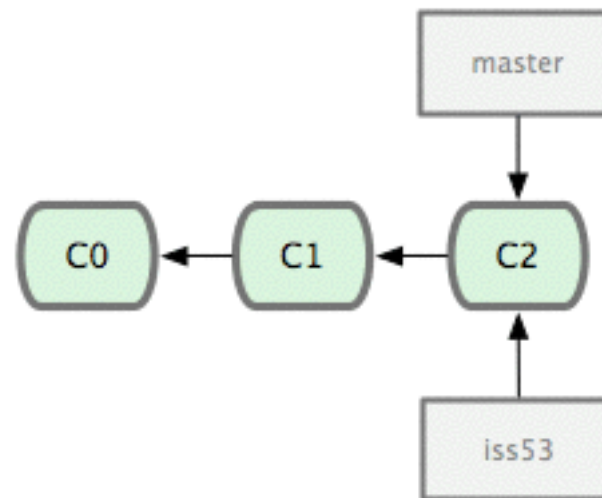# Git Strikes Back

Pete X. Graham

Contents

1. Branching and merging revisited

2. Why use rebase?

3. Rebasing from another branch

4. Dangers of rebase & Git reflog

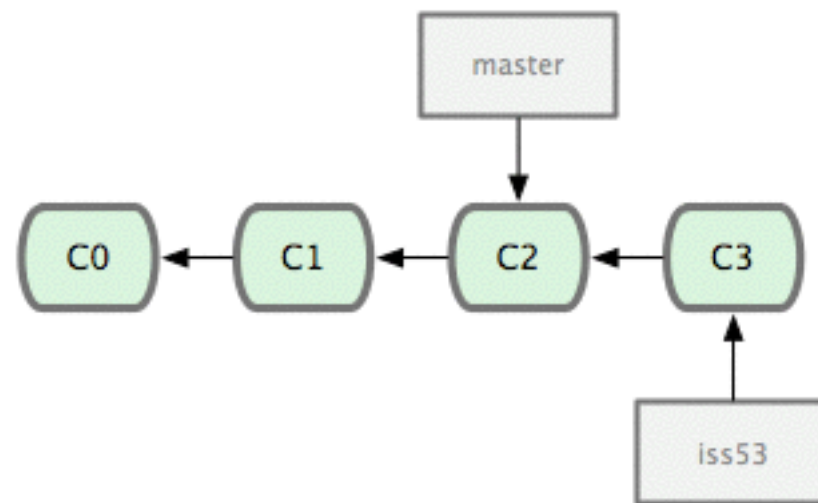5. Rebase own branch

6. Further reading / More Git commands

