

rbtl - Research Beyond the Lab

Version control and more tools

Lars Schöbitz

2022-03-16

Today

1. Assignment grading and conversion
2. What is Version Control?
3. RStudio Cloud & RStudio IDE

Assignments & Grades

Due dates: Assignments 1, 2, and 3

Full points for assignment 1, 2, and 3 if submitted by:

15th March

Submission complete? Full points?

- If you haven't heard from me by Wednesday, then you have successfully submitted your assignment.

Grade conversion

grade	points
6.00	100
5.75	95
5.50	90
5.25	85
5.00	80
4.75	75
4.50	70
4.25	60
4.00	50
3.50	40
3.00	30
2.50	20
2.00	10
1.00	0

Grading scheme and conversion details in syllabus on course website

What is Version Control?

Version Control

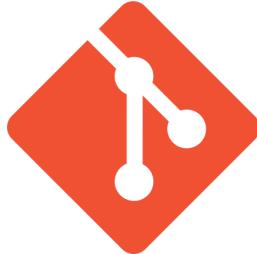
A way to share files with others, so they can:

- download
- re-use
- contribute

You can view the history of files, and jump back in time to any point.

Why is it useful?

Git and GitHub



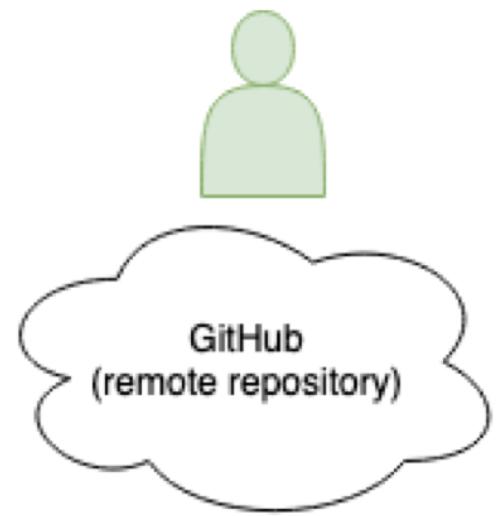
- Git is a software for version control
- Released in 2005
- Popular among programmers collaboratively developing code
- Tracks changes in a set of files (directory/folder/repository)

