SOP 06: Introduction to Rstudio Server and Github

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1 Introduction

As students of the environment in this course, our ability to have substantive scienctific discourse rests upon our ability to draw meaningul conclusions from observations or data. In dealing with the problems of data, as in other sciences, we will utilize the language of statistics and mathematics to deal with the complexity of environmental issues. This enables us to rely on powerful statistical and computational tools that have been developed to deal with data - in particular open source software like R, Rstudio and Git.

Once you get the hang of using these programs, you will be equipped to do many kinds of interesting and powerful analyses. However, becoming facile in using these programs can feel a lot like learning how to walk. We need to approach this process in discrete steps. The following pages will explain more about what Rstudio and Github are, as well as guide you through an excercise that connects the functionality of both programs!

1.1 Purpose

This document is intended as a resource and guide to help you understand how to:

- Create projects in Rstudio and connect them with your peers so you can collaborate online using Github repositories.

- Troubleshoot when you run into problems "pushing", "pulling" and "merging" your work with your collaborators.

2 Background

2.1 What is R?

2.2 What is Git and Github?

2.3 Why does it matter? Collaboration

3 Connecting Rstudio and Github: The "Beginner's Luck" Excercise

Now that you know what Rstudio and Github are this excercise will guide you through the processes of connecting the two together. This process will require several steps in which you will have to go back and forth between Rstudio and Github.

Step 1: Sign into your Rstudio Server Account

Since we will be using the server version of Rstudio all you need to do is login to your Rstudio Account:
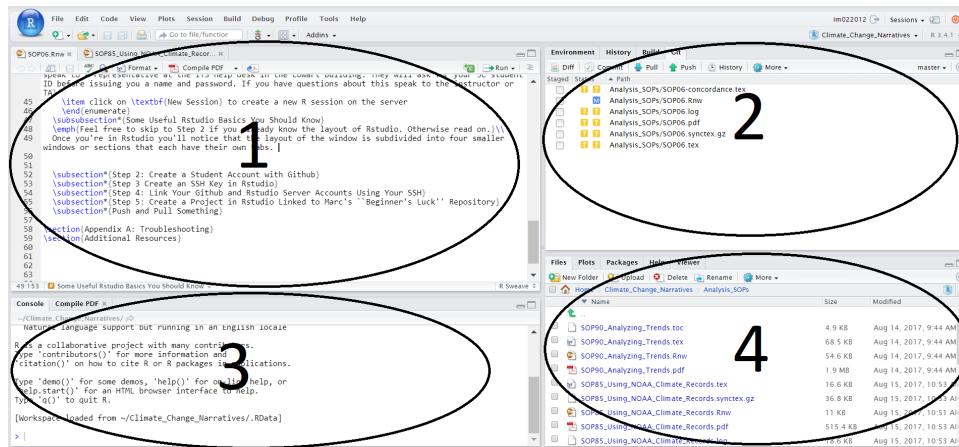
1. Using your computer's web browser go to `https://rstudio2.campus.pomona.edu` to access your Rstudio account

2. Login using your Pomona College user ID and password [1]

3. click on **New Session** to create a new R session on the server

Some Useful Rstudio Basics You Should Know

Feel free to skip to Step 2 if you already know the layout of Rstudio. Otherwise read on.
Once you're in Rstudio you'll notice that the layout of the window is subdivided into four smaller windows or sections that each have their own tabs.

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[1] Non-Pomona students must first speak to a representative at the ITS help desk in the Cowart Building. They will ask for your 5C student ID before issuing you a name and password. If you have questions about this speak to the instructor or TA

Step 2: Create a Student Account with Github

Step 3 Create an SSH Key in Rstudio

Step 4: Link Your Github and Rstudio Server Accounts Using Your SSH

Step 5: Create a Project in Rstudio Linked to Marc's "Beginner's Luck" Repository

Push and Pull Something

4 Appendix A: Troubleshooting

5 Additional Resources