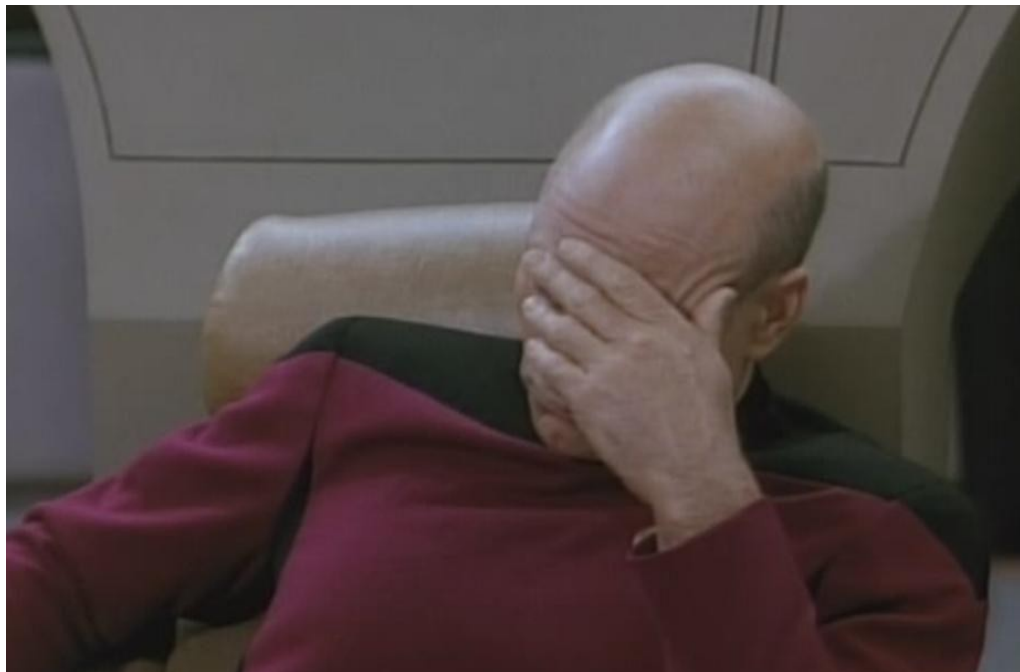
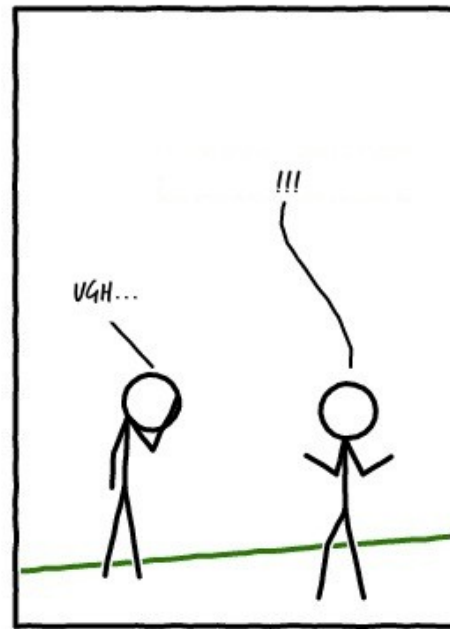
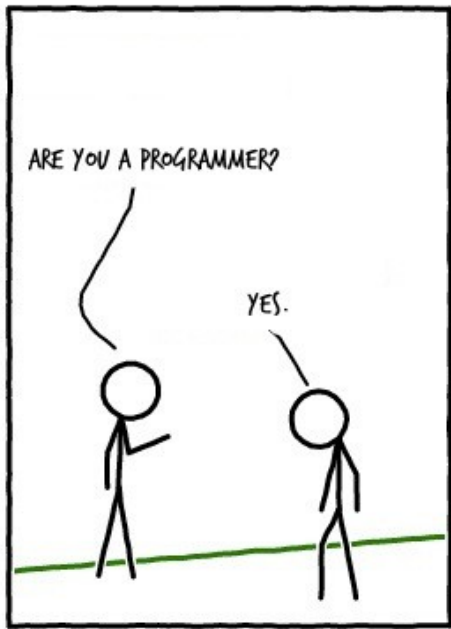




git

مجید سلامت
گروه کاربران لینوکس اصفهان



History

- Source Code Control System (SCCS)
 - 1972, closed source, free with Unix (AT&T)
- Revision Control System (RCS)
 - 1982, open source
- Concurrent Version System (CVS)
 - 1986-1990, open source
- Apache Subversion (SVN)
 - 2000, open source

