Review & Best practices

DAY 2, SESSION 5

September 18, 2023

Review (continued)!

Welcome, **Brendan!**

We're glad you're here, because it is more fun to learn data science together.

HELPFUL LINKS

Content Summary Tips for presentin... Demo milestone...

NEXT LESSON:

Welcome to R

Continue

LEARNING PATH

Full View Student View

Week 6
3 optional items
MILESTONE 6
Conf Session 1 - Review

Babynames Exploration (Cas...
Optional

Joining and exploring flights...
Optional

Practice cleaning data
Optional

Week 7
4 optional items
MILESTONE 7
Conf Session 2 - EDA

Week:

1 2 3 4 5 6 7 8 9 10 11 12

Best practices

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Week 10

MILESTONE 10
Conf Session 5 - Best practices

Week 11

MILESTONE 11
Conf Project - Employee Attrition

Week 12
5 optional items

MILESTONE 12
Conf Session 7 - Data types

Types and classes
Optional

Basic operations with strings
Optional

Week:

1 2 3 4 5 6 7 8 9 10 11 12

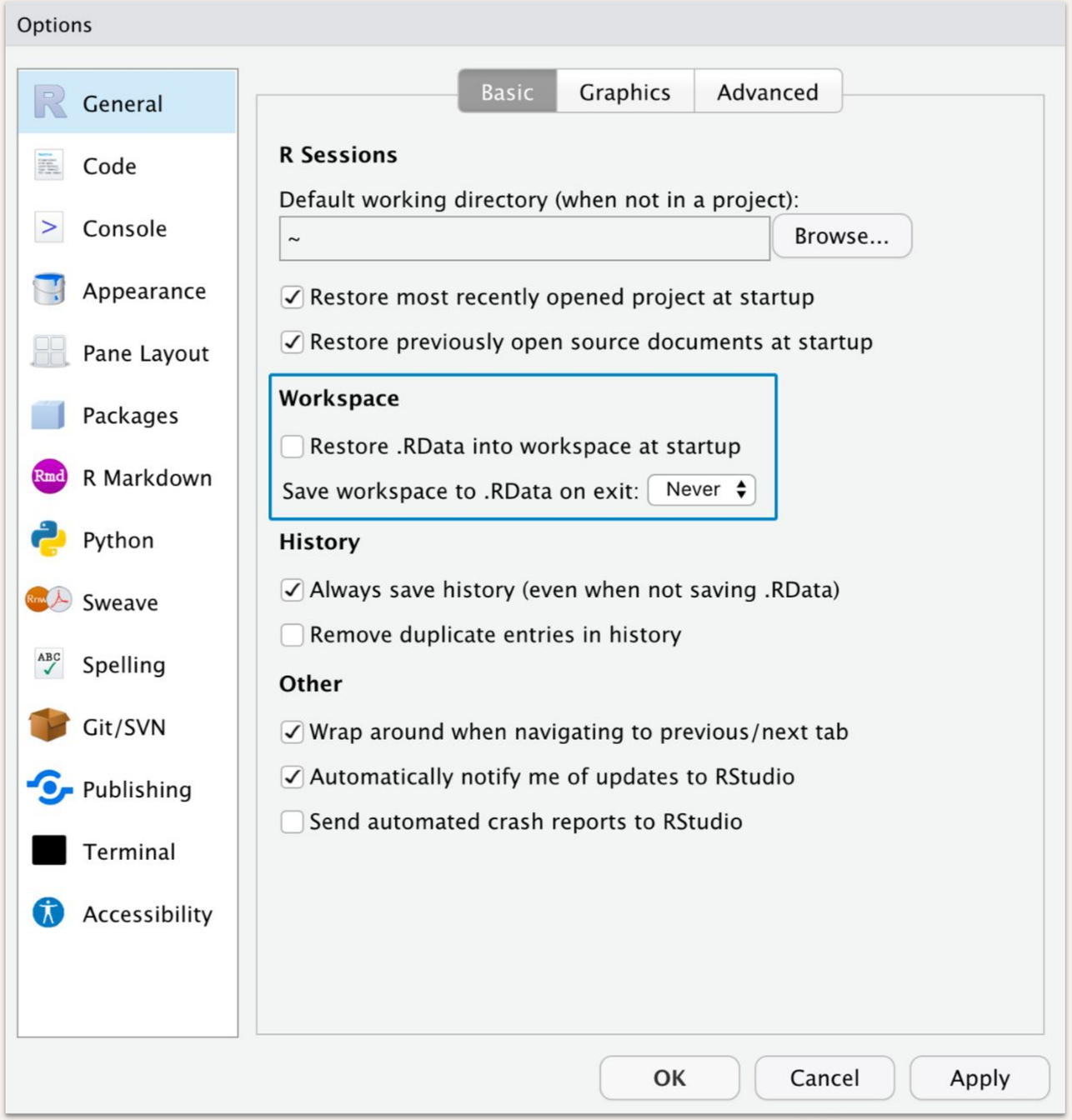
Agenda

1. Customize your workspace
2. Project-oriented workflows
3. Naming files
4. Reproducible environments
5. Code style
6. Version control
7. Asking for help

