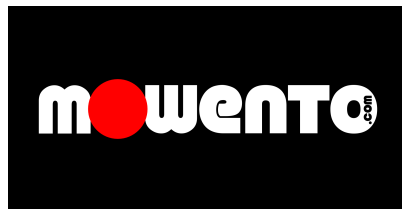# Introducción a Git

Sergio Rus

¿Qué es un Sistema de Control de Versiones?
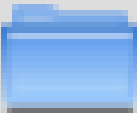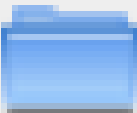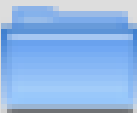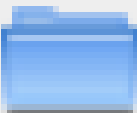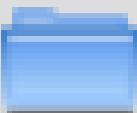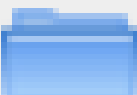
Proyecto

Versión

"estado en que se encuentra un proyecto en un momento dado"

un SCV casero…

- practical
- practical_version_1
- practical_version_2
- practical_version_3
- practical_version_final
- practical_version_final_final
- practical_version_final_final_de_verdad

practical

practical_version_1

practical_version_2

practical_vers

practical_version_final

practical_version_final_final

practical_version_final_final_de_verd
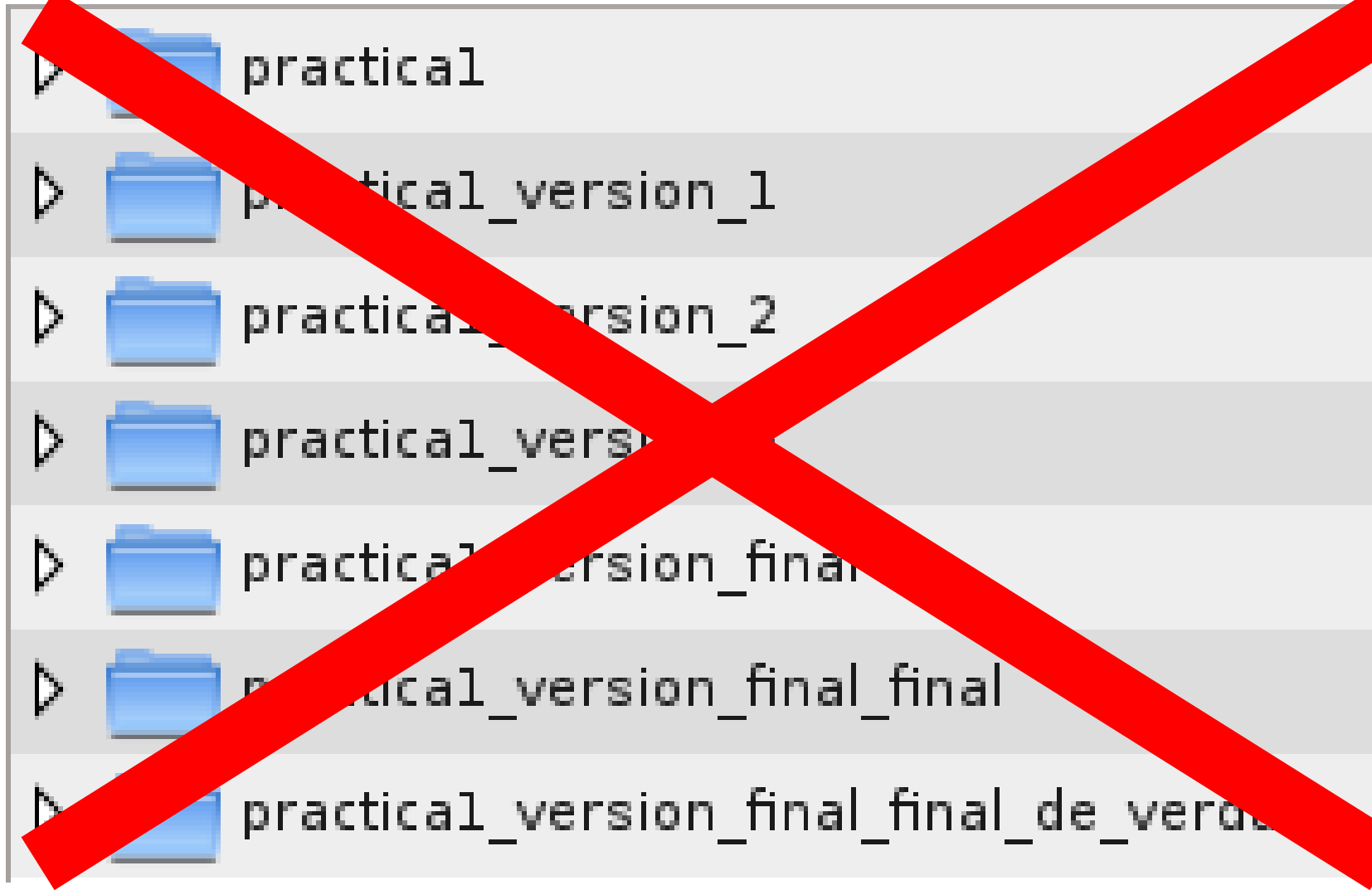
¿Qué es un SCV?

