

No Fear of Git

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How do you imagine Git?

Topics

- Distributed Version Control
- Essential Git Concepts
- Material
- Git in Action
- Questions

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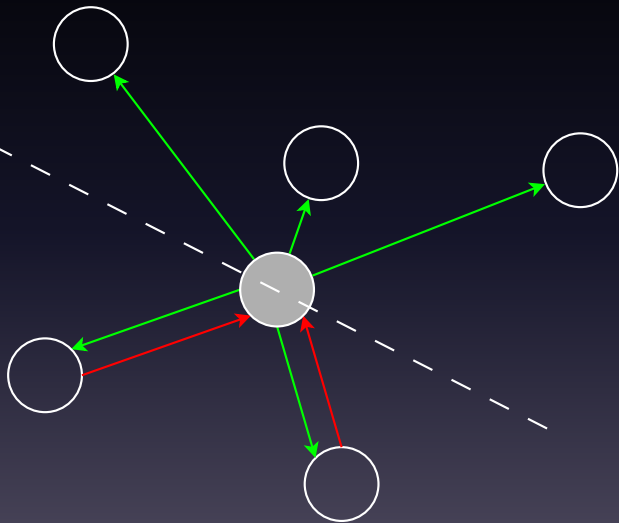
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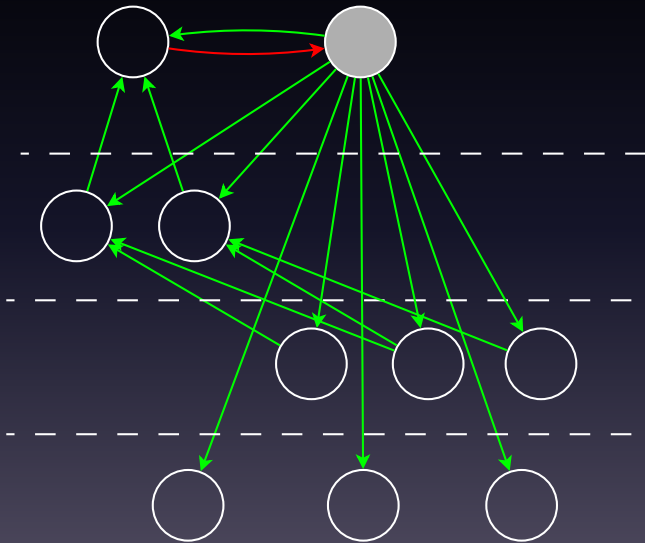
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Centralized Model



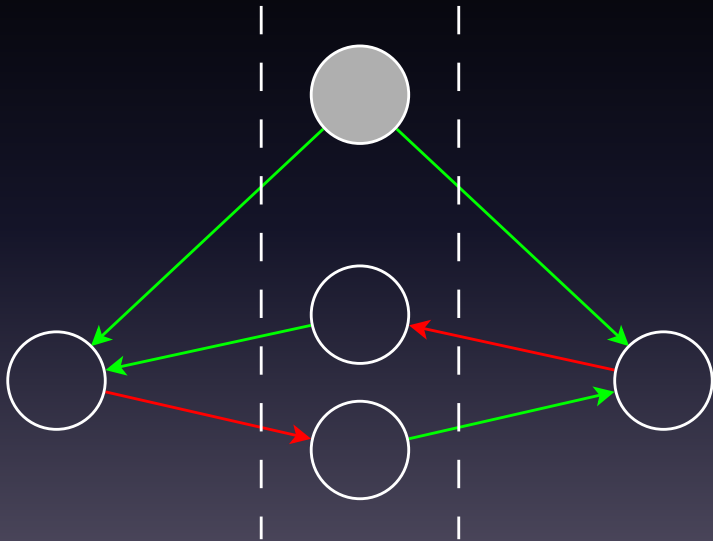
Distributed Model

Linux Kernel



Distributed Model

Eugene, me, pcmanfm



Summary

Distributed means

- Flexibility in structure
- Local power to every peer
- Working off-line
- Reduced latency

