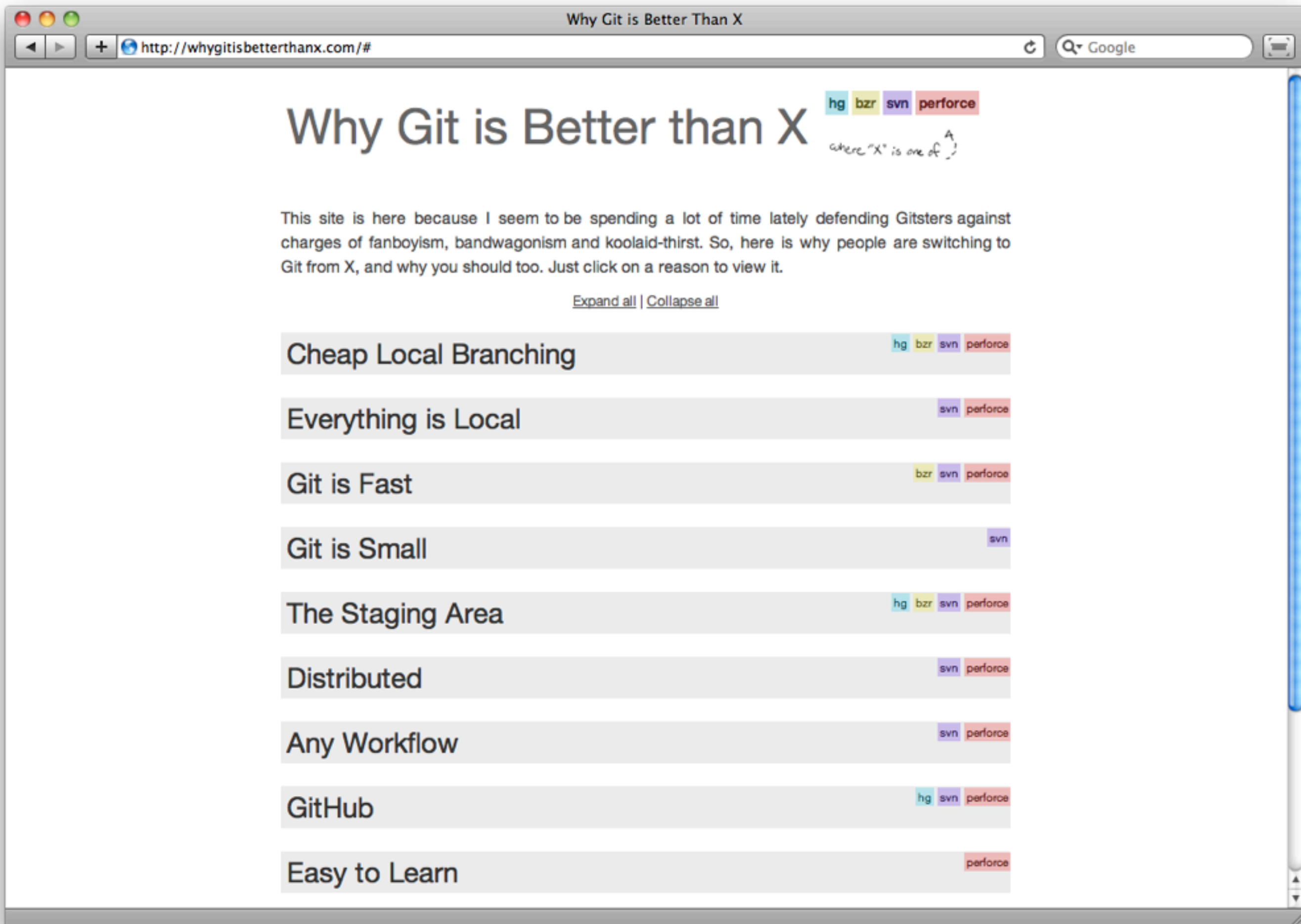


git

Podstawy

Tymon Tobolski
Koło Naukowe iLabs
Politechnika Wrocławska

Dlaczego git?



Instalacja



also...

~~\$ sudo port install git-core~~

\$ brew install git



Konfiguracja

```
~ $ git config --global user.name "Tymon Tobolski"  
~ $ git config --global user.email "i@teamon.eu"
```

Konfiguracja

```
~ $ git config --global user.name "Tymon Tobolski"
```

```
~ $ git config --global user.email "i@teamon.eu"
```

```
~ $ cat .gitconfig
```

```
[user]
```

```
    name = Tymon Tobolski
```

```
    email = i@teamon.eu
```

Komendy

add	clone	fsck	merge-file	quiltimport	show-ref
am	clone-pack	gc	merge-index	read-tree	stash
annotate	commit	get-tar-commit-id	merge-tree	rebase	status
apply	commit-tree	grep	mergetool	reflog	svn
applymbox	config	hash-object	mktag	relink	svnimport
applypatch	convert-objects	imap-send	mktree	remote	symbolic-ref
archimport	count-objects	index-pack	mv	repack	tag
archive	cvsexportcommit	init	name-rev	request-pull	tar-tree
bisect	cvsimport	instaweb	pack-objects	rerere	unpack-file
blame	describe	local-fetch	pack-redundant	reset	unpack-objects
branch	diff	log	pack-refs	rev-list	update-index
cat-file	diff-files	lost-found	parse-remote	revert	update-ref
check-attr	diff-index	ls-files	patch-id	rm	update-server-info
check-ref-format	diff-stages	ls-remote	peek-remote	send-email	var
checkout	diff-tree	ls-tree	prune	shortlog	verify-pack
checkout-index	fetch	mailinfo	prune-packed	show	verify-tag
cherry	fetch-pack	mailsplit	pull	show-branch	whatchanged
cherry-pick	for-each-ref	merge	push	show-index	write-tree
clean	format-patch	merge-base			