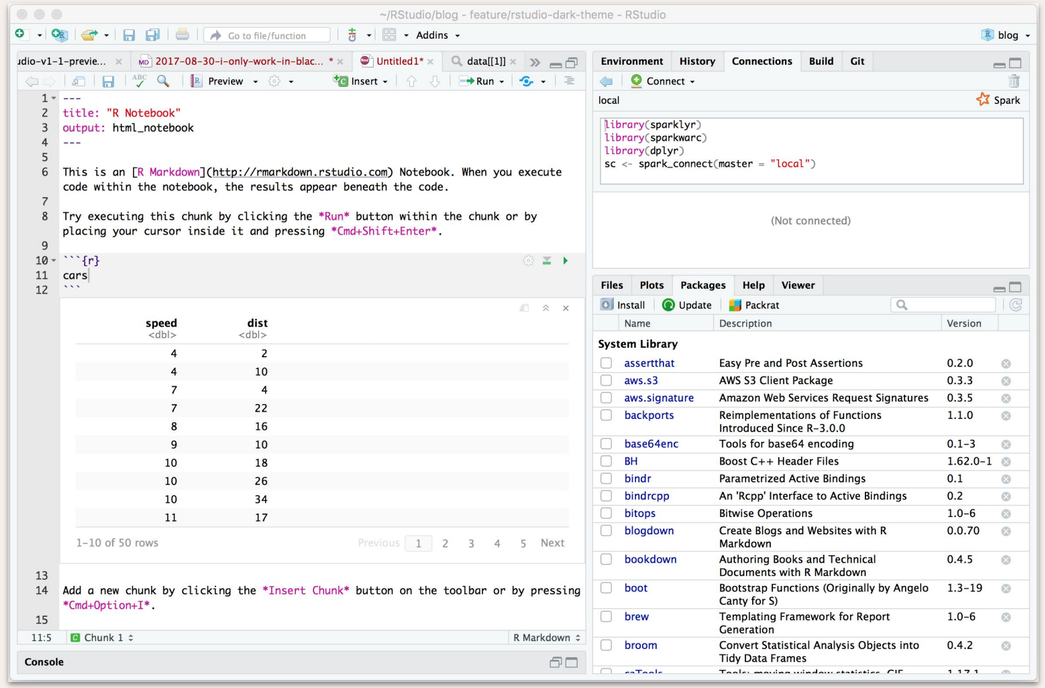
1. Customize your workspace

IDE settings

Tools > Global Setup



Themes


~/RStudio/blog - feature/rstudio-dark-theme - RStudio
Go to file/function
Addins
blog
2017-08-30-i-only-work-in-blac...
Untitled1*
data[[1]]
Preview
Insert
Run
Environment
History
Connections
Build
Git
Connect
local
Spark
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0.3.5
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Reimplementations of Functions Introduced Since R-3.0.0
1.1.0
base64enc
Tools for base64 encoding
0.1-3
BH
Boost C++ Header Files
1.62.0-1
bindr