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Essential Git Concepts

- "Revisions" in Git
- The *Index*
- *Remotes*

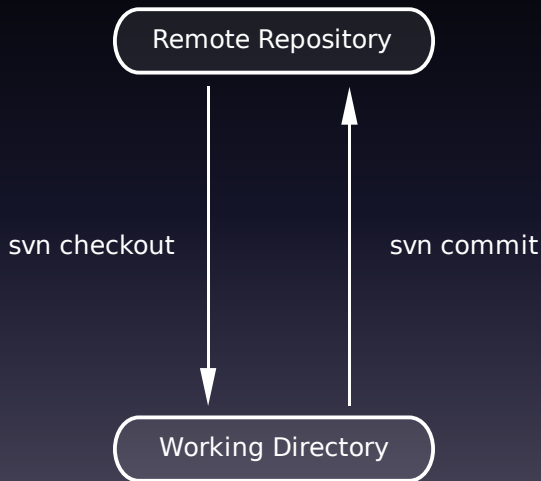
"Revisions" in Git

SHA-1 sums

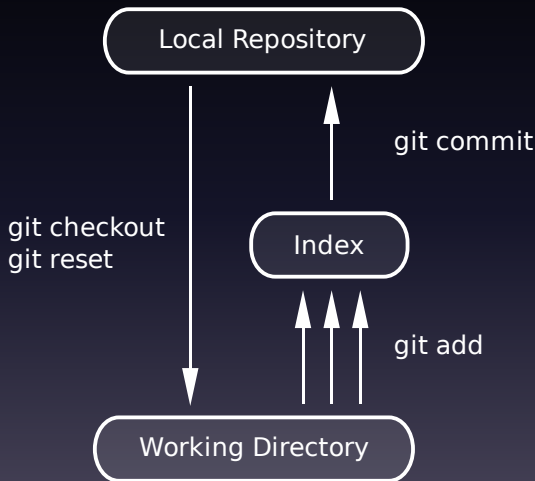
"Revisions" in Git

```
783689920609890ce48d  
b9b91b38e4638fce321c
```

Subversion Data Flow



Git Data Flow: The Index



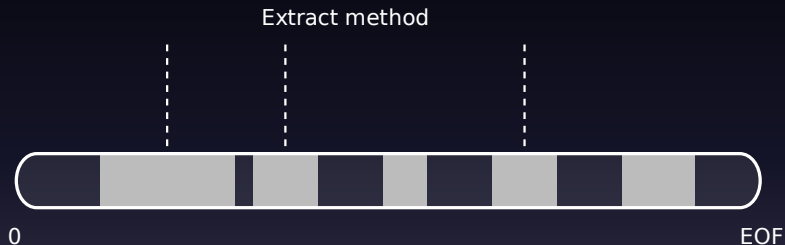
Logical Groups of Hunks



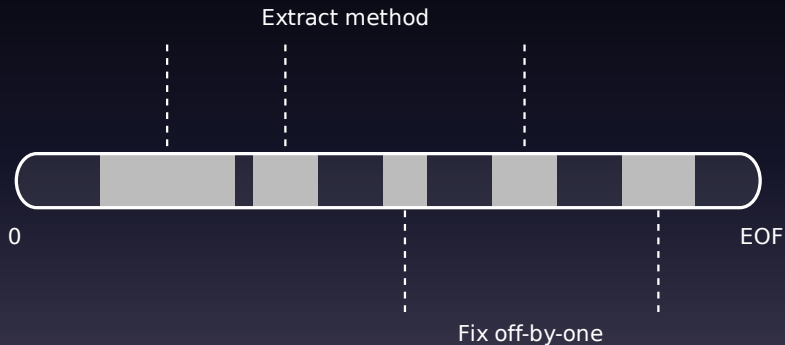
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The Subversion Way

```
$ svn commit -m 'Extract method and fix off-by-one'
```

