RELEASE MANAGEMENT TIPS 'N' TRICKS

RELEASE YOURSELF!

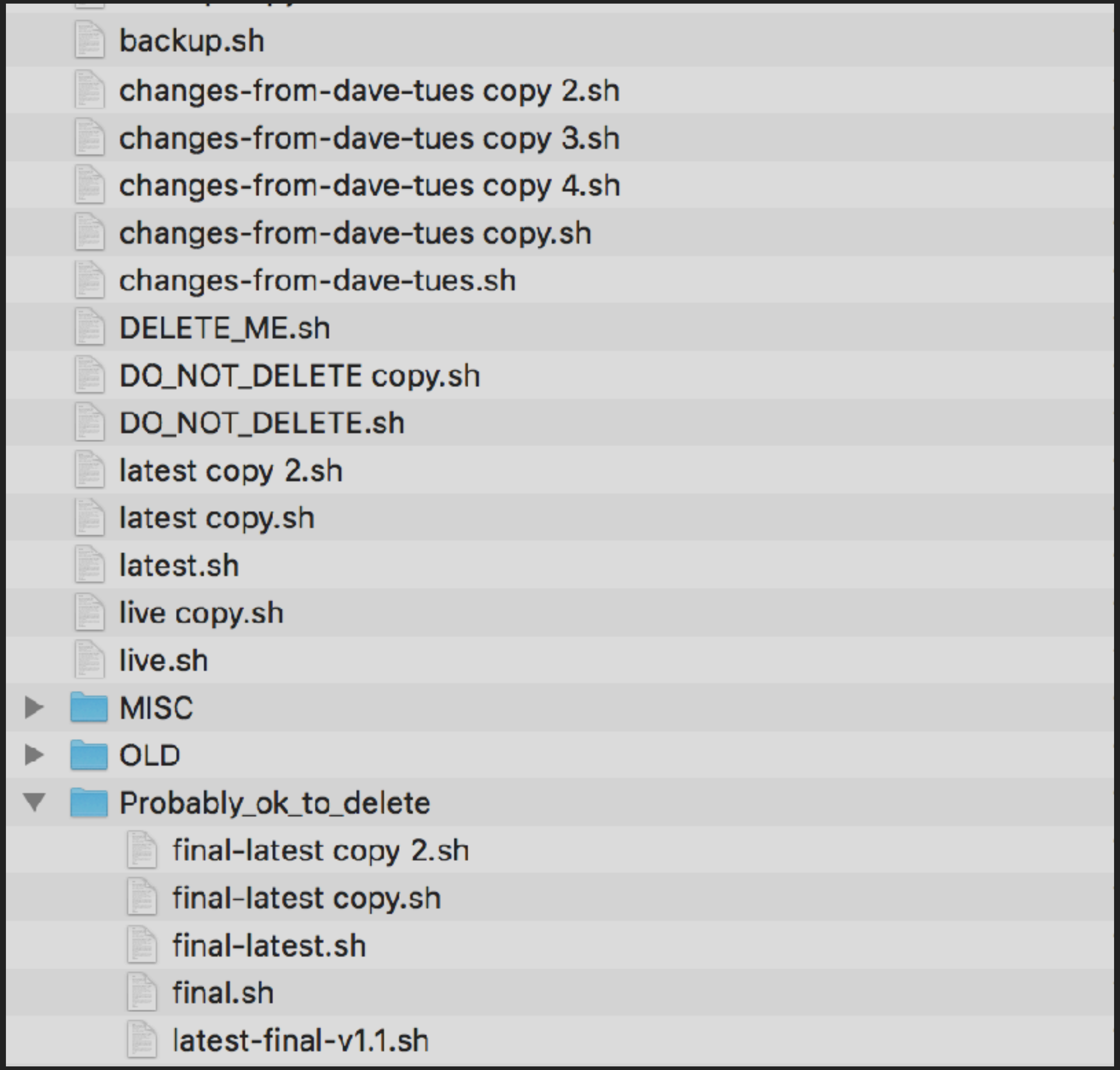
EDINBURGH
COLLEGE OF ART

LEARNING & IT SERVICES MANAGER

GEOFF LEE

AGENDA

- The challenge
- What is release management anyway?
- Patterns
  - Tagging
  - Coding standards
  - Templating
  - Release control
- Putting it together
  - 1. For deployed scripts/tools
  - 2. In the JSS

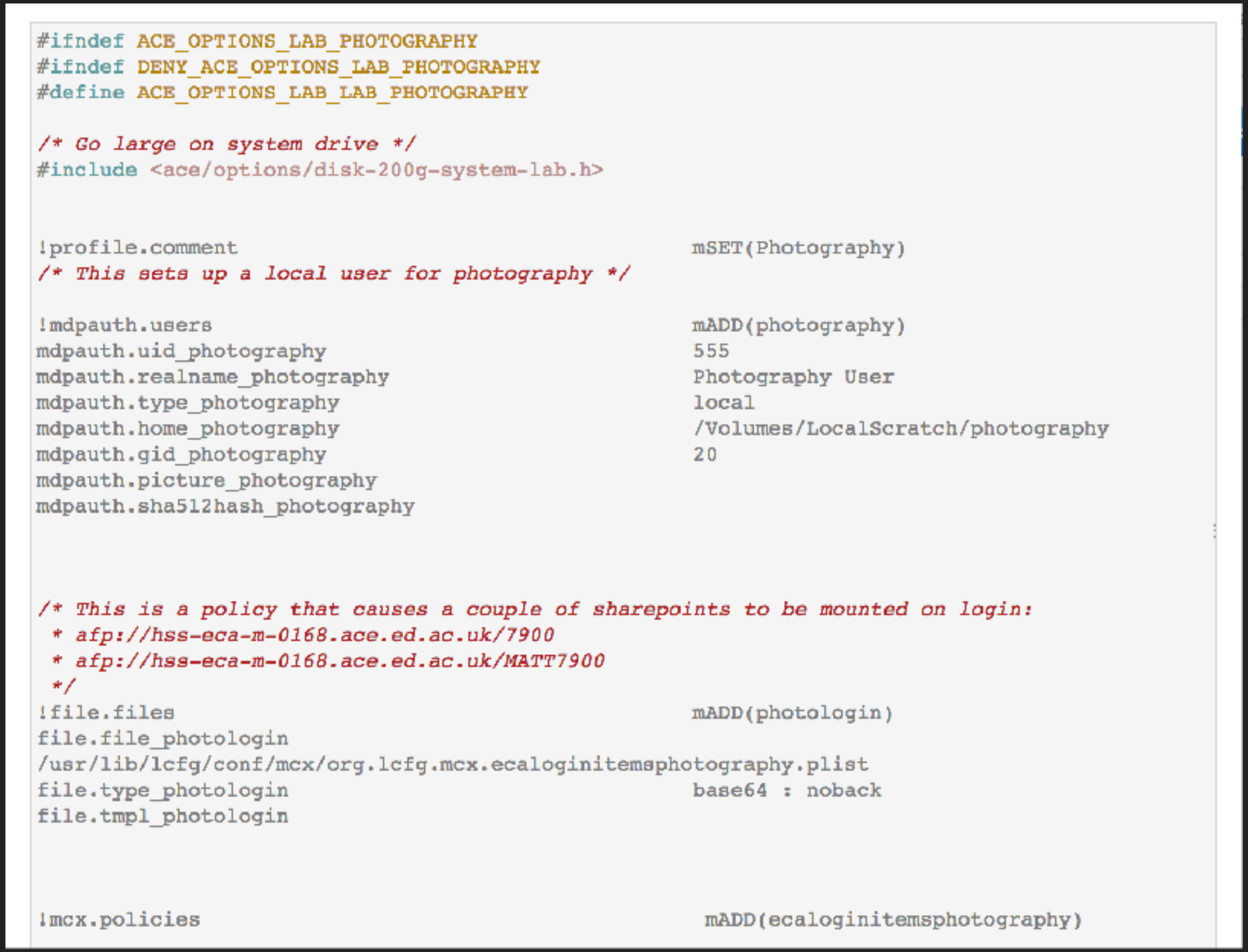


```
backup.sh
changes-from-dave-tues copy 2.sh
changes-from-dave-tues copy 3.sh
changes-from-dave-tues copy 4.sh
changes-from-dave-tues copy.sh
changes-from-dave-tues.sh
DELETE_ME.sh
DO_NOT_DELETE copy.sh
DO_NOT_DELETE.sh
latest copy 2.sh
latest copy.sh
latest.sh
live copy.sh
live.sh
MISC
OLD
Probably_ok_to_delete
    final-latest copy 2.sh
    final-latest copy.sh
    final-latest.sh
    final.sh
    latest-final-v1.1.sh
```