Two Branches

Both branches point at the same commit

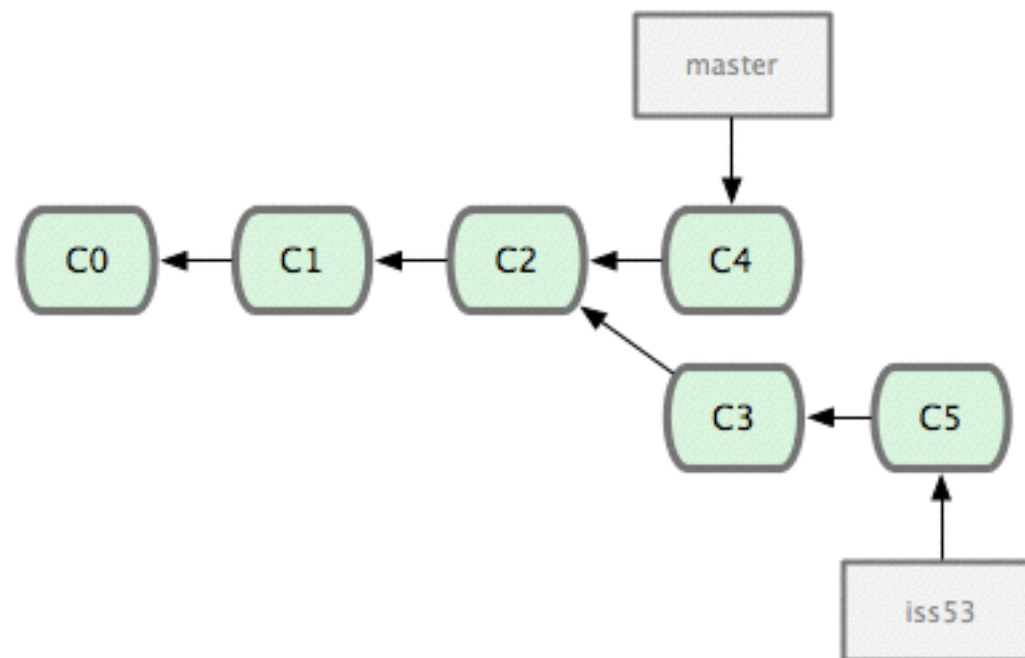We make a commit to iss53

Fast Forward Merge

We want to merge back into master

```
git checkout master
git merge iss53
```

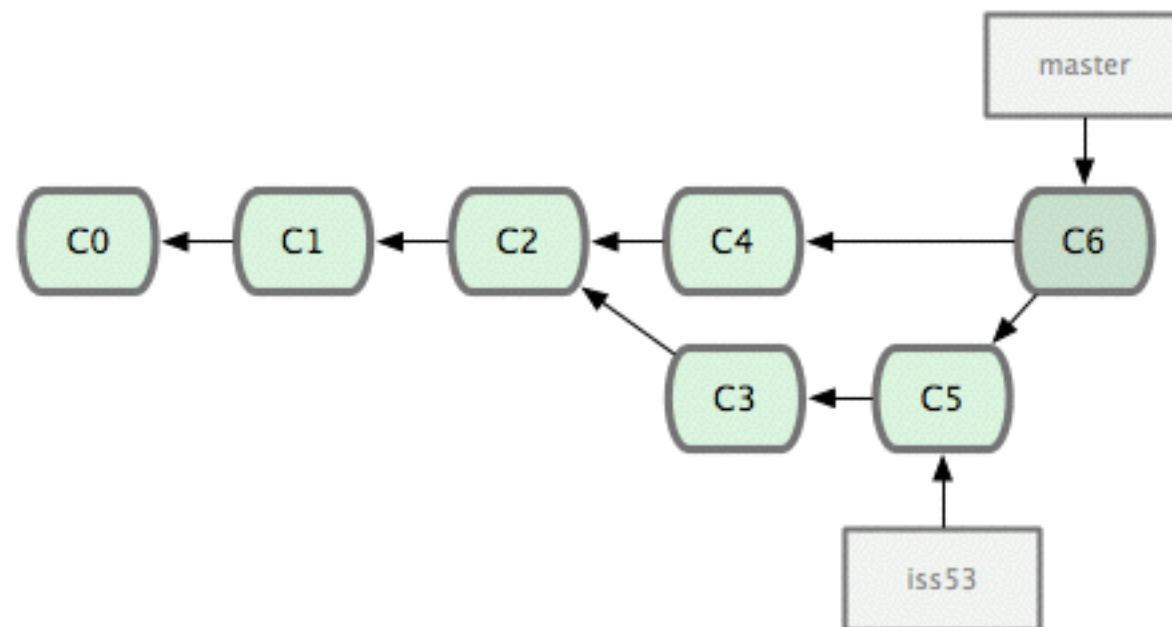Creates a fast forward merge. Both branches now point at C3.

