# Week 4: Coding Workflows

SESSION 2: ALL THAT'S FIT TO GIT!

STARFISH SCHOOL 2021

# Markdown

# Getting down with Markdown

- Common, simple, structured way of writing in plain text files
- Easily interpretable, supports images, tables, links, code
- Natively supported in GitHub, and even Slack!

```
#Lorem ipsum

Lorem ipsum dolor sit amet, consectetur adipisicing elit, quis
**nostrud exercitation** ullamco laboris nisi ut aliquip ex ea
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*voluptate velit*.

###Code

```javascript
var foo = 'bar';
if(true) foo = 'foo';
```

###Tables

First Header | Second Header
------------ | -------------
Content from cell 1 | Content from cell 2
Content in the first column | Content in the second column

###Lists

- [x] @mentions, #refs, [links](), **formatting**, and <del>tags</
del> supported
- [x] list syntax required (any unordered or ordered list
supported)
- [x] this is a complete item
- [ ] this is an incomplete item
```

## Lorem ipsum

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ed)

## HOT TIP

Putting a “readme.md” file in the base level of your GitHub repository  makes the contents of that file appear when you look at the repository on the web

# Some Basic Markup

```
# This is a heading
## This is a smaller heading
### This is an even smaller heading

* This is list item 1. _I am underlined_
* This is list item 2. **I Can Be Bold**
* I want to put a [Link In
Here](http://www.link.com)

![Image](image.png)
```

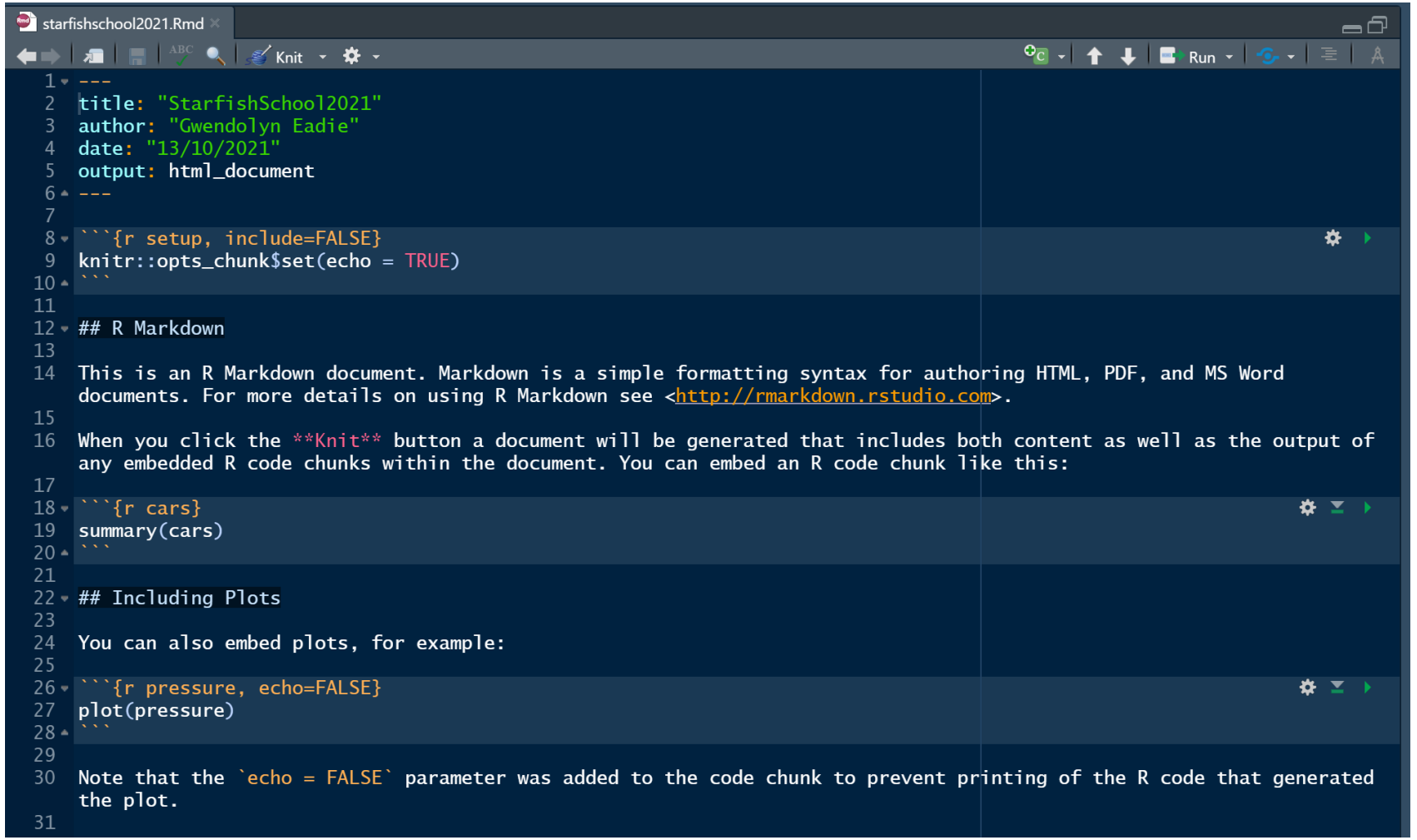
# A Little More Markup

```
> This is something that's in a quote


```
A little bit of code can go in here
```


# A Table
| Col 1 | Col2 | Col 3 |
| --- | --- | --- |
| a | b | c |
| a | b | c |
```