"*software* para gestionar el historial de versiones de un proyecto"

¿qué ventajas ofrece?

Copias de seguridad

Deshacer cambios

Historial de cambios

Qué
Cómo
Quién
Cuándo

Diferentes versiones del proyecto

¿en qué tipo de proyectos?

Trabajos, PFC, tesis, documentación, traducciones, software,…

Tanto en equipo...

…como solo

Por decir algunos…

Por decir algunos…

La crème
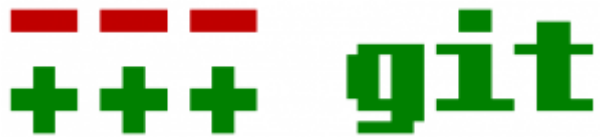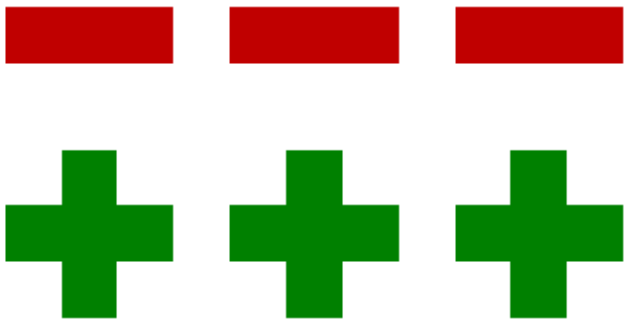
+++ git

Pero antes, algunas definiciones

Repositorio

"almacén de datos con el historial de versiones del proyecto"

Commit

"cambios que introducimos en el proyecto"

```
--- a/app/src/main/resources/log4j.properties
+++ b/app/src/main/resources/log4j.properties
@@ -1,9 +1,9 @@
-log4j.rootLogger=INFO,Stdout
+log4j.rootLogger=WARN,Stdout

 log4j.appender.Stdout=org.apache.log4j.ConsoleAppender
 log4j.appender.Stdout.layout=org.apache.log4j.PatternLayout
 log4j.appender.Stdout.layout.conversionPattern=%d [%t] %-5p

-log4j.logger.org.springframework=INFO
-log4j.logger.org.axonframework=INFO
-log4j.logger.org.axonframework.samples.trader=DEBUG
+log4j.logger.org.springframework=WARN
+log4j.logger.org.axonframework=WARN
+log4j.logger.org.axonframework.samples.trader=WARN
```

tipos de SCV

Centralizado

(vía http://progit.org/book/)