Komendy

add	clone	fsck	merge-file	quiltimport	show-ref
am	clone-pack	gc	merge-index	read-tree	stash
annotate	commit	get-tar-commit-id	merge-tree	rebase	status
apply	commit-tree	grep	mergetool	reflog	svn
applymbox	config	hash-object	mktag	relink	svnimport
applypatch	convert-objects	imap-send	mktree	remote	symbolic-ref
archimport	count-objects	index-pack	mv	repack	tag
archive	cvsexportcommit	init	name-rev	request-pull	tar-tree
bisect	cvsimport	instaweb	pack-objects	rerere	unpack-file
blame	describe	local-fetch	pack-redundant	reset	unpack-objects
branch	diff	log	pack-refs	rev-list	update-index
cat-file	diff-files	lost-found	parse-remote	revert	update-ref
check-attr	diff-index	ls-files	patch-id	rm	update-server-info
check-ref-format	diff-stages	ls-remote	peek-remote	send-email	var
checkout	diff-tree	ls-tree	prune	shortlog	verify-pack
checkout-index	fetch	mailinfo	prune-packed	show	verify-tag
cherry	fetch-pack	mailsplit	pull	show-branch	whatchanged
cherry-pick	for-each-ref	merge	push	show-index	write-tree
clean	format-patch	merge-base			

git init

```
~ $ mkdir ilabs  
~ $ cd ilabs
```

git init

```
~ $ mkdir ilabs  
~ $ cd ilabs  
~/ilabs $ git init  
Initialized empty Git repository in /Users/teamon/ilabs/.git/
```

git init

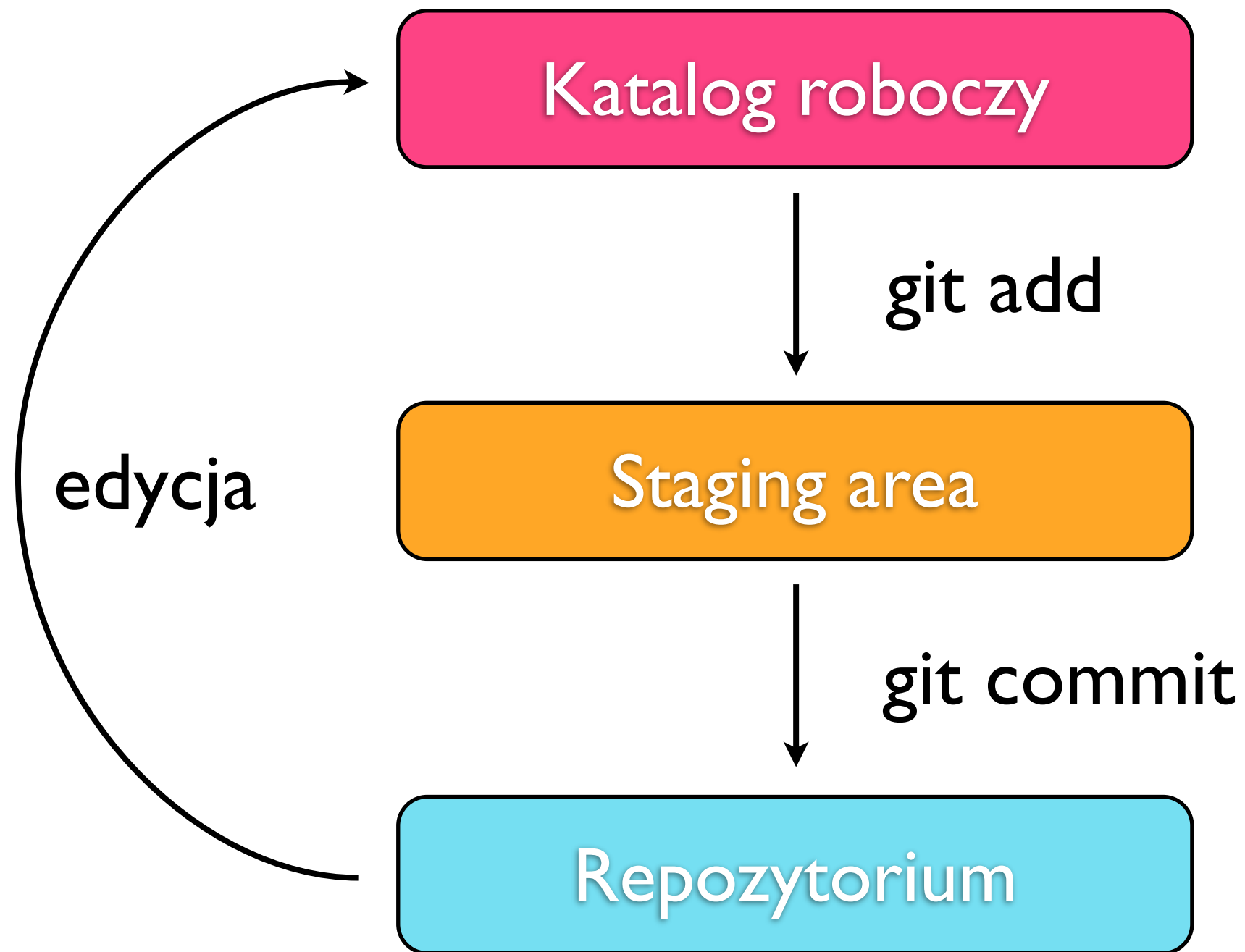
Nie ma folderow .svn !

```
~/ilabs $ ls -la
```

```
total 0
```

```
drwxr-xr-x   3 teamon  staff   102  2 maj 15:02 ./
drwxr-xr-x+ 72 teamon  staff 2448  2 maj 15:02 ../
drwxr-xr-x  11 teamon  staff   374  2 maj 15:05 .git/
```