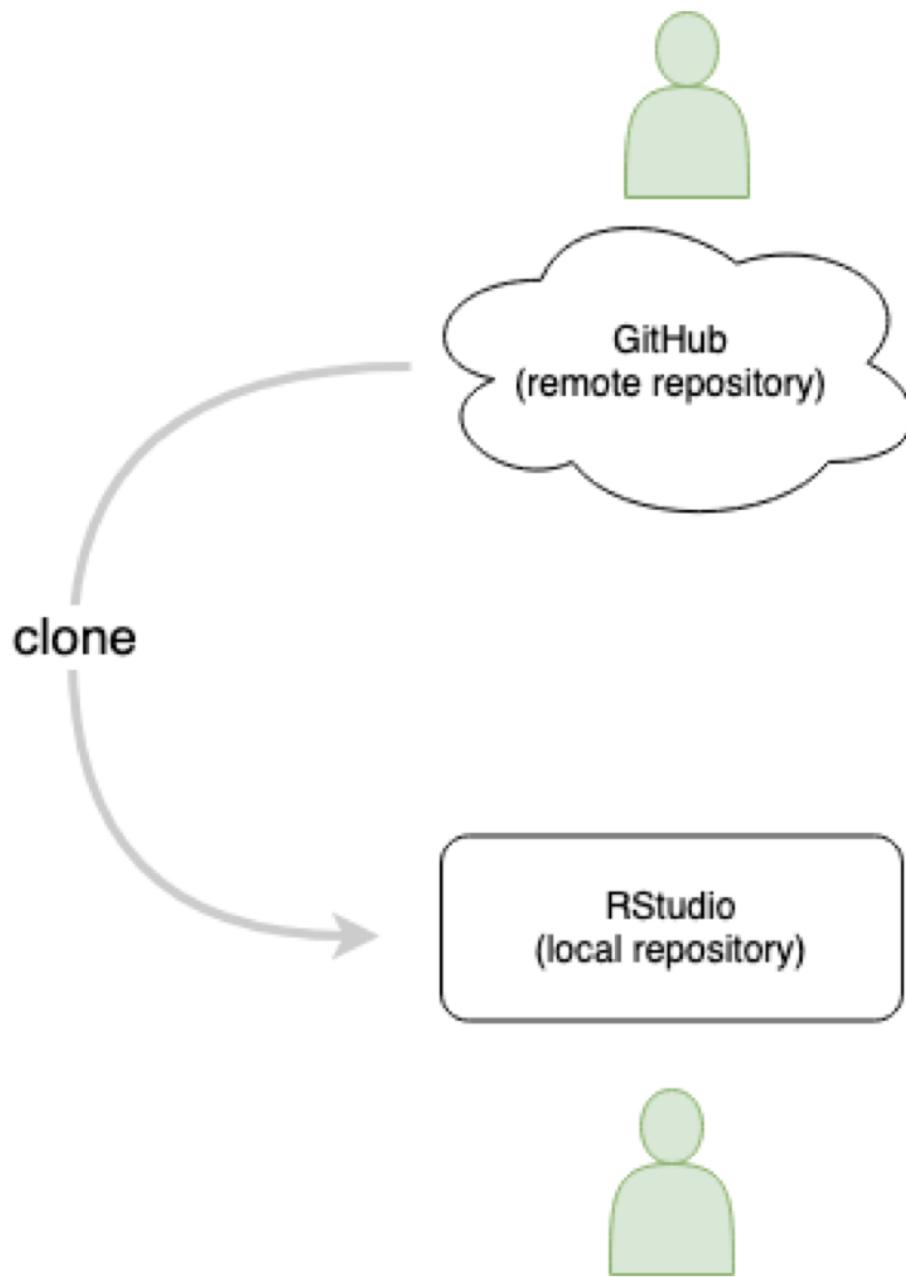


- GitHub is a hosting platform for version control using Git
- Launched in 2008, acquired by Microsoft in 2018, Microsoft for US\$ 7.5 billion
- 73 million Users ([February, 2022](#))
- Facebook for Software Developers

Homework Assignment 2

Version Control - Terminology

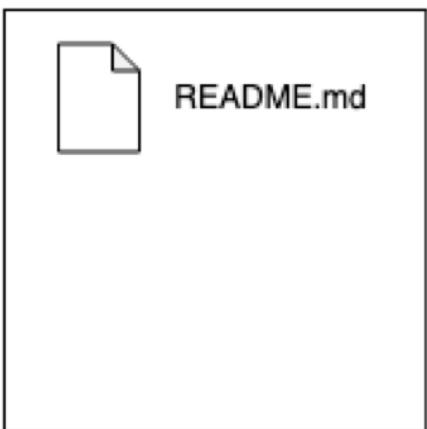


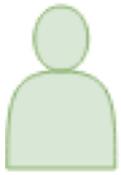




Create README.md

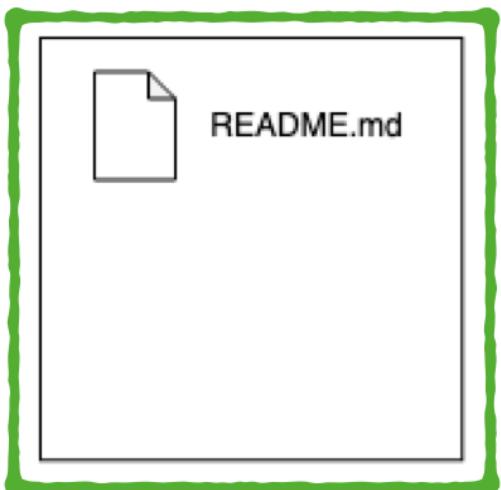
75aa637





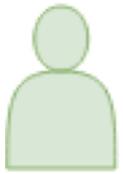
Create README.md

75aa637



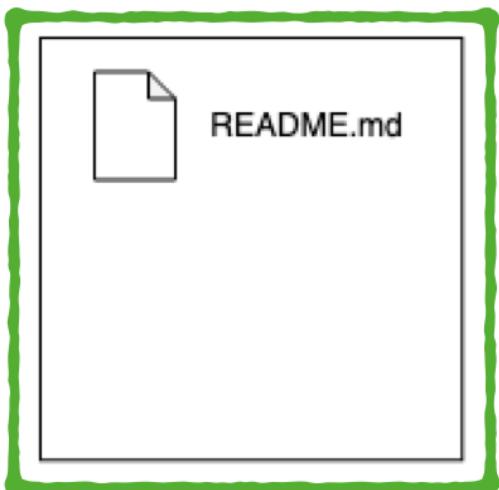
Repo(sitory)

Commit
message



Create README.md

75aa637



Repo(sitory)

