Source Code Management Basics

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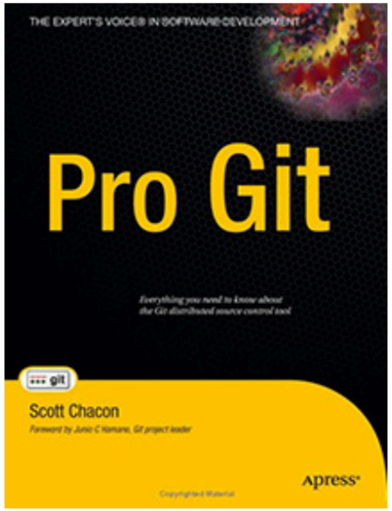
Resources


THE EXPERT'S VOICE IN SOFTWARE DEVELOPMENT
Pro Git
Everything you need to know about the Git distributed source control tool
git
Scott Chacon
Foreword by Junio C Hamano, Git project leader
Apress
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Git-it Workshop:
http://jlord.us/git-it/index.html

Free at http://git-scm.com/book

Version Control

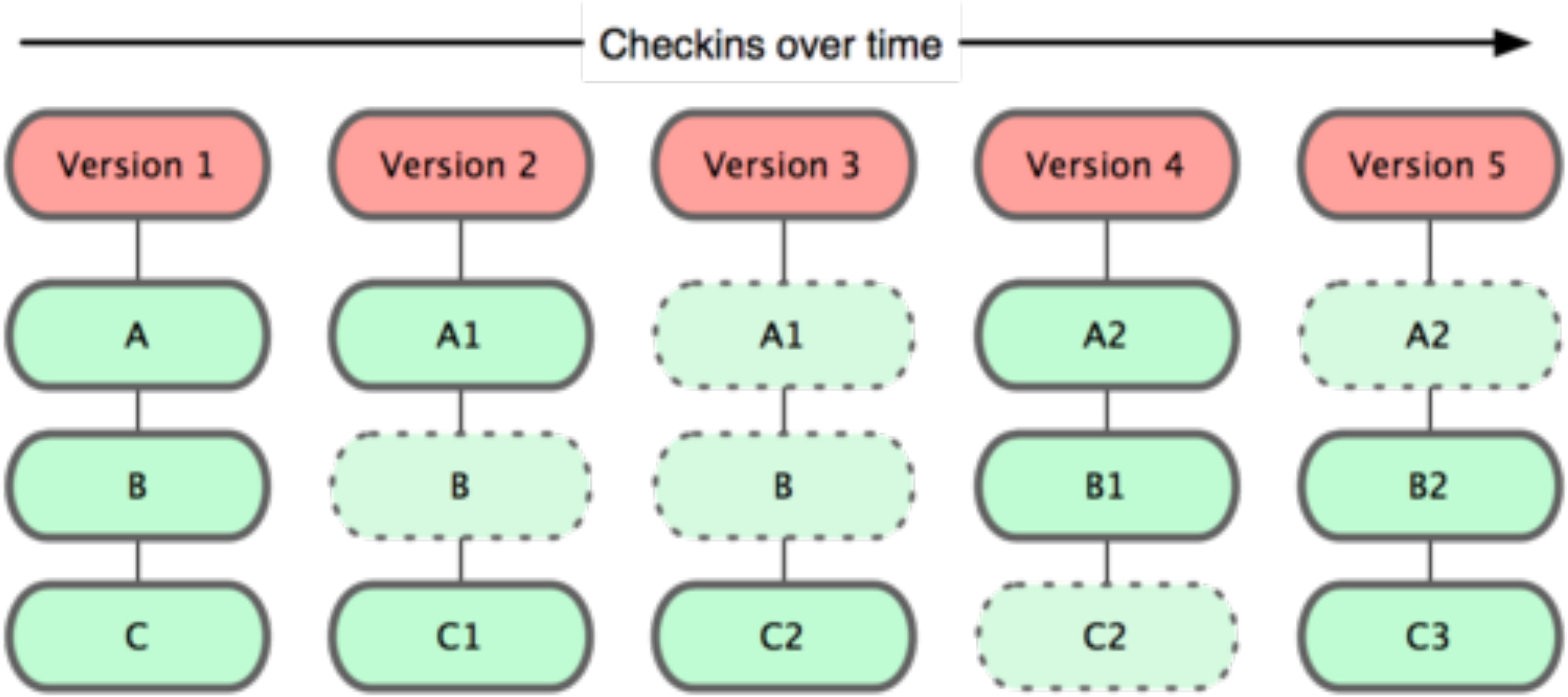
- Version control is a system that records changes to a file or set of files over time so that you can recall specific versions later
- A Version Control System (VCS) allows you to:
  - revert files back to a previous state
  - revert the entire project back to a previous state
  - review changes made over time
  - see who last modified something that might be causing a problem and when
  - and much more.....

