Slidify your Presentations

Using HTML5 and Markdown to present R results

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Disclaimer

I do not have any affiliation with any of the presented tools!

Overview

1. Required Tools
2. ...

— .segue .dark

Required Tools

Required Tools

We make use of the following Tools/ R-packages

1. RStudio
2. GitHub
3. Slidify (including Markdown)
4. googleVis

RStudio

- Supposedly all of you have heard about RStudio.
- First version (v0.92) of RStudio was published in February 2011.
- Back then there were plenty of competing R editors, but these days RStudio became the quasi standard.
- The popularity of RStudio is due to its large amount of included features.
- RStudio is available as desktop and server version.
- RStudio also powers 'Shiny', a web application framework for R.
- One not so common, but very useful feature is the project feature.

GitHub

- Supposedly most of you also have heard about GitHub (or at least git)
- git is a revision control system, initially developed 2005 by Linus Torvalds for the Linux kernel.
- GitHub is a filehosting service (founded 2008) that is based on the git technology.
- GitHub is designed especially for the development of larger software projects (branch, merge, fork).
- It is getting more and more popular to keep R-packages only on GitHub and not to submit to Cran.
- Researchers can apply for free private repositories via [GitHub education] (https://education.github.com/).
- GitHub provides webspace for webpages via GitHub pages (https://pages.github.com/).

GitHub pages

- If you have a GitHub account, you could create a repository called

username.github.io

- Then, you can reach your webpage via

http://username.github.io

- To make things work proper, you should create a file

index.html

in the uppest level of the repository.

- Starting from there, you can have several subpages that can be stored in subfolders of your repository.
- It is advisable to name the entry page of ech subproject also index.html

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Setting up space for presentations on *GitHub pages*

- I recommend to use Linux, as this comes with practical all developer software installed.
- If your IT doesn't allow Linux, you could e.g. install it on a VirtualBox parallel to Windows so that you can literally switch between OS as you switch between Tools.
- Connect your computer to GitHub by providing an SSH keypair (create it in RStudio and add it to the profile at GitHub), this makes life easier.
- A step-by-step tutorial for this is provided by GitHub [here] (https://help.github.com/articles/generating-ssh-keys/).

Setting up the GitHub repository

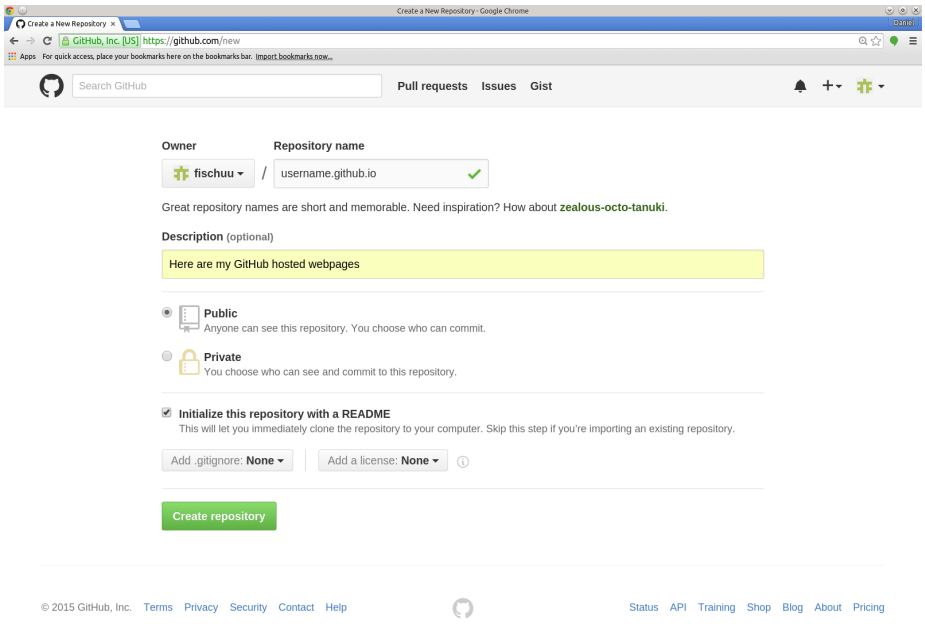
Create a New Repository - Google Chrome
Create a New Repository
GitHub, Inc. [US] https://github.com/new
Apps For quick access, place your bookmarks here on the bookmarks bar. Import bookmarks now...
Search GitHub
Pull requests
Issues
Gist
Owner
Repository name
fischuu
/
username.github.io
Great repository names are short and memorable. Need inspiration? How about zealous-octo-tanuki.
Description (optional)
Here are my GitHub hosted webpages
Public
Anyone can see this repository. You choose who can commit.
Private
You choose who can see and commit to this repository.
Initialize this repository with a README
This will let you immediately clone the repository to your computer. Skip this step if you're importing an existing repository.
Add .gitignore: None
Add a license: None
Create repository
© 2015 GitHub, Inc.
Terms
Privacy
Security
Contact
Help
Status
API
Training
Shop
Blog
About
Pricing

