Introduction to Git, Trac and Sage development
Sage Days 75

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Outline

1. Git tutorial

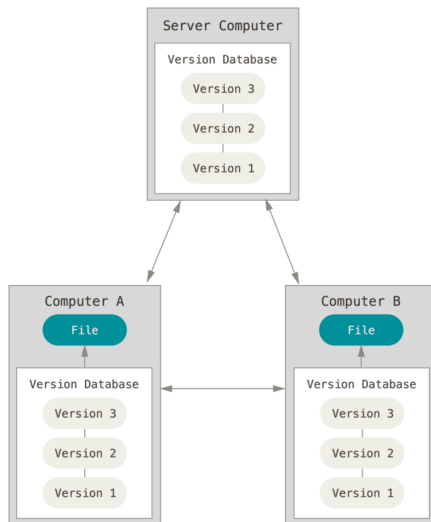2. Review tickets

Outline

What's Git?

- Version control tool
$\Rightarrow$ Saves the state of your project
$\Rightarrow$ Allows to revert to a previous state
$\Rightarrow$ Makes collaborative development much easier
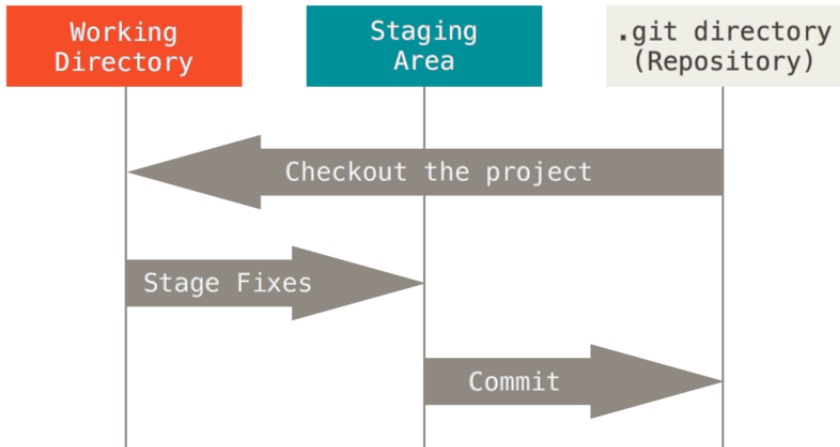
Distributed version control

Git basics: snapshots
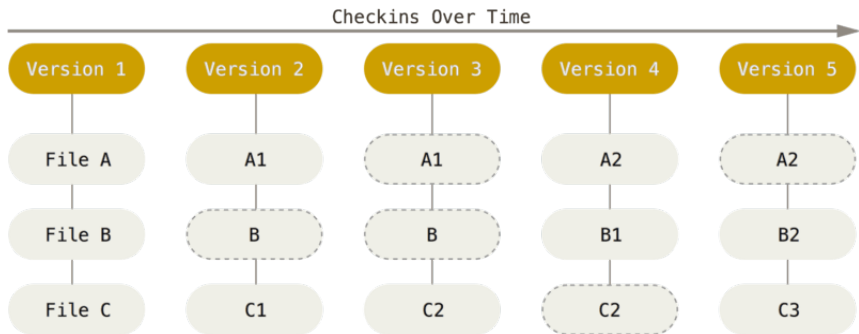
Git basics: workflow

Git basics: configure Git

- `git config --global user.name <Your name>`
- `git config --global user.email <Your email>`
- `git config --list`

Getting started

- `git init`: starts git in a folder
- `git add <file>`
- `git commit`
- `git rm <file>`

Git commits

	COMMENT	DATE.
	CREATED MAIN LOOP & TIMING CONTROL.	14 HOURS AGO
	ENABLED CONFIG FILE PARSING	9 HOURS AGO
	MISC BUGFIXES	5 HOURS AGO
	CODE ADDITIONS/EDITS	4 HOURS AGO
	MORE CODE	4 HOURS AGO
	HERE HAVE CODE.	4 HOURS AGO
	AAAAAAAA	3 HOURS AGO
	ADKFJSLKDFJSDKLFJ	3 HOURS AGO
	MY HANDS ARE TYPING WORDS	2 HOURS AGO
	HAAAAAAAAANDS	2 HOURS AGO

AS A PROJECT DRAGS ON, MY GIT COMMIT
MESSAGES GET LESS AND LESS INFORMATIVE.

Git basics: workflow
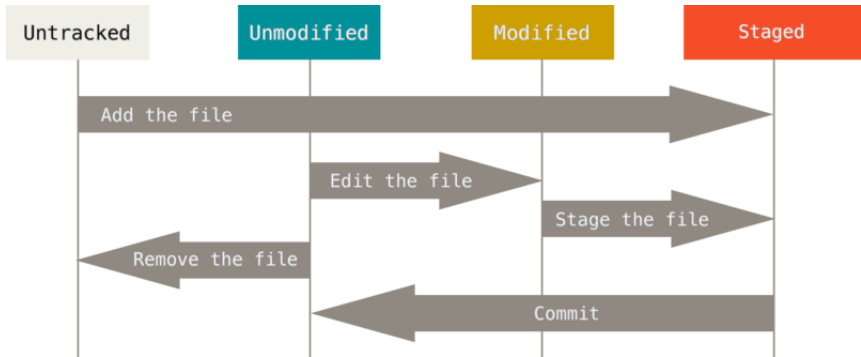
Check stuff

- `git status`
- `git log`

Fixing stuff

- `git commit --amend`
- `git reset <file>`

Advanced behaviour: branches

- git branch
- git branch checkout
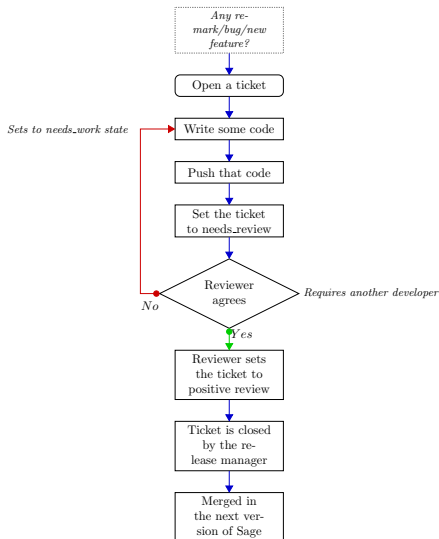- git branch -b
- git merge

Outline

1. Git tutorial

2. Review tickets

First step: setup your remotes

- Get a trac account
- Upload you ssh keys to trac
- Setup your remotes
- (Install git-trac command)
- (Configure git-trac. WARNING: passwords are stored in a plain text file)
- git trac

Sage workflow

*Any re-
mark/bug/new
feature?*

Open a ticket

Sets to needs_work state → Write some code

Push that code

Set the ticket
to needs_review

Reviewer
agrees   *Requires another developer*

No

Yes

Reviewer sets
the ticket to
positive review

Ticket is closed
by the re-
lease manager

Merged in
the next ver-
sion of Sage

Trac tickets

- Guidelines for tickets

Write some code for a ticket

- Be sure you use the latest beta version of Sage
- (live example)

Review a ticket

- Reviewer's checklist
- Useful commands:
    - `./sage -t <file or folder>`
    - `./sage --coverage`
    - `./sage --docbuild <path to doc> [html|pdf]`
    - If you made some changes, don't forget to recompile: `./sage -b`

A few more useful links

- Sage development mailing list
- Sage release mailing list