SHIRLEY, WE CAN DO BETTER?

THE CHALLENGE

- Moving our labs from 10.10 into 10.13/JAMF
- 'Virtual team' from central IT and schools
- Building on (mostly) successful model for staff machines
- New toolchain, chance to re-evaluate
- Scripts and config to write/test/debug/deploy
- An 'open-source' project model
- How to approach change/release management?



```
#ifndef ACE_OPTIONS_LAB_PHOTOGRAPHY
#ifndef DENY_ACE_OPTIONS_LAB_PHOTOGRAPHY
#define ACE_OPTIONS_LAB_LAB_PHOTOGRAPHY

/* Go large on system drive */
#include <ace/options/disk-200g-system-lab.h>


!profile.comment                                    mSET(Photography)
/* This sets up a local user for photography */

!mdpauth.users                                      mADD(photography)
mdpauth.uid_photography                             555
mdpauth.realname_photography                        Photography User
mdpauth.type_photography                            local
mdpauth.home_photography                            /Volumes/LocalScratch/photography
mdpauth.gid_photography                             20
mdpauth.picture_photography
mdpauth.sha512hash_photography



/* This is a policy that causes a couple of sharepoints to be mounted on login:
 * afp://hss-eca-m-0168.ace.ed.ac.uk/7900
 * afp://hss-eca-m-0168.ace.ed.ac.uk/MATT7900
 */
!file.files                                         mADD(photologin)
file.file_photologin
/usr/lib/lcfg/conf/mcx/org.lcfg.mcx.ecaloginitemsphotography.plist
file.type_photologin                                base64 : noback
file.tmpl_photologin

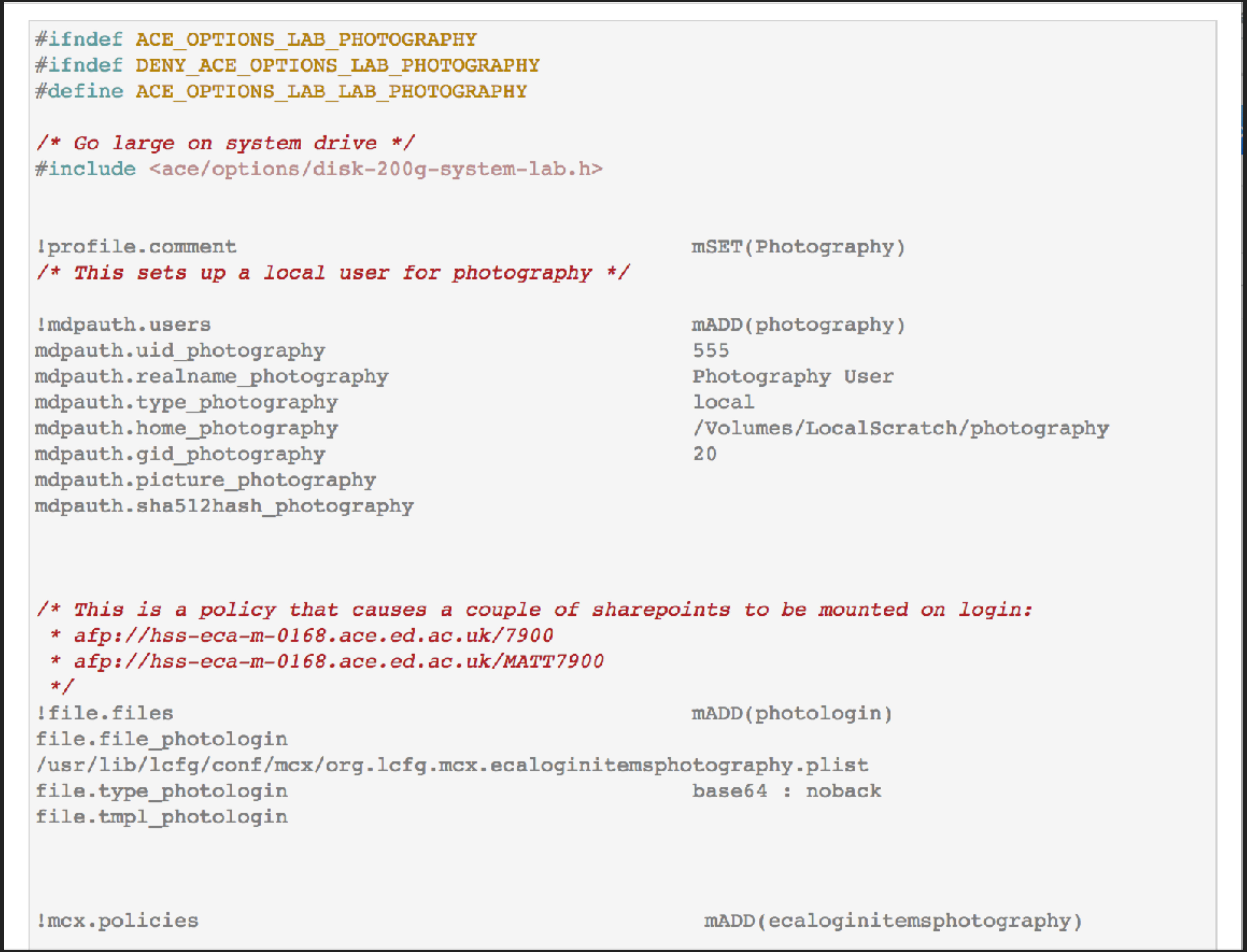


!mcx.policies                                        mADD(ecaloginitemsphotography)
```

LCFG: YOU SERVED US WELL

▸ How to approach change/release management?