Parametrized Active Bindings
0.1
bindrcpp
An 'Rcpp' Interface to Active Bindings
0.2
bitops
Bitwise Operations
1.0-6
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Create Blogs and Websites with R Markdown
0.0.70
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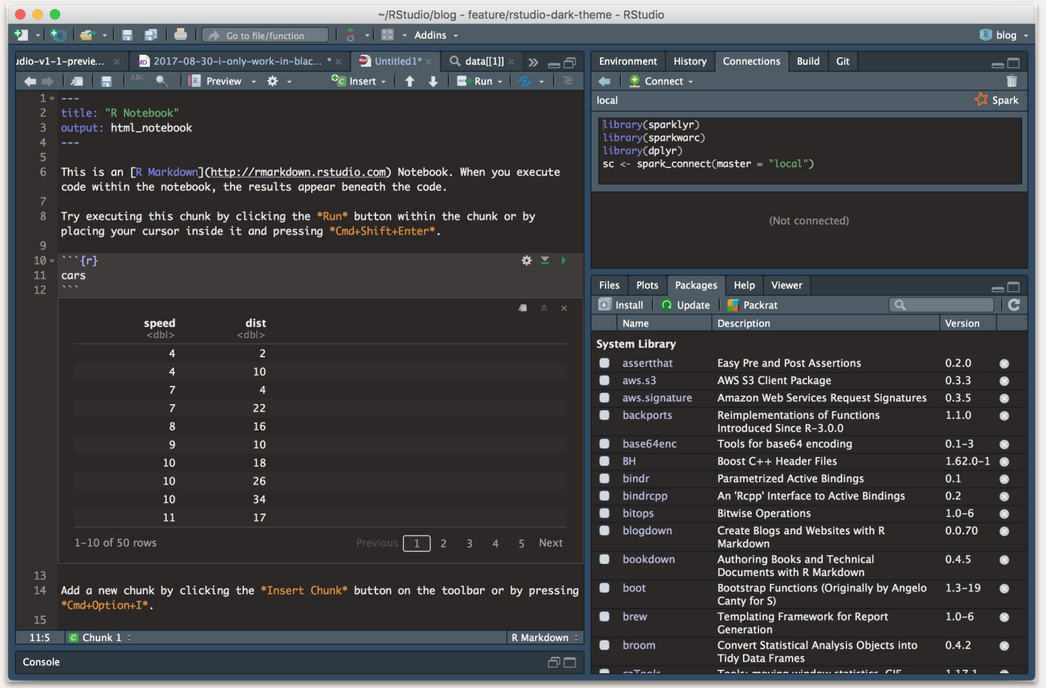
Authoring Books and Technical Documents with R Markdown
0.4.5
boot
Bootstrap Functions (Originally by Angelo Canty for S)
1.3-19
brew
Templating Framework for Report Generation
1.0-6
broom
Convert Statistical Analysis Objects into Tidy Data Frames
0.4.2
---
title: "R Notebook"
output: html_notebook

