

Let Humans Human and Computers Computer

A Tale of Building Useful and Effective Automations

Jan Krutisch <jan@depfu.io>

rubyconf.it 2017

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An endless stream of cat pictures

Because everyone loves cats

Jan Krutisch <jan@depfu.io>

rubyconf.lt 2017









HilariousGifs.com



HilariousGifs.com



Building automations

Why automate?











AutoZoo.ru



AutoZoo.ru



Cost





work more enjoyable
less errors
less cost and/or work



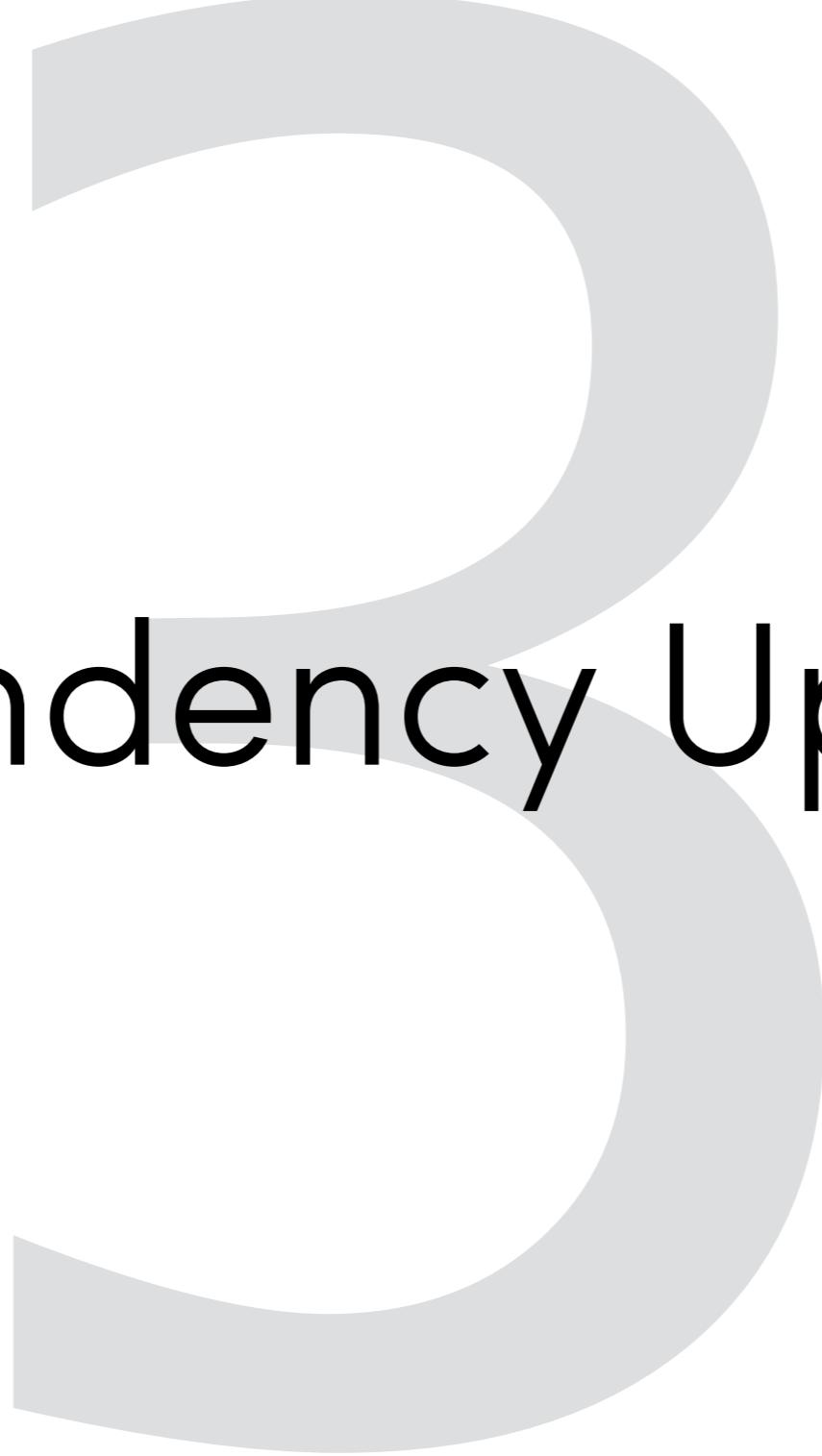
Downsides



Testing



Deployment



Dependency Updates

Testing

jan@Keli:~/Documents/projects/artdoxa

> █

single_artwork_page [98b98f46]