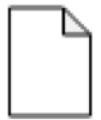
Commit
message



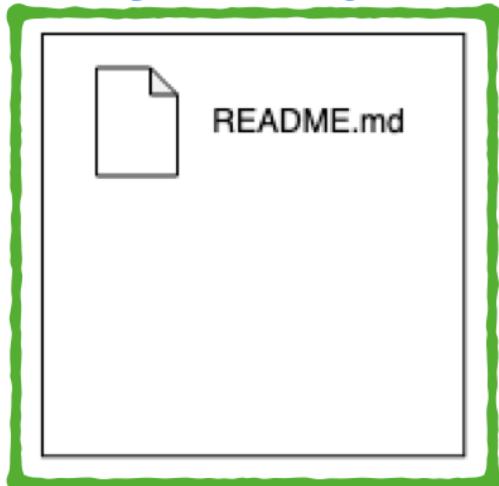
Create README.md

75aa637

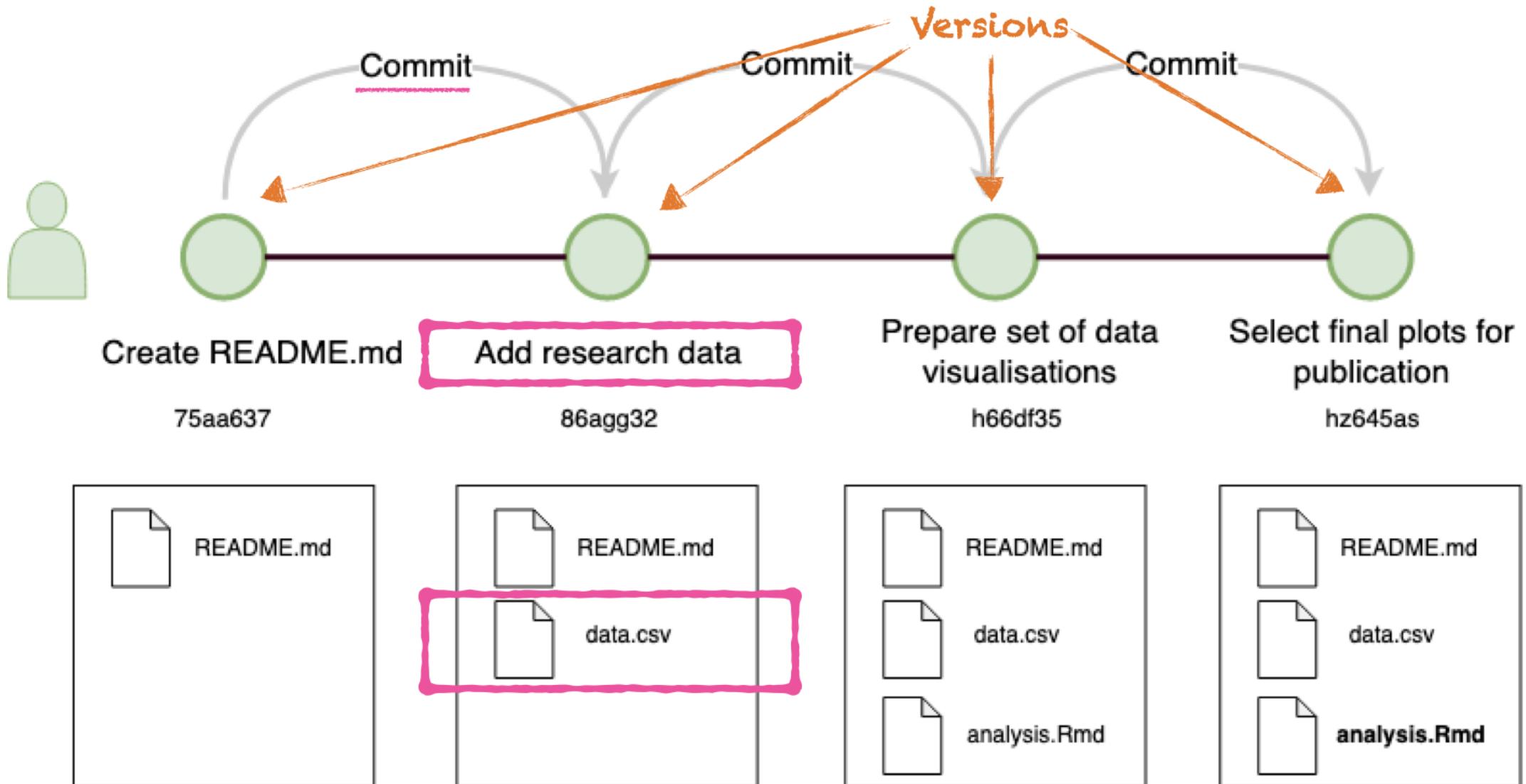
SHA-1 hash

