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Git pour PRG1

Olivier Cuisenaire

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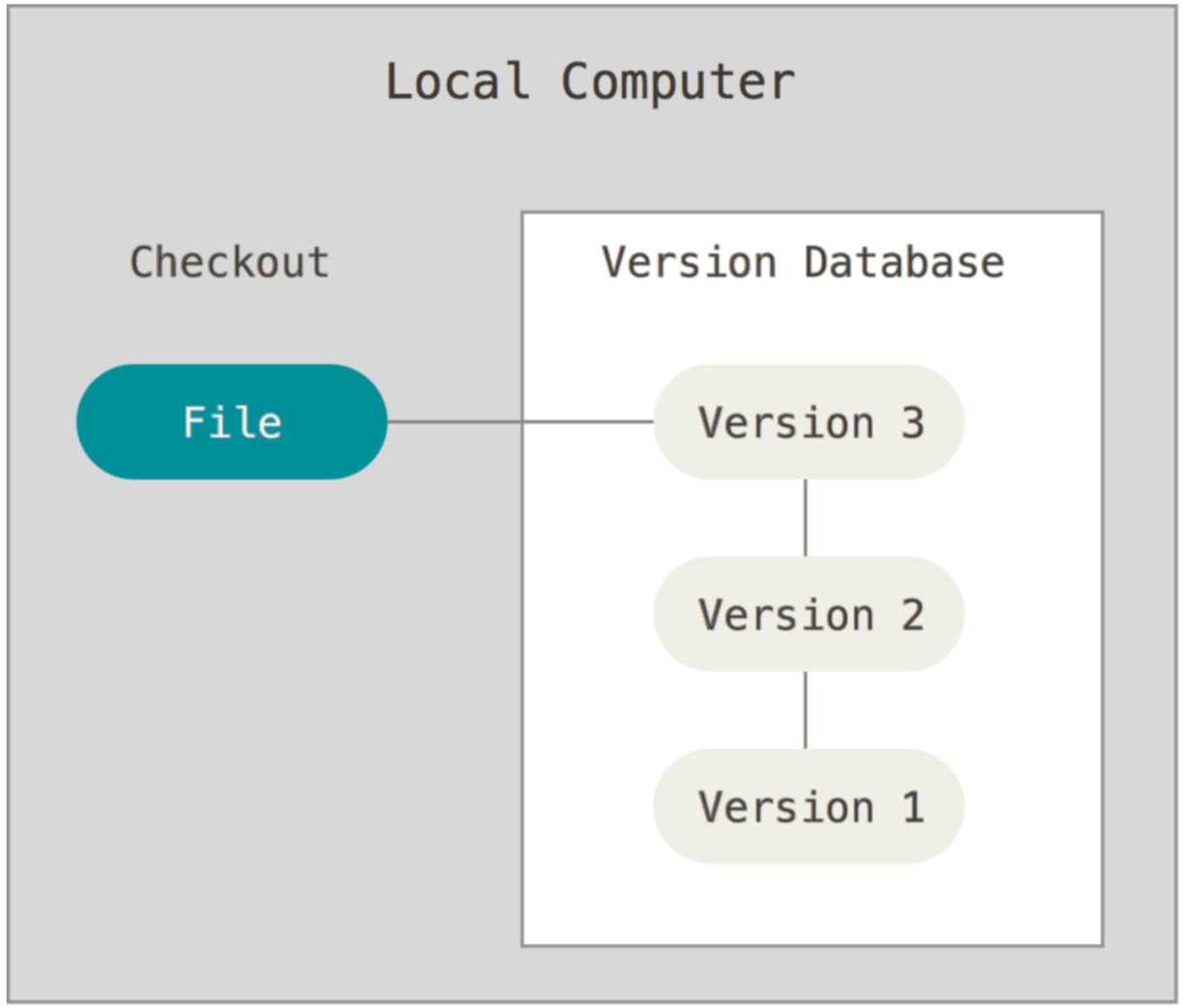
VCS = Version Control Sofware