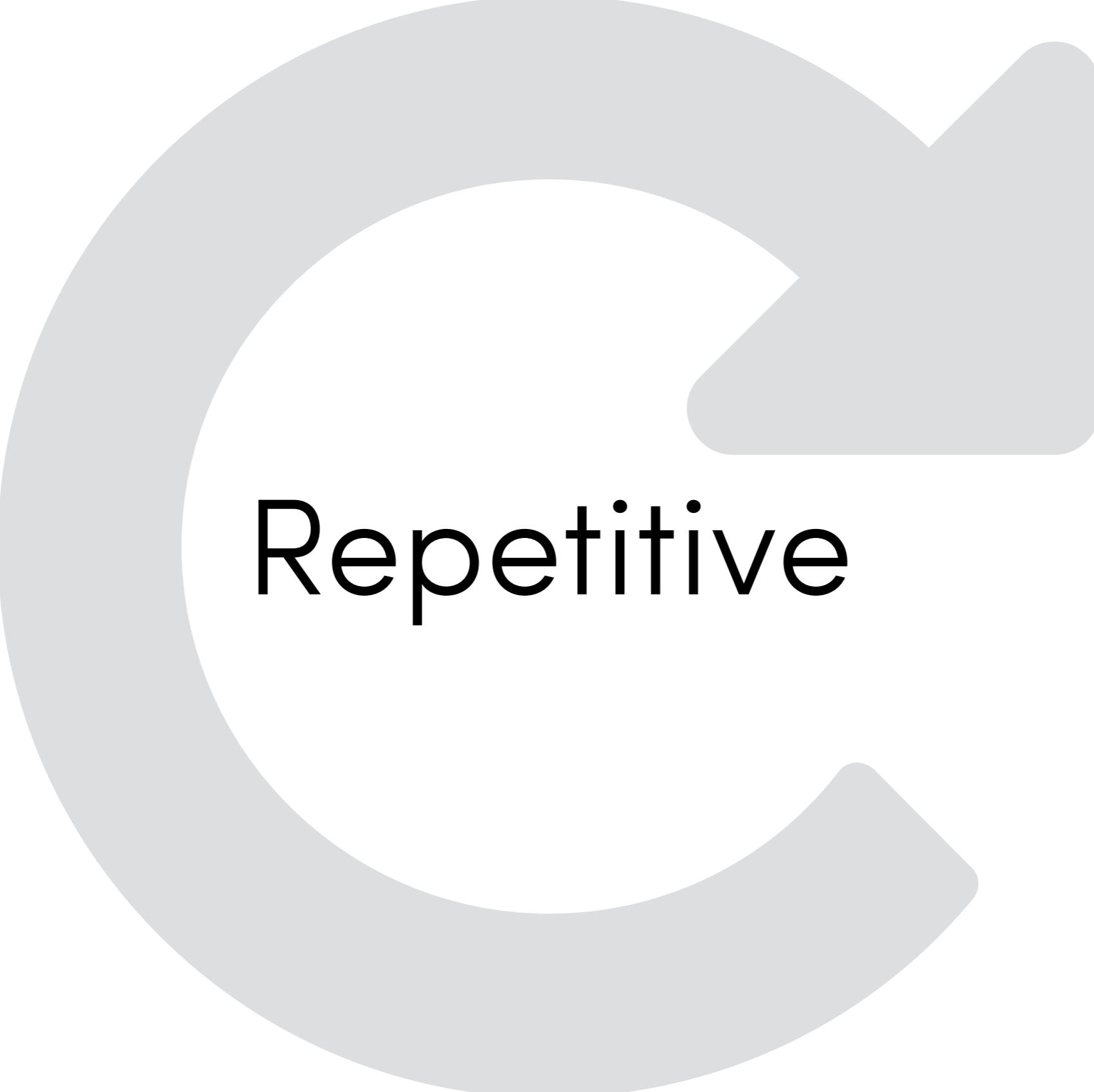
jan@Keli:~/Documents/projects/artdoxa

> █

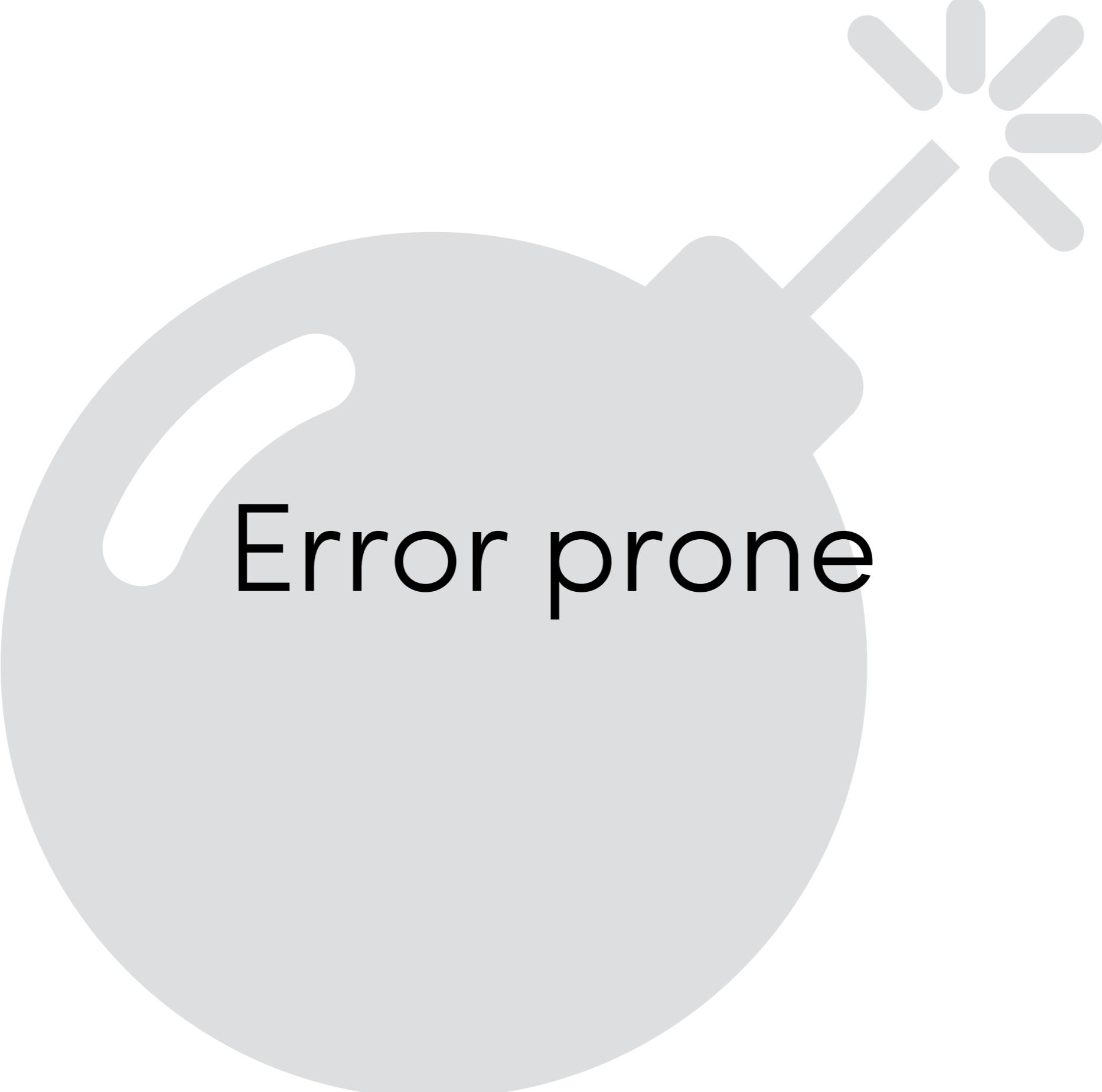
single_artwork_page [98b98f46]



Boring

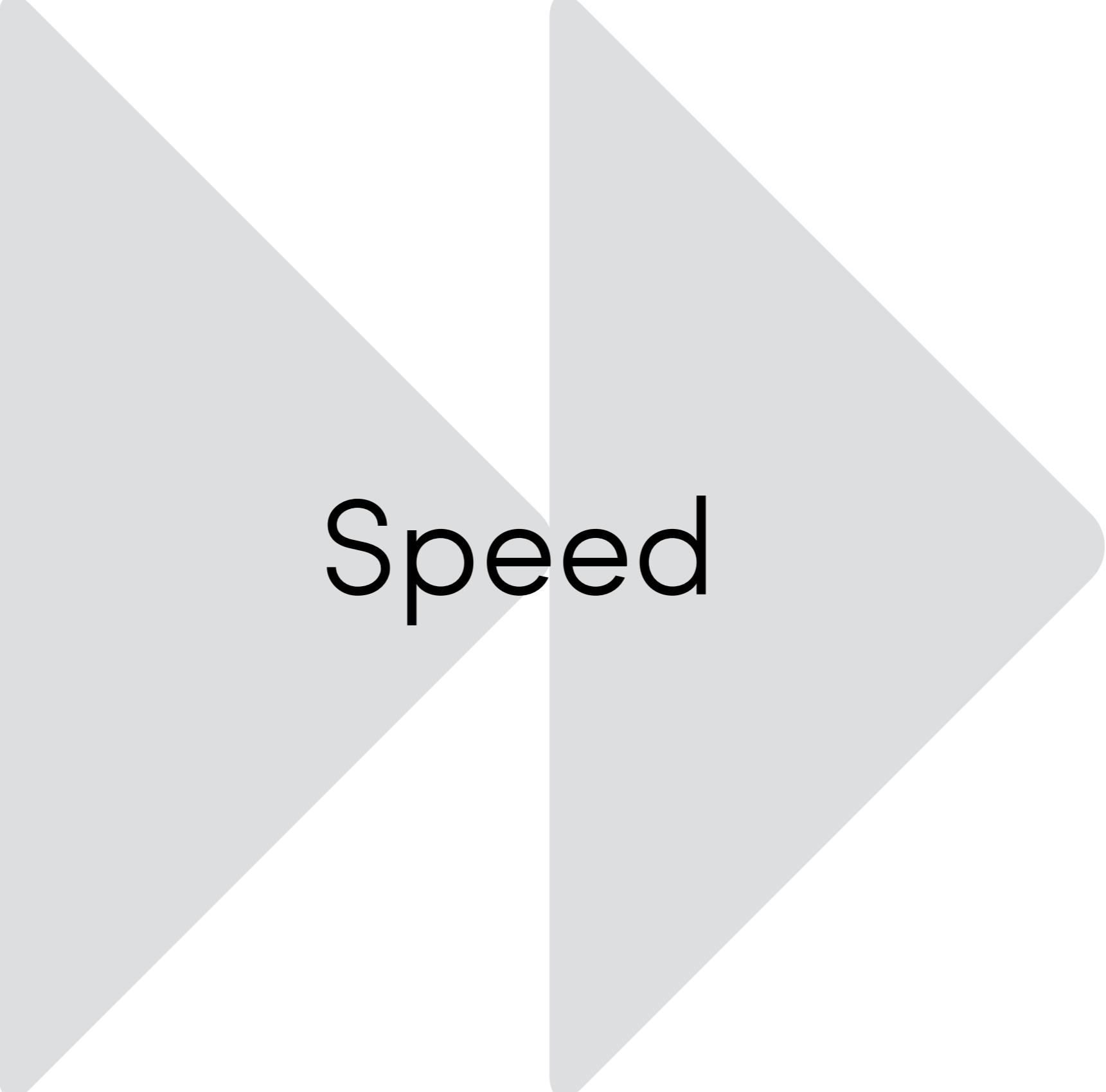


Repetitive



Error prone

Unit tests



Speed

Code coverage

All Files (95.92% covered at 84.13 hits/line)

65 files in total. 1911 relevant lines. 1833 lines covered and 78 lines missed

File	% covered	Lines	Relevant Lines	Covered	Missed	Avg. Hits / Line
lib/devise/rails/warden_compat.rb	30.43 %	120	69	21	48	194.7
lib/devise/omniauth.rb	81.25 %	27	16	13	3	1.1
lib/devise/rails.rb	83.33 %	56	24	20	4	1.0
lib/devise/encryptors/base.rb	85.71 %	20	7	6	1	10.1
lib/devise/controllers/shared_helpers.rb	91.67 %	26	12	11	1	81.1
lib/devise/mailers/helpers.rb	92.11 %	91	38	35	3	197.8
lib/devise/rails/routes.rb	92.13 %	383	89	82	7	88.2
lib/devise/controllers/url_helpers.rb	92.86 %	48	14	13	1	5.9
lib/devise/models/encryptable.rb	92.86 %	72	28	26	2	24.4
lib/devise/strategies/token_authenticatable.rb	96.0 %	57	25	24	1	285.4
app/controllers/devise/registrations_controller.rb	96.55 %	120	58	56	2	4.8
lib/devise/schema.rb	97.73 %	104	44	43	1	1.5
lib/devise/models/authenticatable.rb	98.44 %	175	64	63	1	215.2
lib/devise.rb	98.6 %	443	214	211	3	89.3
app/controllers/devise/confirmations_controller.rb	100.0 %	47	23	23	0	4.0
app/controllers/devise/omniauth_callbacks_controller.rb	100.0 %	26	16	16	0	1.6
app/controllers/devise/passwords_controller.rb	100.0 %	51	27	27	0	7.8
app/controllers/devise/sessions_controller.rb	100.0 %	47	28	28	0	71.5
app/controllers/devise/unlocks_controller.rb	100.0 %	35	19	19	0	3.7
app/helpers/devise_helper.rb	100.0 %	25	7	7	0	24.0
app/mailers/devise/mail.rb	100.0 %	15	8	8	0	50.0
lib/devise/controllers/helpers.rb	100.0 %	232	66	66	0	74.8
lib/devise/controllers/internal_helpers.rb	100.0 %	148	64	64	0	303.6
lib/devise/controllers/rememberable.rb	100.0 %	52	25	25	0	13.6
lib/devise/controllers/scoped_views.rb	100.0 %	33	17	17	0	70.3
lib/devise/encryptors/authlogic_sha512.rb	100.0 %	19	8	8	0	4.4
lib/devise/associations/clearance_chat.rb	100.0 %	17	6	6	0	1.7

Lesson #1

Good automations make the easy trivial and the complicated possible

Triggering

Lesson #2

Not everything that can be automated should be automated.

