

# Git Tutorial

Version: 0.5

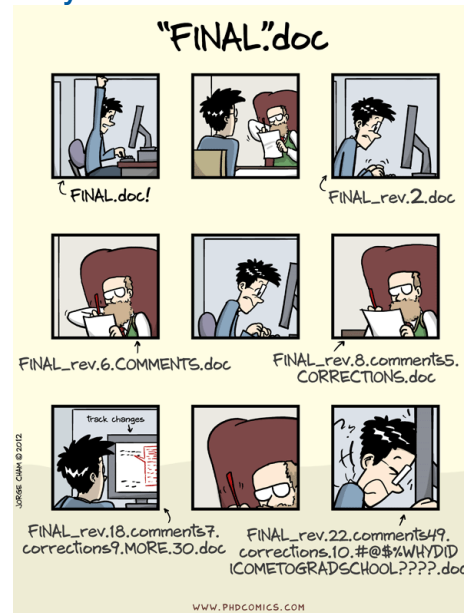
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Lund 2016-03-04



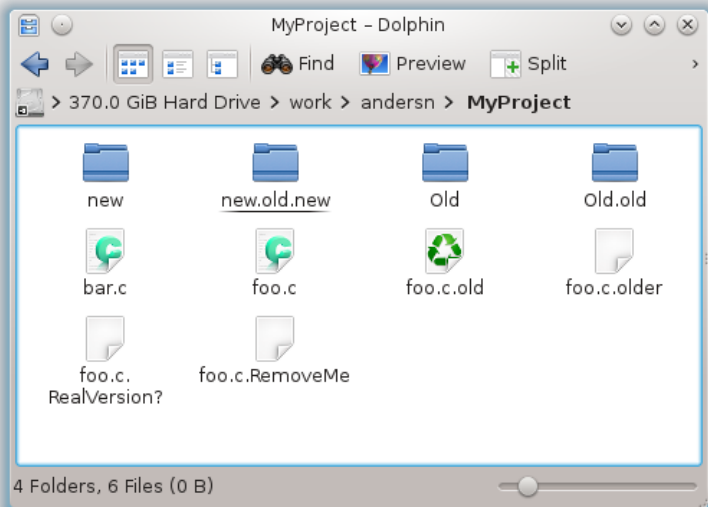
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## Why?



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## Why?



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## What?



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## For the matematicians



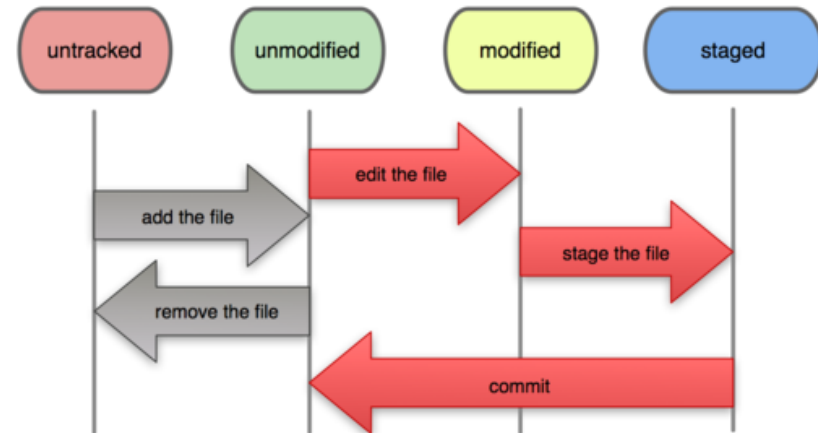
"git gets easier once you get the basic idea that branches are homeomorphic endofunctors mapping submanifolds of a Hilbert space."

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## How?

### File Status Lifecycle



## Version Control?

- Why version control?
- What is version control?
- How to do?



## Why?



## Why?

**Backups:** With version control you always have previous versions of your files available, if you happen to do something stupid like erasing a file. Or just regret a large edit later on.

**Organization:** Knowing which copy of a project directory is up to date, and which ones are not, saves a lot of time and problems.

**Collaboration:** Everyone who has tried to collaborate with other people by sending files, or parts of files, over email knows how fragile that is.



## What is it?

- Numerous tools: CVS, Subversion, Git, Team Foundation, Clearcase, ...
- Different architectures; centralized repository, or distributed.



## What is Git?

- Git is free, both as in speech and in beer, unlike Clearcase, Team Foundation and other commercial systems.
- Git is distributed. When each user has her own repository copy you do not always need to have contact with a central server.
- There is a large Internet community around git making it easy to find information and/or help when needed.
- It is used in some large high profile open source projects. Most known is the Linux kernel.



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### File Status Lifecycle