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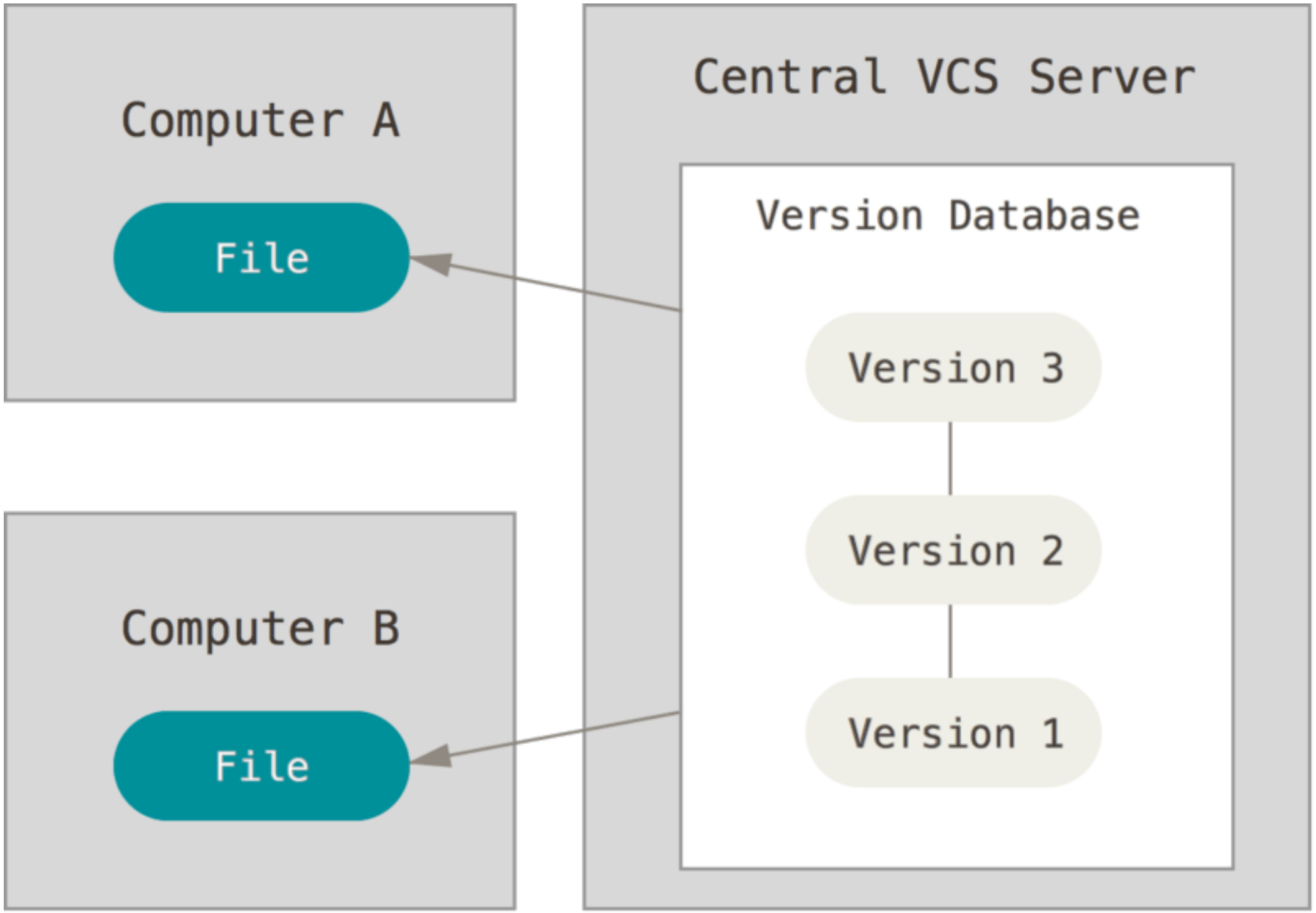
VCS centralisé