git status

```
~/ilabs $ git status
# On branch master
#
# Initial commit
#
nothing to commit (create/copy files and use "git add" to
track)
```

git status

```
~/ilabs $ echo "KN iLabs" > README
```

git status

```
~/ilabs $ echo "KN iLabs" > README
```

```
~/ilabs $ git status
```

```
# On branch master
```

```
#
```

```
# Initial commit
```

```
#
```

```
# Untracked files:
```

```
#   (use "git add <file>..." to include in what will be committed)
```

```
#
```

```
#  README
```

```
nothing added to commit but untracked files present (use "git add"  
to track)
```


git add

```
~/ilabs $ git add README
```

git add

```
~/ilabs $ git add README
~/ilabs $ git status
# On branch master
#
# Initial commit
#
# Changes to be committed:
#   (use "git rm --cached <file>..." to unstage)
#
#   new file:   README
#
```

git commit

```
~/ilabs $ git commit -m "First commit"  
[master (root-commit) 28dc8e9] First commit  
1 files changed, 1 insertions(+), 0 deletions(-)  
create mode 100644 README
```

git commit

```
~/ilabs $ git commit -m "First commit"  
[master (root-commit) 28dc8e9] First commit  
1 files changed, 1 insertions(+), 0 deletions(-)  
create mode 100644 README
```

```
~/ilabs $ git status  
# On branch master  
nothing to commit (working directory clean)
```

git log

```
~/ilabs $ git log  
commit 28dc8e941ac55657cc633575967a7e72dd3ea898  
Author: Tymon Tobolski <i@teamon.eu>  
Date: Sun May 2 15:23:58 2010 +0200
```

First commit

git log

```
~/ilabs $ git log  
commit 66c61ef16075eccbfd4f015e3e12c6c5f87c29d0  
Author: Tymon Tobolski <i@teamon.eu>  
Date: Sun May 2 15:51:53 2010 +0200
```

Next one

```
commit 595ae522a0b115535f166813e31538b4f7119013  
Author: Tymon Tobolski <i@teamon.eu>  
Date: Sun May 2 15:51:40 2010 +0200
```

Second commit

```
commit 28dc8e941ac55657cc633575967a7e72dd3ea898  
Author: Tymon Tobolski <i@teamon.eu>  
Date: Sun May 2 15:23:58 2010 +0200
```

First commit

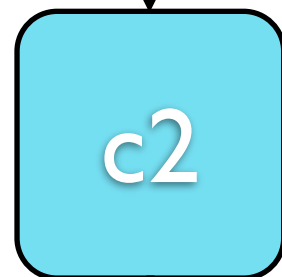
Workflow



MESSAGE: **Next one**

SHA: **66c61ef16075ecbfd4f015e3e12c6c5f87c29d0**

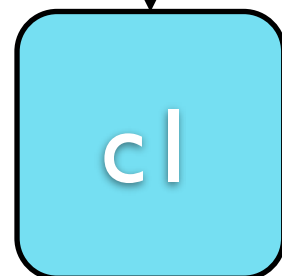
PARENT: **595ae522a0b115535f166813e31538b4f7119013**



MESSAGE: **Second commit**

SHA: **595ae522a0b115535f166813e31538b4f7119013**

PARENT: **28dc8e941ac55657cc633575967a7e72dd3ea898**

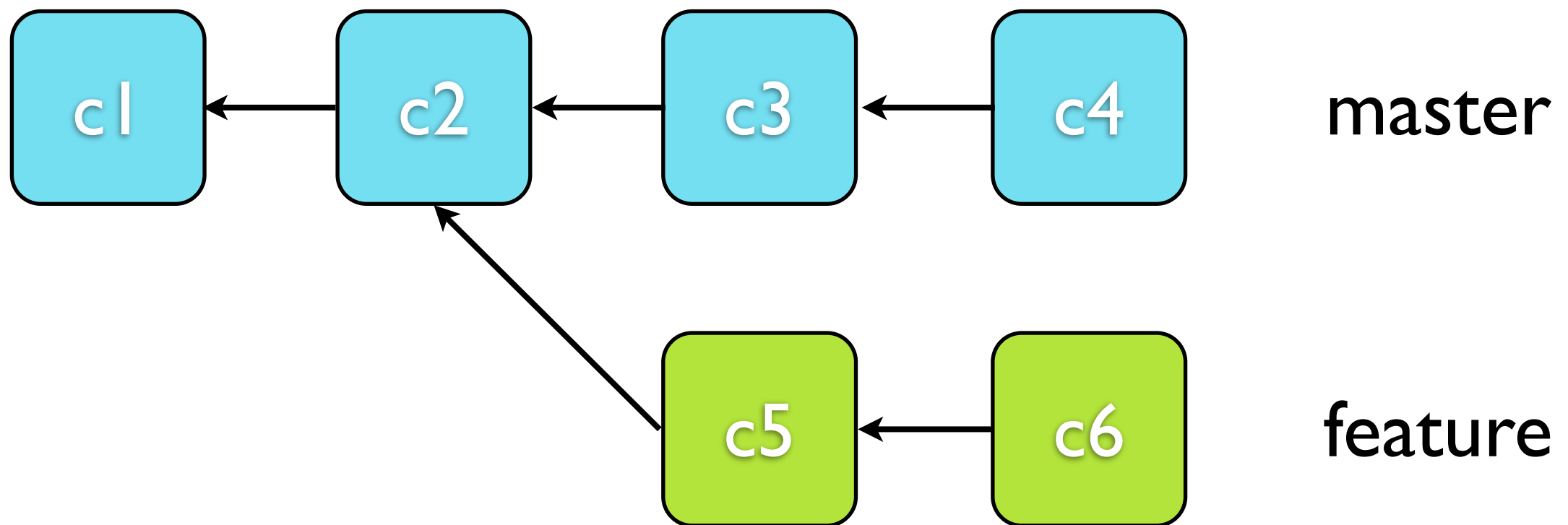


MESSAGE: **First commit**

SHA: **28dc8e941ac55657cc633575967a7e72dd3ea898**

git branch

git branch



git branch / checkout

```
~/ilabs $ git branch feature
```

git branch / checkout

```
~/ilabs $ git branch feature
```

```
~/ilabs $ git branch  
feature  
* master
```