Two Branches Independent Work

Commits have been made on master and iss53.

```
git add .
git commit -m 'My ace work.'
```

Three-way Merge


```
git checkout master
git merge iss53
```

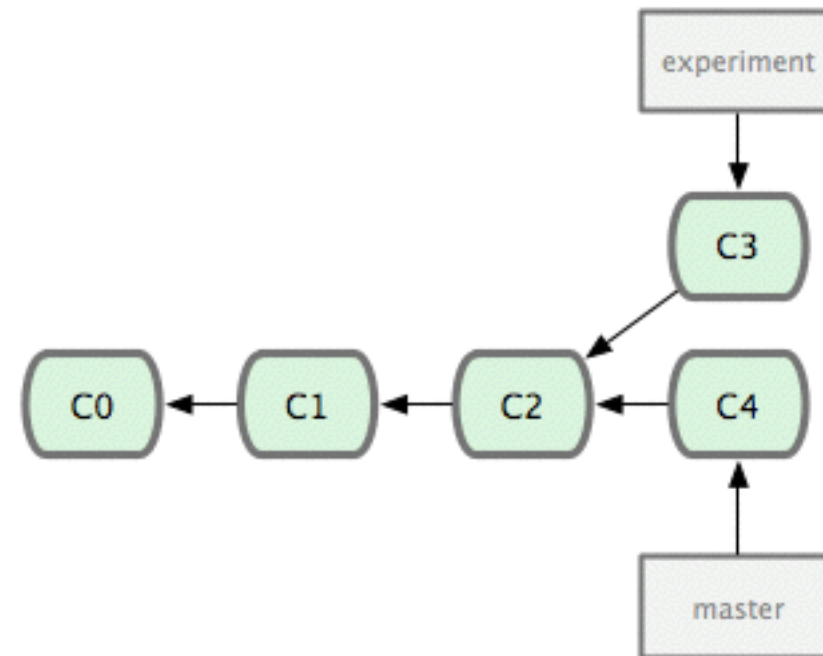Merge commit C6 created.
Merge commit has two parents.

Why Use Rebase?