Distribuido

(vía http://progit.org/book/)
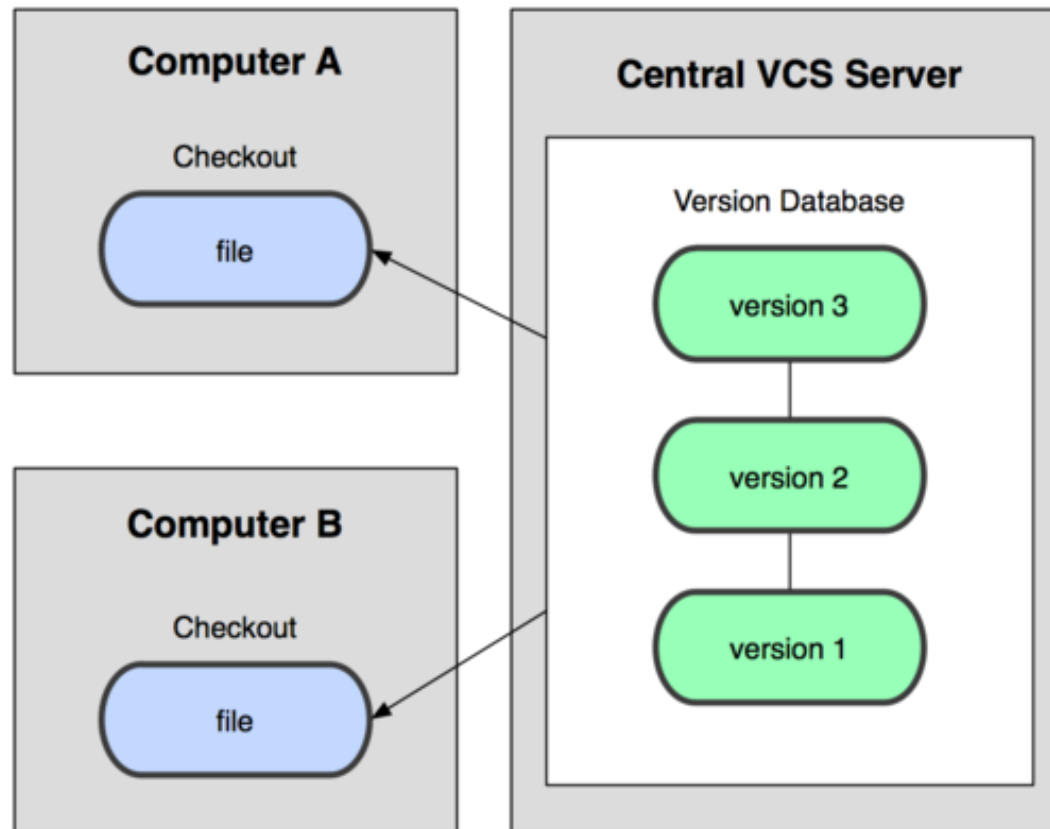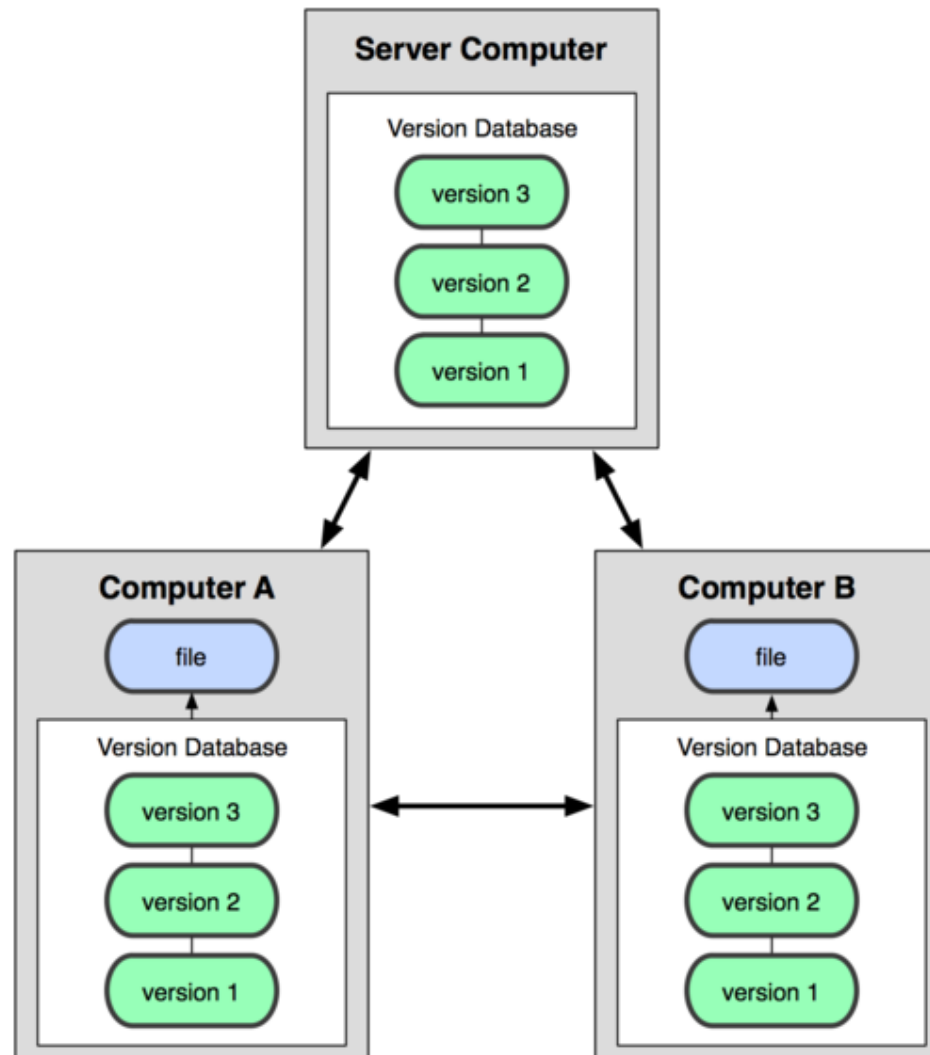
Inconvenientes esquema Centralizado