Continuous Integration



Search all repositories

halfbyte / afm  build passing

Current Branches Build History Pull Requests > Build #6 Job #6.1

More options



1 halfbyte/afm # 15

 Duration: 1 min 28 sec
 Finished: about a month ago

.. master updating gem to include changelog and fixtures

-o #6.1 booting

 Cancel job

-  Commit 7a35bbb
-  Compare 8846069...7a35bbb
-  Branch master
-  Jan Krutisch authored and committed

 Waiting to start[Job log](#)[View config](#)

Hang tight, the log cannot be shown until the build has started.



Search all repositories



halfbyte / afm



build passing

[Current](#) [Branches](#) [Build History](#) [Pull Requests](#) > [Build #6](#)[Job #6.1](#)[More options](#)**1 halfbyte/afm** # 15

⌚ Duration: 1 min 28 sec
🕒 Finished: about a month ago

++ master updating gem to include changelog and fixtures

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[Cancel job](#)[Commit 7a35bbb](#)[Compare 8846069...7a35bbb](#)[Branch master](#)[Jan Krutisch authored and committed](#)[Commit 7a35bbb](#)[Compare 8846069...7a35bbb](#)[Branch master](#)[Jan Krutisch authored and committed](#)[Job log](#)[View config](#)

Hang tight, the log cannot be shown until the build has started.



close to production

JACOBSEN

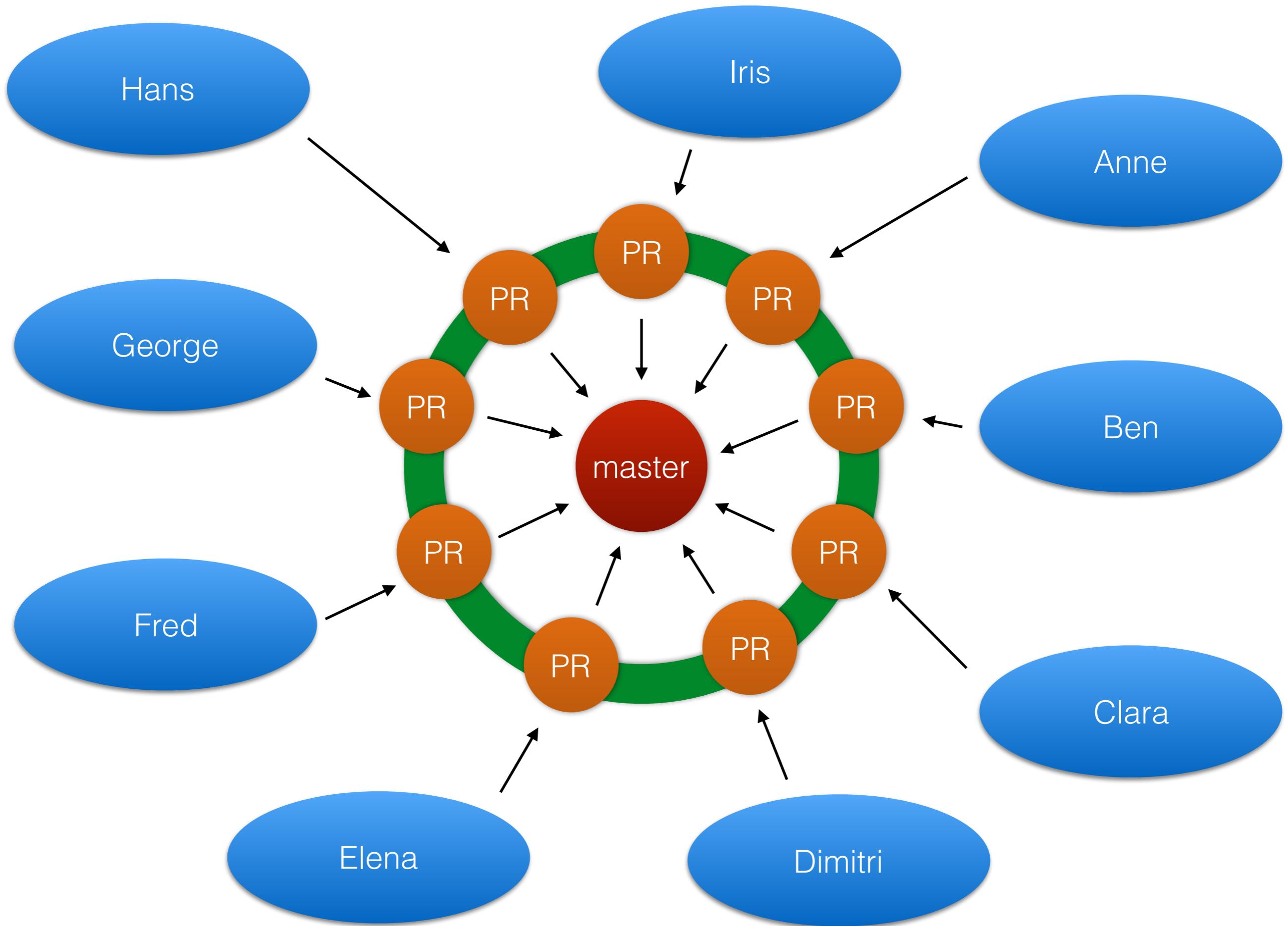
ROLLING SHEETS OF DOUGH INTO BISCUITS

A photograph of a man in a white lab coat and a surgical mask, standing in a cleanroom. He is looking down at a workbench. The background shows various pieces of equipment, including a large blue cabinet labeled "LAMARFLO" and several control panels. The overall lighting is bright and sterile.

clean install

Human error

Continuous Integration



Lesson #3

Good automations integrate into your team workflows

F

High level tests

Cucumber

@javascript

CI is asynchronous

Lesson #4

Asynchronous automations are a great way to
unblock your developer workflows.

Deployment

```
jan@adora ~/Documents/projects/artdoxa <single_artwork_page>  
$
```