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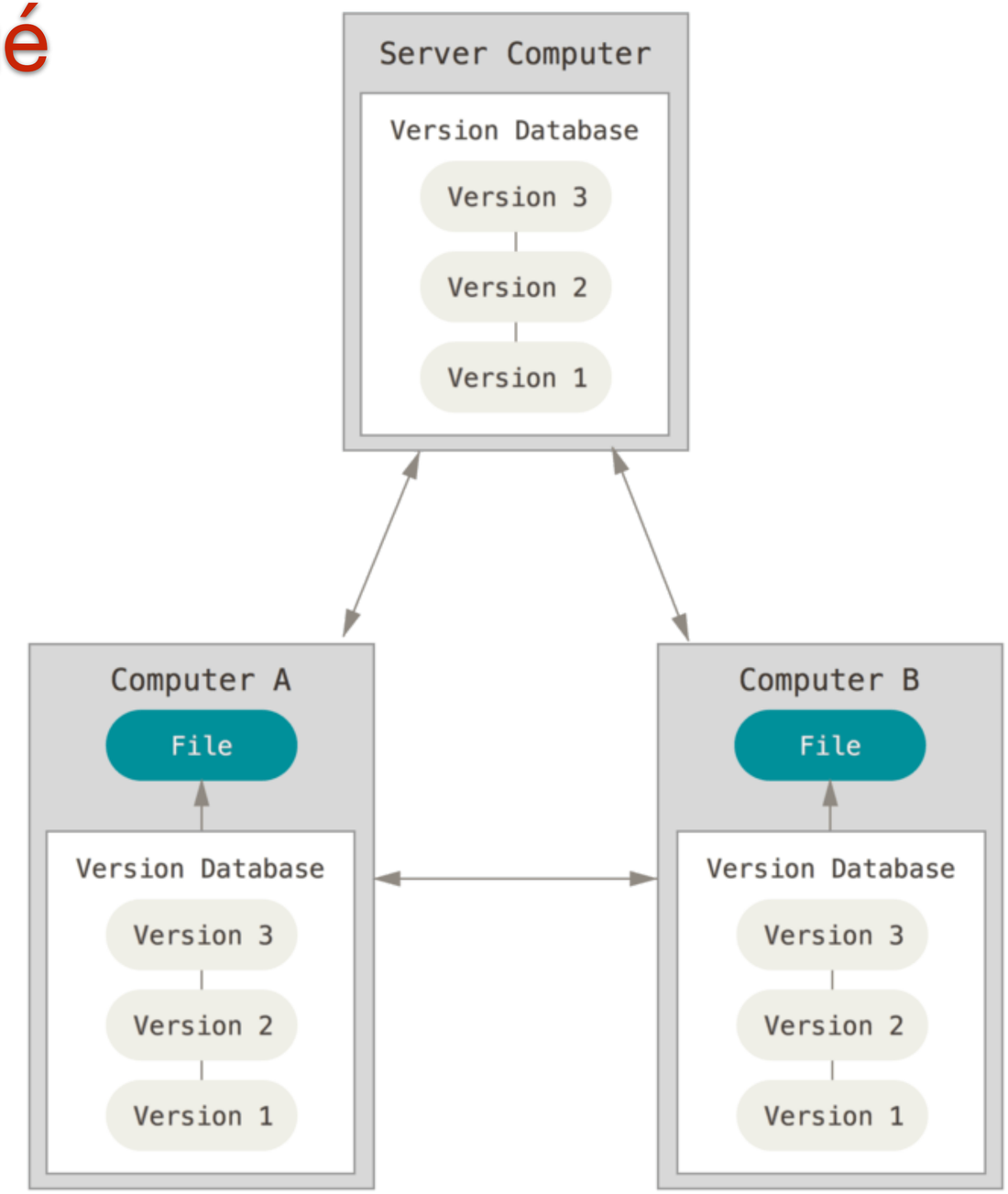
Git = VCS distribué