Inconvenientes esquema Centralizado

- Integridad servidor

Inconvenientes esquema Centralizado

- Integridad servidor

- Dependencia servidor

Inconvenientes esquema Centralizado

- Integridad servidor

- Dependencia servidor

- Conexión permanente

git

un poco de historia

Un poco de historia

- 2005

- Linus Torvalds

- Kernel Linux

- BitKeeper

git
the fast version control system

Git is...

Git is a **free & open source, distributed version control system** designed to handle everything from small to very large projects with speed and efficiency.

Every Git clone is a full-fledged repository with complete history and full revision tracking capabilities, not dependent on network access or a central server. **Branching and merging are fast** and easy to do.

Git is used for version control of files, much like tools such as Mercurial, Bazaar, Subversion, CVS, Perforce, and Visual SourceSafe.

Projects using Git

- Git
- Linux Kernel
- Perl
- Eclipse
- Gnome
- KDE
- Qt
- Ruby on Rails
- Android
- PostgreSQL
- Debian
- X.org

Download Git

The latest stable Git release is

v1.7.4.1

release notes (2011-02-11)

Windows   Mac OSX   Source

Other Download Options

Git Source Repository

ventajas de Git

Ventajas

- Distribuido
- Rápido
- Eficiente (*branches*)
- Seguro (*reflog*)
- Flexible

Ventajas

- Local
- Pequeño
- Limpio (~~.svn~~)
- GitHub

desventajas de Git

Desventajas

- Curva de aprendizaje
- Número comandos
- Significado comandos
  (usuarios subversion)