THE PAST: LCFG



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file.tmpl_photologin



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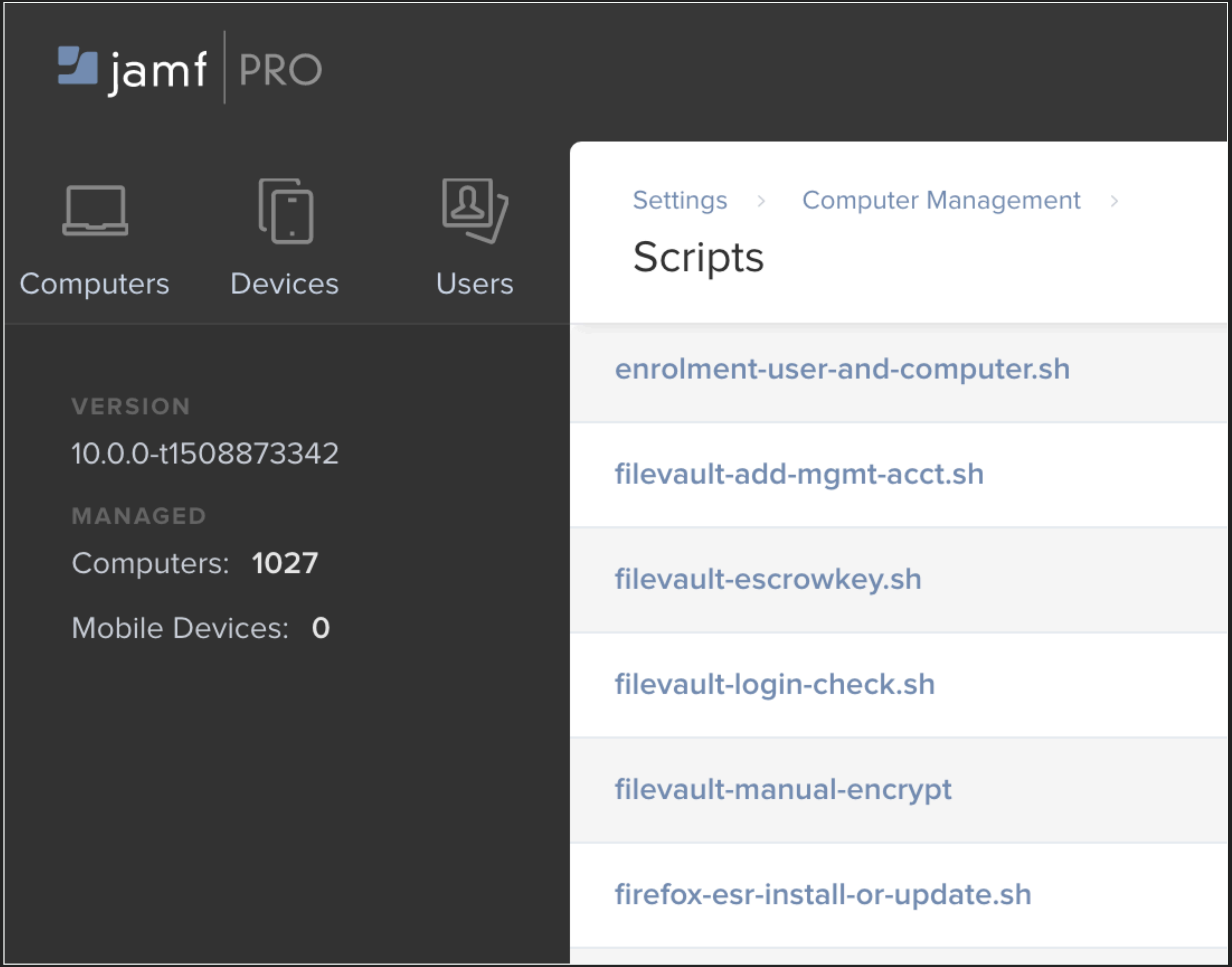
```

- Text based
- Infinitely extendible
- Perl/SVN based
- Highly devolvable
- Completely open

- Steep learning curve
- Used nowhere else



VERSION
10.0.0-t1508873342

MANAGED
Computers: 1027

Mobile Devices: 0

Settings > Computer Management >

Scripts

- enrolment-user-and-computer.sh
- filevault-add-mgmt-acct.sh
- filevault-escrowkey.sh
- filevault-login-check.sh
- filevault-manual-encrypt
- firefox-esr-install-or-update.sh

THE FUTURE: JAMF

- Web based
- Far more accessible
- Policy/Profile/Script
- Great community
- Industry standard

- Limited change tracking

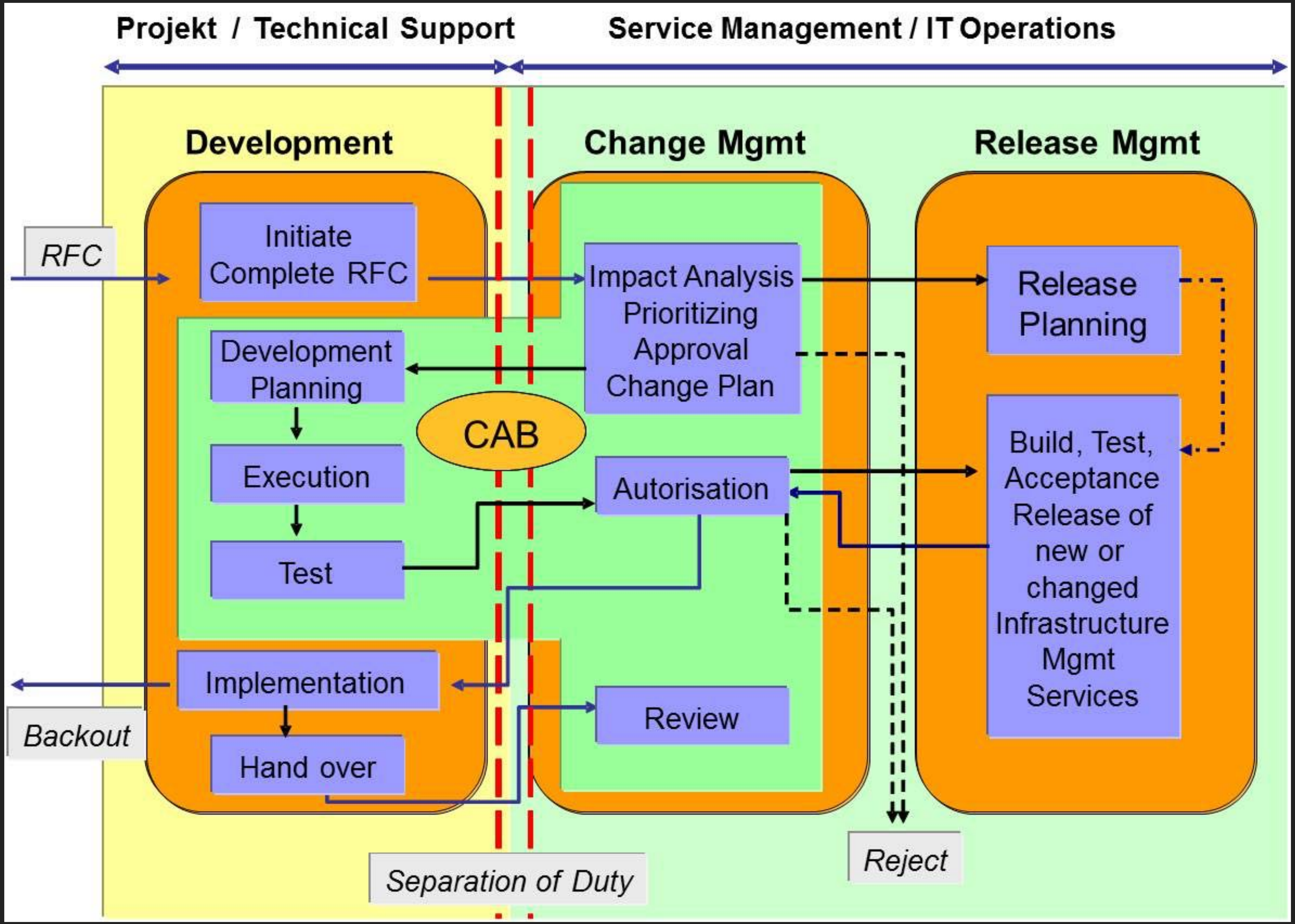

Projekt / Technical Support
Service Management / IT Operations
Development