This is an [R Markdown](http://rmarkdown.rstudio.com) Notebook. When you execute code within the notebook, the results appear beneath the code.
Try executing this chunk by clicking the *Run* button within the chunk or by placing your cursor inside it and pressing *Cmd+Shift+Enter*.
```{r}
cars
```
speed <dbl>
dist <dbl>
4 2
4 10
7 4
7 22
8 16
9 10
10 18
10 26
10 34
11 17
1-10 of 50 rows
Previous 1 2 3 4 5 Next
Add a new chunk by clicking the *Insert Chunk* button on the toolbar or by pressing *Cmd+Option+I*.
11:5
Chunk 1
R Markdown
Console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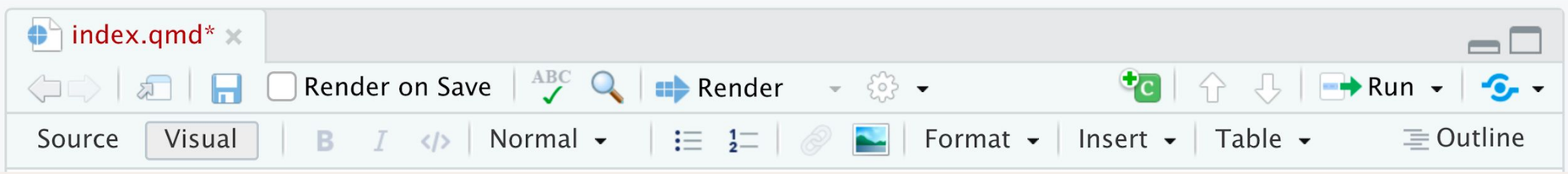
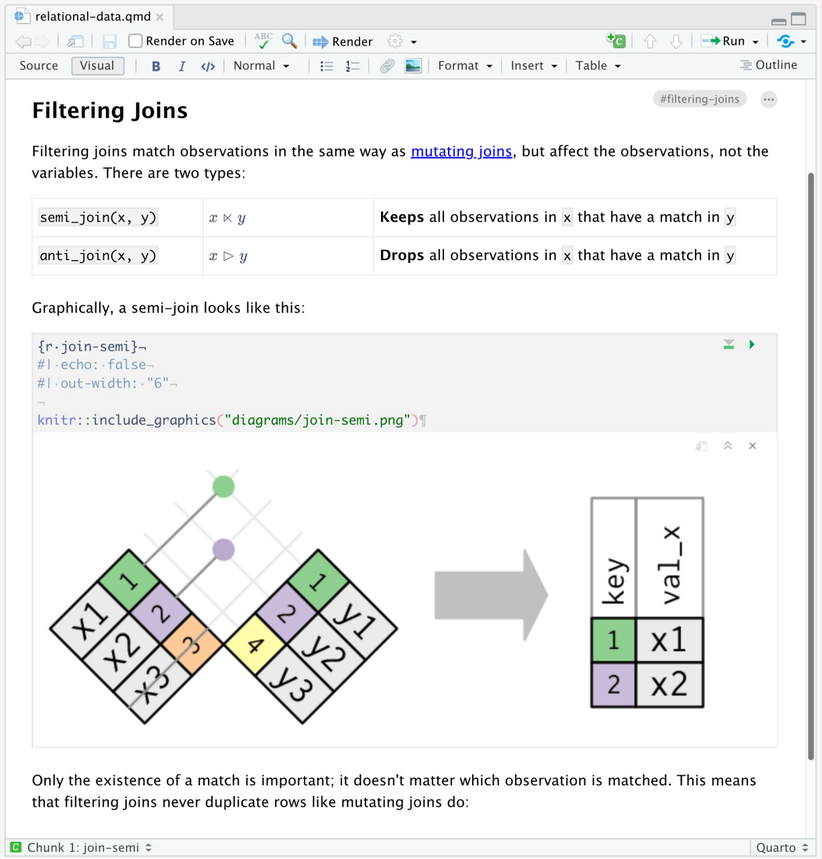
Visual editor