1. Keep git log clean & organised

2. Understand history of feature development

3. Version control is documentation!
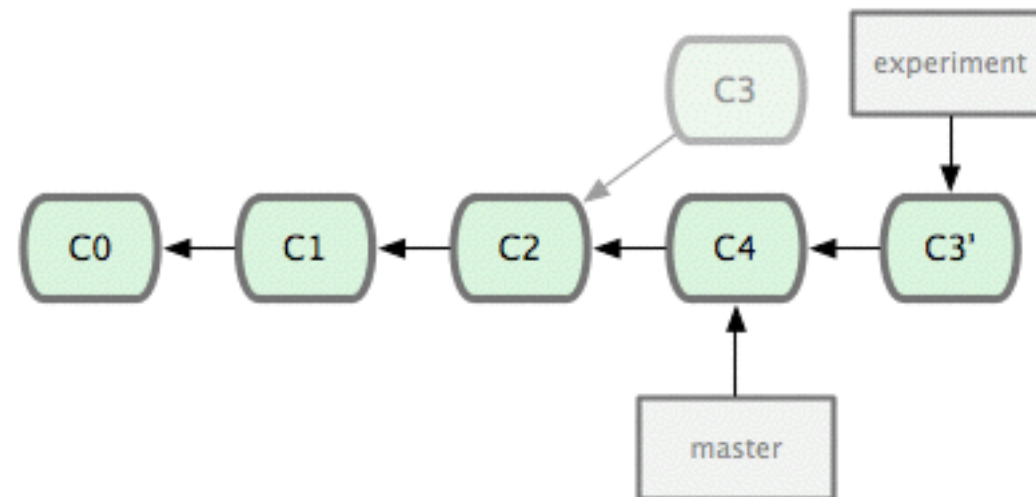
4. Remove stupid mistakes from git log

Rebase from other Branch

Rebase from other Branch

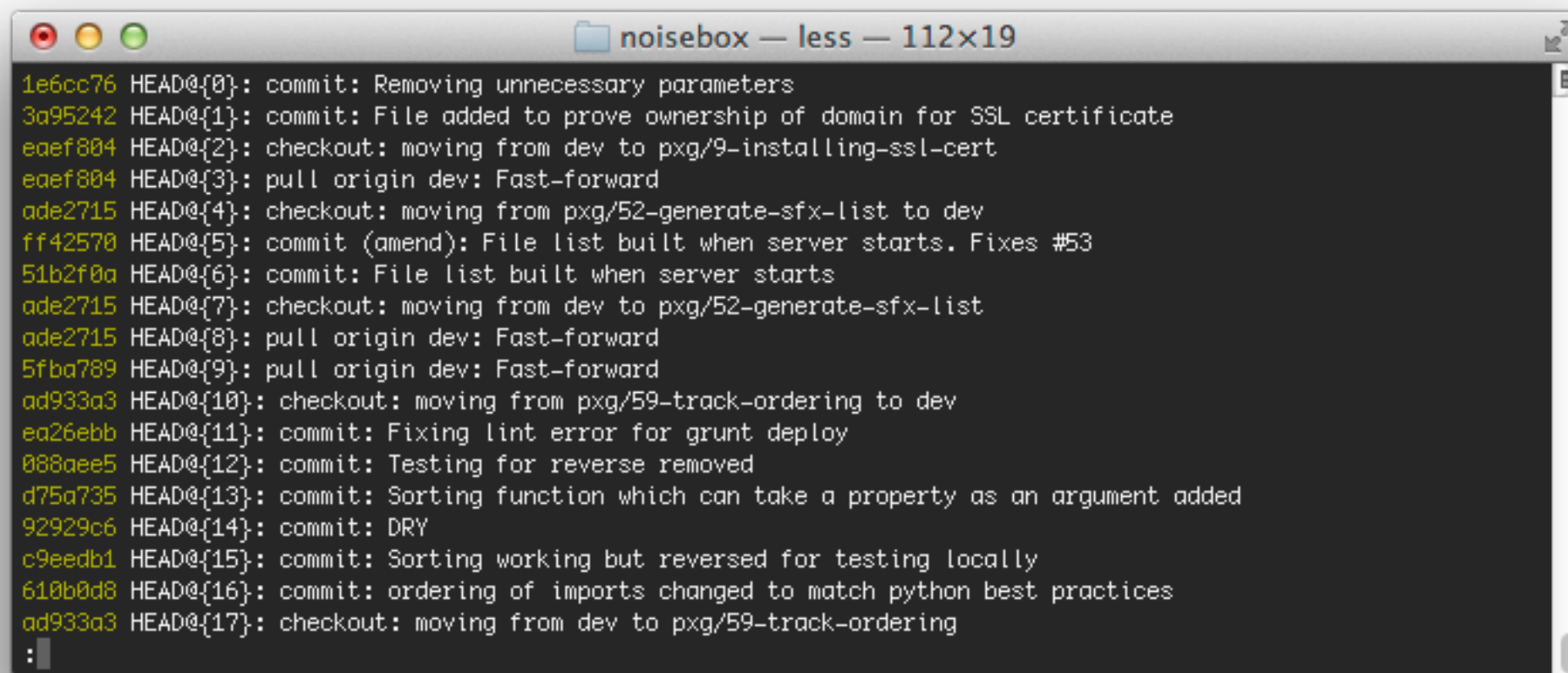
`git rebase master`

Dangers of Rebase

1. Can be confusing at first

2. Conflicts more annoying to solve than merge conflicts

3. You are effective "rewriting history"

4. Don't rebase a branch shared with someone

Git Reflog

- Rebase rewrites the Gitlog the reflog can be used to see what's actually happened.

- Useful to recover from Git booboos

Rebase own branch - amend

```
git commit --amend
git push --force
```

Incase you forgot to add something
to your last commit. Or you want to
change the commit message.

Rebase own branch - Interactive

`git rebase -i HEAD~4`

Interactive rebase the last four commits on a branch.

You can squash commits together and modify commit messages.

Squash Them All

```
git branch -c <new_sqaush_branch>
git merge --squash <feature_branch>
```

If you want to make your branch into one big commit.

Other squashing techniques are available.

Further Reading

http://git-scm.com/book/en/ Pro Git Book
(Thanks for the diagrams)

https://www.atlassian.com/git/

More Git

Alternative Workflows

Undoing things
- checkout
- revert
- rm

Other commands
- git cherry-pick
- git submodule
- git subtree
- git tag
- git show