Change Mgmt
Release Mgmt
RFC
Initiate Complete RFC
Development Planning
Execution
Test
CAB
Impact Analysis Prioritizing Approval Change Plan
Autorisation
Review
Release Planning
Build, Test, Acceptance Release of new or changed Infrastructure Mgmt Services
Implementation
Hand over
Backout
Reject
Separation of Duty

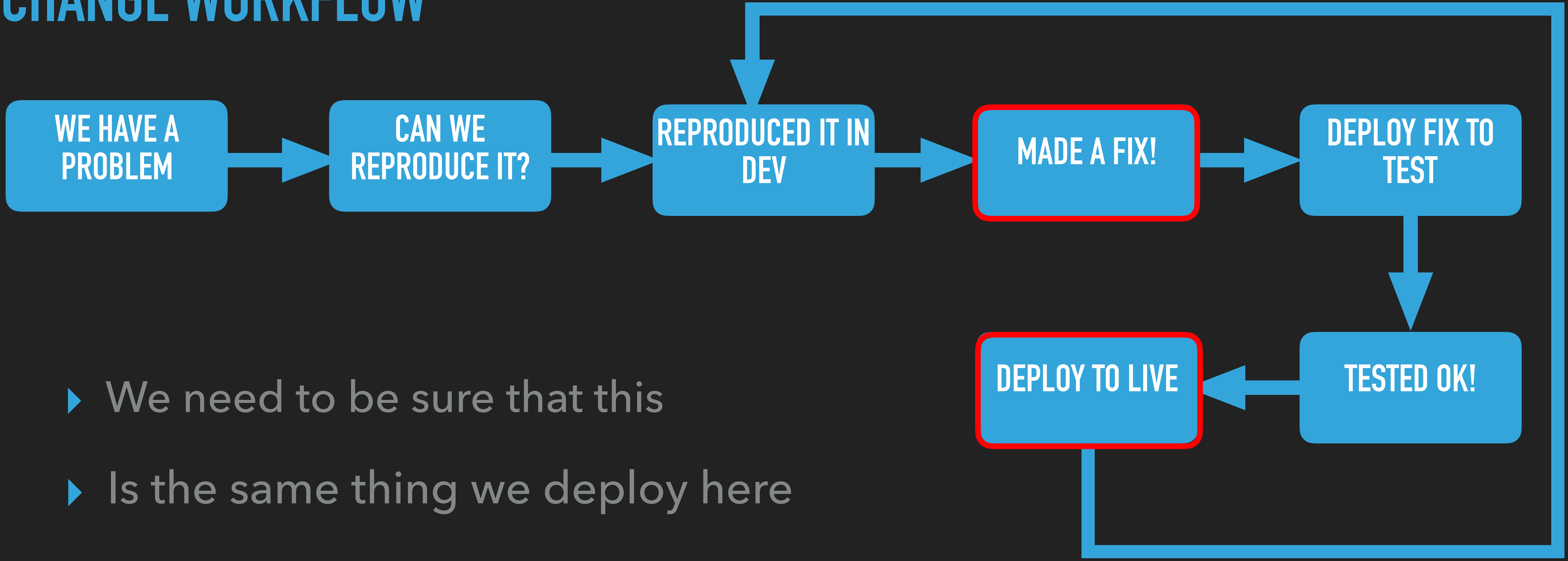
Image: itil.org

How to approach change/release management?

RELEASE MANAGEMENT IS BEING ABLE TO KNOW THAT CHANGES WE MAKE ARE THE CHANGES WE INTENDED, THAT THEY WORKED, AND THAT THEY ARE FULLY DOCUMENTED, REPEATABLE AND (HOPEFULLY) REVERSIBLE.

Me

CHANGE WORKFLOW



- We need to be sure that this
- Is the same thing we deploy here
- And what if it doesn't work?

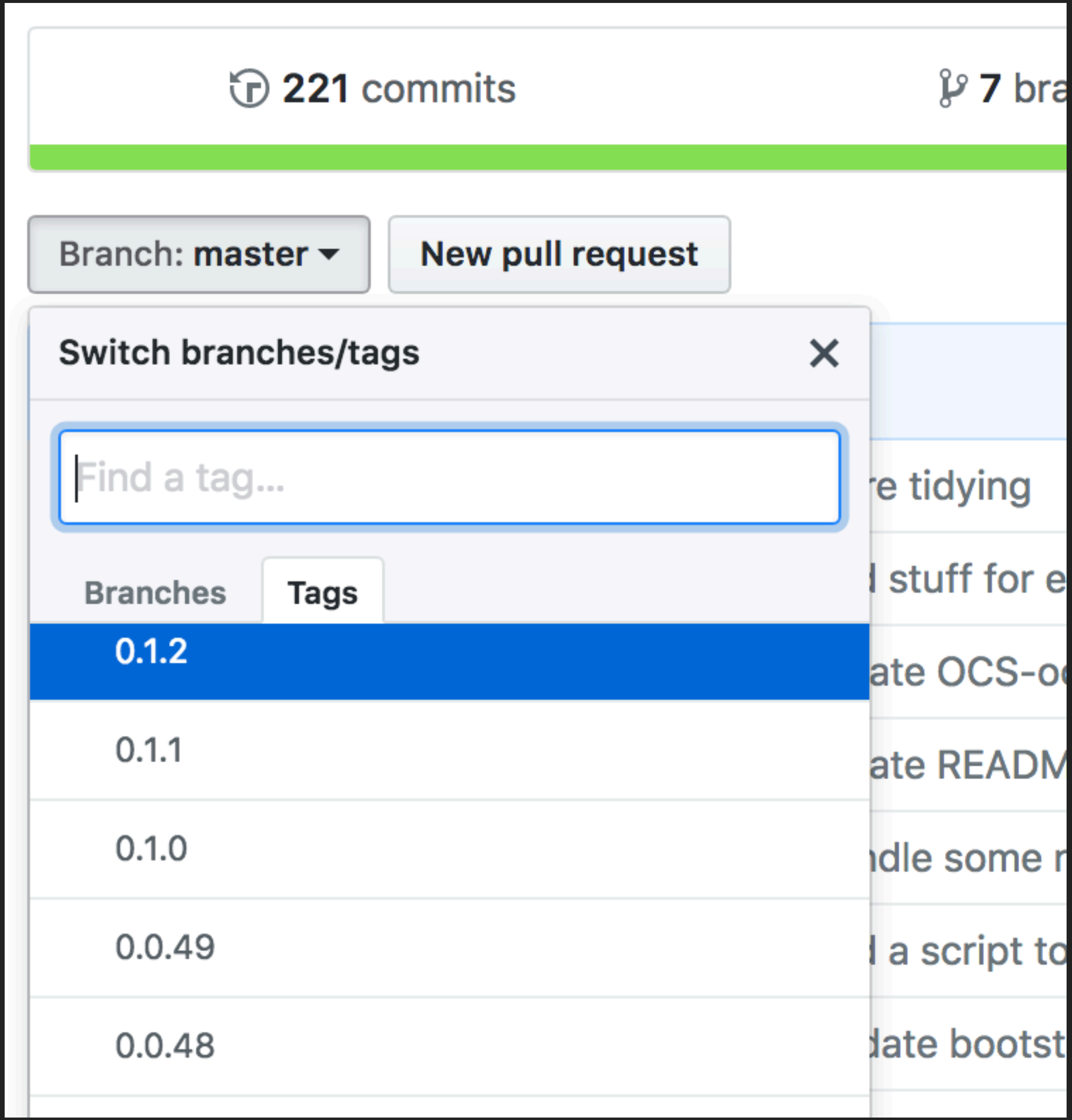
PATTERNS

- **Repeatable** builds (https://github.com/autopkg)
- **Consistent** versioning (https://semver.org)