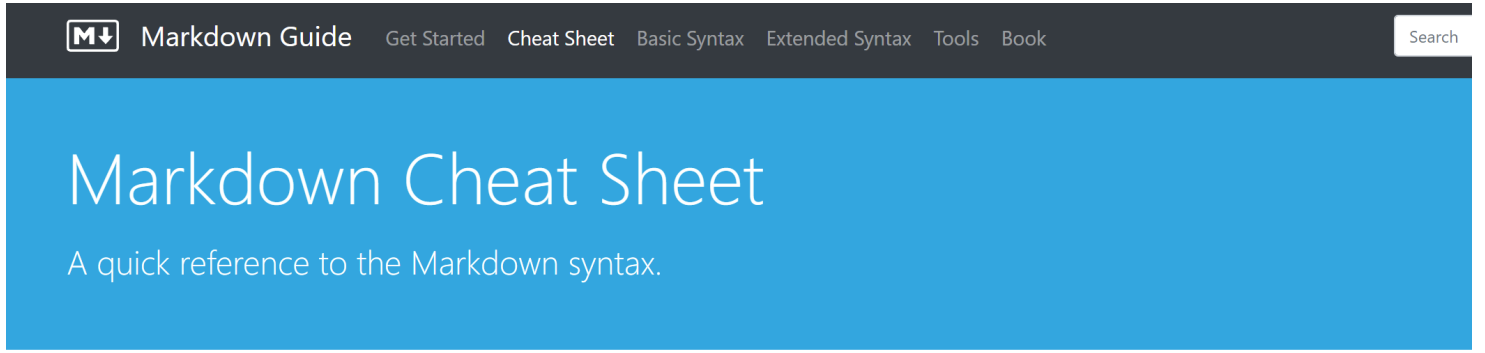
# R Markdown in R Studio




Demo Time!
R Markdown

# Cheat Sheets

[Markdown Cheat Sheet | Markdown Guide]



Markdown Guide Get Started Cheat Sheet Basic Syntax Extended Syntax Tools Book Search

# Markdown Cheat Sheet

A quick reference to the Markdown syntax.

## Overview

This Markdown cheat sheet provides a quick overview of all the Markdown syntax elements. It can't cover every edge case, so if you need more information about any of these elements, refer to the reference guides for basic syntax and extended syntax.

Overview
Basic Syntax
Extended Syntax
Downloads

## Basic Syntax

These are the elements outlined in John Gruber's original design document. All Markdown applications support these elements.

| Element | Markdown Syntax |
| --- | --- |
| Heading | `# H1`<br>`## H2`<br>`### H3` |
| Bold | `**bold text**` |
| Italic | `*italicized text*` |
| Blockquote | `> blockquote` |

