

R in production

And now your code has to be reliable

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University
(2004)



Introduced
to RStudio
(2014)

Today



Context

Availability

90%

99%

99.99%

Scale

1 user, 1
region

+ users, 1
region

+ users,
+regions

Impact

0-3

3-9

10+

~No stress

Average

~\$\$\$ + Time

Best practices

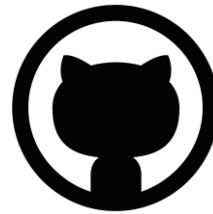
For an average ASI

Version control

“Writing code without version control is like something else without protection”

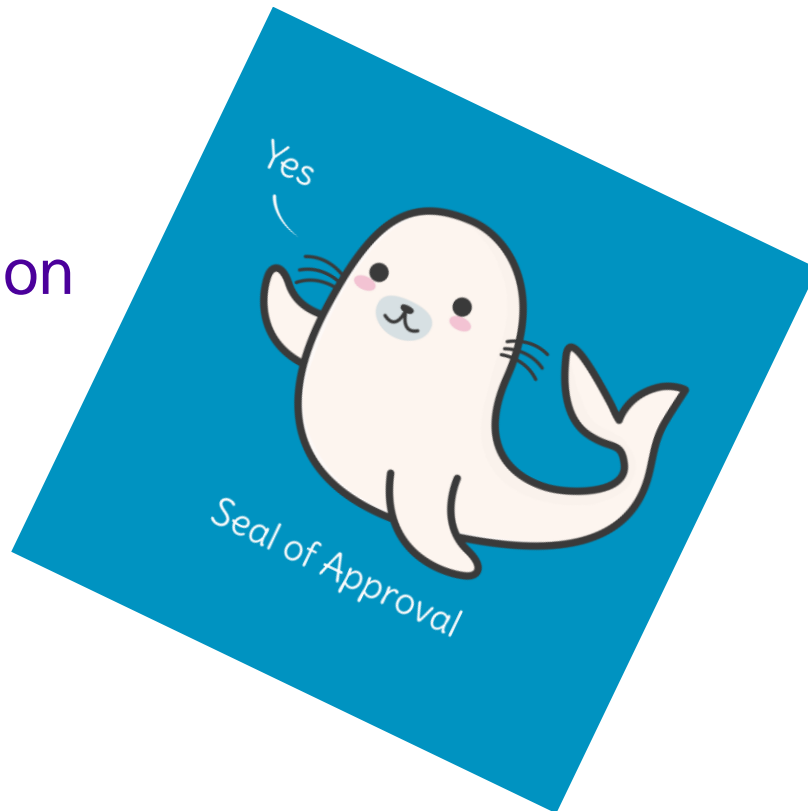
- Ned Flanders

- Track changes
- Create release
- Follow the workflow

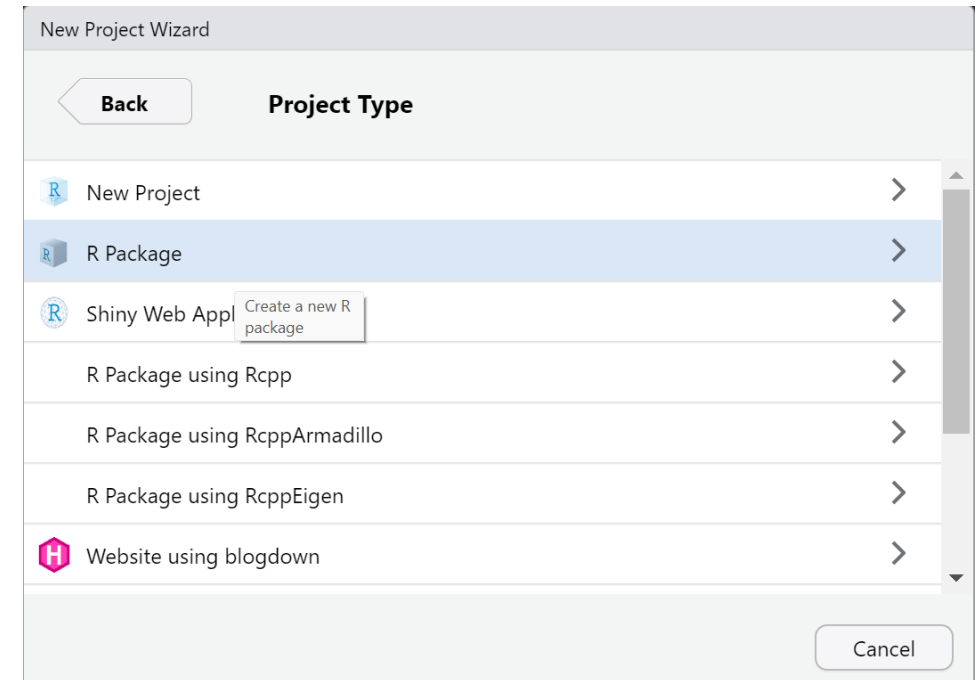


Package

- Structure
- Dependencies
- Unit tests
- Checks
- Documentation
- Sharability



```
> usethis::create_package()
```