git branch / checkout

```
~/ilabs $ git branch feature
```

```
~/ilabs $ git branch  
feature  
* master
```

```
~/ilabs $ git checkout feature  
Switched to branch 'feature'
```

git branch / checkout

```
~/ilabs $ git branch feature
```

```
~/ilabs $ git branch  
feature  
* master
```

```
~/ilabs $ git checkout feature  
Switched to branch 'feature'
```

```
~/ilabs $ git branch  
* feature  
master
```

git branch / checkout

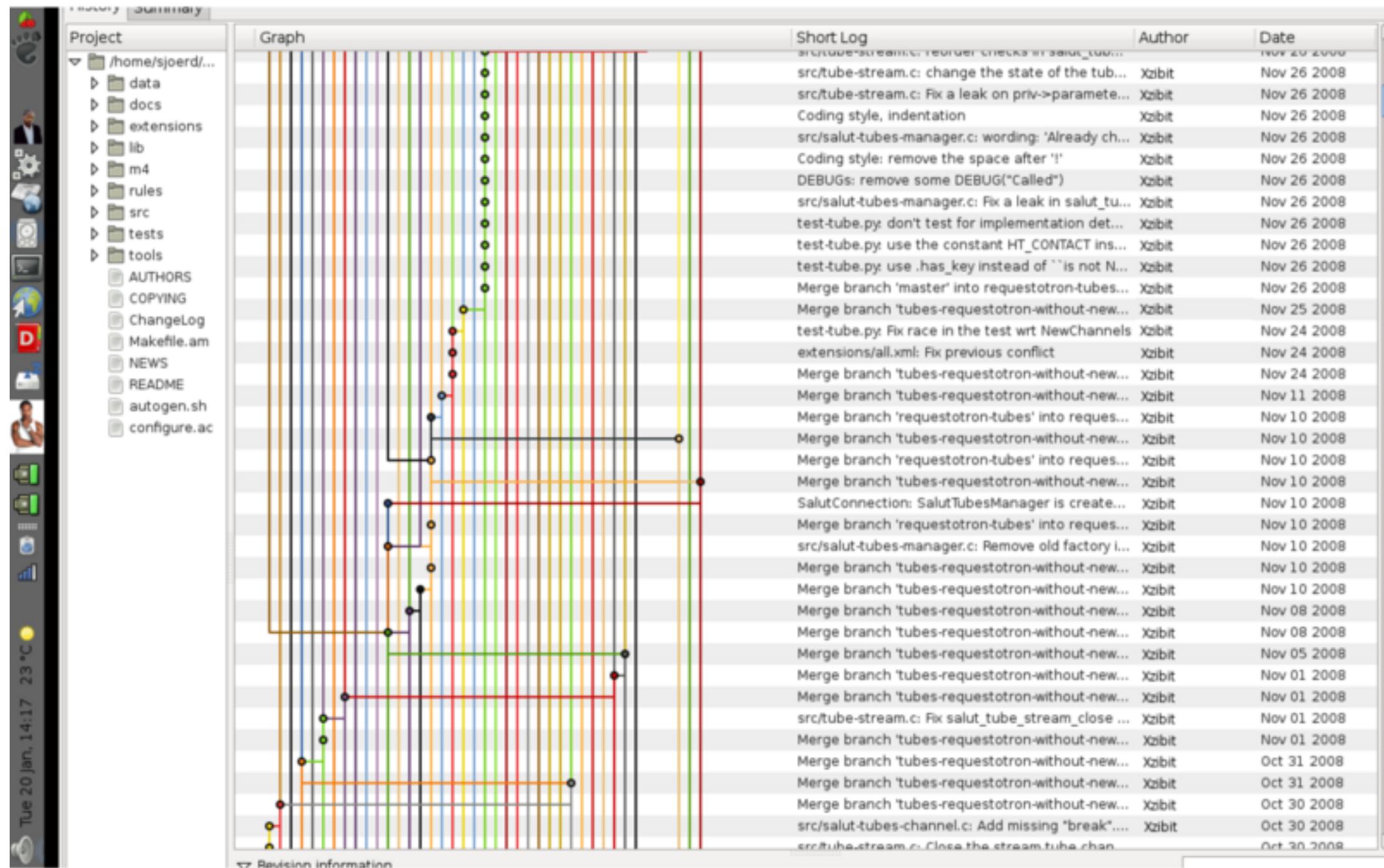
```
git branch feature  
git checkout feature
```