git-add	git-fast-export	git-merge-recur	git-revert
git-add--interactive	git-fast-import	git-merge-recursive	git-rm
git-am	git-fetch	git-merge-recursive-old	git-runstatus
git-annotate	git-fetch--tool	git-merge-resolve	git-send-email
git-apply	git-fetch-pack	git-merge-stupid	git-send-pack
git-applymbox	git-filter-branch	git-merge-subtree	git-sh-setup
git-applypatch	git-fmt-merge-msg	git-merge-tree	git-shell
git-archimport	git-for-each-ref	git-mergetool	git-shortlog
git-archive	git-format-patch	git-mktag	git-show
git-bisect	git-fsck	git-mktree	git-show-branch
git-blame	git-fsck-objects	git-mv	git-show-index
git-branch	git-gc	git-name-rev	git-show-ref
git-bundle	git-get-tar-commit-id	git-pack-objects	git-ssh-fetch
git-cat-file	git-grep	git-pack-redundant	git-ssh-pull
git-check-attr	git-gui	git-pack-refs	git-ssh-push
git-check-ref-format	git-hash-object	git-parse-remote	git-ssh-upload
git-checkout	git-http-fetch	git-patch-id	git-stash
git-checkout-index	git-http-push	git-peek-remote	git-status
git-cherry	git-imap-send	git-prune	git-stripspace
git-cherry-pick	git-index-pack	git-prune-packed	git-submodule
git-citool	git-init	git-pull	git-svn
git-clean	git-init-db	git-push	git-svnimport
git-clone	git-instaweb	git-quiltimport	git-symbolic-ref
git-commit	git-local-fetch	git-read-tree	git-tag
git-commit-tree	git-log	git-rebase	git-tar-tree
git-config	git-lost-found	git-rebase--interactive	git-unpack-file
git-convert-objects	git-ls-files	git-receive-pack	git-unpack-objects
git-count-objects	git-ls-remote	git-reflog	git-update-index
git-cvsexportcommit	git-ls-tree	git-relink	git-update-ref
git-cvsimport	git-mailinfo	git-remote	git-update-server-inf
git-cvsserver	git-mailsplit	git-repack	git-upload-archive
git-daemon	git-merge	git-repo-config	git-upload-pack
git-describe	git-merge-base	git-request-pull	git-var
git-diff	git-merge-file	git-rerere	git-verify-pack
git-diff-files	git-merge-index	git-reset	git-verify-tag
git-diff-index	git-merge-octopus	git-resolve	git-web--browse
git-diff-stages	git-merge-one-file	git-rev-list	git-whatchanged
git-diff-tree	git-merge-ours	git-rev-parse	git-write-tree

152 comandos

- **Local Commands**
  - git config
  - git init
  - git add
  - git commit
  - git status
  - git tag
  - git log
- **Branchy Commands**
  - git checkout
  - git branch
  - git merge
  - git rebase
- **Remotey Commands**
  - git remote
  - git fetch
  - git pull
  - git clone
  - git push
- **Patchy Commands**
  - git diff
  - git apply
  - git format-patch
  - git am

De uso habitual

- **Local Commands**
  - git config
  - git init
  - git add
  - git commit
  - git status
  - git tag
  - git log
- **Branchy Commands**
  - git checkout
  - git branch
  - git merge
  - git rebase
- **Remotey Commands**
  - git remote
  - git fetch
  - git pull
  - git clone
  - git push
- **Patchy Commands**
  - git diff
  - git apply
  - git format-patch
  - git am