Git

- Started in 2005
- Very popular in developer communities
- Well-known git systems: github and bitbucket

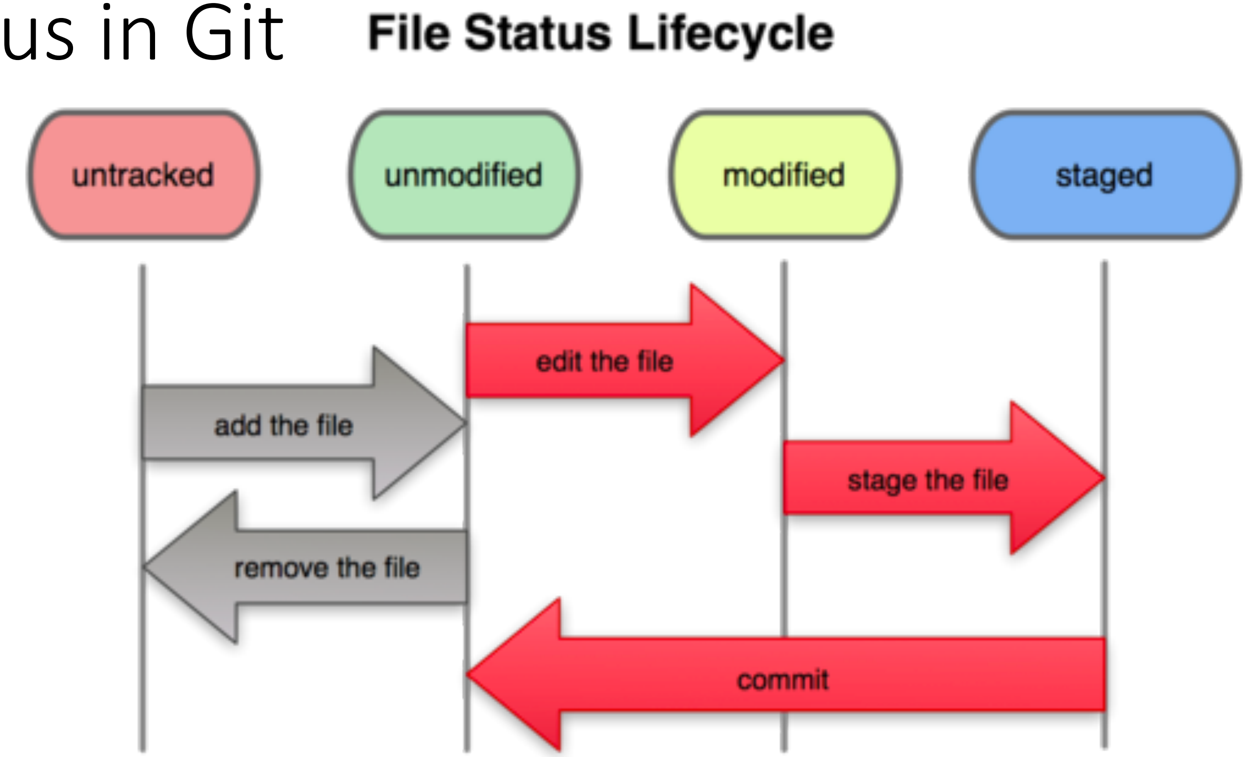
How Git Stores Data

- Git stores data as snapshots of the project over time



Command: git status

File Status in Git



- Untracked means that Git finds a file that didn't have in the previous snapshot (commit);
- Untracked files won't be included in commit snapshots until added to Git explicitly
- Git does this to prevent accidentally including generated binary files or other files that the developer did not mean to include.

Work with Remotes

- Remote repositories are versions of your project that are hosted on the Internet
- Collaborating with others via managing these remote repositories and pushing and pulling data to and from them
  - Show remote repos: git remote –v
  - Add remote: git remote add [shortname] [url]
  - Pull/Push from/to remote:
    git pull [remote-name] [branch-name]
    git push [remote-name] [branch-name]

Basic Git Workflow

1. Build a repository locally (or clone a repo)
2. Modify files in your working directory.
3. Stage the files, adding snapshots of them to your staging area.
4. Do a commit, which takes the files as they are in the staging area and stores that snapshot permanently to your Git directory.
5. Push updates to the remote repo

Exercises

- We use a series of demos to illustrate Git basic operations
  - Setup an empty repository in github
  - Clone a repository
  - Create files, add files, commit
  - Rollback (optional)
  - Push changes to remote repo

- git clone
- git status
- git add .
- git commit –am “your commit message”
- Optional: git checkout [commit hash]
- git checkout master
- git log
- git push