Tests

- Avoid crashing live, test your code

```
> usethis::use_testthat()
```



Debug

- Basic debugging functions
- Decipher cryptic messages



```
> ?debug  
> ?traceback  
> ?browser  
> ?trace  
> ?recover
```


Style guide

- Code with style

```
> ?lint:lint
```



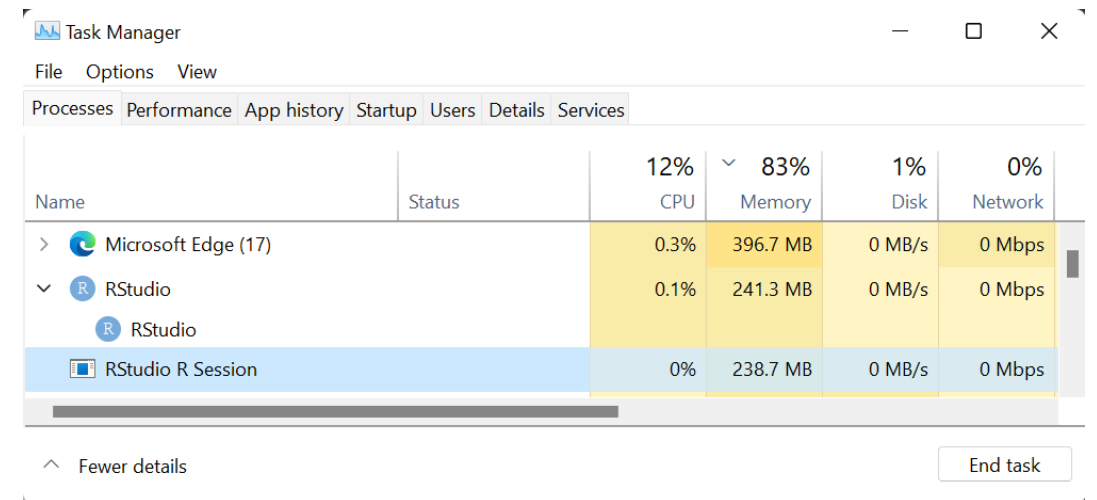
Writing Code Interactive Interlude

**Back to our
regular
programming**

Resources (at some point, someone must do it)

- Hardware zone
- Memory
- Compute
- Storage
- Deployment pattern
 - REST API
 - Scheduled tasks
 - Interactive web application

```
userR@unixbox:~$ top
```












The screenshot shows the Windows Task Manager Performance tab. At the top, it displays overall system usage: 12% CPU, 83% Memory, 1% Disk, and 0% Network. Below this is a table of running processes. The 'RStudio R Session' process is highlighted in blue.

Name	Status	CPU	Memory	Disk	Network
Microsoft Edge (17)		0.3%	396.7 MB	0 MB/s	0 Mbps
RStudio		0.1%	241.3 MB	0 MB/s	0 Mbps
RStudio R Session		0%	238.7 MB	0 MB/s	0 Mbps

References

Code in production checklist

	Version control
	R Package
	Unit tests
	Code style
	Pass checks
	Performance requirement
	Resources measurement
	Deployment strategy
	Load testing

Linky Linky

Using git with R

[Happy Git and GitHub for the useR \(happygitwithr.com\)](http://happygitwithr.com)

R packages

[Welcome! | R Packages \(r-pkgs.org\)](http://r-pkgs.org)

Tidyverse Style Guide

[Welcome | The tidyverse style guide](https://style.tidyverse.org)

Debugging and setup

[What They Forgot to Teach You About R \(rstats.wtf\)](http://rstats.wtf)

[Debugging by Jim Hester \(3/27/2019\) - YouTube](https://www.youtube.com/watch?v=UuU0t1p33W4)

Questions?

Work with me at Beneva
lacapitale.jobs.net/en-CA/page/actuariat

Short-term help
boostao.ca