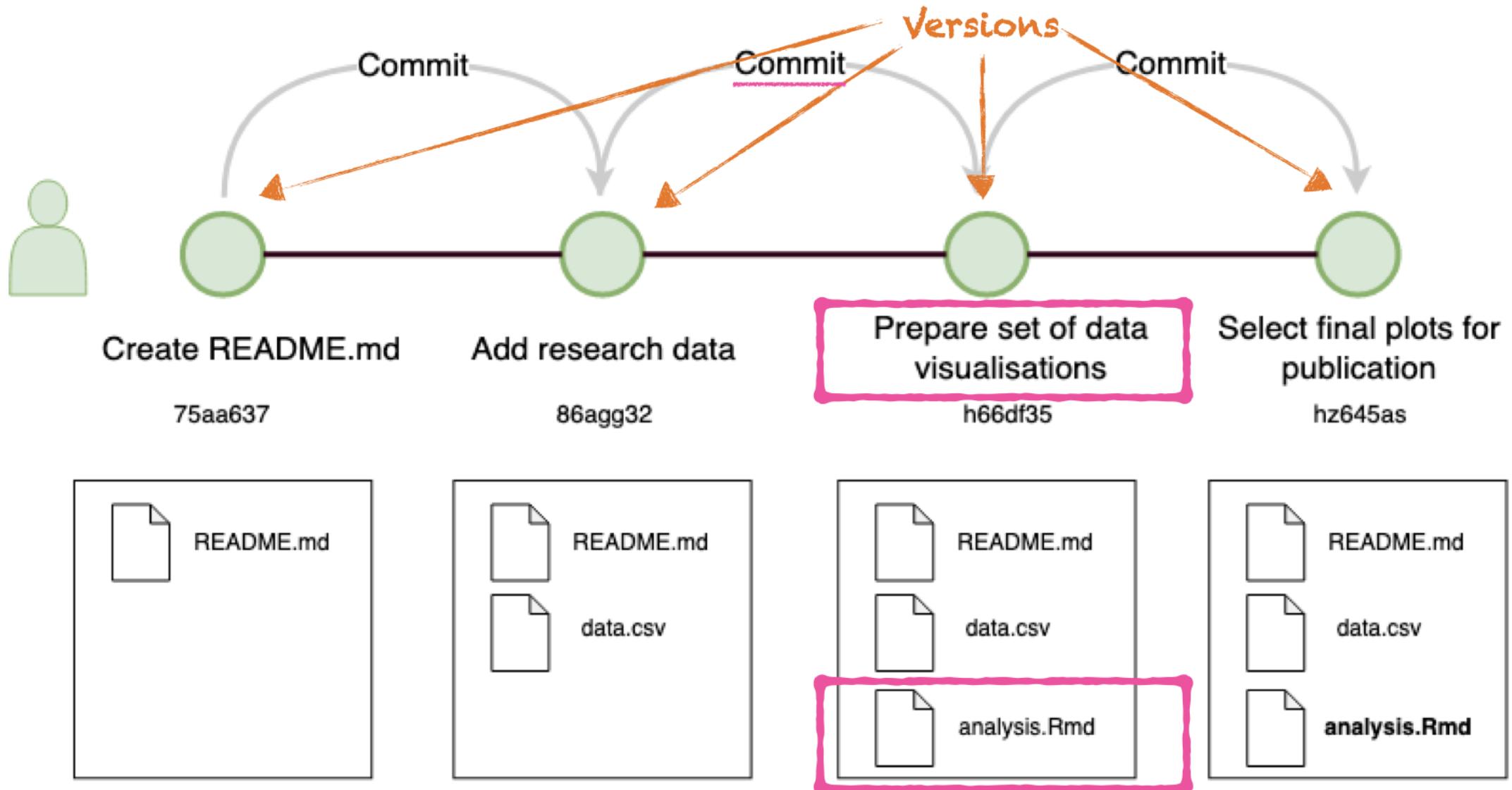


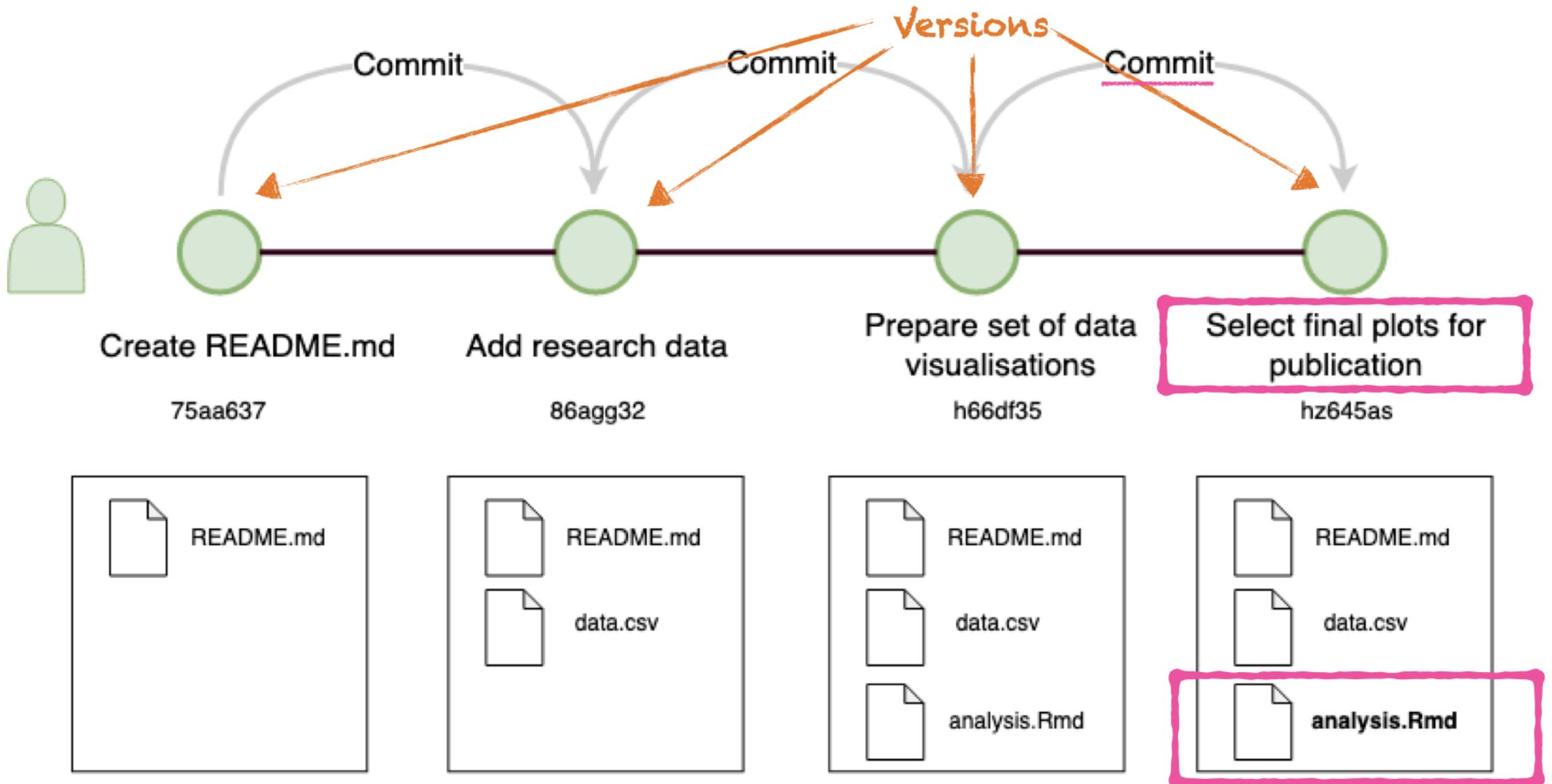
README.md