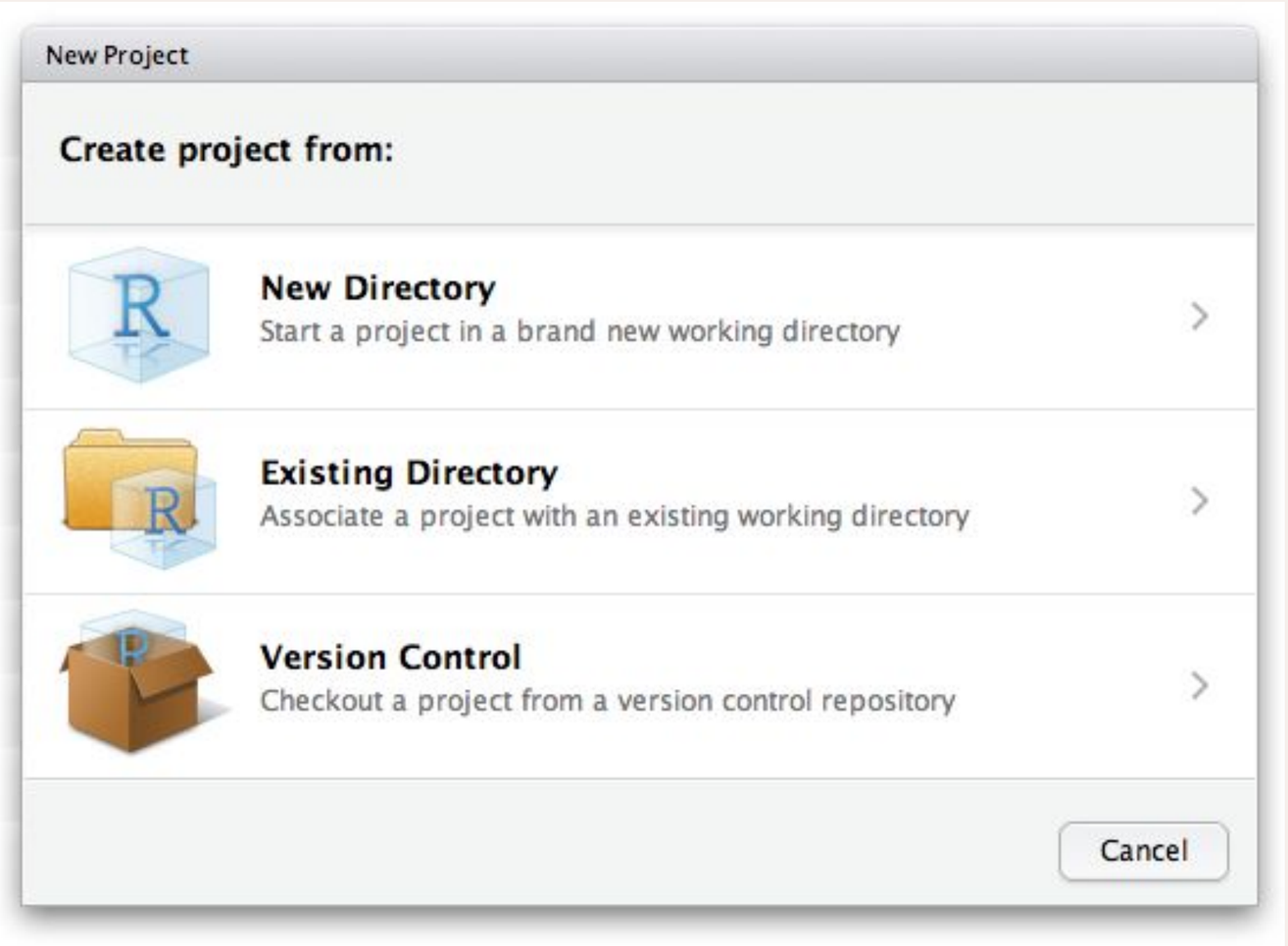
Resources

- Customizing the RStudio IDE
- Using themes in the IDE
- Rainbow parentheses
- Visual editing in RStudio

2. Project-oriented workflows

Projects

Use R projects to make your code more organized and shareable



here

Use the here package to manage file paths

❌ `setwd("path/that/only/exists/on/my/computer")`

Resources

- What They Forgot to Teach You About R Chapter 3: Project-oriented workflow
- R4DS Chapter 7: Script and Projects
- The here package

