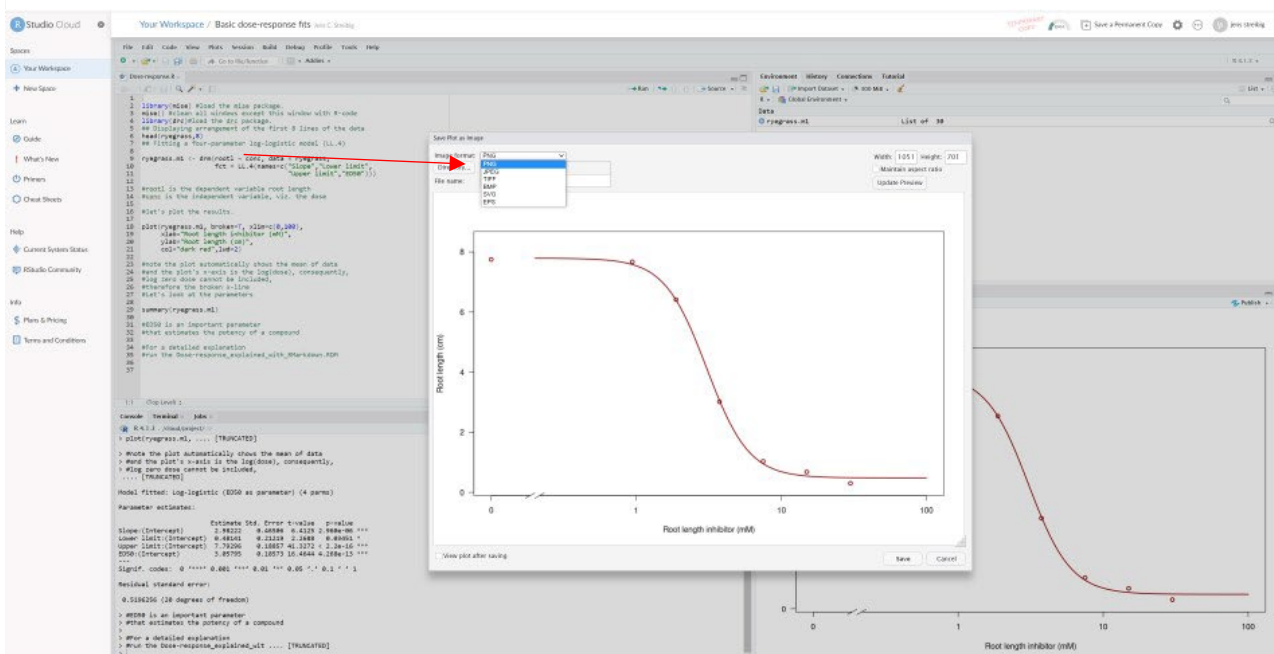
The graph to the right is the regression fit, and the points are mean responses per dose. To get more information on the regression parameters, consult the URL

<https://rstats4ag.org/dose-response-curves.html#one-dose-response-curve>

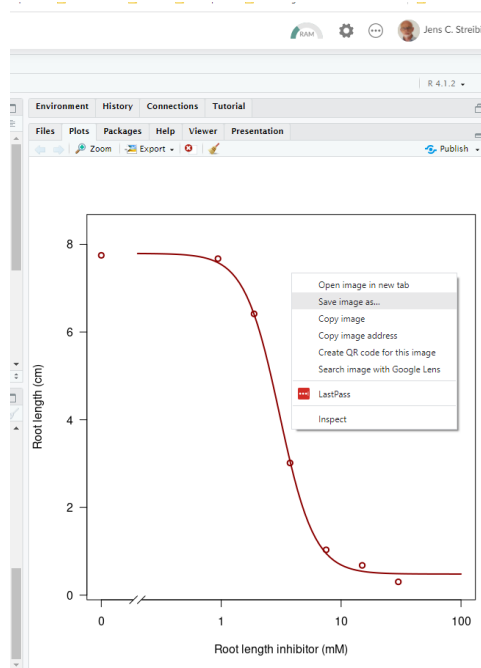


If you want to export the results, you can mark the console text (right bottom panel), copy it, and save it somewhere, and later insert it in your word processor.

The graph can be saved in different formats and names instead of the default "plot1" name.



After choosing the graph format, you probably want to export your graph to your PC. You right-click as seen below. Choose to save and give the graph a proper name.



If you want to know more about the use of dose-response curves, look at the URL <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0146021>

And perhaps the supplement

<https://doi.org/10.1371/journal.pone.0146021.s001>

If this demonstration has vetted your interest, you can learn to import data from your experiments.

“How to import data to the posit cloud, see URL.

<https://www.youtube.com/watch?v=FSiDrIOAjgo>

Kind regards and have fun!

Jens

In doubt, contact jcs@plen.ku.dk.