- Coding **standards** pylint & PEP8
- Reduce ***friction*** and ***uncertainty*** in the development process
- Changes are easier to consider and understand

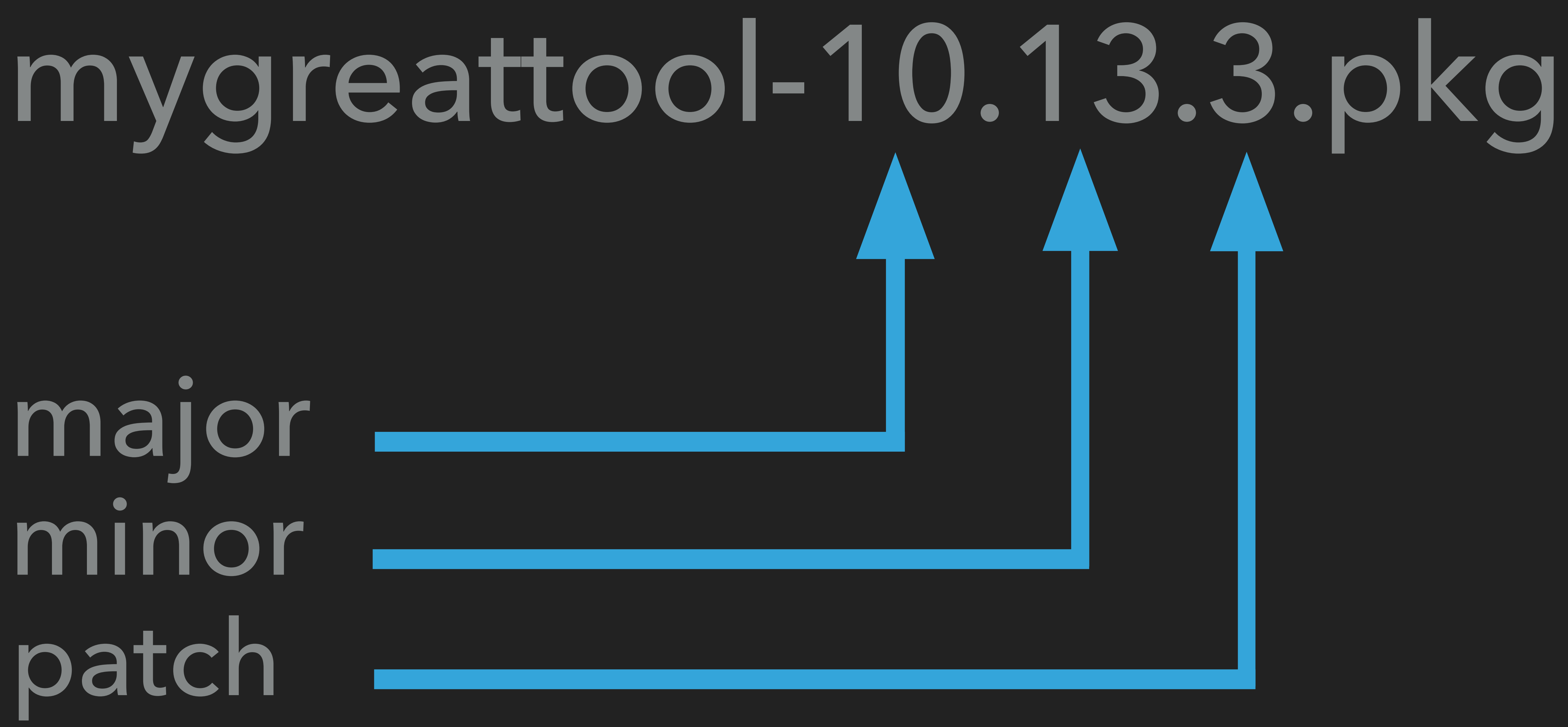
- **Consistent** versioning (https://semver.org)

TAG!

- Marks a specific point-in-time in a code repository
- Give it any name you like
- Tagged source allows us to mark *releases*
- Source control is *critical*
  - *git (hub, lab)*
  - *svn*
  - *mercurial*



VERSIONING TERMINOLOGY

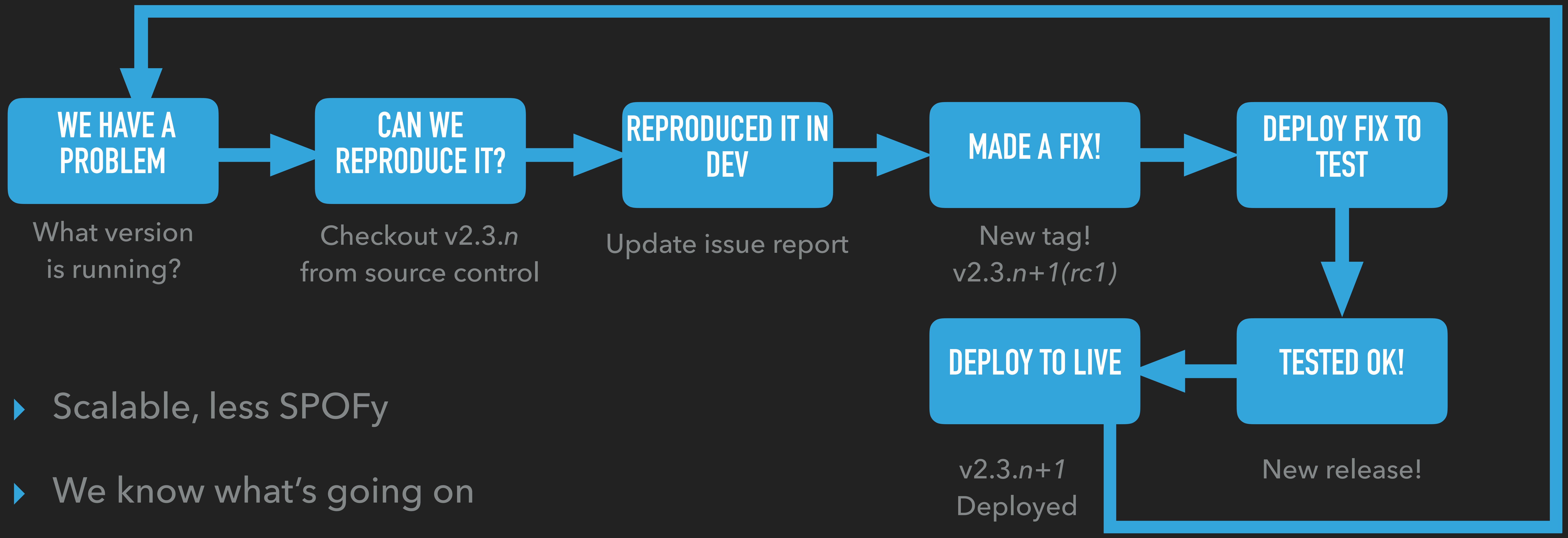


MORE ABOUT SEMANTIC VERSIONING:

https://semver.org

- Now with added release control!

CHANGE WORKFLOW



- Scalable, less SPOFy
- We know what's going on
- We can bring new people on board easily

NOT JUST FOR ITIL GEEKS!

Let's make this really simple!

- Everything we deploy to client machines is versioned and repeatably built
- All of our scripts are in version control