3. Naming files

Naming files

- Machine readable
- Human readable
- Sorts/orders nicely

NO

myabstract.docx
Joe's Filenames Use Spaces and Punctuation.xlsx
figure 1.png
fig 2.png
JW7d^(2sl@deletethisandyourcareerisoverWx2*.txt

YES

2014-06-08_abstract-for-sla.docx
joes-filenames-are-getting-better.xlsx
fig01_scatterplot-talk-length-vs-interest.png
fig02_histogram-talk-attendance.png
1986-01-28_raw-data-from-challenger-o-rings.txt

Image from Jenny Bryan

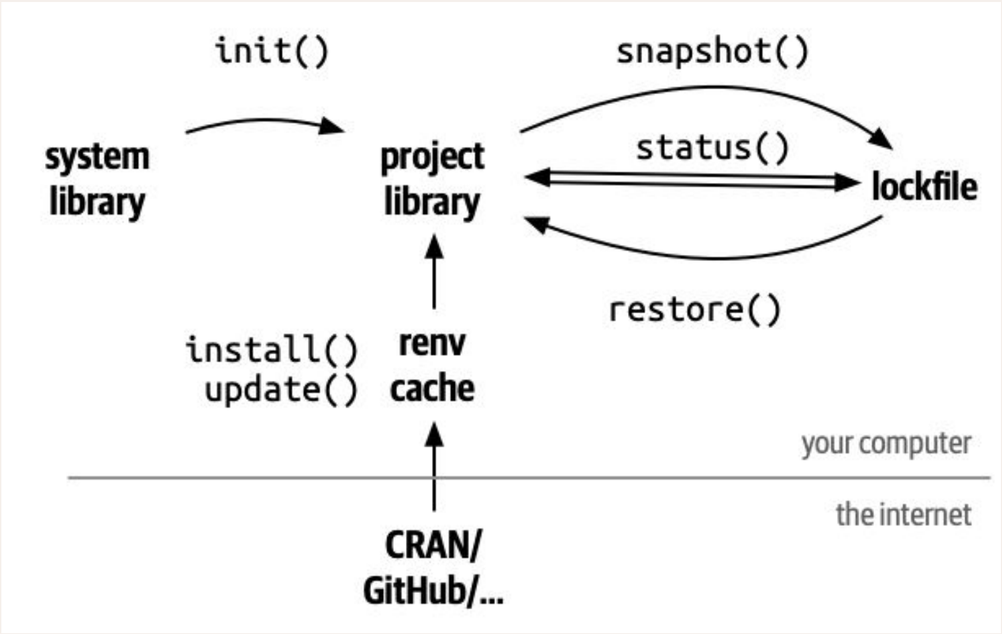
Resources

- Naming things (slides)
- Tidyverse Style Guide Chapter 1: Files

4. Reproducible environments

renv

Create reproducible environments for your R projects with the renv package



Resources

- The renv package
- You should be using renv (rstudio::conf(2022) talk)

5. Code style

Code style

Consistent style makes your easier to read & debug by your future self and collaborators

```
# Good
iris %>%
  group_by(Species) %>%
  summarize_if(is.numeric, mean) %>%
  ungroup() %>%
  gather(measure, value, -Species) %>%
  arrange(value)

# Bad
iris %>% group_by(Species) %>% summarize_all(mean) %>%
ungroup %>% gather(measure, value, -Species) %>%
arrange(value)
```