I

```
jan@adora ~/Documents/projects/artdoxa <single_artwork_page>  
$
```

I

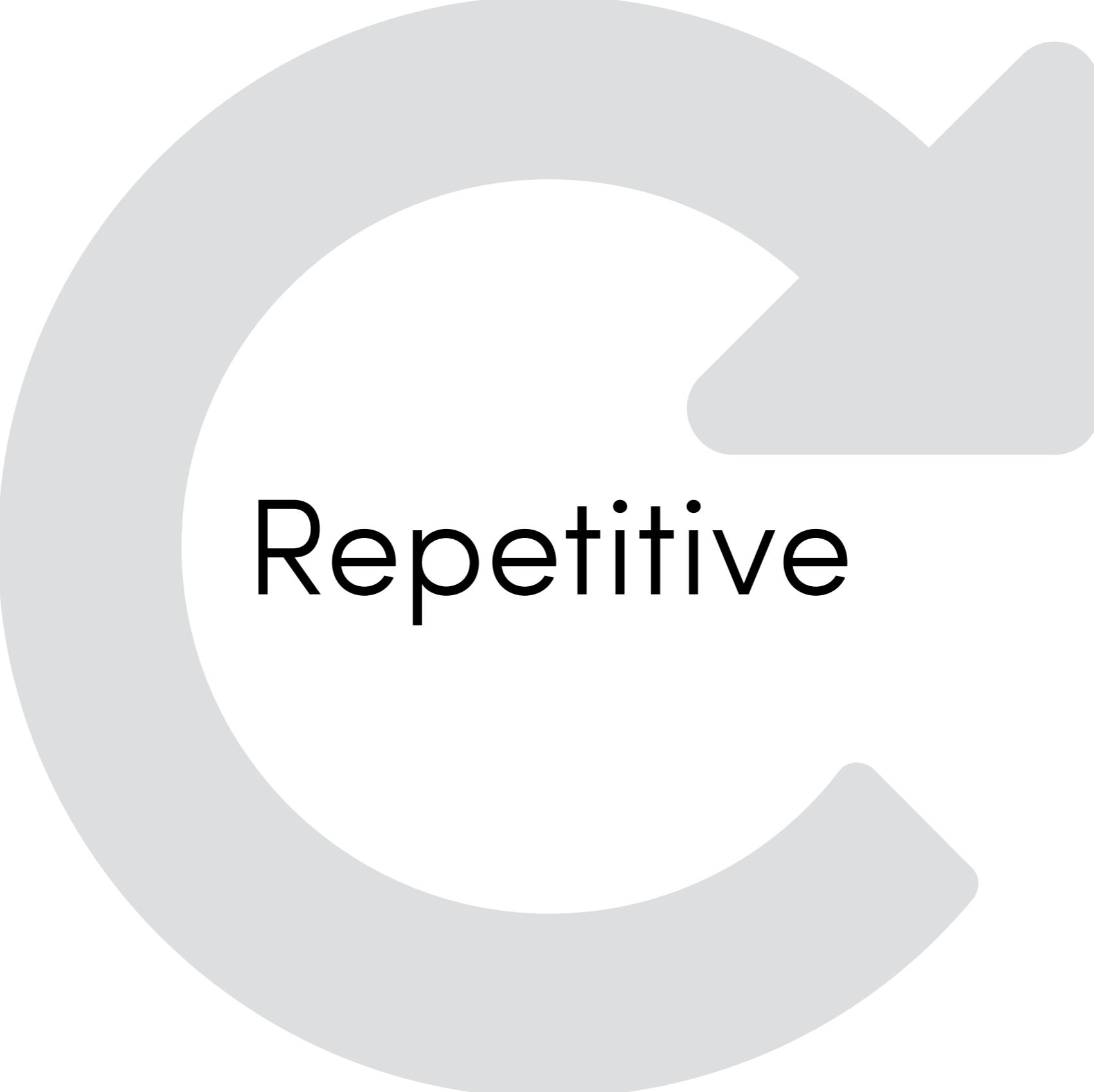
FTP

```
mysql> UPDATE transactions ADD  
COLUMN original_value INT...
```