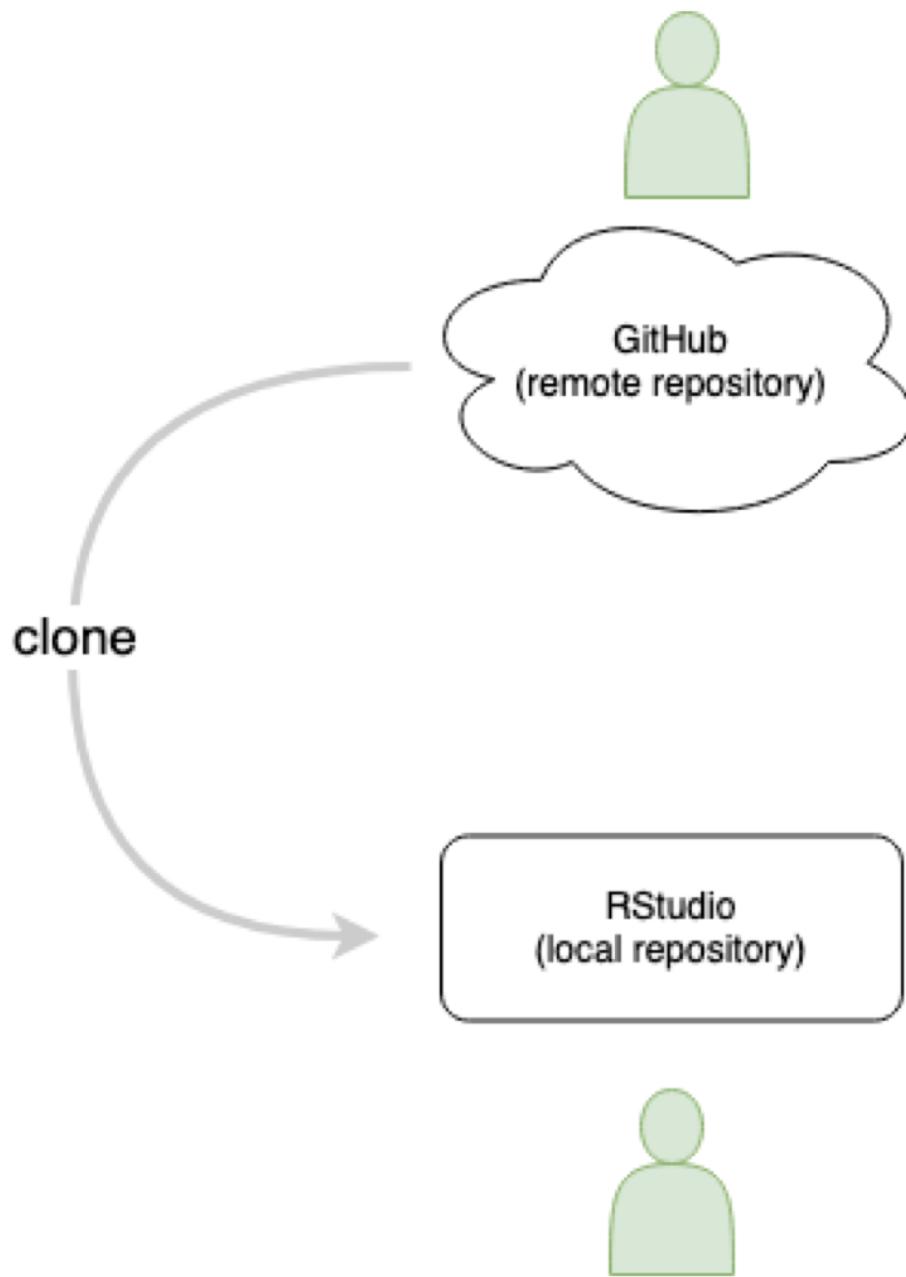


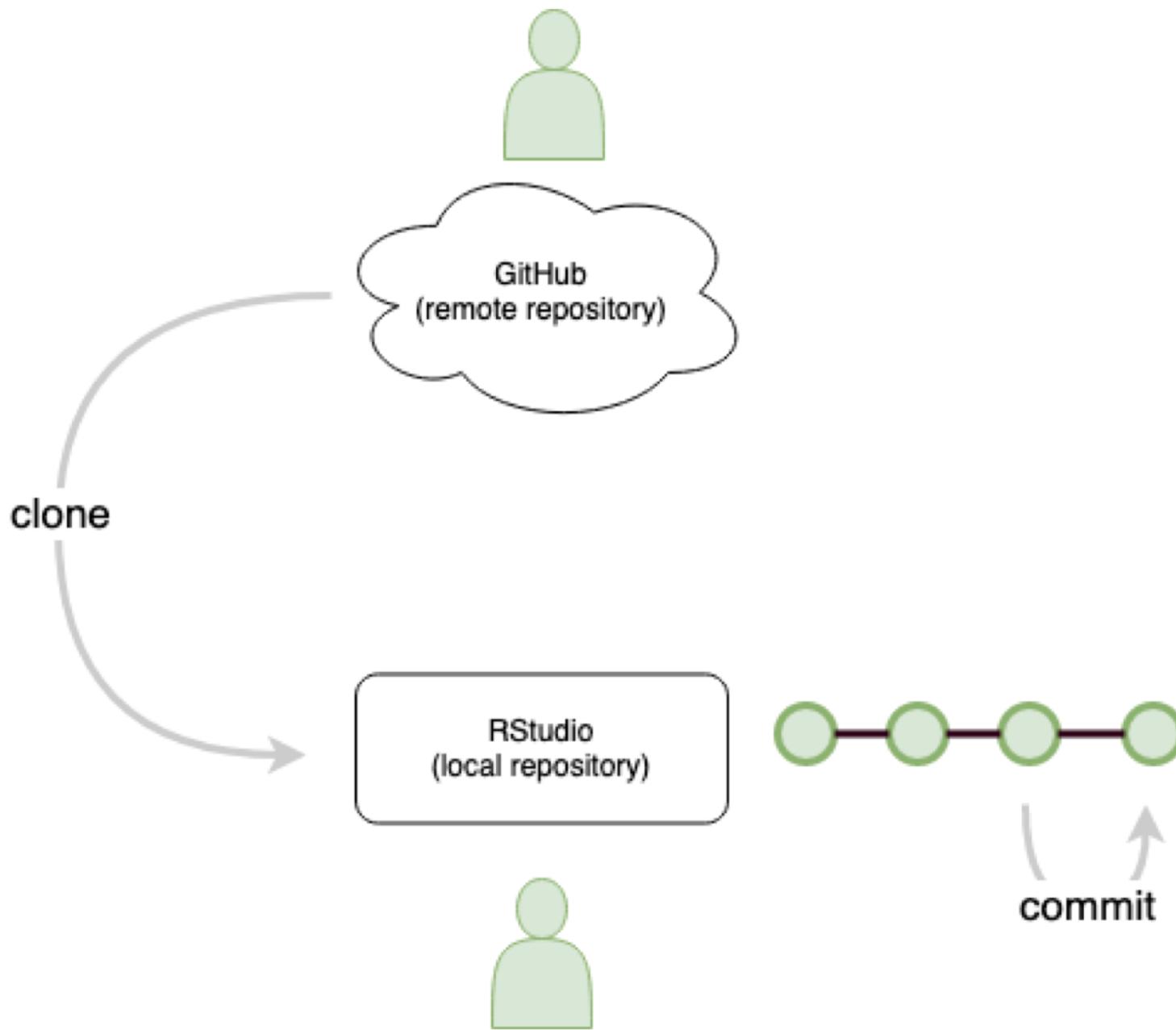
Repo(sitory)