↑↑↑

The Subversion Way

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$ svn commit -m 'Extract method and fix off-by-one'  
↑↑↑
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The Git Way

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$ git add -p
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$ git commit -m 'Extract method'
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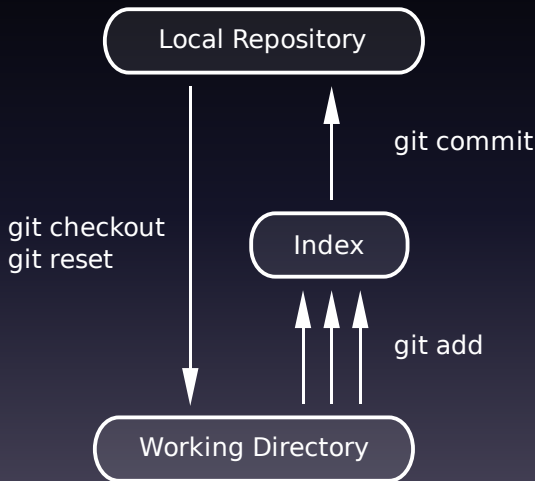
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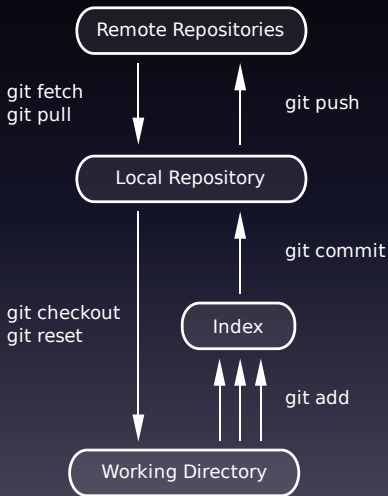
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$ git commit -m 'Fix off-by-one'
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Again: The Index



Remotes



Video Talks on Git 1/2

- (2007-05-03) Linus Torvalds
 - "Source code control the way it was meant to be!"
 - <http://www.youtube.com/watch?v=4XpnKHJAok8>
- (2007-10-12) Randal Schwartz
 - "Git"
 - <http://www.youtube.com/watch?v=8dhZ9BXQgc4>
- (2008-06-01) Scott Chacon
 - "Getting Git"
 - <http://www.markrichman.com/2008/06/14/railsconf-git-talk/>
 - <http://www.vimeo.com/1099027?pg=embed&sec=1099027>

Video Talks on Git 2/2

- (2008-07-09) Tommi Virtanen
 - "Version Control for Developers"
 - <http://blip.tv/file/1114793/>
- (2008-07-09) Bart Trojanowski
 - "Git the basics"
 - <http://excess.org/article/2008/07/ogre-git-tutorial/>
- (2008-10-27) Johannes Schindelin
 - "Contributing with Git"
 - http://www.youtube.com/watch?v=j45cs5_nY2k

Online Reading

- Introductions
 - Git Magic
 - <http://www-cs-students.stanford.edu/~blynn/gitmagic/>
 - The Git Community Book
 - <http://book.git-scm.com/>
 - Git from the bottom up
 - <http://ftp.newartisans.com/pub/git.from.bottom.up.pdf>
- Task-oriented material
 - Git Ready
 - <http://gitready.com/>
 - Git Casts (actually short films)
 - <http://gitcasts.com/>
 - Git FAQ
 - <http://git.or.cz/gitwiki/GitFaq>

Help

- `git help command`
- `#git` at Freenode IRC

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Git in Action



Remember

- `git-core` on Debian/Ubuntu
- Garbage-collecting your repository (through `git gc`)
- Git via Git is quite stable

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Free Software

These slides have been created using *Free Software* only.

Free Software

- wiki2beamer
 - <http://wiki2beamer.sourceforge.net/>
- Inkscape
- GNU Make
- \LaTeX Beamer