

What We Learned at rstudio::conf(2020)

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Everything is online

❖ What They Forgot to Teach You about R

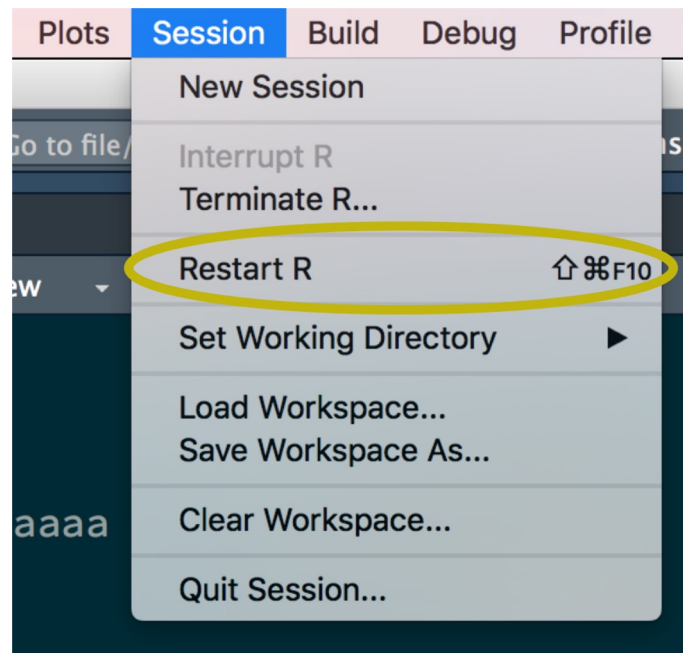
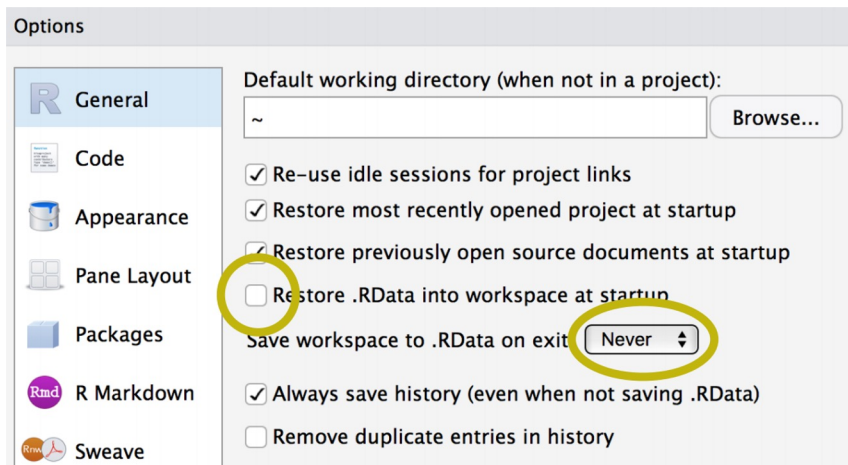
- <https://rstudio-conf-2020.github.io/what-they-forgot/> (slides, exercises, structure)
- <https://rstats.wtf/> (pure content)

❖ Conference talks

- <https://resources.rstudio.com/rstudio-conf-2020>

Adopt a project-oriented workflow

- ❖ Help yourself compartmentalize
- ❖ Use Projects and the here() package
 - stable base
- ❖ Restart R often



Be a friend to yourself and your machine

❖ Machine readable names

- Regex-friendly (avoid spaces, cases, punctuations)
- Delimiters

❖ Human readable names

- Names contain info
- Anticipates context

❖ Play together nicely

- Use numerics to sort (left pad with zeros for constant width)
- ISO-8601 for dates (YYYY-MM-DD)

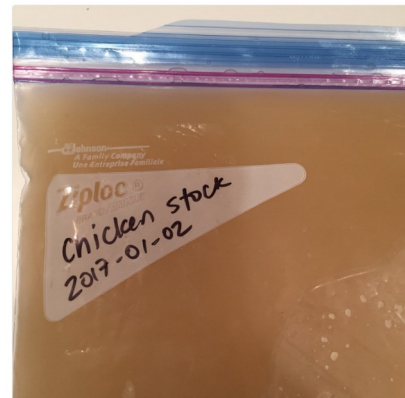
❖ No excuses!