Linux kernel

- BitKeeper SCM
 - 2000, closed source
 - Distributed version control
 - community version – Free
 - Linux kernel from 2002-2005
 - April 2005: Community version not free anymore

Git is born

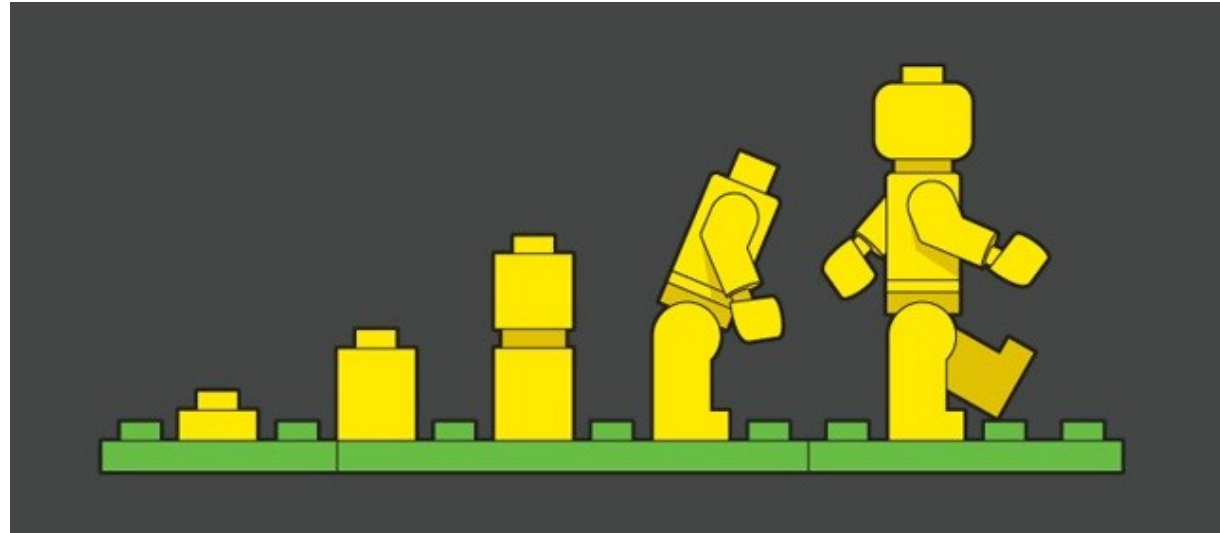
- British slang: git - “unpleasant person“
- Man page: git - the stupid content tracker
- Git is a Free Software
- Distributed version control
- Source code management
- Unix-like (Linux, Mac Os X, Solaris) and Windows
- Faster than others

Who should use

- Who wanting to track edits
- Who like command-line tools
- Developers and Programmers
- Not as useful for tracking not-text file
 - Images, movies, music, fonts
 - Word or pdf

Install git

- Ubuntu
 - \$ sudo apt-get install git
- Fedora
 - \$ yum install git
- Arch Linux
 - \$ pacman -S git
- Find version
 - \$ git --version
- Windows & Mac Os X
 - <http://git-scm.com/>



Configuration

- System
 - /etc/gitconfig
 - git config --system
- User
 - ~/.gitconfig
 - git config --global
- Project
 - project_dir/.git/config
 - git config

Example config

- Add Name
 - \$ git config --global user.name "YourName"
- Add Email
 - \$ git config --global user.email "your@email.com"
- Ui color
 - \$ git config --global color.ui true
- See config
 - \$ git config --list

git help

- Most commonly command
 - \$ git help
- All commands
 - \$ git help -a
- One command example
 - \$ git help commit