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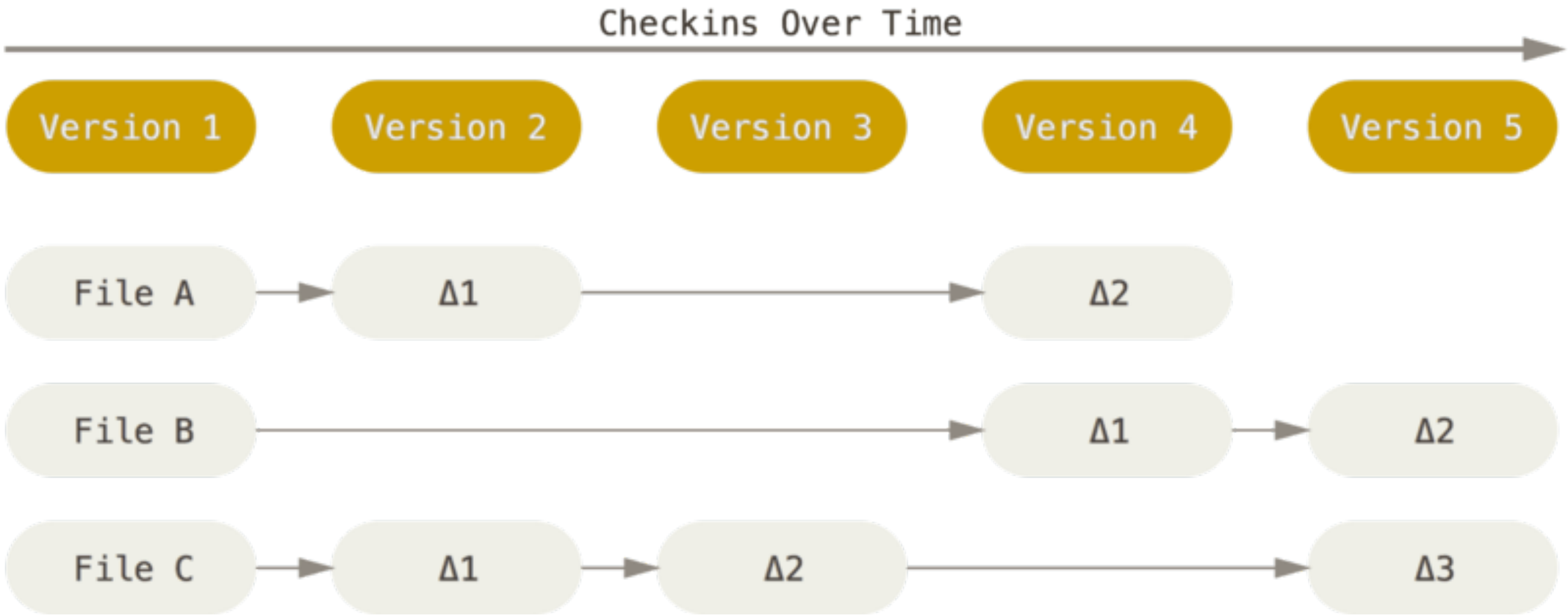
Les anciens VCS stockent des différences



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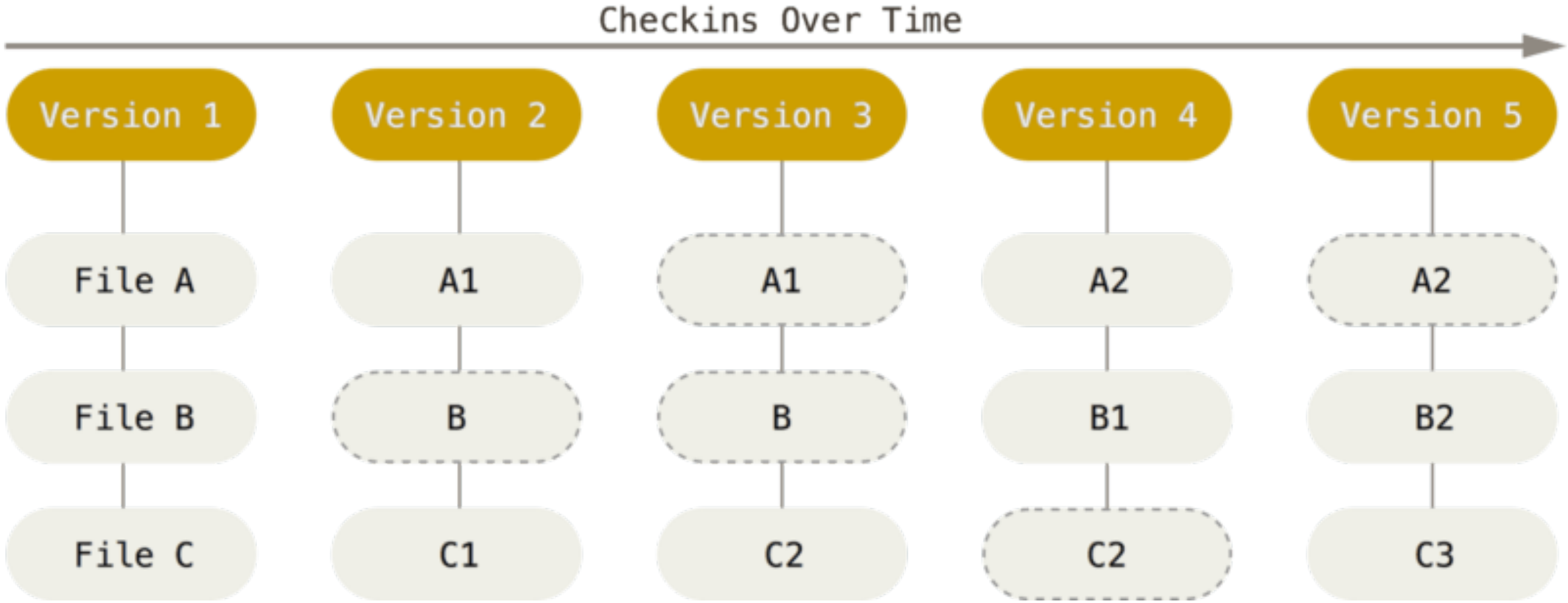
Git stocke les fichiers qui ont changé