De uso habitual

estructura de Git

working directory

git add

index

git commit
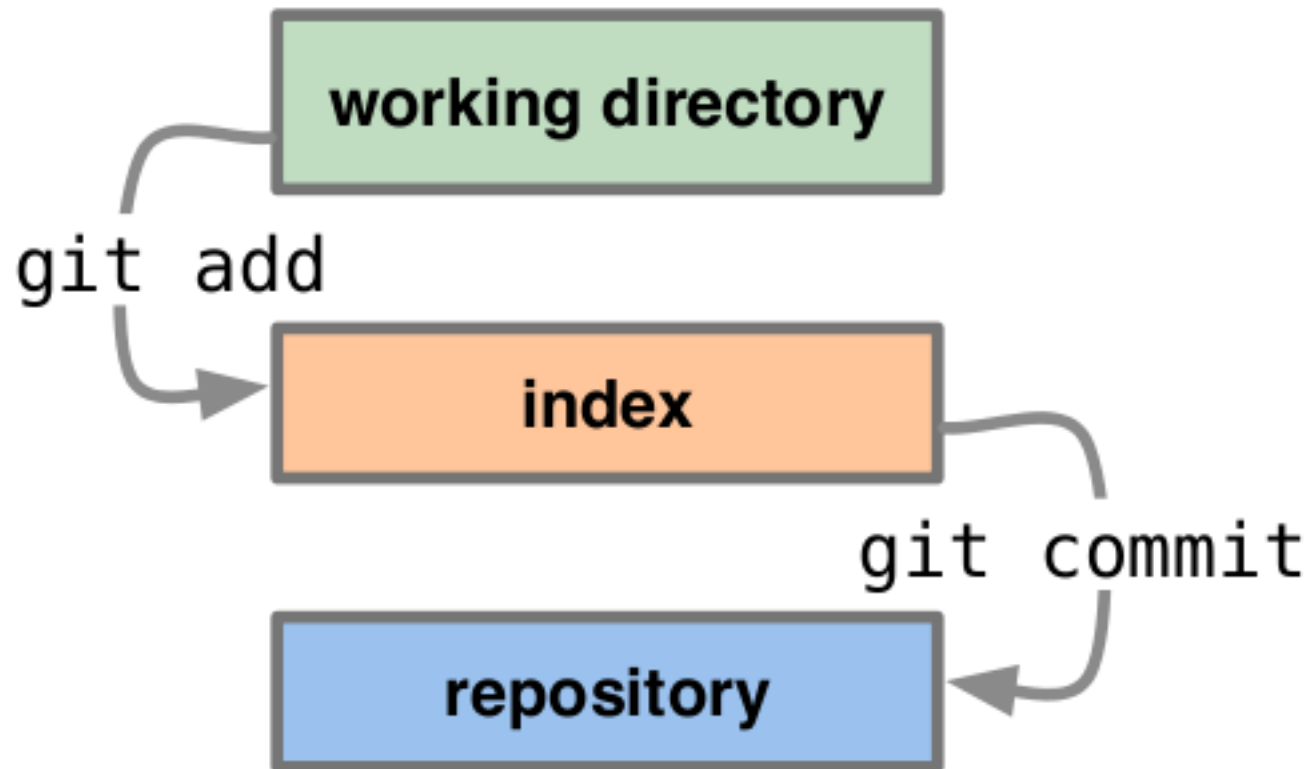
repository

(vía Scott Chacon – Getting Git)

branching

Branching

En Git es común trabajar con múltiples ramas

convención

master

develop

topic

"production"

"trunk"
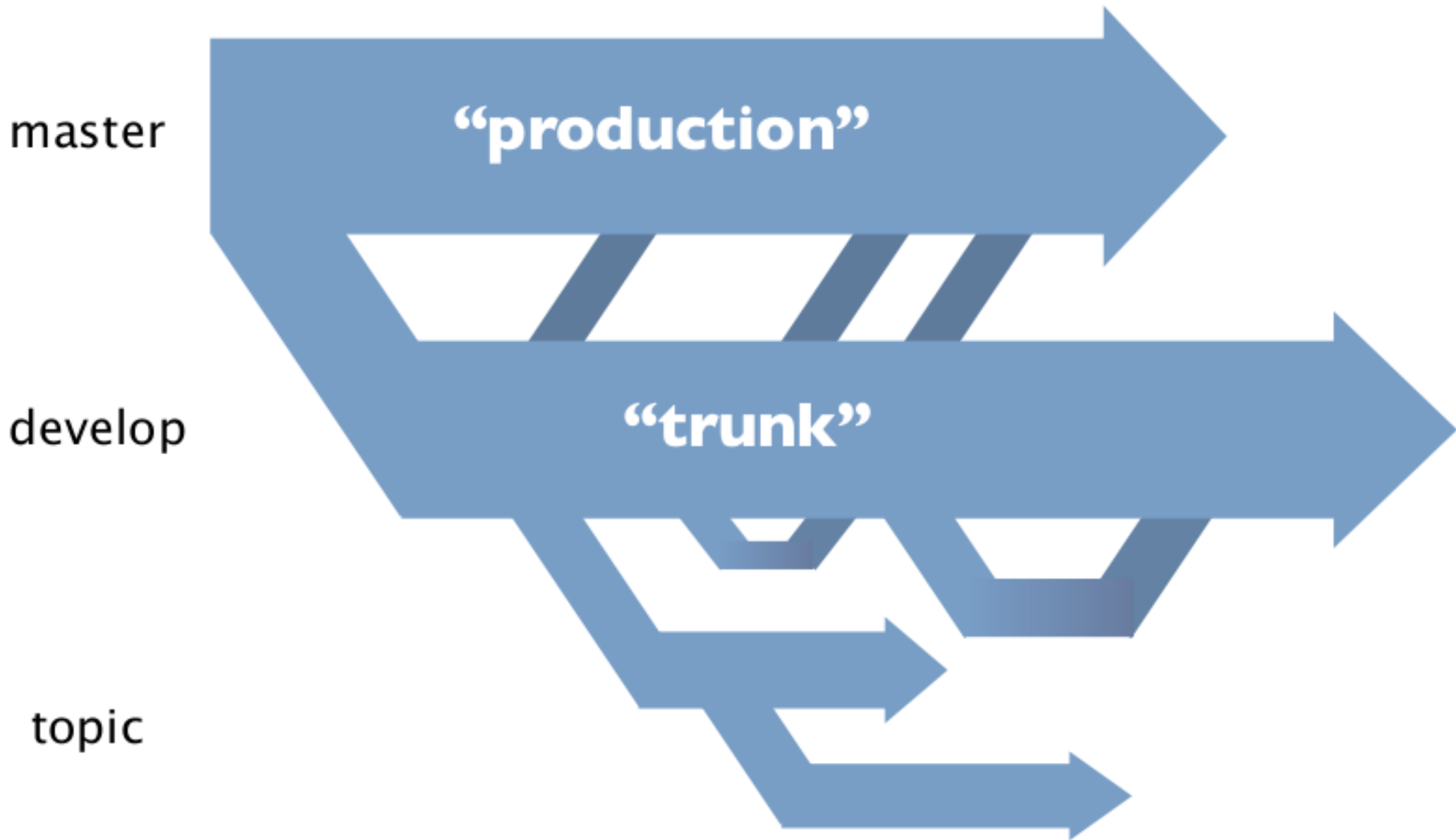
(vía Scott Chacon – Getting Git)