==

```
git checkout -b feature
```

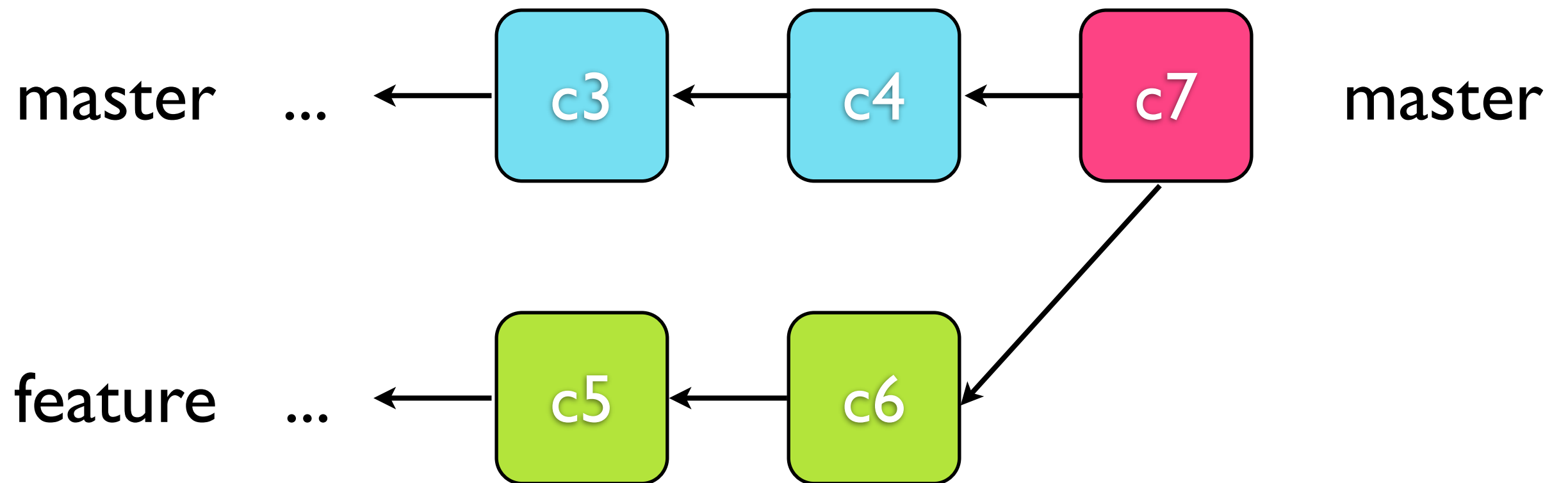
git merge

YO DAWG, I HEARD YOU LIKE DVCS



SO I PUT A BRANCH IN YOUR BRANCH SO YOU CAN MERGE WHILE YOU MERGE

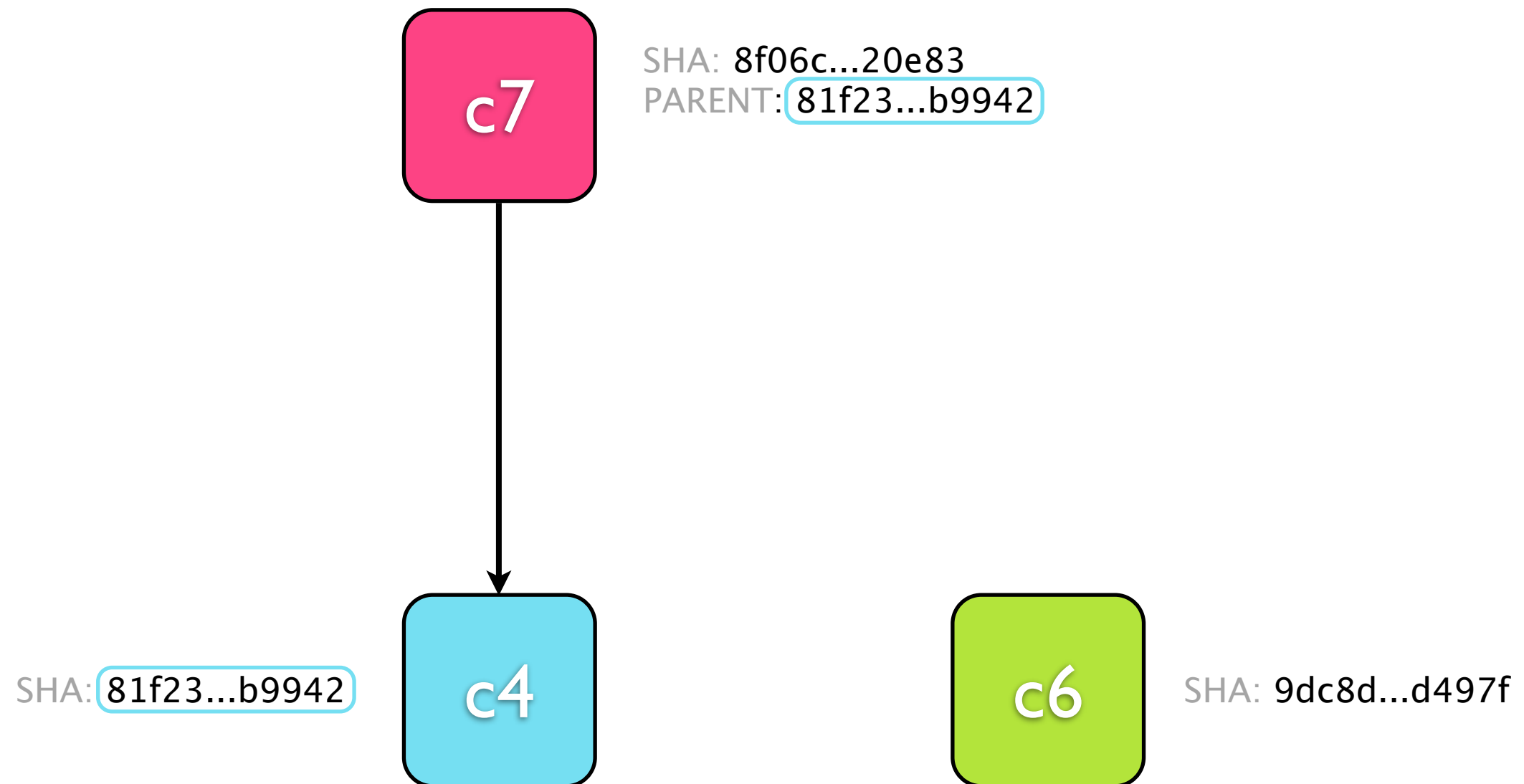
git merge



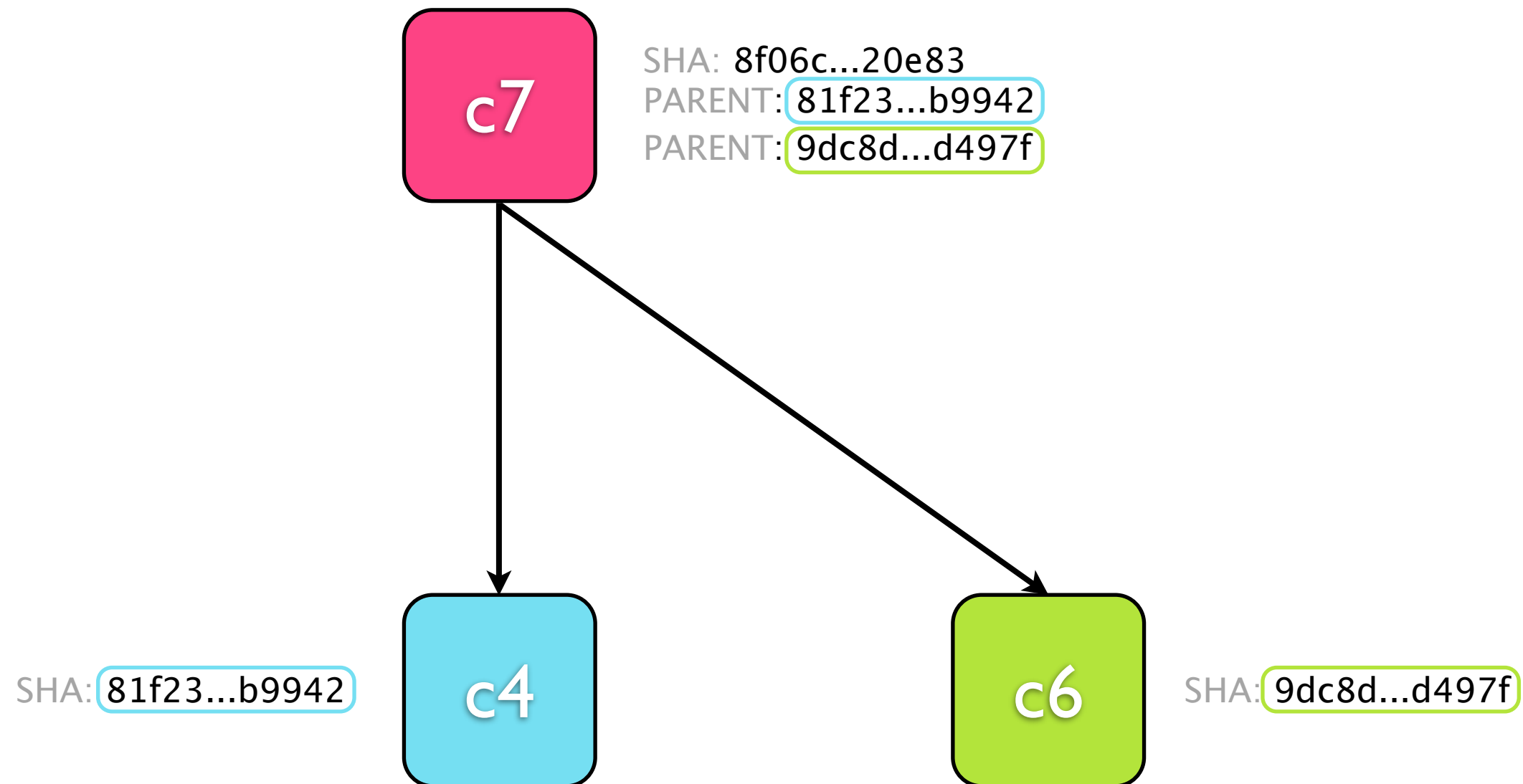
git merge



git merge



git merge



git merge

```
~/ilabs $ git checkout master  
Switched to branch 'master'
```

git merge

```
~/ilabs $ git checkout master  
Switched to branch 'master'
```

```
~/ilabs $ git merge feature  
Merge made by recursive.  
1 files changed, 1 insertions(+), 0  
deletions(-)
```

git stash

```
~/ilabs $ git stash  
Switched to branch 'master'
```

git stash

```
~/ilabs $ git stash  
Switched to branch 'master'
```

```
~/ilabs $ echo "666" >> README
```


git stash

```
~/ilabs $ git stash
```

```
Switched to branch 'master'
```

```
~/ilabs $ echo "666" >> README
```

```
~/ilabs $ git status
```

```
# On branch master
```

```
# Changed but not updated:
```

```
#   (use "git add <file>..." to update what will be committed)
```

```
#   (use "git checkout -- <file>..." to discard changes in  
working directory)
```

```
#
```

```
#   modified:   README
```

```
#
```

```
no changes added to commit (use "git add" and/or "git commit -  
a")
```

git stash

```
~/ilabs $ cat README  
asd  
666
```

git stash

```
~/ilabs $ cat README  
asd  
666
```

```
~/ilabs $ git stash  
Saved working directory and index state WIP on master: 992f518  
Merge branch 'foo'  
HEAD is now at 992f518 Merge branch 'foo'
```