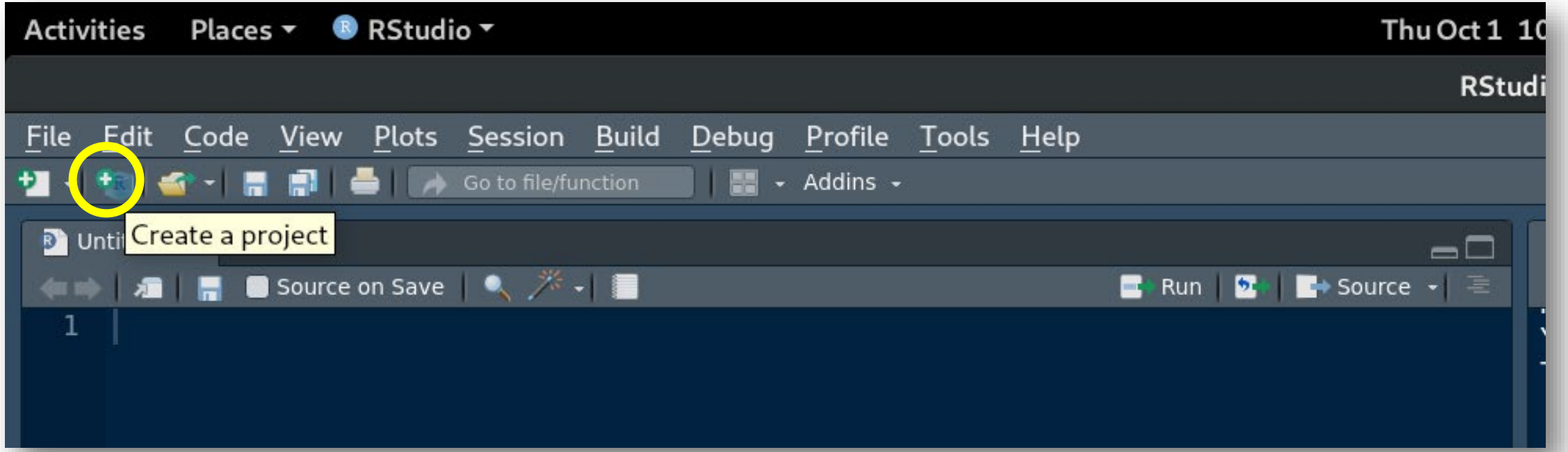
# Git and R

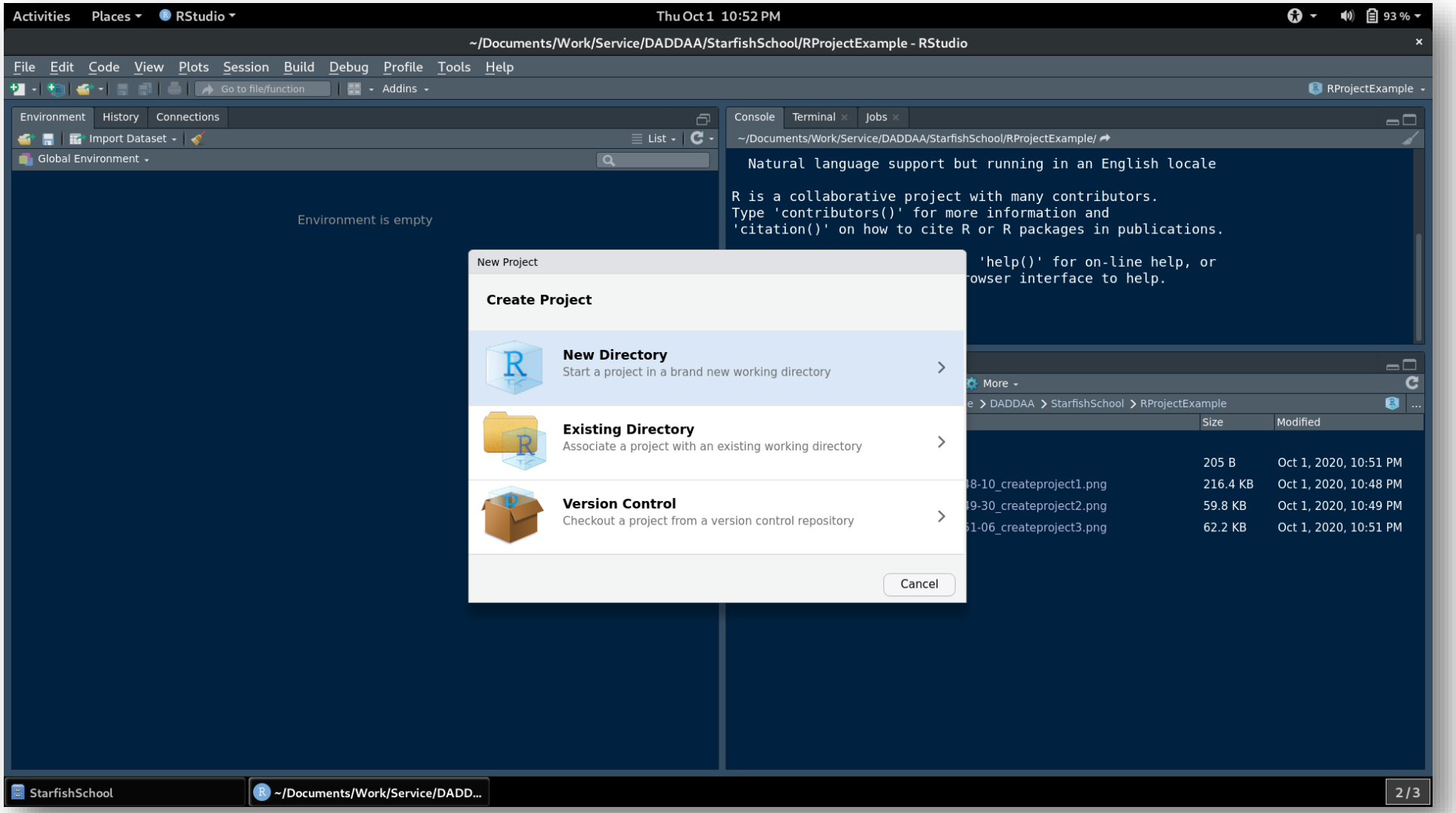
# RStudio, R Projects, and Git

- An R project is a great way to keep track of your R scripts and other files
- RProjects work with or without git, all within R Studio.
- When you open an R Project, it will open all the files you previously had open in RStudio (ie., it will pick up where you left off)
- The next few slides will show you how to set up a new project and initialize a git repository for that project

# RStudio, R Projects, and Git

- An R project is a great way to keep track of your rscripts and other files you want to version control.