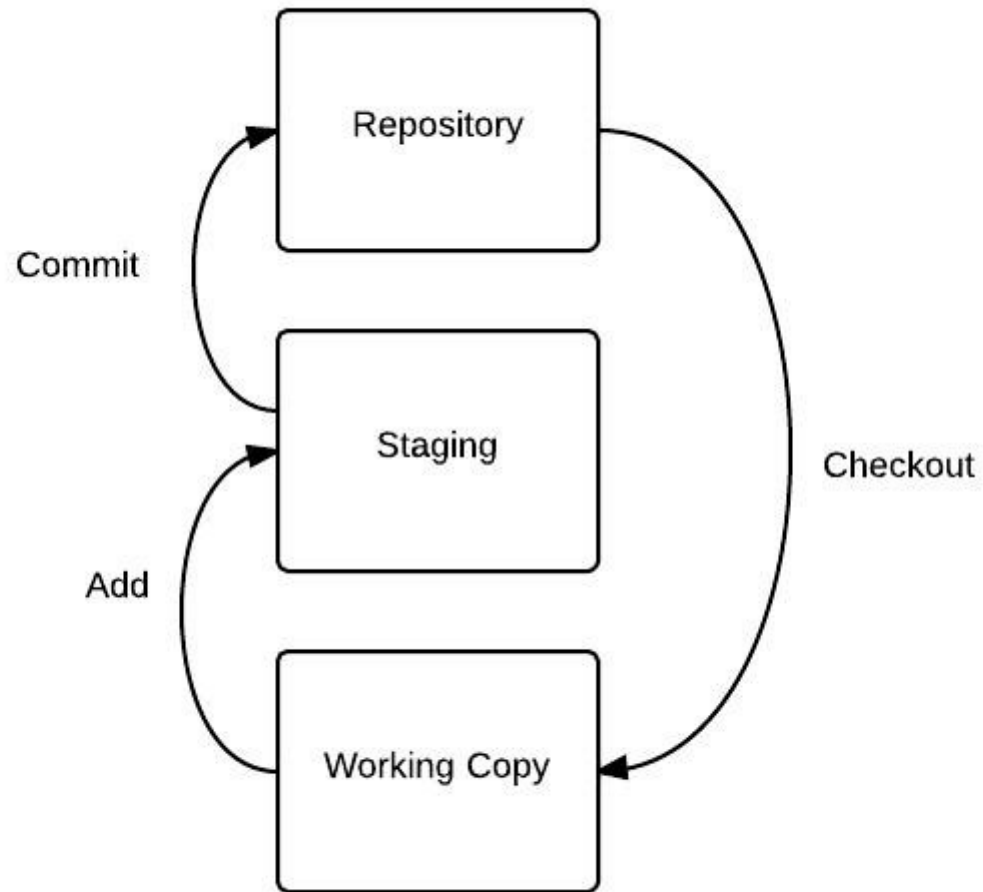
Initializing and commit

- `$ git init`
- `$ git add .`
- `$ git commit -m "message"`

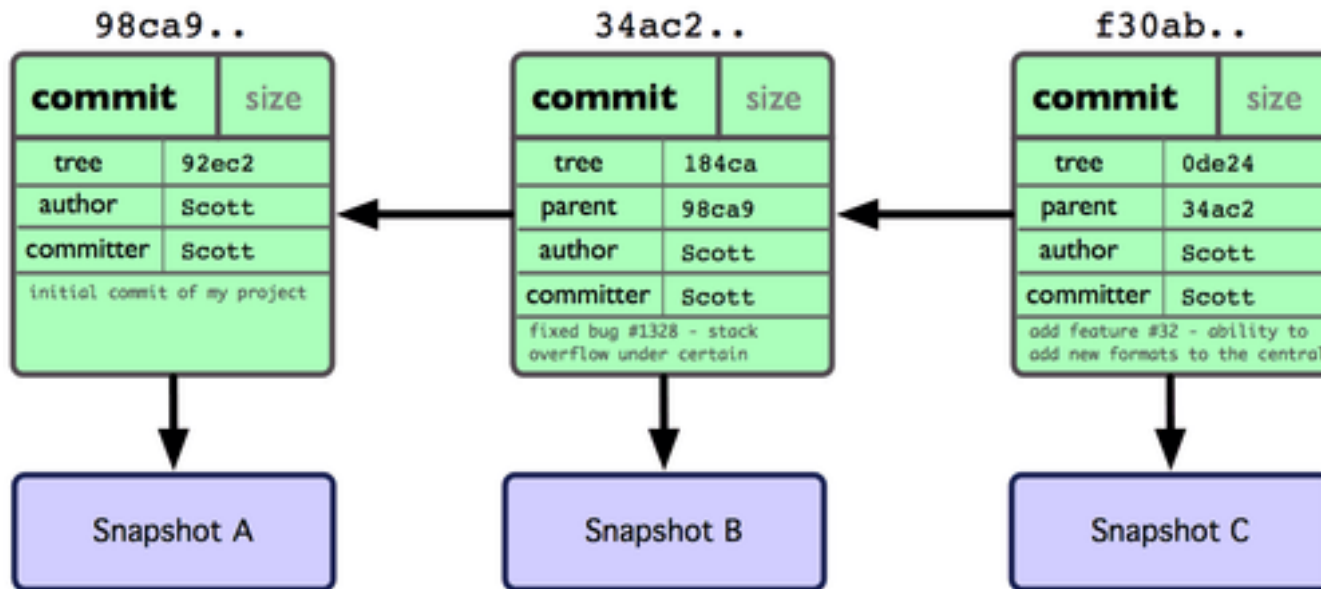
Commit message rules

- Keep it short (less than 50 characters)
- Keep each line to less than 72 characters
- Write commit message in present tense
 - Write "fix", "add", "change" instead of "fixed", "added", "changed"
 - "[css,js]" , "bugfix:"
- Don't end the summary line with a period - it's a title and titles don't end with a period.
- Describe your changes, Do not talk to anyone

Architecture



Set of change and SHA-1



Difference

- `$ git diff HEAD^^ HEAD main.c`
- `$ git diff HEAD~3 HEAD main.c`
- `$ git diff git diff 8f78225..739adc5 main.c`
- ...

Logs

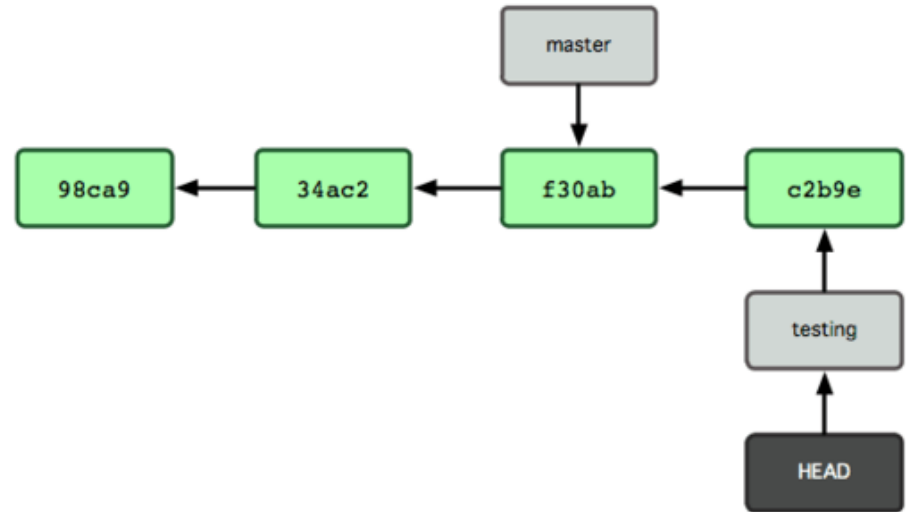
- `$ git log`
- `$ git log --oneline`
- `$ git log --since=2014-08-04`
- `$ git log --until=2014-08-04`
- `$ git log --author=user`
- `$ git log git log --grep=main.c`
- ...

gitignore

- Project/.gitignore
- samples
 - <https://github.com/github/gitignore>

Branch

- Show branches
 - \$ git branch
- Create new branch
 - \$ git branch new_branch
- Switch between branch
 - \$ git checkout new_branch
- ...



Alias

- Git
 - `$ git config --global alias.st "status"`
 - `$ git config --global alias.co "checkout"`
 - ...
- `.bashrc`
 - `alias gs='git status '`
 - `alias got='git '`
 - `alias get='git '`
 - ...

Ui tools

- **gitg** - GTK+/GNOME clone of GitX
- **gitk** - graphical history browser, in Tcl/Tk, distributed with Git
- **Qgit** - uses Qt toolkit
- **Giggle** - uses GTK+ toolkit
- **git-cola** - uses PyQt4
- **tig** - text mode interface for git, is GUI and pager, uses ncurses

Git Hosting Companies

- GitHub <http://github.com>
 - 2009: over 50,000 Repo , over 100,000 users
 - 2013: over 10 million Repo
- Bitbucket <http://bitbucket.org>
- Gitorious <http://gitorious.org>

???