git stash

```
~/ilabs $ cat README  
asd  
666
```

```
~/ilabs $ git stash  
Saved working directory and index state WIP on master: 992f518  
Merge branch 'foo'  
HEAD is now at 992f518 Merge branch 'foo'
```

```
~/ilabs $ git status  
# On branch master  
nothing to commit (working directory clean)
```

git stash

```
~/ilabs $ cat README  
asd  
666
```

```
~/ilabs $ git stash  
Saved working directory and index state WIP on master: 992f518  
Merge branch 'foo'  
HEAD is now at 992f518 Merge branch 'foo'
```

```
~/ilabs $ git status  
# On branch master  
nothing to commit (working directory clean)
```

```
~/ilabs $ cat README  
asd
```

git stash

```
~/ilabs $ git stash apply
# On branch master
# Changed but not updated:
#   (use "git add <file>..." to update what will be committed)
#   (use "git checkout -- <file>..." to discard changes in
working directory)
#
#   modified:   README
#
no changes added to commit (use "git add" and/or "git commit -
a")
```

git stash

```
~/ilabs $ git stash apply
# On branch master
# Changed but not updated:
#   (use "git add <file>..." to update what will be committed)
#   (use "git checkout -- <file>..." to discard changes in
working directory)
#
#   modified:   README
#
no changes added to commit (use "git add" and/or "git commit -
a")
```

```
~/ilabs $ cat README
asd
666
```

Remote



github
SOCIAL CODE HOSTING

github

The screenshot shows the GitHub web interface for the repository 'teamon/synergio'. The browser address bar shows the URL 'http://github.com/teamon/synergio'. The page header includes the GitHub logo and navigation links like 'Dashboard', 'Inbox', 'Account Settings', and 'Log Out'. The repository name 'teamon / synergio' is prominently displayed, along with buttons for 'Admin', 'Unwatch', 'Pull Request', and 'Download Source'. Below this, there are tabs for 'Source', 'Commits', 'Network (1)', 'Fork Queue', 'Issues (0)', 'Downloads (0)', 'Wiki (1)', and 'Graphs'. The 'Source' tab is active, showing the repository's description: 'Cocoa application with QuartzComposer-like interface'. It also displays the repository's URL and a note about 'Read+Write' access. A commit history section shows a commit by 'teamon' on April 21, 2010, with details like commit hash, tree, and parent. At the bottom, a table lists files in the repository, including '.gitattributes' and '.gitignore', with their commit dates and messages.

teamon's synergio at master - GitHub

git http://github.com/teamon/synergio

teamon's synergio at master - GitHub

github SOCIAL CODING

teamon Dashboard Inbox 0 Account Settings Log Out

Explore GitHub Gist Blog Help Search...

teamon / synergio Admin Unwatch Pull Request Download Source 1 1

Source Commits Network (1) Fork Queue Issues (0) Downloads (0) Wiki (1) Graphs Branch: master

Switch Branches (1) Switch Tags (0) Branch List

Cocoa application with QuartzComposer-like interface — Read more
http://teamon.eu

SSH HTTP Git Read-Only git@github.com:teamon/synergio.git This URL has Read+Write access

Slider

teamon (author)
April 21, 2010

commit 4826a55f8e3086376af0
tree 34f399cb79adef08d871
parent a57f57930cb101740939

synergio /

name	age	message	history
.gitattributes	April 15, 2010	Cocoa application with JavaScript view calling ... [teamon]	
.gitignore	April 15, 2010	Cocoa application with JavaScript view calling ... [teamon]	

github

The screenshot shows the GitHub web interface for the repository 'teamon/synergio'. The browser address bar shows the URL 'http://github.com/teamon/synergio'. The page header includes the GitHub logo and navigation links like 'Dashboard', 'Inbox', 'Account Settings', and 'Log Out'. The repository name 'teamon / synergio' is prominently displayed, along with buttons for 'Admin', 'Unwatch', 'Pull Request', and 'Download Source'. Below this, there are tabs for 'Source', 'Commits', 'Network (1)', 'Fork Queue', 'Issues (0)', 'Downloads (0)', 'Wiki (1)', and 'Graphs'. The 'Source' tab is active, showing the repository's description: 'Cocoa application with QuartzComposer-like interface'. Below the description, there are buttons for 'SSH', 'HTTP', and 'Git Read-Only', followed by a text box containing the Git URL 'git@github.com:teamon/synergio.git'. A note indicates that this URL has 'Read+Write' access. Further down, a commit history section shows a commit by 'teamon' on April 21, 2010, with details about the commit hash, tree, and parent. At the bottom, a table lists files in the repository, including '.gitattributes' and '.gitignore', with their commit dates and messages.

teamon's synergio at master - GitHub

git http://github.com/teamon/synergio

teamon's synergio at master - GitHub

github SOCIAL CODING

teamon Dashboard Inbox 0 Account Settings Log Out

Explore GitHub Gist Blog Help Search...

teamon / synergio Admin Unwatch Pull Request Download Source 1 1

Source Commits Network (1) Fork Queue Issues (0) Downloads (0) Wiki (1) Graphs Branch: master

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Cocoa application with QuartzComposer-like interface — Read more
http://teamon.eu

SSH HTTP Git Read-Only git@github.com:teamon/synergio.git This URL has Read+Write access