Activities
Places
RStudio
Thu Oct 1 10:52 PM
93 %
~/Documents/Work/Service/DADDAA/StarfishSchool/RProjectExample - RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
Go to file/function
Addins
RProjectExample
Environment History Connections
Import Dataset
List
Global Environment
Environment is empty
Console Terminal Jobs
~/Documents/Work/Service/DADDAA/StarfishSchool/RProjectExample/
Natural language support but running in an English locale
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.
'help()' for on-line help, or
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New Project
Create Project
New Directory
Start a project in a brand new working directory
Existing Directory
Associate a project with an existing working directory
Version Control
Checkout a project from a version control repository
Cancel
More
DADDAA
StarfishSchool
RProjectExample
Size
Modified
205 B
Oct 1, 2020, 10:51 PM
8-10_createproject1.png
216.4 KB
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9-30_createproject2.png
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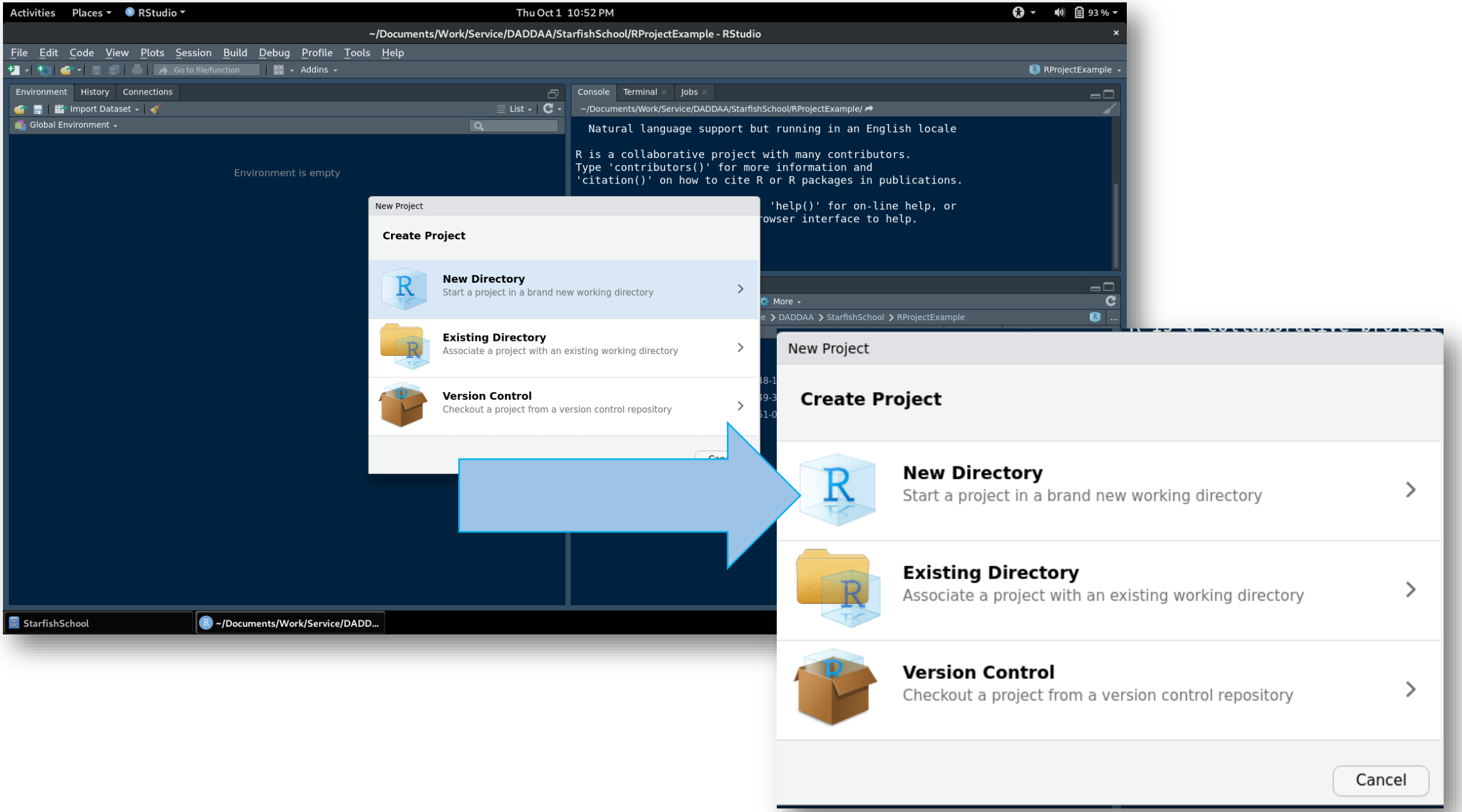
StarfishSchool
~/Documents/Work/Service/DADD...
2 / 3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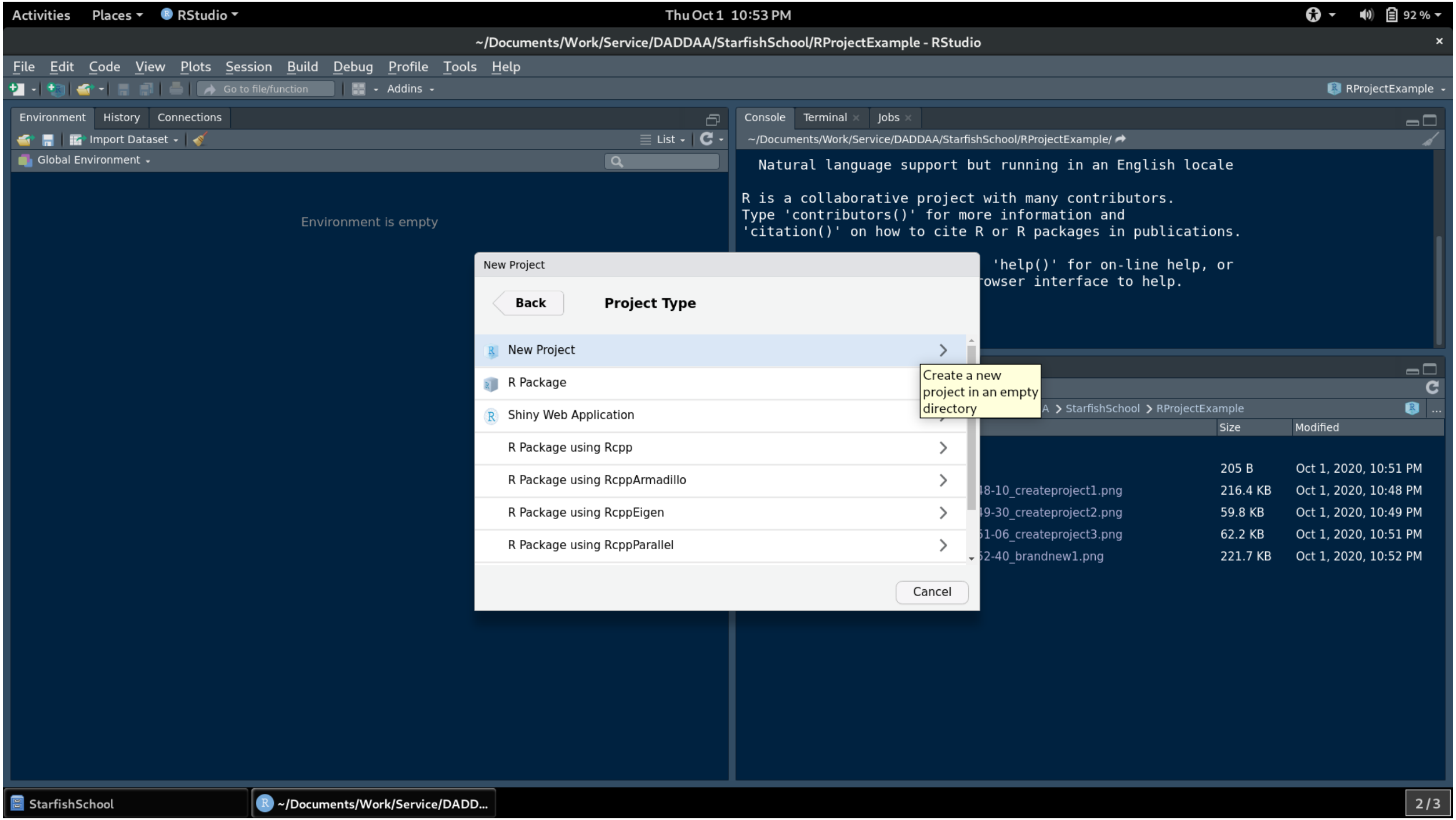
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Project Type