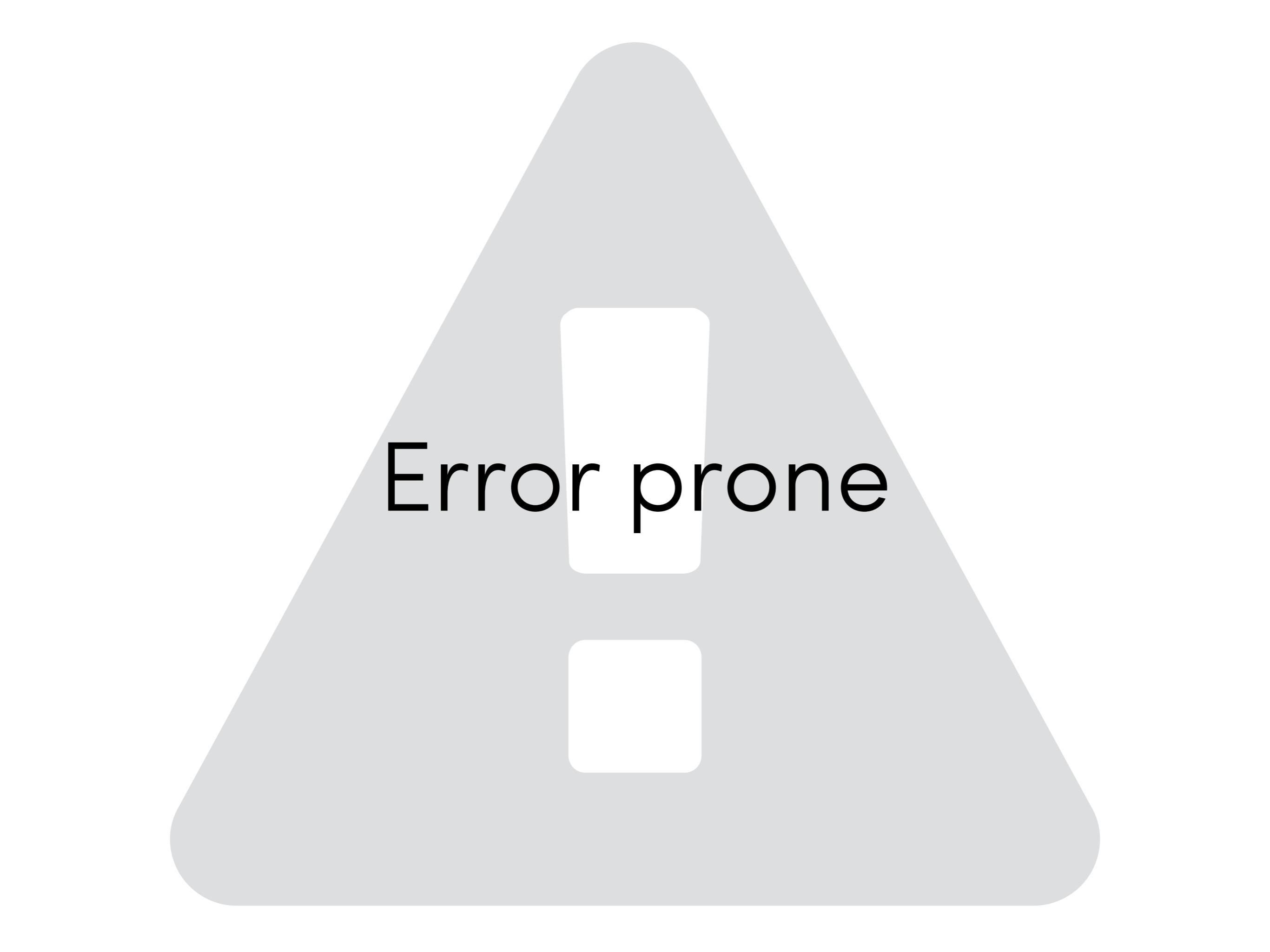
Capistrano



Boring



Repetitive

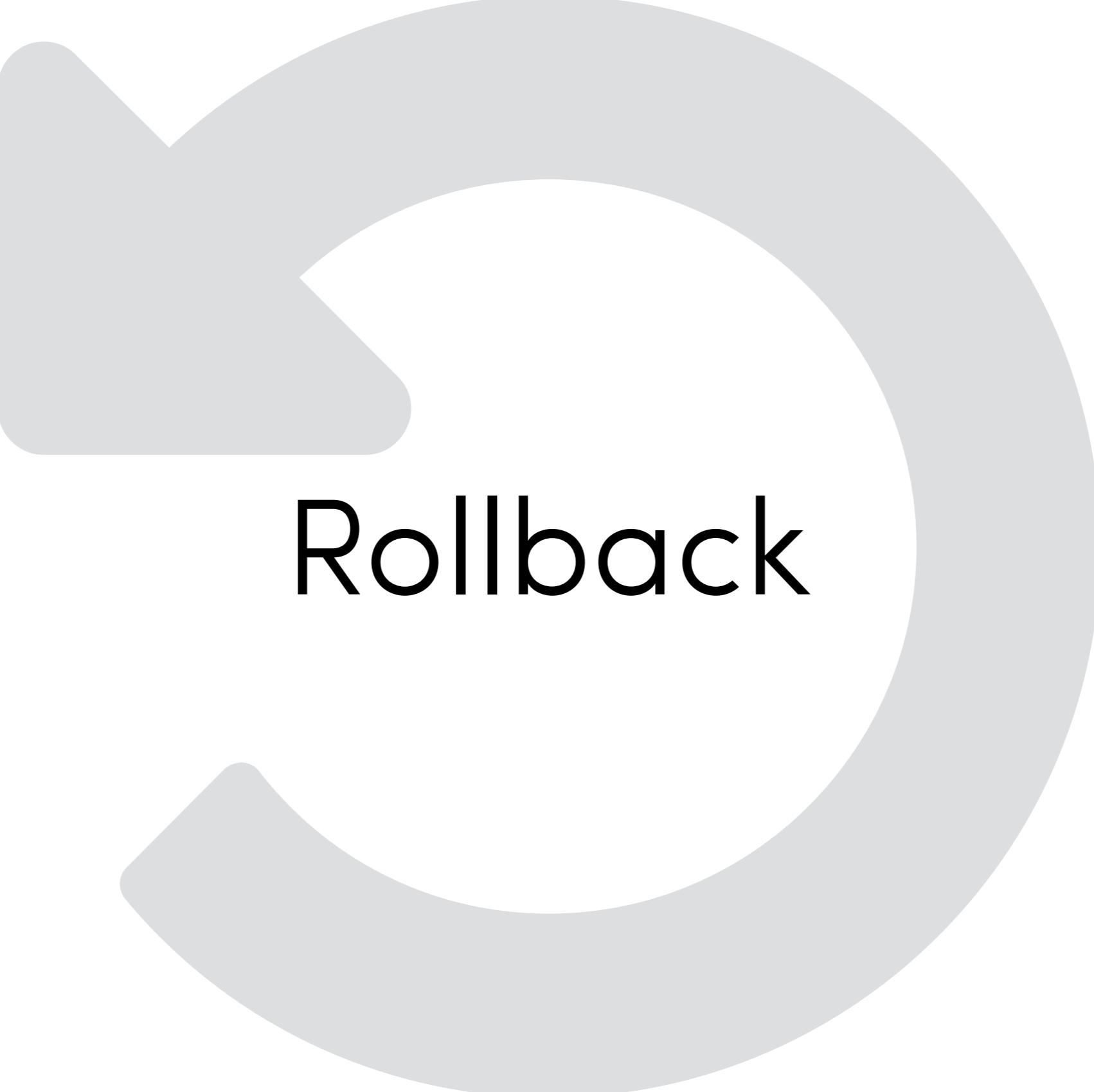


Error prone



Speed

Atomic operation



Rollback

Lesson #5

Good automations codify best practices

Continuous delivery

Continuous deployment

Higher risk

More complexity

Lesson #6

The higher the risk for a certain task is, the more complex your automation will have to be

Dependency Updates

\$ bundle outdated

gemSurance

```
$ bundle audit
```

Problem?

Stability



Security

duration of full update in minutes

400m

300m

200m

100m

0m

Cost of doing an
update

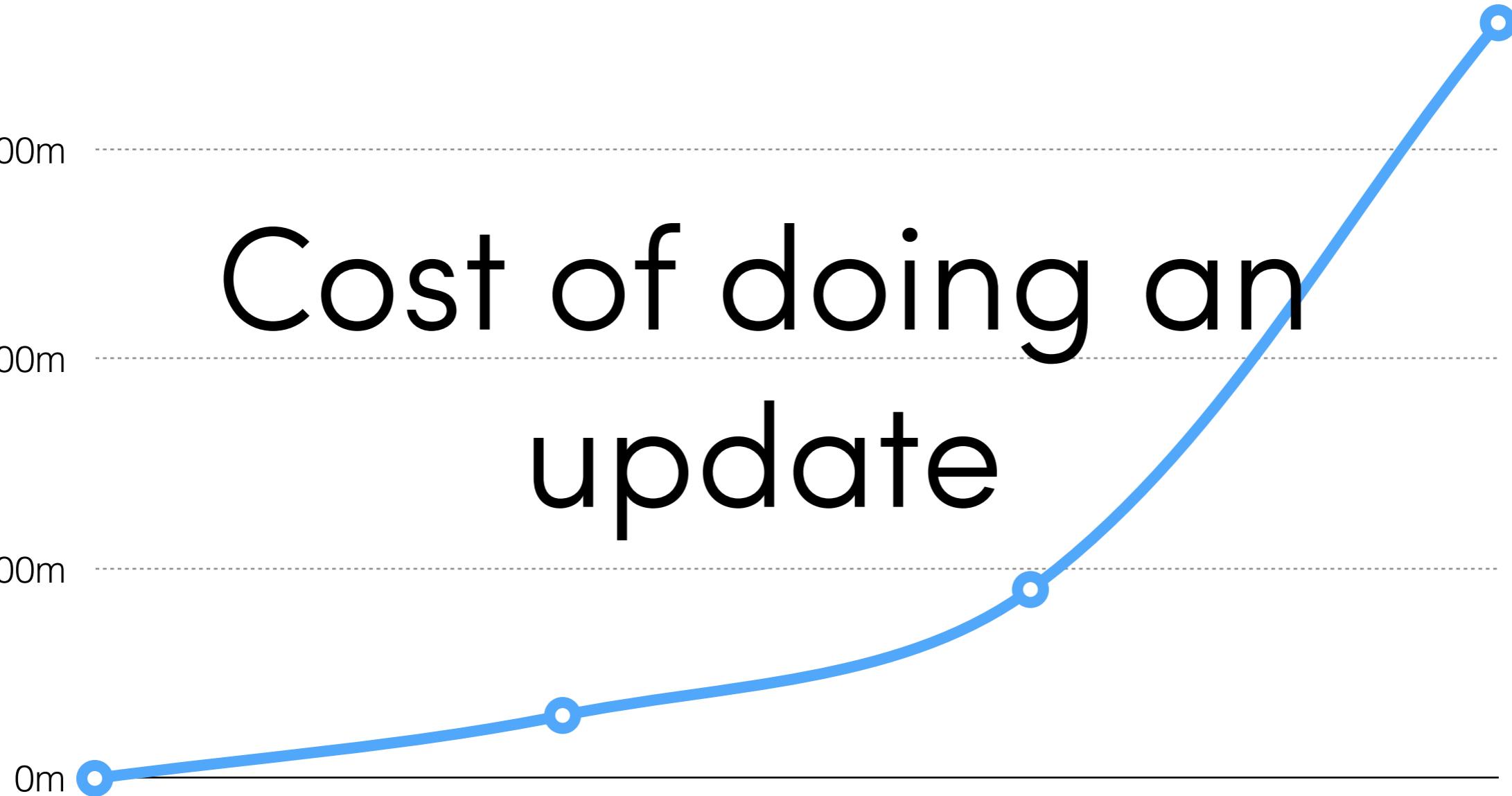
0

5

10

15

number of outdated gems



Pain in small doses

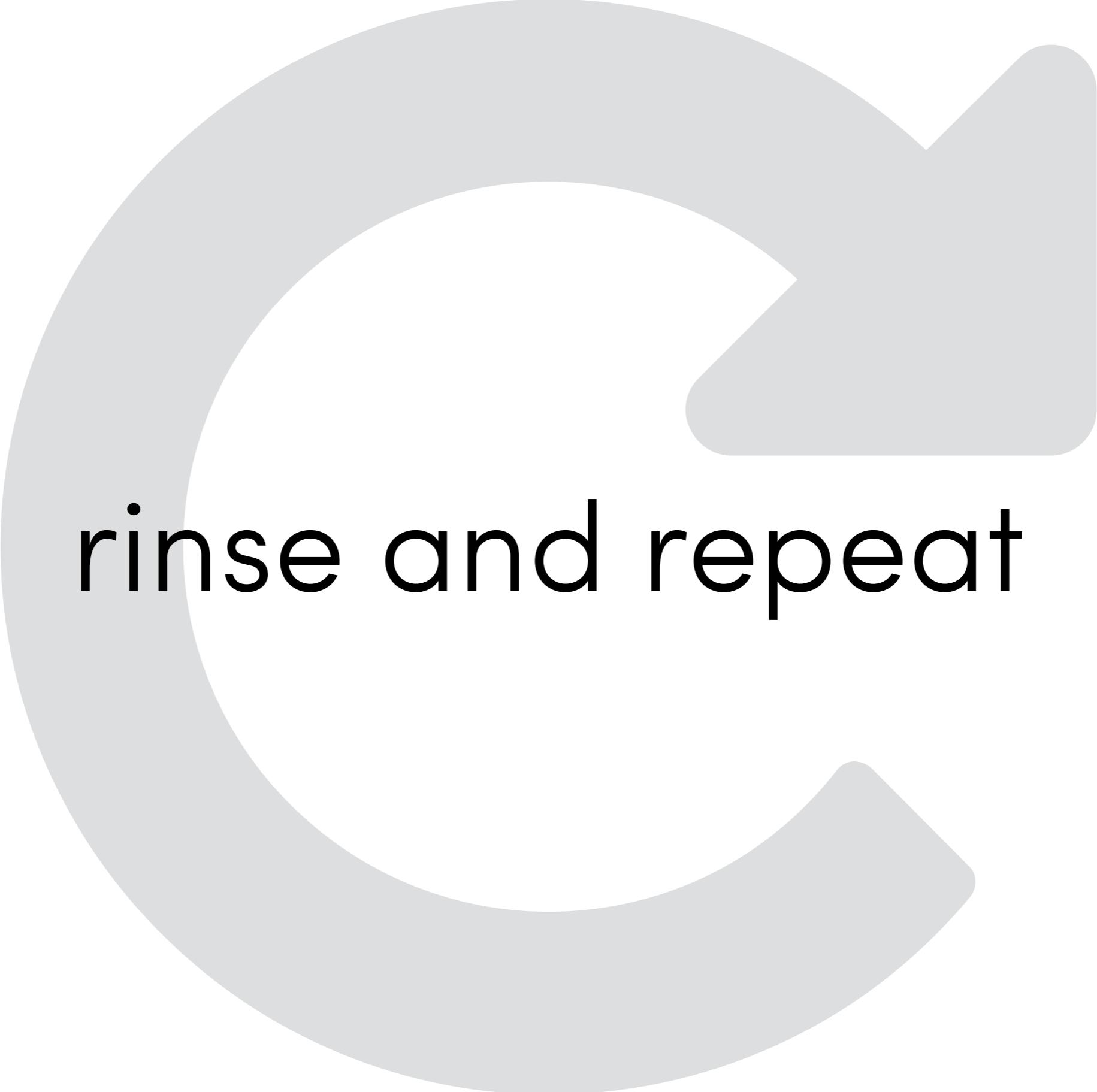
Best practice?