Slider

teamon (author)
April 21, 2010

commit 4826a55f8e3086376af0
tree 34f399cb79adef08d871
parent a57f57930cb101740939

synergio /

name	age	message	history
.gitattributes	April 15, 2010	Cocoa application with JavaScript view calling ... [teamon]	
.gitignore	April 15, 2010	Cocoa application with JavaScript view calling ... [teamon]	

git clone

```
~ $ git clone git@github.com:teamon/synergio.git
```

git clone

```
~ $ git clone git@github.com:teamon/synergio.git
Initialized empty Git repository in /Users/teamon/
Desktop/synergio/.git/
remote: Counting objects: 140, done.
remote: Compressing objects: 100% (129/129), done.
remote: Total 140 (delta 64), reused 0 (delta 0)
Receiving objects: 100% (140/140), 159.13 KiB | 99
KiB/s, done.
Resolving deltas: 100% (64/64), done.
```

git remote

```
~ $ cd synergio  
~/synergio $ git remote  
origin
```

git remote

```
~ $ cd synergio
```

```
~/synergio $ git remote  
origin
```

```
~/synergio $ git remote show origin
```

```
* remote origin
```

```
Fetch URL: git@github.com:teamon/synergio.git
```

```
Push URL: git@github.com:teamon/synergio.git
```

```
HEAD branch: master
```

```
Remote branch:
```

```
master tracked
```

```
Local branch configured for 'git pull':
```

```
master merges with remote master
```

```
Local ref configured for 'git push':
```

```
master pushes to master (fast forwardable)
```

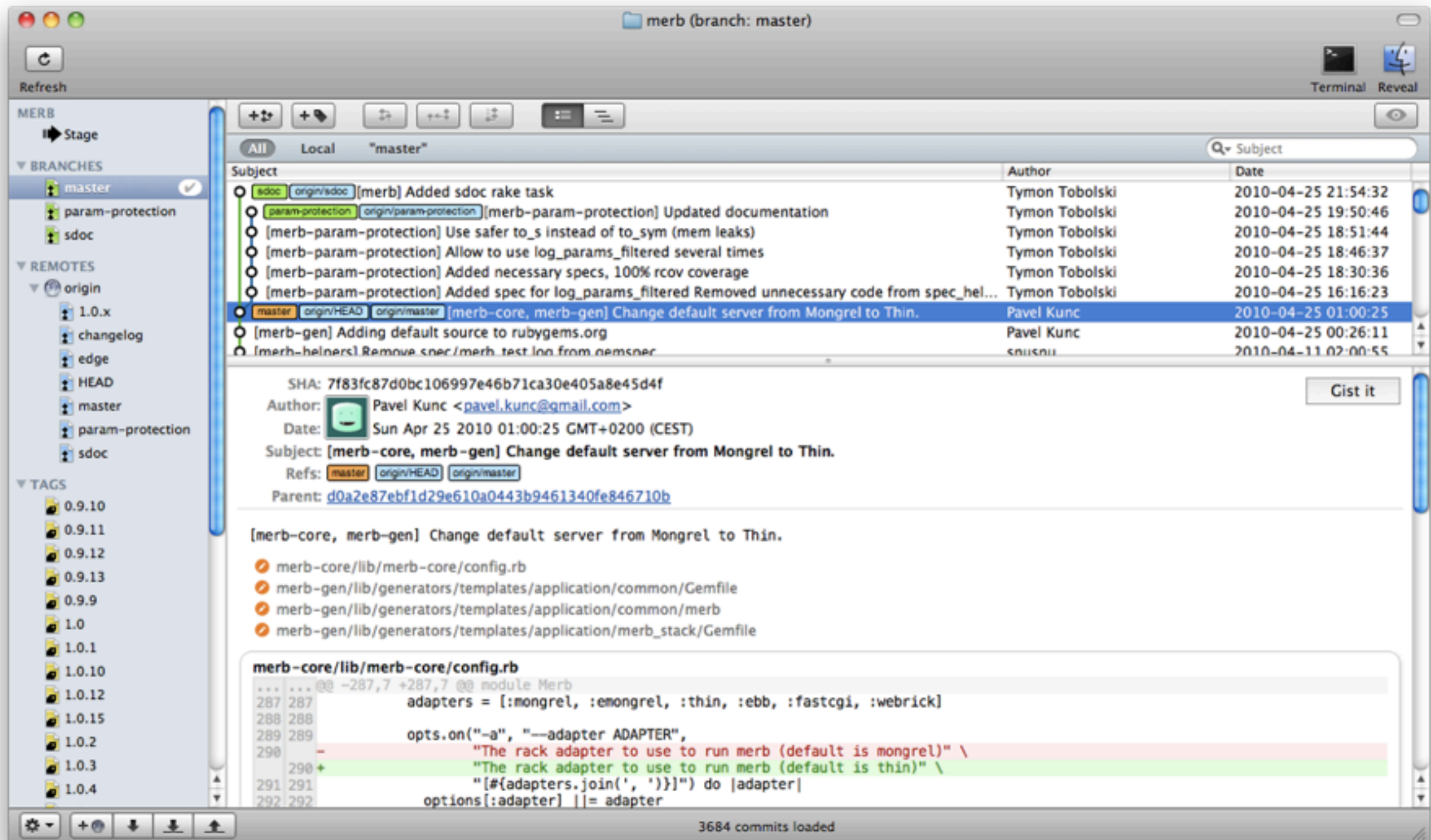
git push

```
~/synergio $ git push origin master
Counting objects: 5, done.
Delta compression using up to 2 threads.
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 287 bytes, done.
Total 3 (delta 2), reused 0 (delta 0)
To git@github.com:teamon/synergio.git
 4826a55..fd8157e  master -> master
```

git pull

```
~/synergio $ git pull origin master
From github.com:teamon/synergio
 * branch                master      -> FETCH_HEAD
Removing resources/app_j.js
Merge made by recursive.
resources/app_j.js | 201
-----
1 files changed, 0 insertions(+), 201 deletions(-)
delete mode 100644 resources/app_j.js
```


GitX



GitX

- <http://gitx.frim.nl> - wersja stabilna
- <http://brotherbard.com/blog/2010/03/experimental-gitx-fork/>

Prezentacja do pobrania

<http://s.teamon.eu/Git.pdf>