- We know who changed what, when and why
- We use common patterns for development

WHY?

Because, ultimately, for our users:

- Less chance of unexpected incidents
- Helpdesk are more empowered
- Fixing problems is faster
- Less firefighting means more time to develop quality service (uh, *compelling platform*)

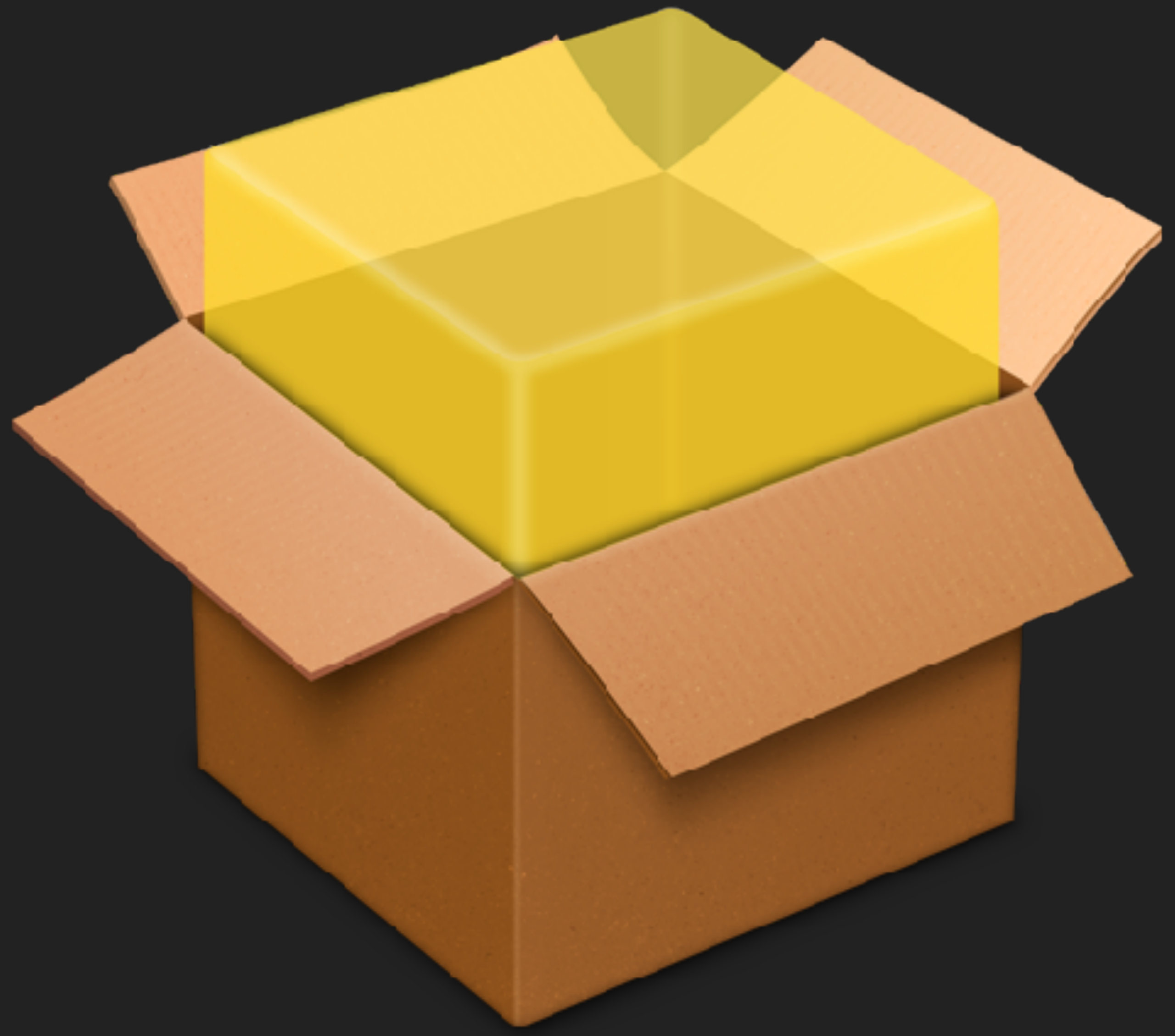
NEW TOOLS

COOKIECUTTER TEMPLATES

Repeatable builds for our admin tools

GIT2JSS

Bringing release management to JSS scripts



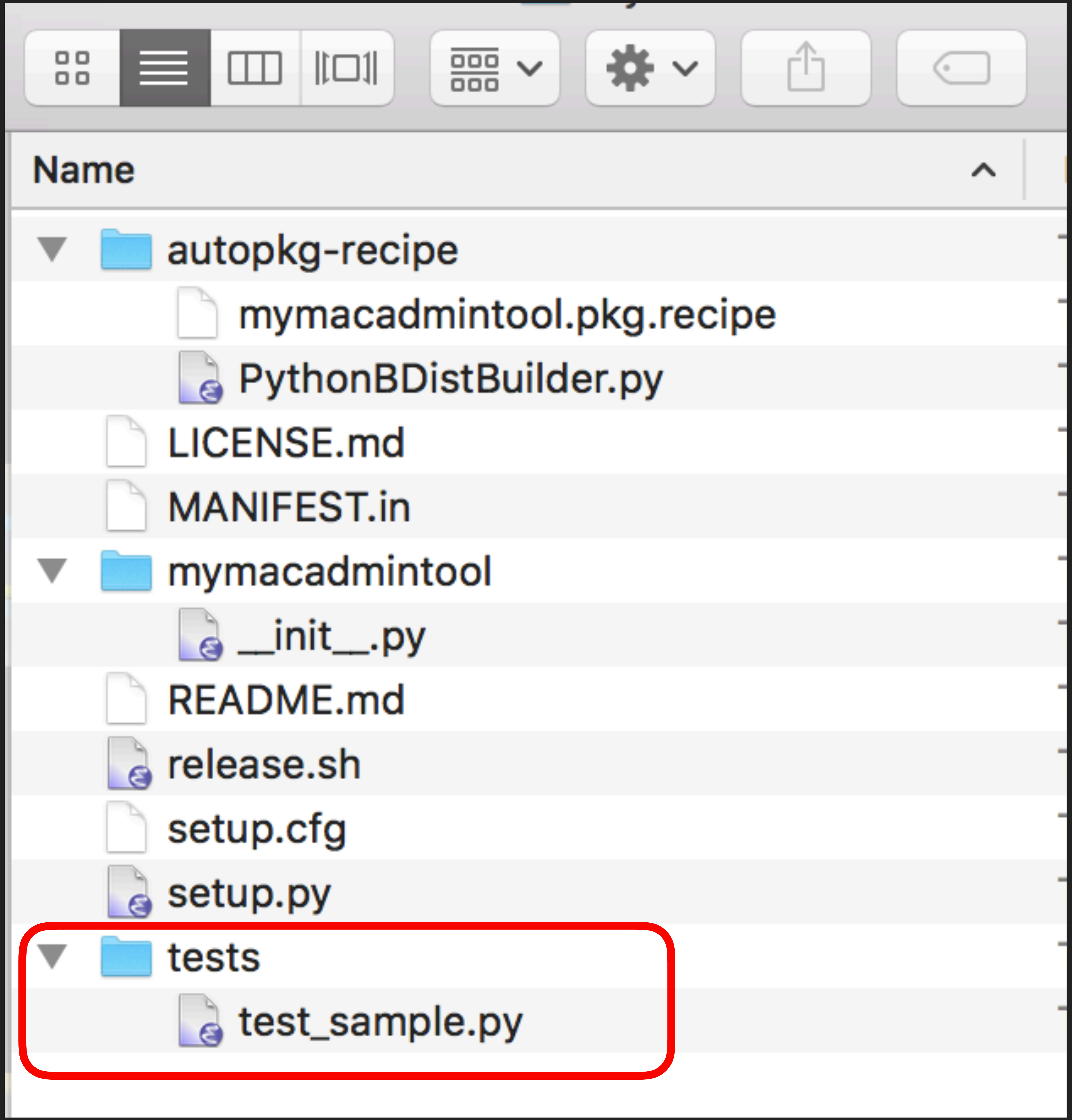
COOKIECUTTER TEMPLATES

Repeatable builds for our admin tools

COOKIECUTTER TEMPLATE

https://github.com/gkluoe/cookiecutter-py-mac-tool

- A template commandline python tool
- Uses standard python build tools
- Includes release management
- Includes tests (& lint)
- Includes Autopkg recipe
- Just add functionality, build and release!