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Démarrer un repo git

- Localement

```
git init
```

- A partir d'un repo à distance

```
git clone https://github.com/ocuisenaire/PRG1-Exercices.git
```

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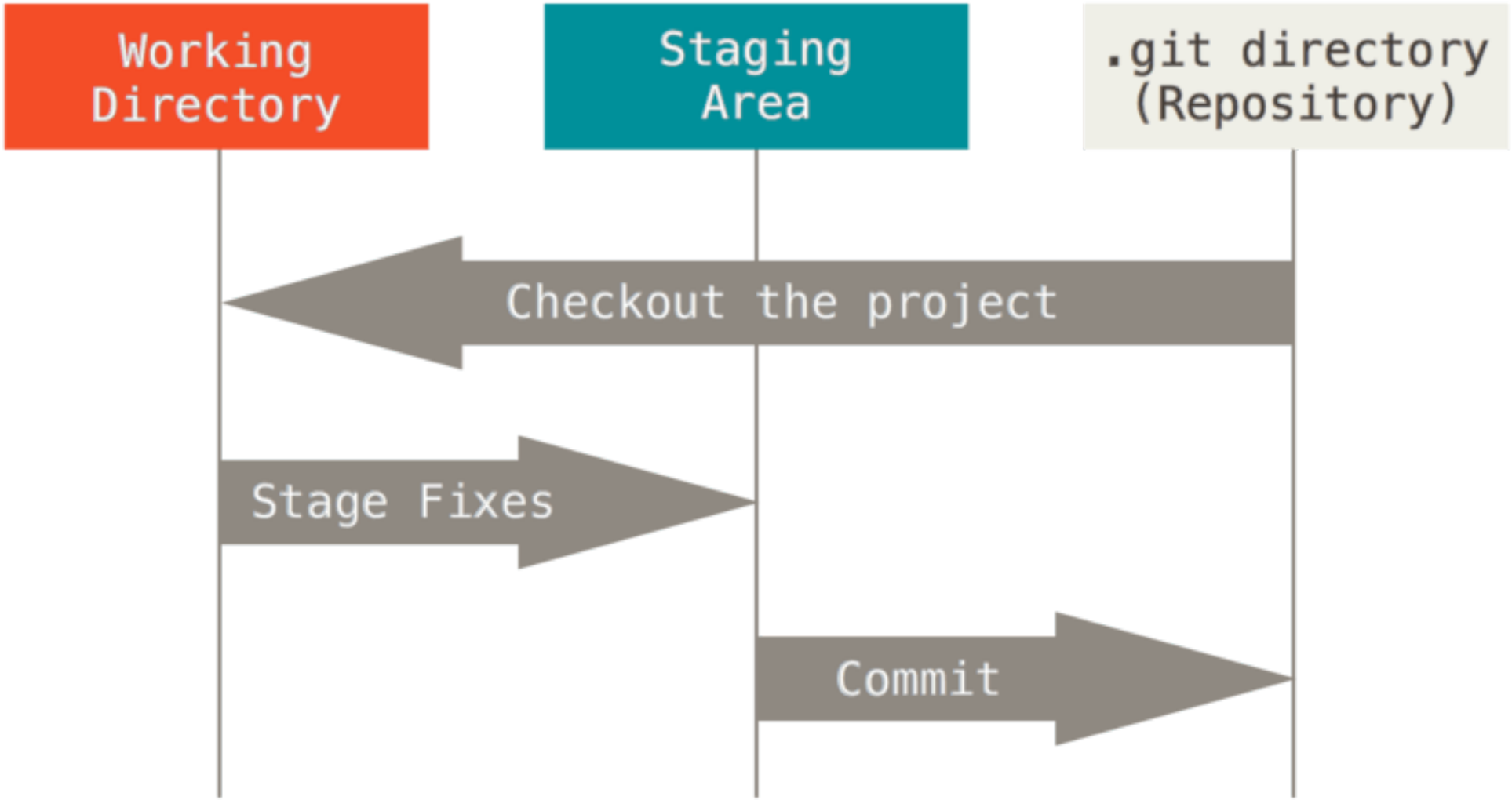
Sections d'un projet Git