New Project
R Package
Shiny Web Application
R Package using Rcpp
R Package using RcppArmadillo
R Package using RcppEigen
R Package using RcppParallel
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A > StarfishSchool > RProjectExample
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205 B
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51-06_createproject3.png
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52-40_brandnew1.png
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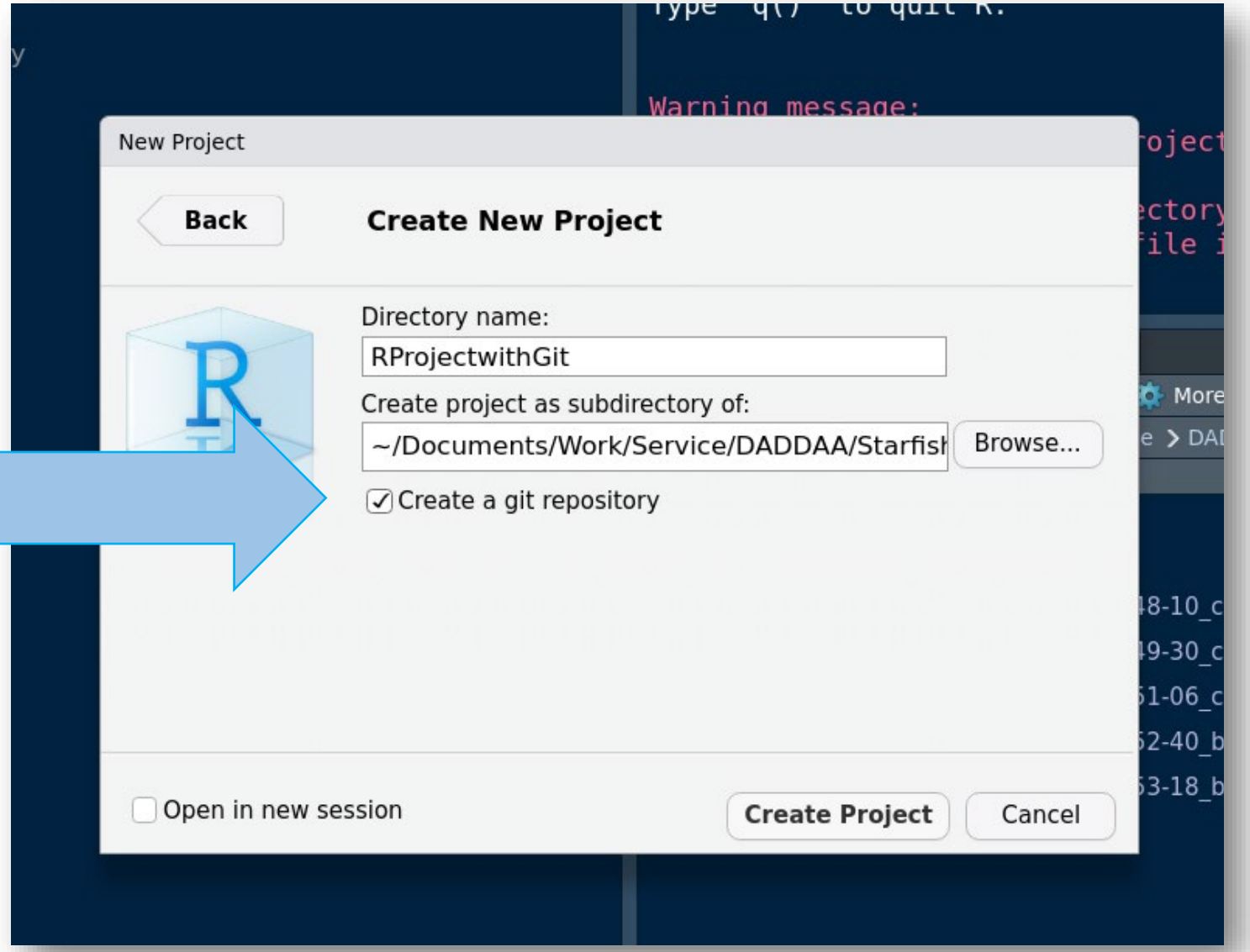
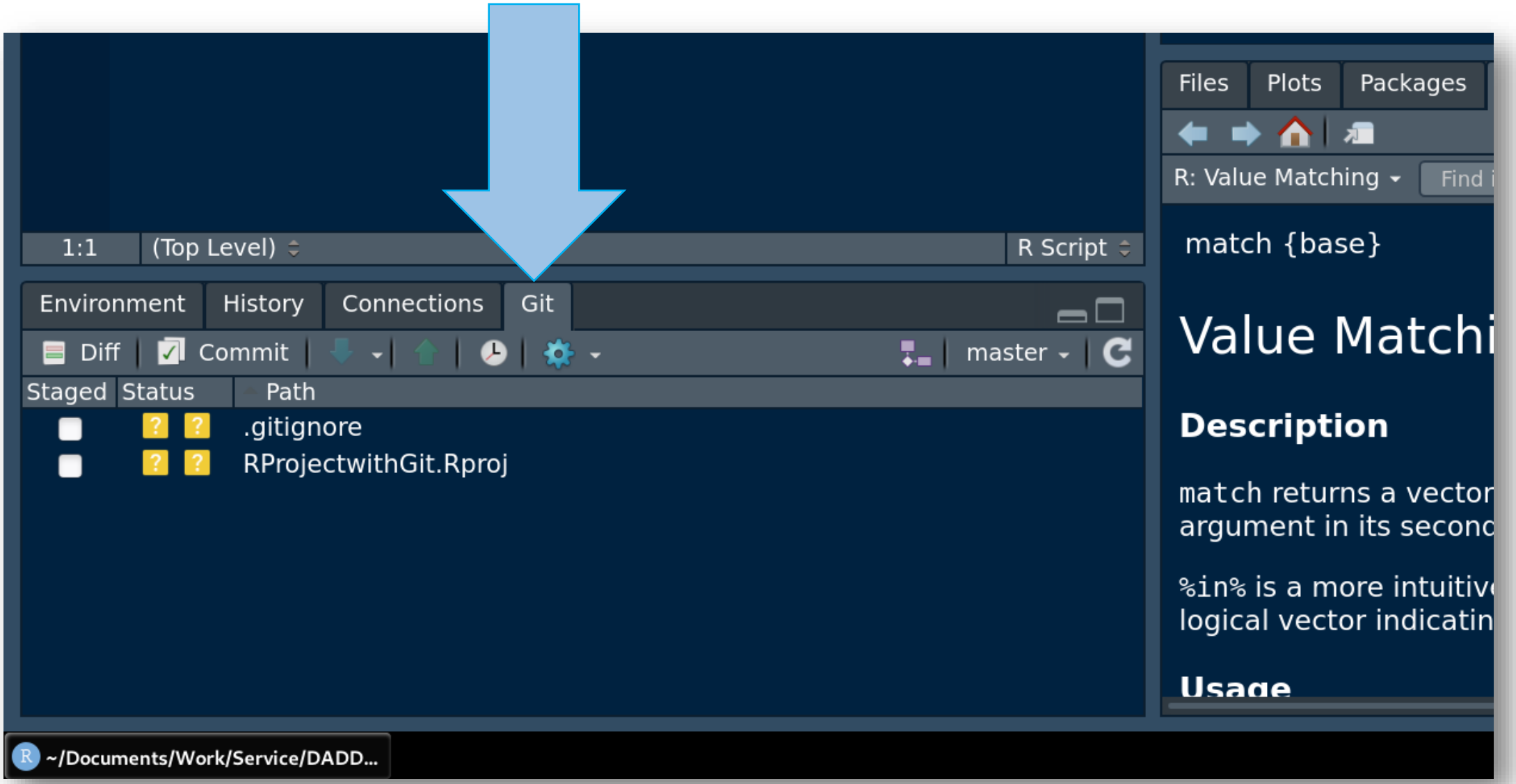
StarfishSchool
~/Documents/Work/Service/DADD...
2 / 3