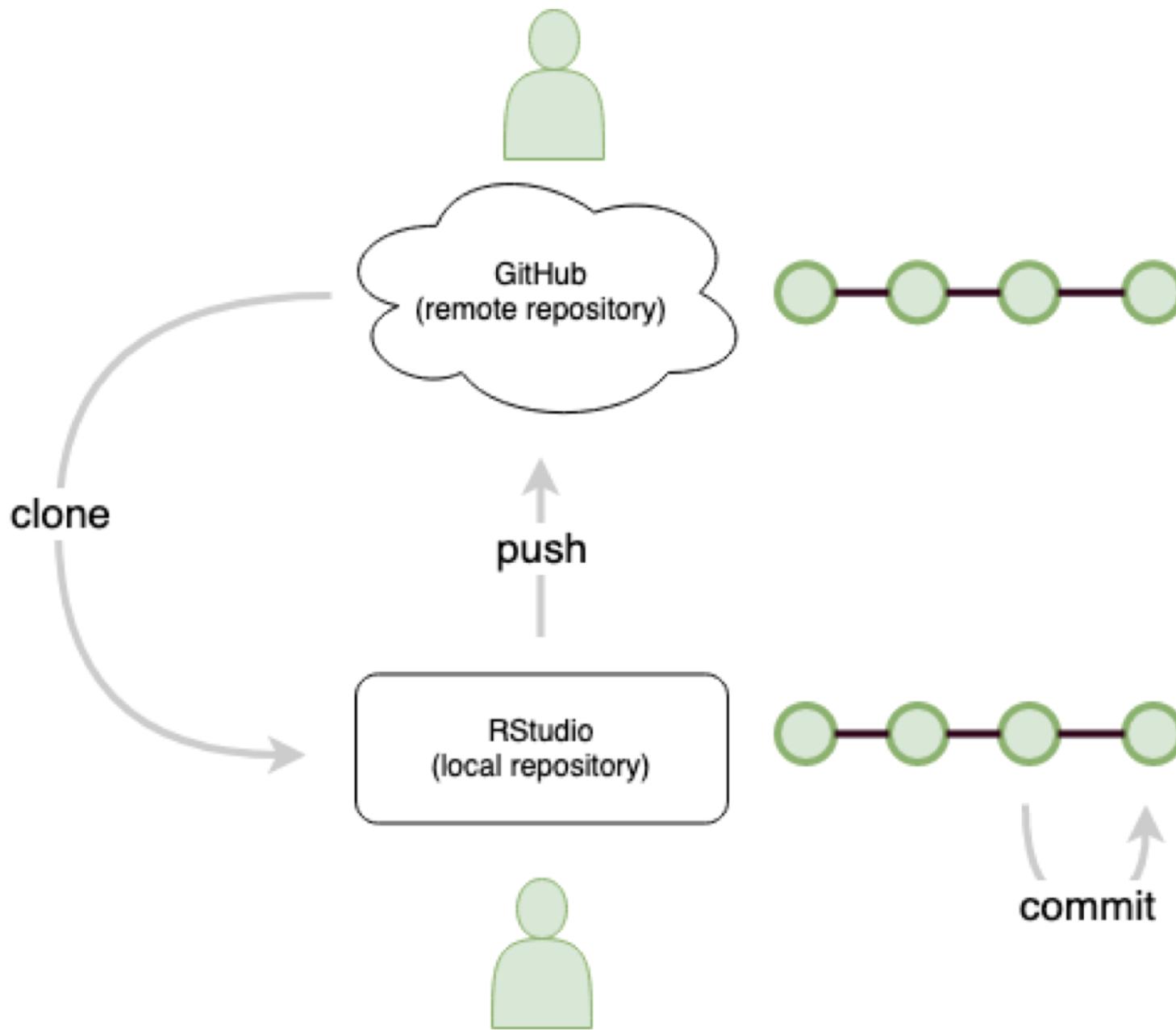












RStudio

RStudio Cloud & RStudio IDE

RStudio Cloud +

https://rstudio.cloud/spaces/220982/project/3669638 120% ⚡

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Rbtl-fs22 / ae-02-air-quality-rainbow-train-fs22

RAM Settings More rainbow-train-fs22

File Edit Code View Plots Session Build Debug Profile Tools Help

Go to file/function Addins

R 4.1.2

man-air-quality-malawi-hospital.R... x

```
107 ggplot(data = dat_in_sum_day,
108   mapping = aes(x = date,
109     y = mean,
110       color = indicator)) +
111   geom_point(size = 0.2) +
112   geom_line() +
113   labs(title = "Hospital Air Quality",
114     subtitle = "Average 24-hour PM2.5 and PM10 concentrations at
115       eight locations") +
116   facet_wrap(~location) +
117   theme_bw(base_size = 12)
```

Exercise 2: Learn to identify elements of a plot

R Markdown

Environment History Connections Git Tutorial

Import Dataset 342 MiB

Global Environment

Data

dat_in	203806 obs. of 6 variables
dat_in_sum_day	890 obs. of 8 variables

Values

dat_link	"https://raw.githubusercontent.com/Global-Health-Eng...
vec_hospital_name	chr [1:8] "6B" "Administration" "guardian" "Lhouse" ...

Console Terminal Jobs

R 4.1.2 · /cloud/project/ ↵

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Files Plots Packages Help Viewer

New Folder Upload Delete Rename More

Cloud > project

Name	Size	Modified
..		
.gitignore	593 B	Mar 2, 2022, 1:49 PM
.Rhistory	0 B	Mar 2, 2022, 1:49 PM
ae-02-air-quality.Rproj	205 B	Mar 3, 2022, 10:09 AM
LICENSE.md	1 KB	Mar 2, 2022, 1:49 PM
manuscript		

browser tab

RStudio Cloud https://rstudio.cloud/spaces/220982/project/3669638 120% ⚡

R Email rbt1 RStudio Cloud Workspace RAM gear ⚡ rainbow-train-fs22

Rbt-fs22 / ae-02

File Edit Code View Plots Session Build Debug Profile Tools Help

Addins

man-air-quality-malawi-hospital.R... x

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108 ggplot(data = dat_in_sum_day,
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104:90 # Exercise 2: Learn to identify elements of a plot R Markdown