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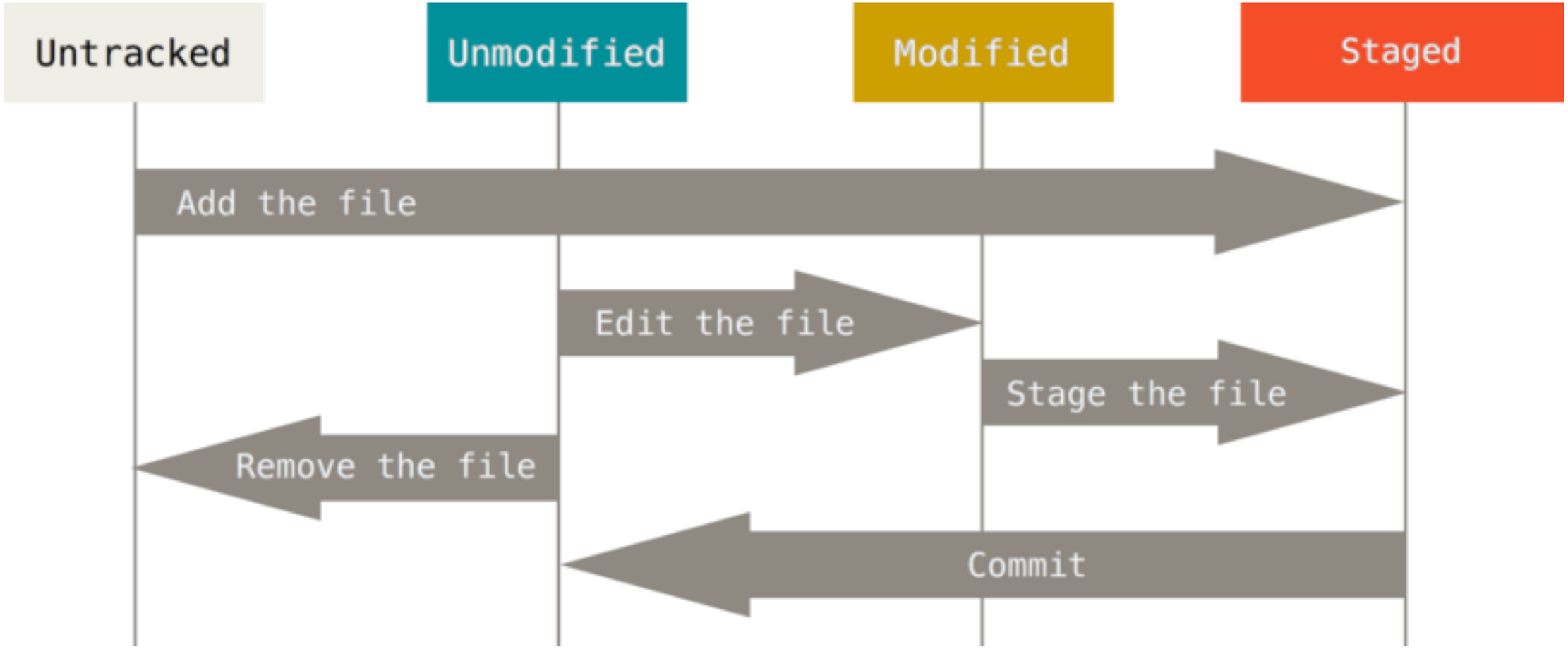
Etats d'un fichiers



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Les commandes git

- `git add [fichiers]`
  - Place les fichiers et/ou répertoires dans la staging area
  - Valide depuis untracked ou depuis modified
  - Inopérant depuis unmodified
- `git commit -m "message à choix"`
  - Déplace les fichiers de la staging area au repository
  - Les fichiers commités sont maintenant unmodified

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Les commandes git (2)

- `git status`
  - Indique les fichiers untracked, modified ou staged dans votre répertoire
- `git reset [fichier]`
  - Annule un `git add` en retirant le fichier modifié de la staging area
- `git diff [fichier optionnel]`
  - Affiche la différence entre le(s) fichiers courants et la version commitée