```
autopkg-recipe
    mymacadmintool.pkg.recipe
    PythonBDistBuilder.py
LICENSE.md
MANIFEST.in
mymacadmintool
    __init__.py
README.md
release.sh
setup.cfg
setup.py
tests
    test_sample.py
```

RELEASE A NEW ADMIN TOOL IN 6 STEPS

```
$ pip install cookiecutter
```

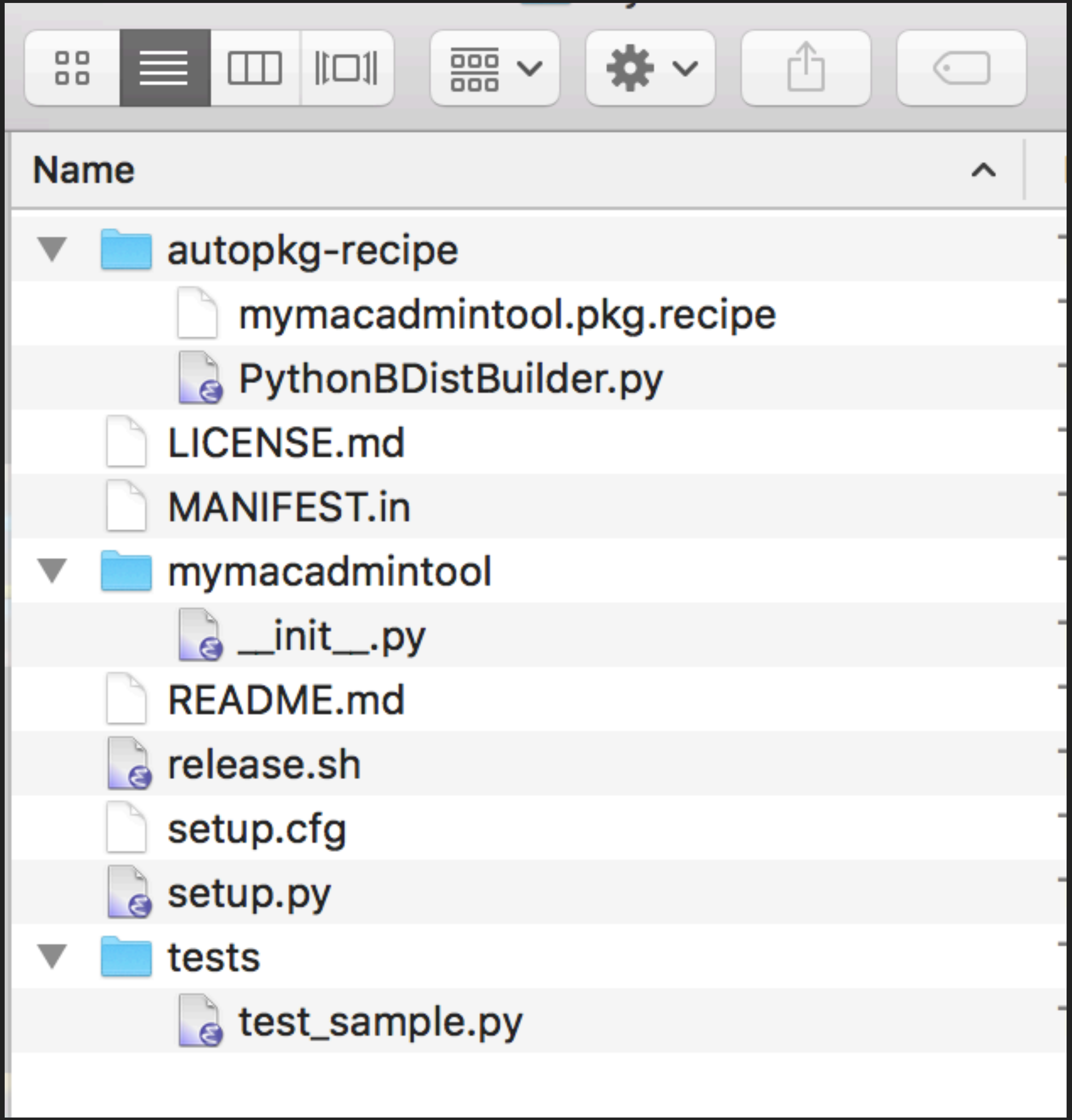
```
$ cookiecutter gh:gkluoe/cookiecutter-py-mac-tool.git
```

```
$ python setup.py test
```

```
$ ./release.sh patch
```

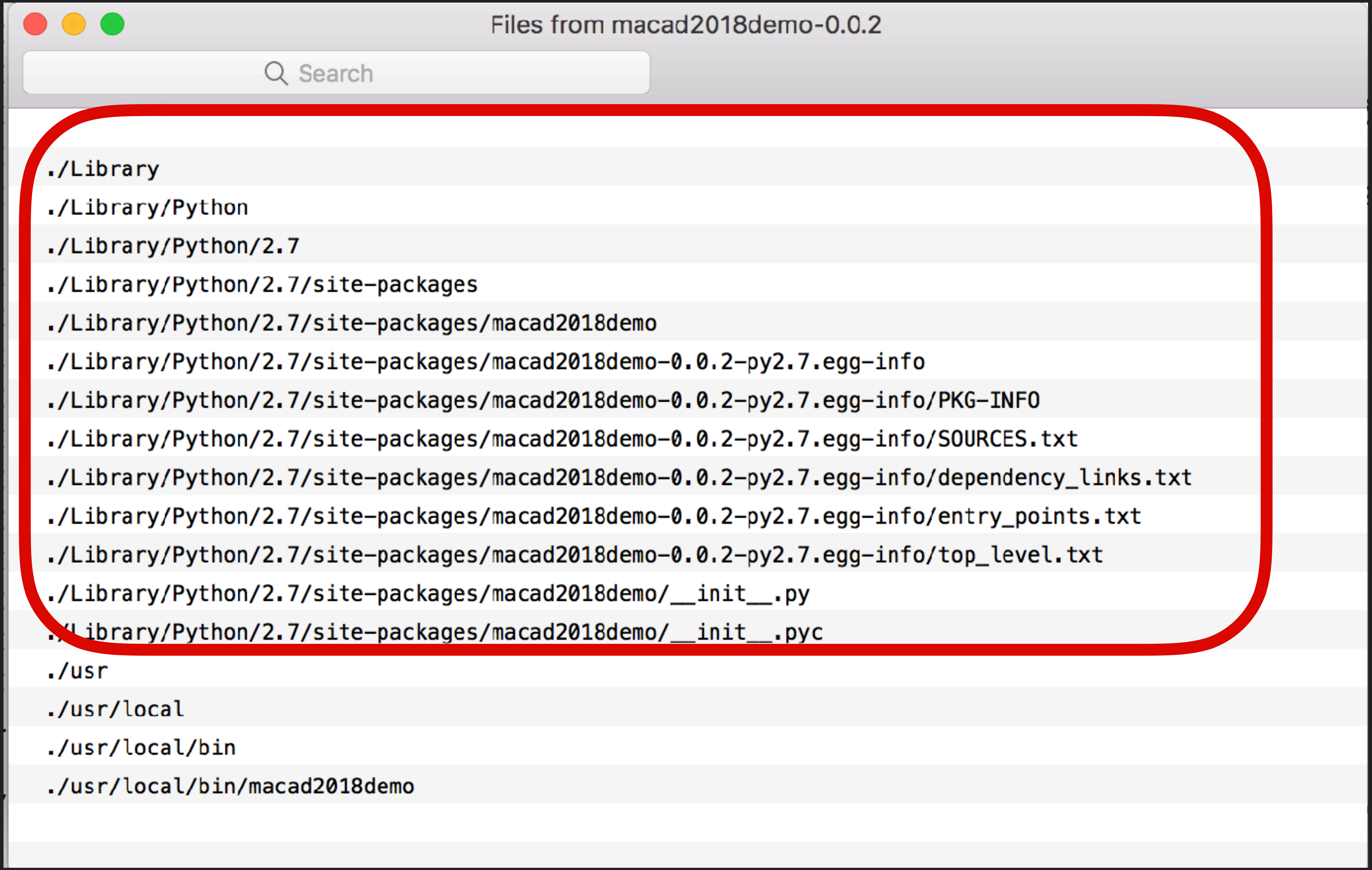
```
$ git push origin [new version]
```