- Easy to implement now
- Payoff increases with time



Jenny Bryan
@JennyBryan

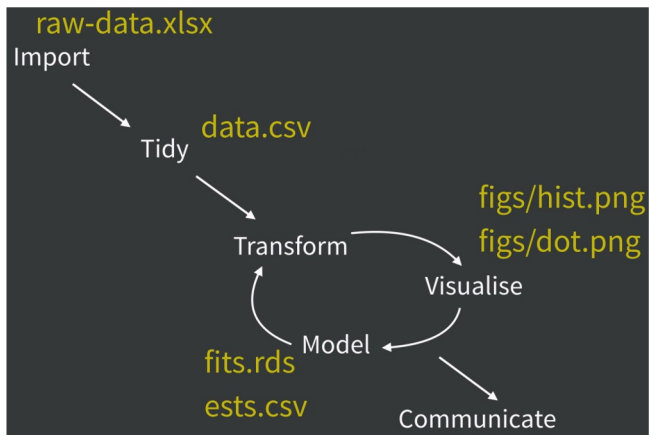
I have an unwavering commitment to the ISO 8601 date standard. People of all nations can parse my freezer.



```
1 00_filesystem-practice_comfy.R
2 00_filesystem-practice_jenny.R
3 00_filesystem-practice_spartan.R
4 01_explore-libraries_comfy.R
5 01_explore-libraries_jenny.R
6 01_explore-libraries_spartan.R
```

Break up monoliths

- ❖ Long programs are opaque
 - Break logic and output into pieces
 - Helpful for future projects
 - Smaller chunks help with debugging and exporting



```
smell-test.R  
wrangle.R  
model.R  
make-figs.R  
report.Rmd
```

>>> everything.R

Debugging

❖ Tips:

- Google the exact error message
- Keyword search community.rstudio.com
- Stackoverflow - [r] tag

❖ But given that we've tried that....

- `print()`

```
f <- function(x) {  
  print(x)  
  x + 1  
}  
g <- function(x) f(x)  
g("a")  
#> [1] "a"  
#> Error in x + 1: non-numeric argument to binary operator
```

Debugging

❖ More advanced techniques:

- `traceback()`
- `str()`
- `browser()` or breakpoints
 - Step through functions
 - Use `ls()`, `print()`, and `str()` to understand what environment looks like

```
f <- function(x) x + 1
g <- function(x) f(x)
g("a")
#> Error in x + 1: non-numeric argument to binary operator
traceback()
#> 2: f(x) at #1
#> 1: g("a")
```

```
f <- function(x) {
  str(x)
  x + 1
}
g <- function(x) f(x)
g("a")
#> chr "a"
#> Error in x + 1: non-numeric argument to binary operator
```

```
20   for (y in x:999) {
21     candidate <- x * y
22     if (candidate > best && palindrome(candidate)) {
23       best <- candidate
24     }
25   }
26 }
```

Customizing R

- ❖ .Rprofile runs every session
 - Set default CRAN mirror
 - Write a welcome message
 - Customize R prompts
 - Options, screen width, numeric display*
 - Aliases/shortcuts for frequently used functions*
- ❖ Be aware when sharing code

```
options(  
  repos = c(  
    CRAN = "https://cloud.r-project.org",  
    Sage = "http://ran.synapse.org"  
  ),  
  browserNLdisabled = TRUE,  
  warnPartialMatchArgs = TRUE,  
  warnPartialMatchDollar = TRUE,  
  warnPartialMatchAttr = TRUE,  
  useFancyQuotes = FALSE,  
  usethis.full_name = "Kara Woo",  
  menu.graphics = FALSE  
)
```

* with caution

Thanks!

Credit to Kara Woo, Jenny Bryan, and Jim Hester

<https://rstudio-conf-2020.github.io/what-they-forgot/>