Figure 1:

Cloning to RStudio I

- It is important to tick the box

Initialize this repository with a README

- Having an initial README file in the repository enables us to clone it without any further problems.
- From the repository we get then its address (either HTTPS, SSH or Subversion)
- For RStudio we should copy the SSH address, e.g. in my case:

git@github.com:fischuu/fischuu.github.io.git

- We start RStudio and create a new project.

Cloning to RStudio II

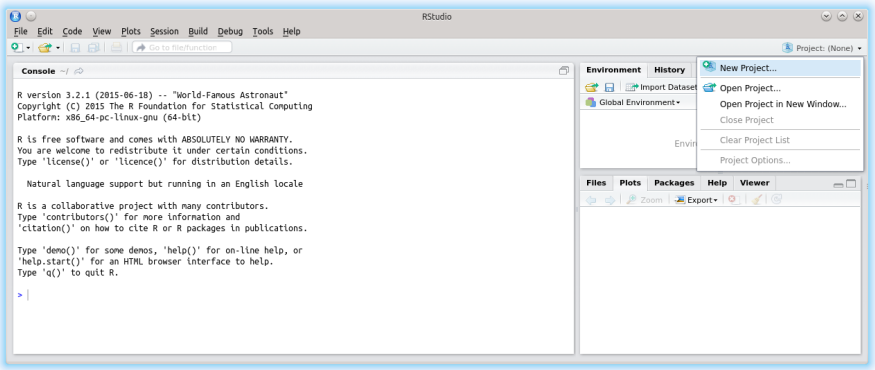

Figure 2:

Cloning to RStudio III

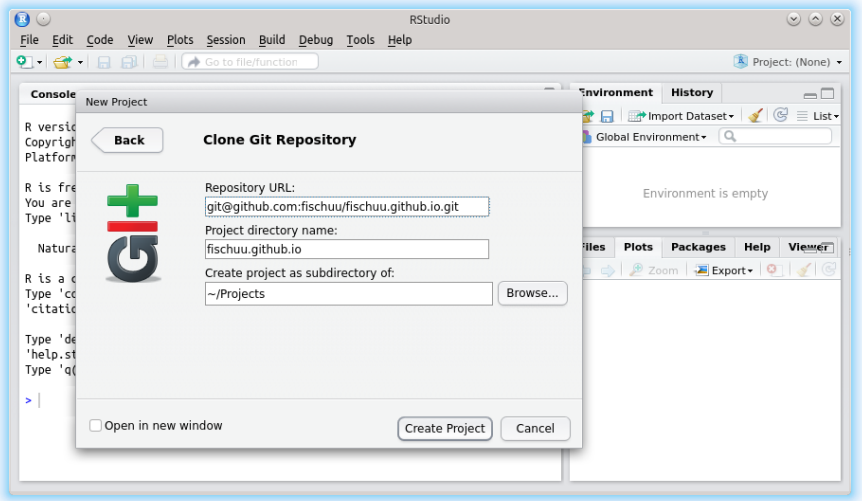

Figure 3:

Cloning to RStudio IV

- In the dialog we choose

1. Version Control
2. Git
3. And then we provide the URL (as SSH) of the repository, the name and location on HDD

- Then, we click on *'Create Project'*
- RStudio clones into the repository creates the folder/file structure on the HDD
- Now we can create an own folder structure (e.g. *presentations*, *lectures*, etc.)
- After those steps, we have succesful connected RStudio with GitHub pages and we can control the repository entirely with RStudio.

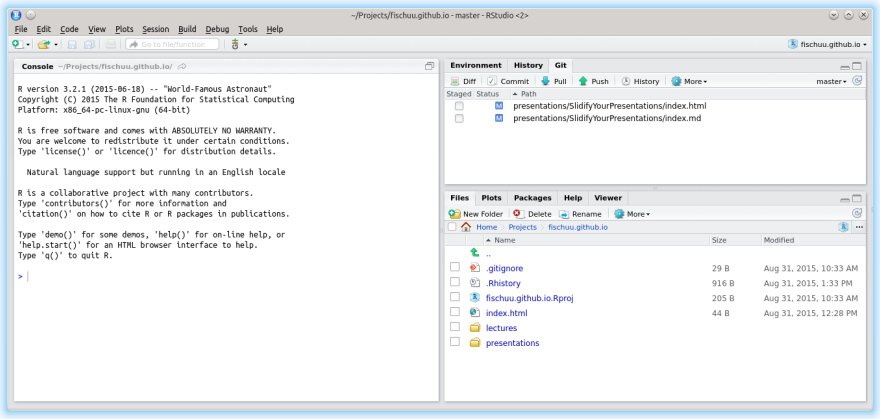

Figure 4:

Cloning to RStudio V

Starting a new presentation

- To create a new presentation, we run

```
library("slidify")
setwd("/home/ejo138/Projects/fischuu.github.io/presentations/")
author("MyFirstPresentation", use_git = FALSE)
```

- The part `use_git = FALSE` might be irritating, but it is needed, as *slidify* would create otherwise a new git structure within the existing one (what is possible but would lead to far for now.)
- Slidify then creates all required files and you are ready to go.
- To create slides with Slidify no HTML knowledge is required, as everything is done via R Markdown.
- Markdown is a lightweight markup language with plain text formatting that can be transformed into HTML (or other languages).

Output of `author()`

- The function `author()` creates several files and folders in the working directory.
- The main folder is called as defined in the `author()` call.
- Within that folder, two more folders called `assets` and `libraries` are created.
- The main document is called `index.Rmd`
- `index.Rmd` contains two main code chunks. The header written in YAML defines the meta-information of the document.
- The body contains the slides and uses the R Markdown language.

This is where we start (YAML header of index.Rmd)

```
---
title: "null"
author: "null"
highlighter: highlight.js
output: pdf_document
job: null
knit: slidify::knit2slides
mode: selfcontained
hitheme: tomorrow
subtitle: null
framework: io2012
widgets: []
---

## Read-And-Delete

1. Edit YAML front matter
...
```

This is where we start (body of index.Rmd)

```
...
hitheme: tomorrow
```

```
subtitle: null
framework: io2012
widgets: []
---

## Read-And-Delete

1. Edit YAML front matter
2. Write using R Markdown
3. Use an empty line followed by three dashes to separate slides!
--- .class #id

## Slide 2
```

Markdown basics

- R markdown is a very simple markup language that makes creating slides extremely fast and easy.
- A reference overview can be found here
- For example the `index.Rmd` of this presentation.
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