```
$ autopkg run -d autopkg-recipes [project].pkg
```



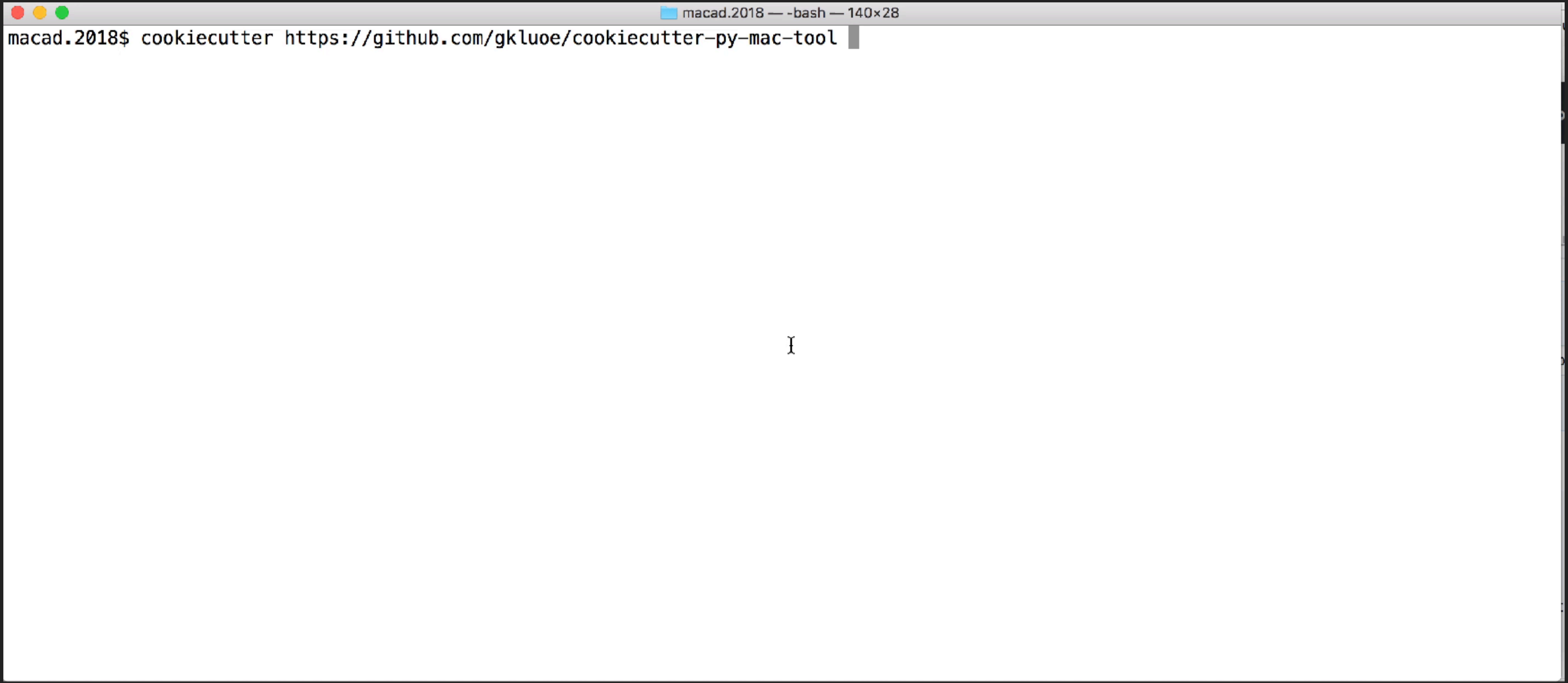
```
Name
▼ autopkg-recipe
    mymacadmintool.pkg.recipe
    PythonBDistBuilder.py
  LICENSE.md
  MANIFEST.in
▼ mymacadmintool
    __init__.py
  README.md
  release.sh
  setup.cfg
  setup.py
▼ tests
    test_sample.py
```

TAKING THE PAIN OUT OF REPEATABLE PROCESSES



```
./Library
./Library/Python
./Library/Python/2.7
./Library/Python/2.7/site-packages
./Library/Python/2.7/site-packages/macad2018demo
./Library/Python/2.7/site-packages/macad2018demo-0.0.2-py2.7.egg-info
./Library/Python/2.7/site-packages/macad2018demo-0.0.2-py2.7.egg-info/PKG-INFO
./Library/Python/2.7/site-packages/macad2018demo-0.0.2-py2.7.egg-info/SOURCES.txt
./Library/Python/2.7/site-packages/macad2018demo-0.0.2-py2.7.egg-info/dependency_links.txt
./Library/Python/2.7/site-packages/macad2018demo-0.0.2-py2.7.egg-info/entry_points.txt
./Library/Python/2.7/site-packages/macad2018demo-0.0.2-py2.7.egg-info/top_level.txt
./Library/Python/2.7/site-packages/macad2018demo/__init__.py
./Library/Python/2.7/site-packages/macad2018demo/__init__.pyc
./usr
./usr/local
./usr/local/bin
./usr/local/bin/macad2018demo
```

DEMO: COOKIECUTTER TEMPLATE



```
macad.2018$ cookiecutter https://github.com/gkluoe/cookiecutter-py-mac-tool
```

NEW TOOLS

COOKIECUTTER TEMPLATES

Repeatable builds to our admin scripts

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Bringing release management to our JSS scripts

GIT2JSS

Bringing release management to our JSS scripts

GIT2JSS – RELEASE YOURSELF!

- Upload scripts direct from git repo to a JSS
- Ensure that the deployed version matches a tagged version in Git
- Can template in other useful metadata
  - Last change date
  - Location in git
  - Who uploaded it

Rockets are cool.

DEMO

COOKIECUTTER TEMPLATES

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GIT2JSS

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https://github.com/gkluoe/git2jss
or:
```
$ pip install git2jss
```