One at a time



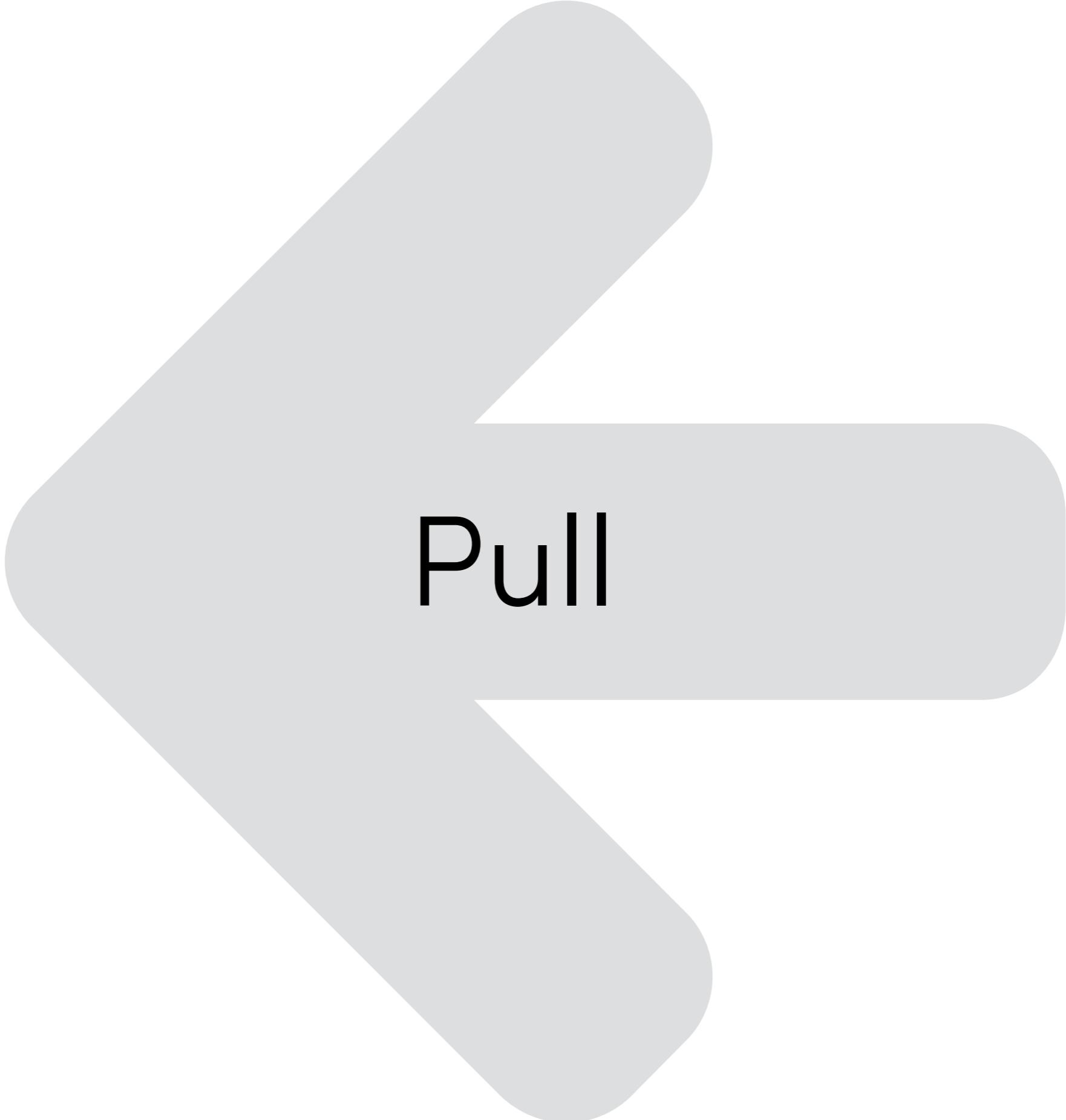
Find information

green tests

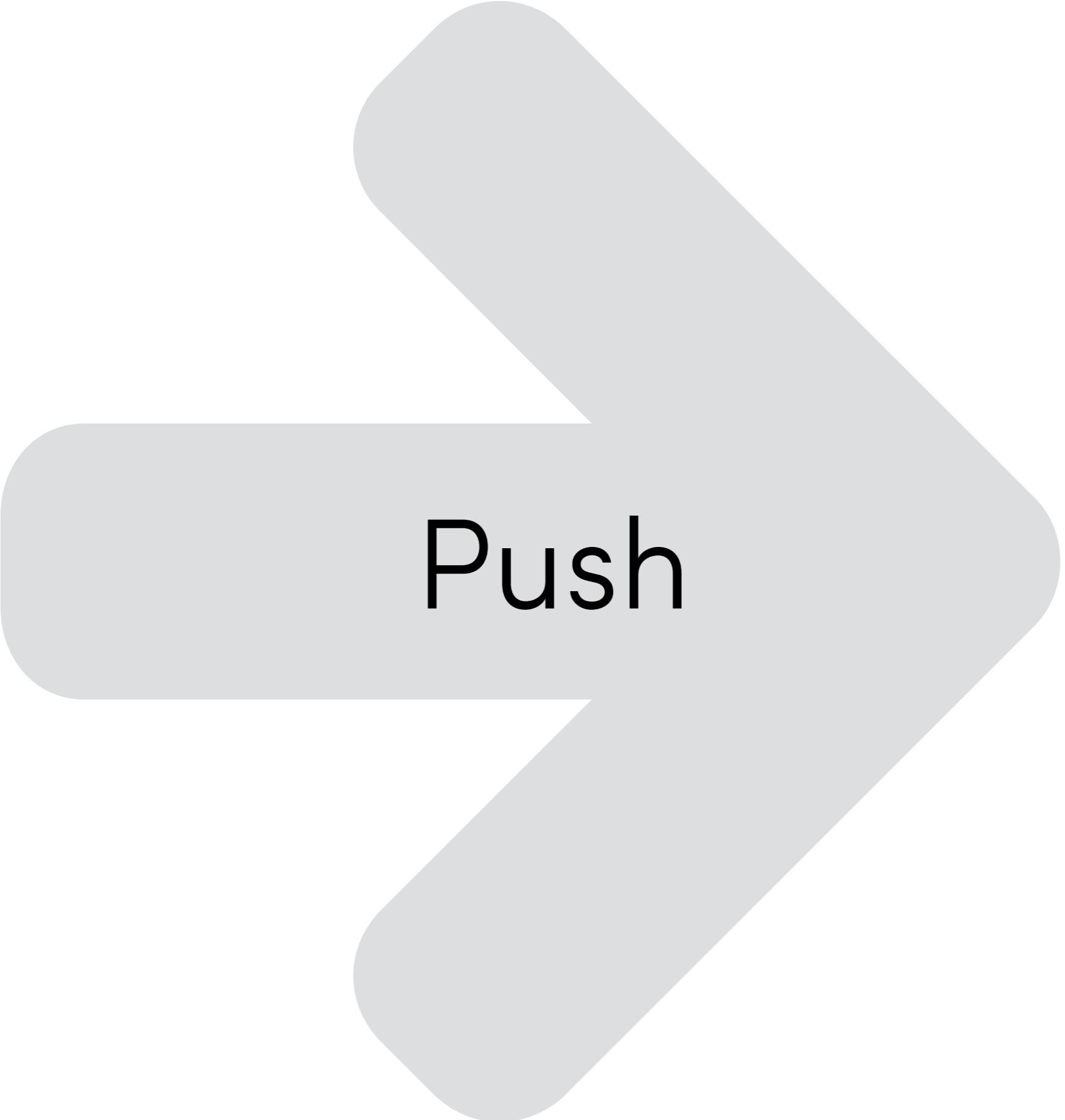


rinse and repeat

make it better!