# Directory Name for project

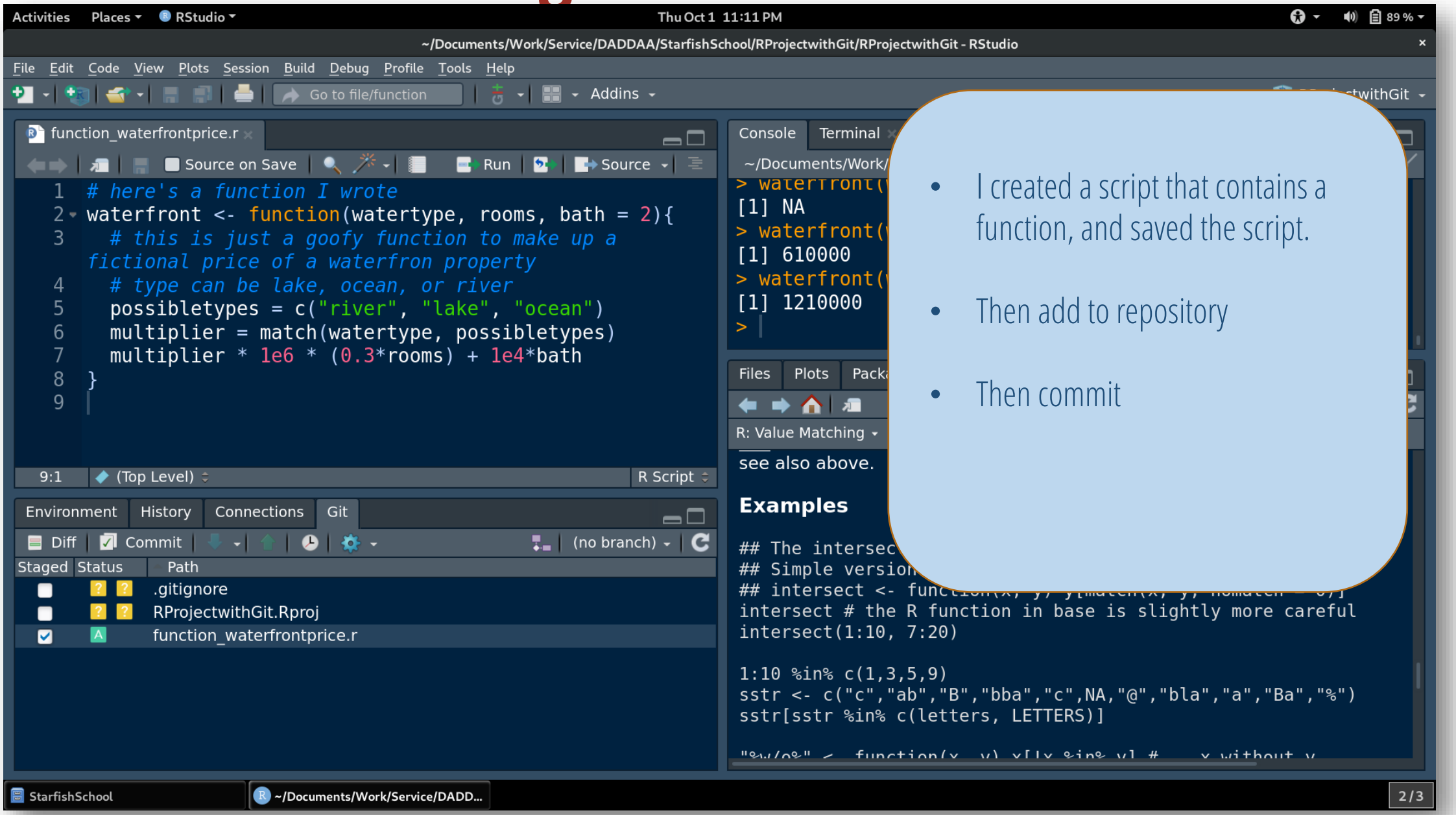
Check this box to create a git repository when you start a new project



- Once the RProject with a git repository is set up, you will see Git options appear in RStudio



# User Interface for git in RStudio




- I created a script that contains a function, and saved the script.
- Then add to repository
- Then commit

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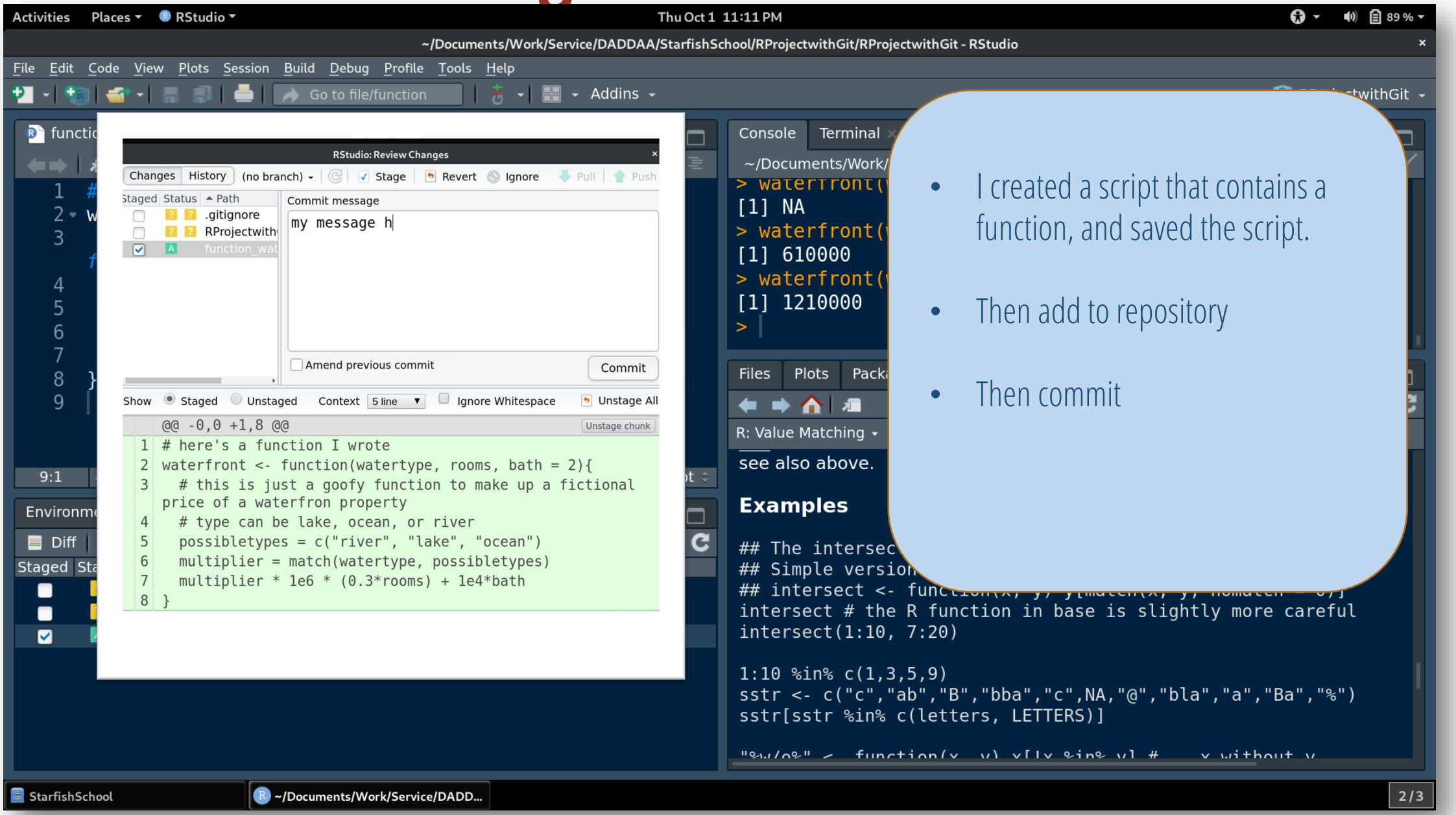