Image from the Tidyverse Style Guide

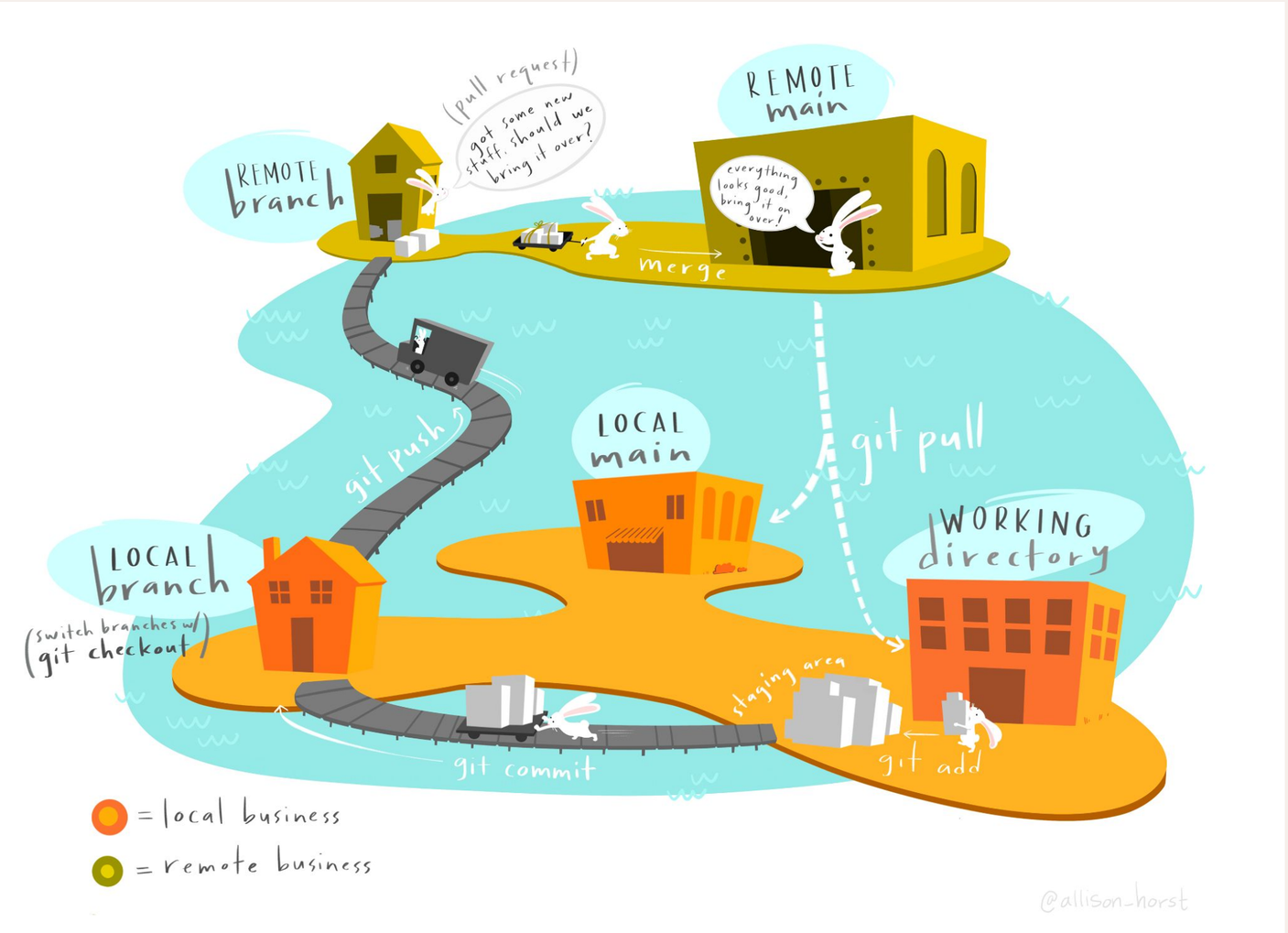
Resources

- Tidyverse style guide
- The styler package
- R4DS Chapter 5: Code Style (short primer)

6. Version control

Git & Github

Use version control to share and collaborate on code projects



Artwork by Allison Horst: https://allisonhorst.com/git-github

Resources

- Happy Git With R

7. Asking for help

Tips for searching

- Google the error message!
- Add “R” to your query
- Add a package name (e.g. “dplyr”) to narrow your results
- Try Posit Community and Stack Overflow

Reprex

Create a **repr**oducible **ex**ample when asking for help

Resources

- R4DS Chapter 9: Getting Help
- The reprex package

Questions?