Pull



Push

One at a time



New branch

Tested by CI



Find information

▼ Commits

The new version differs by 27 commits:

- [Prepare for 1.14.0 release](#)
- [Merge pull request #868 from teampoltergeist/extension_failure](#)
- [Merge pull request #869 from teampoltergeist/header_logic_fix](#)
- [fix changelog \[ci skip\]](#)
- [Raise error when extension can't be loaded – Fixes issue #867](#)
- [fix permanent header logic and just pass options through](#)
- [Merge pull request #857 from Nix-wie-weg/remove_temp_header_on_redirect](#)
- [Added 'permanent: :no_redirect' to also remove temp headers on redirects](#)
- [Update CHANGELOG.md \[ci-skip\]](#)
- [simplify blocked requests and store in networkTraffic](#)
- [Merge pull request #859 from kylerippey/add_blocked_network_traffic](#)
- [Began tracking blocked network requests and exposed it through the network_traffic interface](#)
- [Merge pull request #856 from teampoltergeist/equal](#)
- [Node equality needs to also compare page_id](#)
- [fix potential error](#)
- [fix test for JRuby 9.1.x.x](#)
- [test with jruby 9.1.7.0](#)
- [fix duplicate typo](#)
- [fix typo](#)
- [limit ttfunk version when testing with ruby versions < 2.1](#)
- [Merge pull request #853 from calasyr/patch-2](#)
- [Merge pull request #852 from calasyr/patch-1](#)
- [Added CircleCI to list of CIs that have PhantomJS installed by default.](#)
- [Updated README with link to latest version.](#)
- [Merge pull request #850 from teampoltergeist/evaluate_element_result](#)
- [Support returning structures containing elements from evaluate_script](#)
- [Support returning an element from evaluate_script](#)

See [the full diff](#).

3.1.0 (27 February 2017)

- update UglifyJS to 2.8.0
- add `reduce_vars` compress option
- enable `reduce_vars` and `collapse_vars` compress options by default
- unused top-level function and variable removal with `toplevel` compress option
- add `top_retain` compress option to specify list of top-level variables to always retain
- add `unsafe_comps` and `unsafe_proto` options

3.0.4 (30 November 2016)

- update UglifyJS to 2.7.5
- Implement `ignore_quoted` and `debug` options for `mangle_properties`

3.0.3 (24 October 2016)

- update UglifyJS to 2.7.4
- add `wrap_ife` output option to wrap IIFEs in parenthesis

3.0.2 (20 August 2016)

- add top-level `keep_fnames` option that implies both compressor and mangler `keep_fnames`
- update UglifyJS to 2.7.3

3.0.1 (28 July 2016)

- update UglifyJS to 2.7.0
- split JS dependencies to separate files

3.0.0 (22 March 2016)

- drop support for Ruby 1.8
- remove `json` as dependency
- discard unused function arguments only in `unsafe` mode
- add `keep_fnames` option to preserve function names in compressed code
- add `collapse_vars` option to collapse single-use variables
- backwards incompatible changes to source map options
- support for inline base64 encoded source maps
- mangle property names option (disabled by default)

⌚ v3.1.6
⌚ 18620f5

will_paginate 3.1.5

 mislav released this on 16 Oct 2016

- Avoid Rails 5 deprecation warning about `original_exception`
- No longer generates `` for first page link since "start" is an invalid rel value

Downloads

 [Source code \(zip\)](#)

 [Source code \(tar.gz\)](#)

on 15 Oct 2016 ⚖

v3.0.11 ⚖
⌚ 231a09e  

⌚ v2.3.17
⌚ 378da64

will_paginate 2.3.17

 mislav released this on 16 Oct 2016 · 369 commits to master since this release

- Avoid unintentional SQL queries being triggered by defining `respond_to_missing?` alongside `method_missing?`

Downloads

 [Source code \(zip\)](#)

 [Source code \(tar.gz\)](#)

⌚ v3.0.10
⌚ c993739

will_paginate 3.0.10

 mislav released this on 21 Sep 2016 · 108 commits to master since this release

- Fix locale load path so that application can override will_paginate's built-in translations.

Downloads

Changelogs

Changelogs

Changelogs

Update uglifier to version 3.1.11 #60

[Edit](#)

[Open](#) halfbyte wants to merge 1 commit into `master` from `depfu/update/uglifyer-3.1.11`

[Conversation](#) 0[Commits](#) 1[Files changed](#) 1

+2 -2



halfbyte commented 20 hours ago



Hello,

We've updated a dependency and all tests pass. :)

gem name	version specification	old version	new version
uglifyer	<code>>= 1.0.0</code>	3.0.2	3.1.11

You should probably take a good look at this before merging this pull request, of course.

What changed?

[Have a look at the gem's changelog.](#)[▶ Commits](#)

Depfu sends automated pull requests to update your Ruby dependencies.

[Update uglifier to version 3.1.11](#)

✓ 4c157e2

[halfbyte referenced this pull request 20 hours ago](#)[Update uglifier to version 3.1.10 #58](#)

Closed

Add more commits by pushing to the `depfu/update/uglifyer-3.1.11` branch on `halfbyte/artdoxa`.**All checks have passed**

1 successful check

[Show all checks](#)**This branch has no conflicts with the base branch**

Merging can be performed automatically.

[Merge pull request](#)You can also open this in [GitHub Desktop](#) or view [command line instructions](#).

Reviewers

No reviews—request one

Assignees

No one—assign yourself

Labels

None yet

Projects

None yet

Milestone

No milestone

Notifications

[Unsubscribe](#)

You're receiving notifications because you authored the thread.

1 participant

[Lock conversation](#)

Update uglifier to version 3.1.11 #60

[Edit](#)

[\[!\] Open](#) halfbyte wants to merge 1 commit into `master` from `depfu/update/uglifyer-3.1.11`

[Conversation 0](#)[Commits 1](#)[Files changed 1](#)

+2 -2



halfbyte commented 20 hours ago



Hello,

We've updated a dependency and all tests pass. :)

gem name	version specification	old version	new version
uglifyer	<code>>= 1.0.0</code>	3.0.2	3.1.11

You should probably take a good look at this before merging this pull request, of course.

What changed?

[Have a look at the gem's changelog.](#)

► Commits

Depfu sends automated pull requests to update your Ruby dependencies.

[Update uglifier to version 3.1.11](#)

✓ 4c157e2

[halfbyte referenced this pull request 20 hours ago](#)

Closed

[Update uglifier to version 3.1.11](#)

Add more commits by pushing to this branch.

on `halfbyte/artdoxa`.[All checks have passed](#)
1 successful check[Show all checks](#)[This branch has no open pull requests](#)
Merging can be performed directly into this branch[Merge pull request](#)

You can also open this in GitHub Desktop or view command line instructions.

Reviewers

No reviews—request one

Assignees

No one—assign yourself

Labels

None yet

Projects

None yet

Milestone

No milestone

Notifications

[Unsubscribe](#)

You're receiving notifications because you authored the thread.

1 participant

[Lock conversation](#)

Best practice

Workflow

Keep your software up
to date



Look at all the things
we're not doing.



Nobody wants
another inbox!