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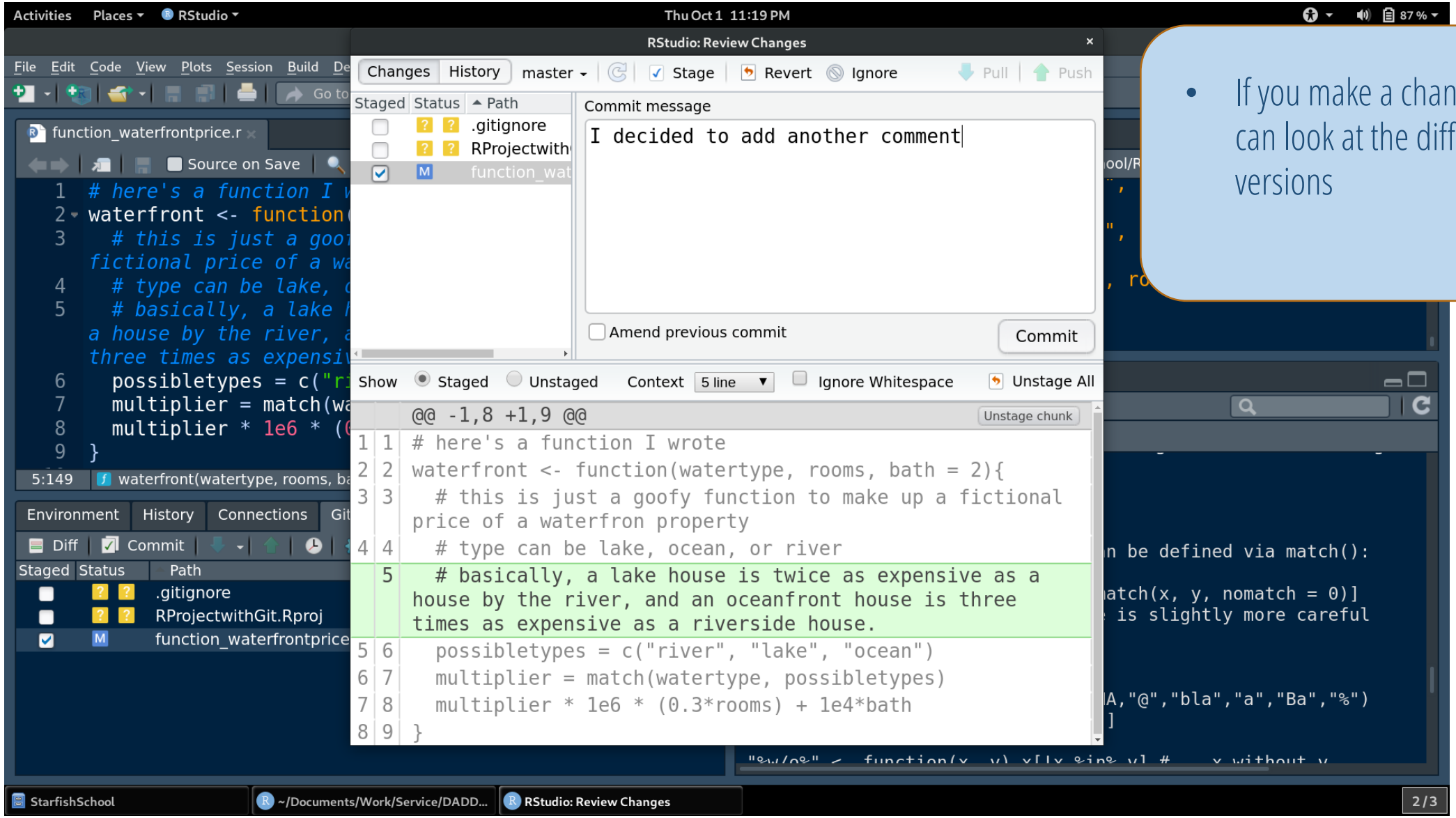


- If you make a change, then you can look at the difference between versions

# Exercise

## Teams of 2-3

One member of the team should fork the exercise repository and give the other team member access to the repository.

1. Each of the members should clone the repository and edit a file called “load_data.py”
2. In the file, everyone should create a function that produces the Fibonacci sequence to a certain input number, and commit it to their local repository
3. Push your changes to the remote repository, and deal with the conflicts.
4. Edit the file named “readme.md” with your description of the repository and push to GitHub

# Exercise

- Create a new folder called "TestProject"
- Open R Studio and start a new R Project within this folder
- Make an R script with a function, or a few commands, etc. (whatever you like!)
- Add an R markdown document to the Project describing your functions.
- Save the R script and R markdown and add it to the git repository
- Commit the file.
- Make a change to the R script, and then look at the difference between the changes and the previous commit.