Github

github
SOCIAL CODING

631,882 people hosting over 1,813,413 git repositories

jQuery, reddit, Sparkle, curl, Ruby on Rails, node.js, ClickToFlash, Erlang/OTP, CakePHP, Redis, and **many more**

twitter™   facebook.   rackspace HOSTING.   digg   YAHOO!   shopify   EMI   six apart

git /ˈgɪt/

Git is an extremely fast, efficient, distributed version control system ideal for the collaborative development of software.

git·hub /ˈgɪt,hʌb/

GitHub is the best way to collaborate with others. Fork, send pull requests and manage all your **public** and **private** git repositories.

Plans, Pricing and Signup
Unlimited public repositories are **free!**

Free public repositories, collaborator management, issue tracking, wikis, downloads, code review, graphs and much more…

Interesting Repositories

mirrors / **linux-2.6**   C   👁 1,431 🍴 332   👁 Watch
Mirror of Linus Torvald's Kernel Tree

git / **git**   C   👁 970   🍴 134   👁 Watch
Git Source Code Mirror

jquery / **jquery**   JavaScript 👁 6,401 🍴 647   👁 Watch
jQuery JavaScript Library

madrobby / **scriptaculous**   JavaScript 👁 1,837 🍴 410   👁 Watch
script.aculo.us is an open-source JavaScript framework for visual effects and interface behaviours.

yui / **yui3**   JavaScript 👁 938   🍴 175   👁 Watch
YUI 3.x Source Tree

sstephenson / **prototype**   JavaScript 👁 1,214 🍴 128   👁 Watch
Prototype JavaScript framework

mootools / **mootools-core**   JavaScript 👁 1,045 🍴 186   👁 Watch
MooTools Core Repository

rails / **rails**   Ruby   👁 7,770 🍴 1,335   👁 Watch
Ruby on Rails

symfony / **symfony**   PHP   👁 1,682 🍴 388   👁 Watch
The Symfony2 PHP framework (PHP 5.3 only -- not yet stable) -- documentation for master is at http://symfony.com/doc/2.0/

django / **django**   Python   👁 1,593 🍴 312   👁 Watch
Official clone of the Subversion repository.

Referencias

http://git-scm.com/

http://gitref.org/

http://progit.org/

http://help.github.com/

Contacto

http://blog.sergiorus.com

http://twitter.com/sergiorus

sergio@mowento.com

mowento.com