**Pull requests:
conversations**



ahem



Cleaning up



Delete branches



Close old duplicates



Keep noise down

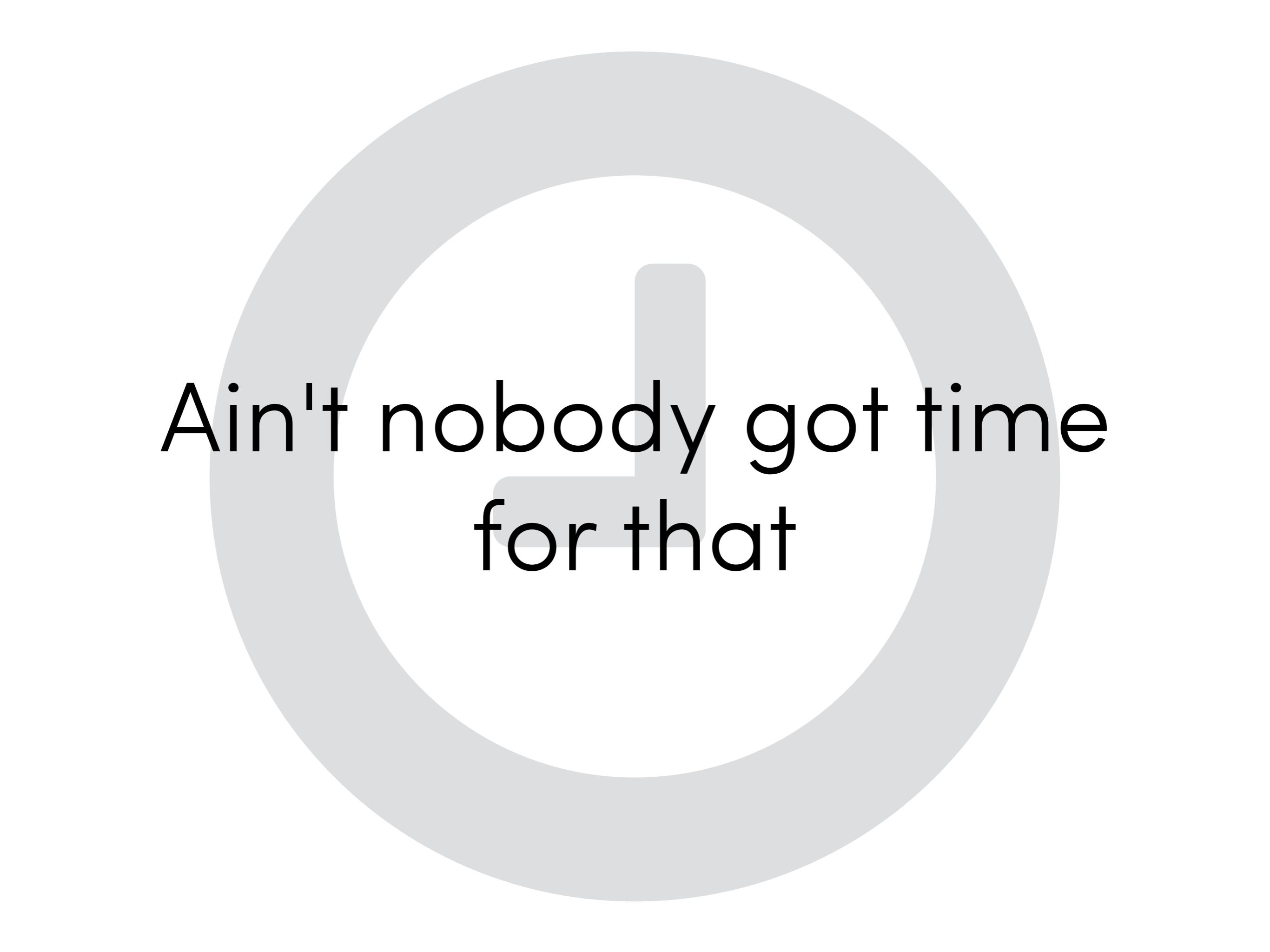
Lesson #7

Good automations stay out of the way.



Why not automate?

Job security

A large, light gray circle surrounds a white circular center. Inside the white circle, the text "Ain't nobody got time for that" is written in a bold, black, sans-serif font. The word "for" is partially obscured by a thick, vertical gray bar positioned behind the letter "o".

Ain't nobody got time
for that

Loss of control

Feeling?

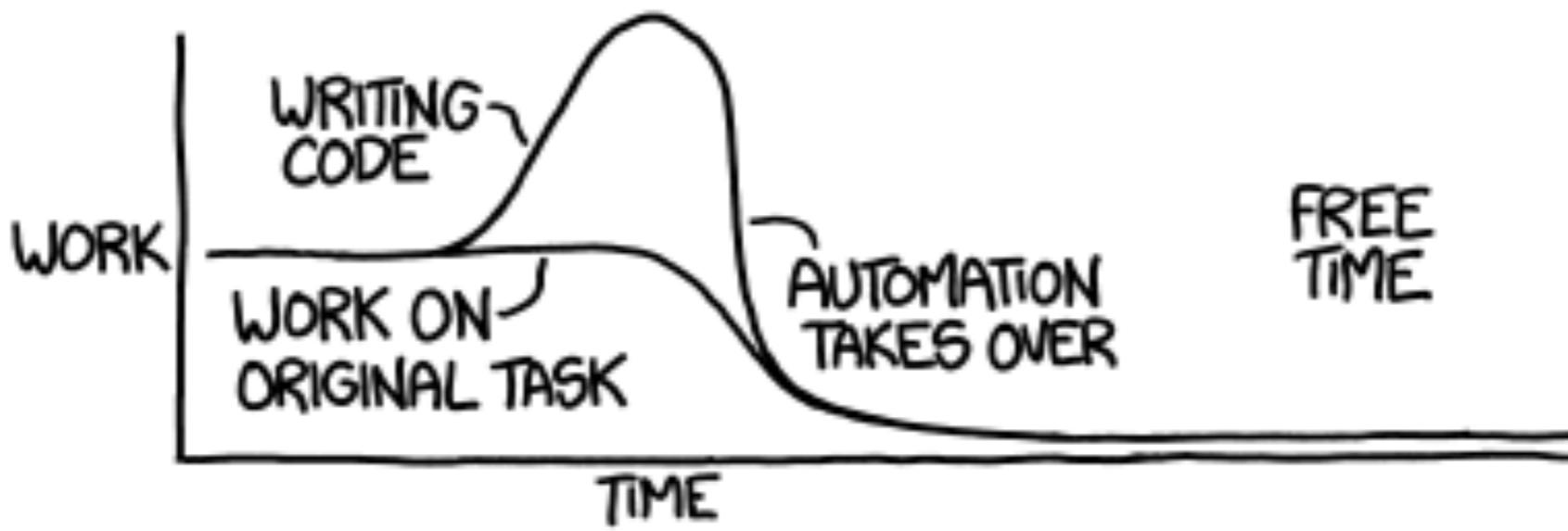
SCALE

scale

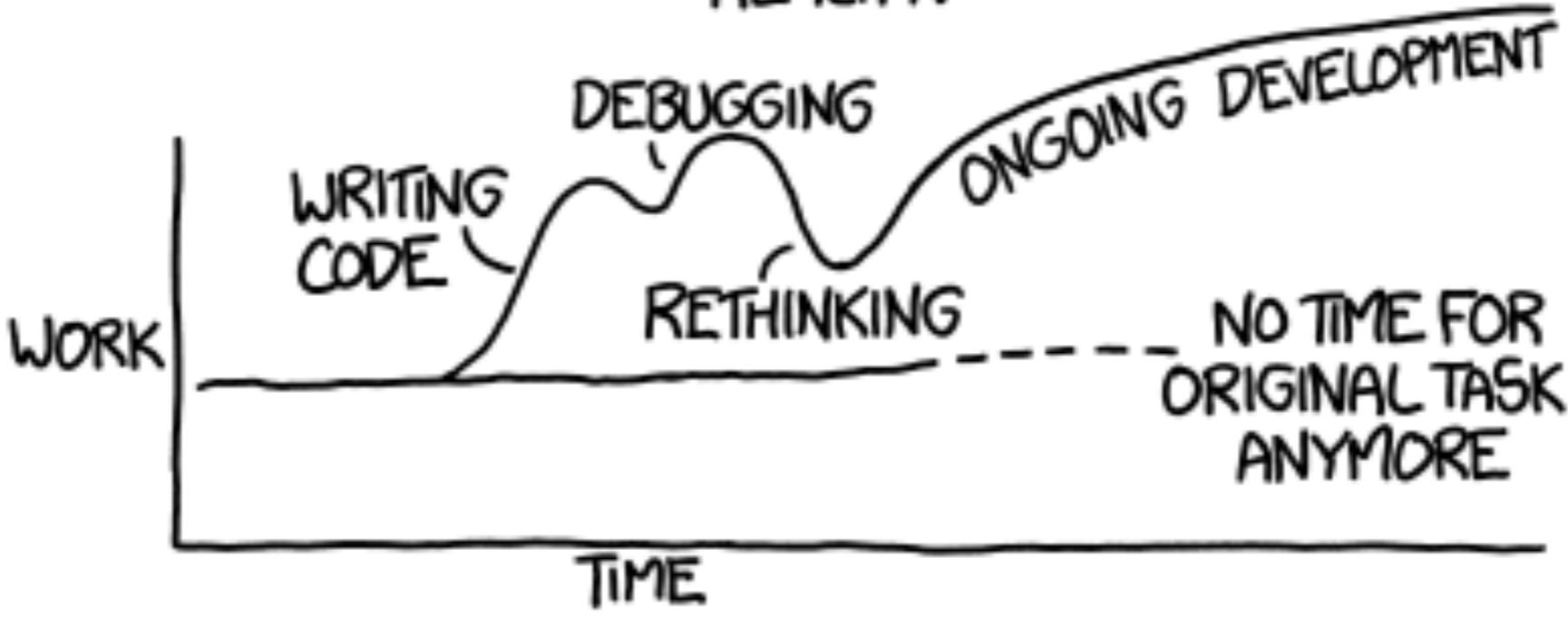
Cost vs. benefit

"I SPEND A LOT OF TIME ON THIS TASK.
I SHOULD WRITE A PROGRAM AUTOMATING IT!"

THEORY:



REALITY:



Risk vs. benefit

Lesson #6.1

Automating high risk tasks almost always only are worth it on large scale systems.

Intrinsic systems
knowledge

Observation

AUTOMATE



ALL THE THINGS

Premature automation



Depfu

More info

- John Allspaw on automation [part 1](#), [part 2](#)
- Courtney Nash's [automation myths](#)
- Of course: [depfu.io](#)  [heydepfu](#)
- Me:  [halfbyte](#)  [halfbyte](#)  <jan@depfu.io>
- THANK YOU SO MUCH! ❤️ ❤️ ❤️