Environment History Connections Git Tutorial

Import Dataset 342 MiB List C

R Global Environment

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R 4.1.2 · /cloud/project/ ↵

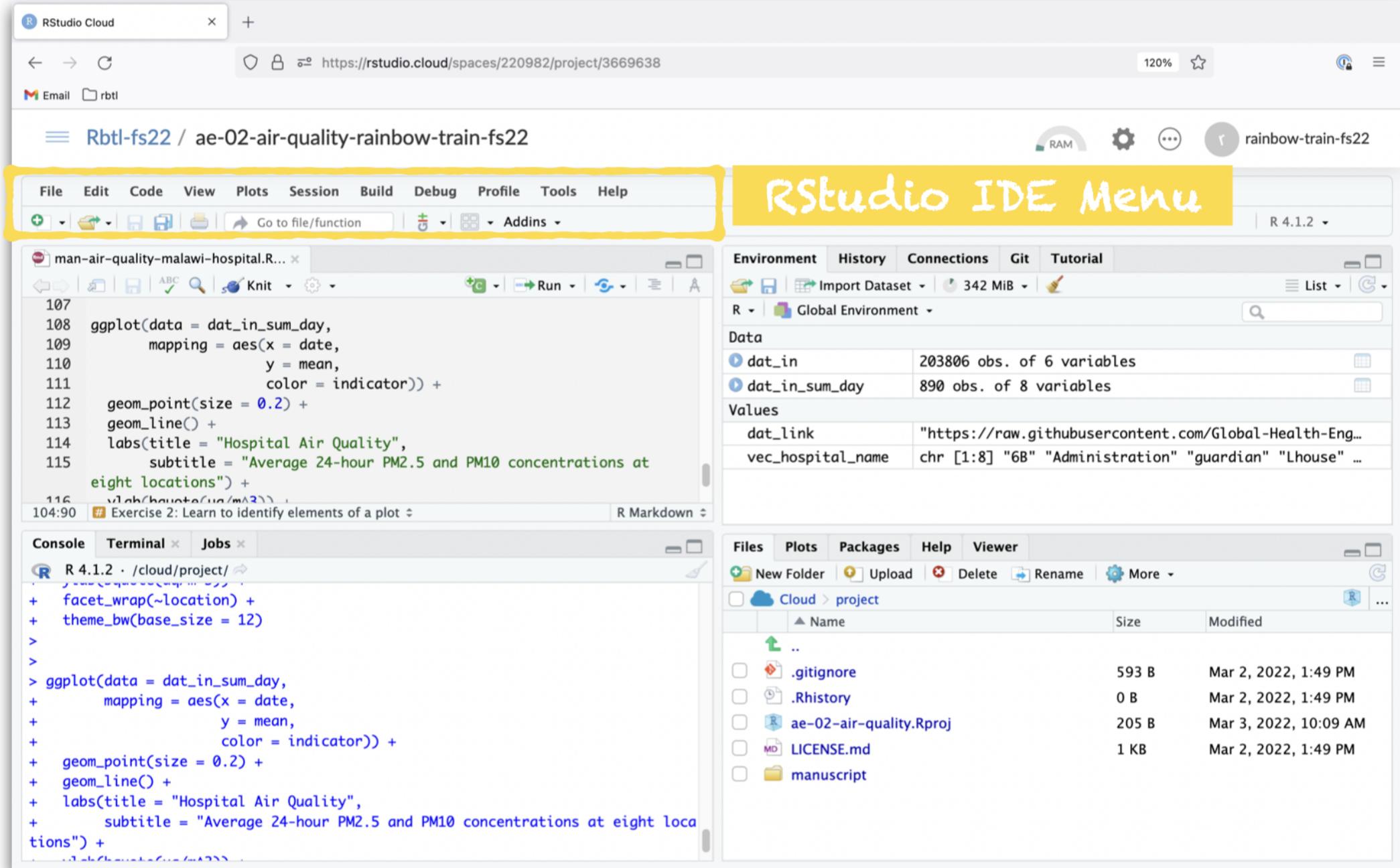
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RStudio Cloud

https://rstudio.cloud/spaces/220982/project/3669638

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RStudio IDE Menu | R 4.1.2

Code Editor

```
man-air-quality-malawi-hospital.R... x
107
108 ggplot(data = dat_in_sum_day,
109         mapping
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104:90 # Exercise 2: Learn to identify elements of a plot
```

Console

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R 4.1.2 · /cloud/project/
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RAM

Global Environment

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RStudio Cloud

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RAM  Settings  More  rainbow-train-fs22

File Edit Code View Plots Session Build Debug Profile Tools Help

Addins

man-air-quality-malawi-hospital.R... x

ABC Knit Run

Code Editor

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107 ggplot(data = dat_in_sum_day,
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116 
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Exercise 2: Learn to identify elements of a plot

R Markdown

Environment History Connections Git Tutorial

Import Dataset 342 MiB

R Global Environment

Data

- dat_in
- dat_in_s

Values

- dat_link "https://raw.githubusercontent.com/Global-Health-Eng...
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Environment Git

Console Terminal Jobs

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R 4.1.2 · /cloud/project/
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RStudio Cloud

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RAM  120%   

RStudio IDE Menu

File Edit Code View Plots Session Build Debug Profile Tools Help

Addins

man-air-quality-malawi-hospital.R... x

ABC Knit Run

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R Markdown

Environment History Connections Git Tutorial

Import Dataset 342 MiB

R Global Environment

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Environment Git

Console Terminal Jobs

R 4.1.2 · /cloud/project/

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Files Plots Packages Help Viewer

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Name	Size	Modified
..		9 PM
.gitig		9 PM
.Rhist		9 PM
ae-02-air-quality.Rproj	205 B	Mar 3, 2022, 10:09 AM
LICENSE.md	1 KB	Mar 2, 2022, 1:49 PM
manuscript		

File Manager

The screenshot displays the RStudio Cloud interface with several panels highlighted by hand-drawn colored boxes:

- Code Editor** (Yellow Box): Shows an R Markdown script for creating a plot of hospital air quality. The code includes ggplot, geom_point, and geom_line layers, along with a title and subtitle. A placeholder text "Code Editor" is overlaid on the panel.
- RStudio IDE Menu** (Yellow Box): Shows the top navigation bar with tabs for Environment, History, Connections, Git, and Tutorial. A placeholder text "Environment Git" is overlaid on the panel.
- Console** (Pink Box): Shows R command history and code execution. A placeholder text "Console" is overlaid on the panel.
- File Manager** (Green Box): Shows a file tree for a project named "ae-02-air-quality". It includes files like ".gitignore", ".Rhistory", "ae-02-air-quality.Rproj", "LICENSE.md", and "manuscript". A placeholder text "File Manager" is overlaid on the panel.

Other visible elements include the browser address bar at the top (https://rstudio.cloud/spaces/220982/project/3669638), a RAM usage indicator, and a gear icon in the top right corner.



Photo by: Matt Walsh

Thanks! 🌻

Slides created via the R packages:

xaringan
gadenbuie/xaringanthemer

The chakra comes from [remark.js](#), [knitr](#), and [R Markdown](#).

Access slides as PDF on [GitHub](#)

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