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Les commandes git (3)

- `git diff --staged`
  - Affiche la différence entre les fichiers courants et la staging area
- `git checkout [fichier]`
  - Ecrase le fichier courant avec la version stockée dans le repo
- `git rm [fichier]`
  - Efface le fichier et le « stage » pour le prochain commit
- `git mv [fichier]`
  - Renomme le fichier et l’annonce pour le prochain commi

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Les branches

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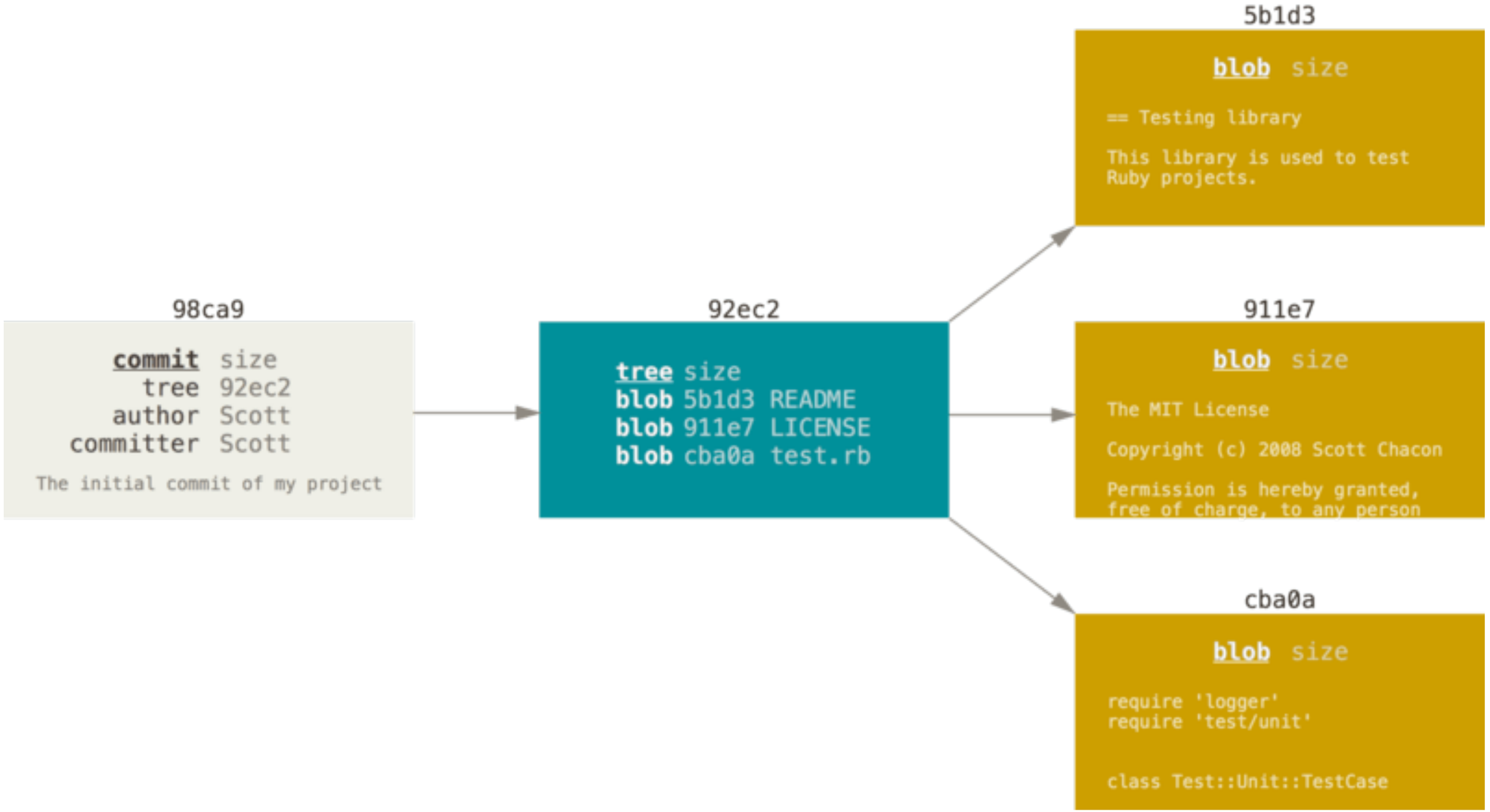
Un commit dans le repository



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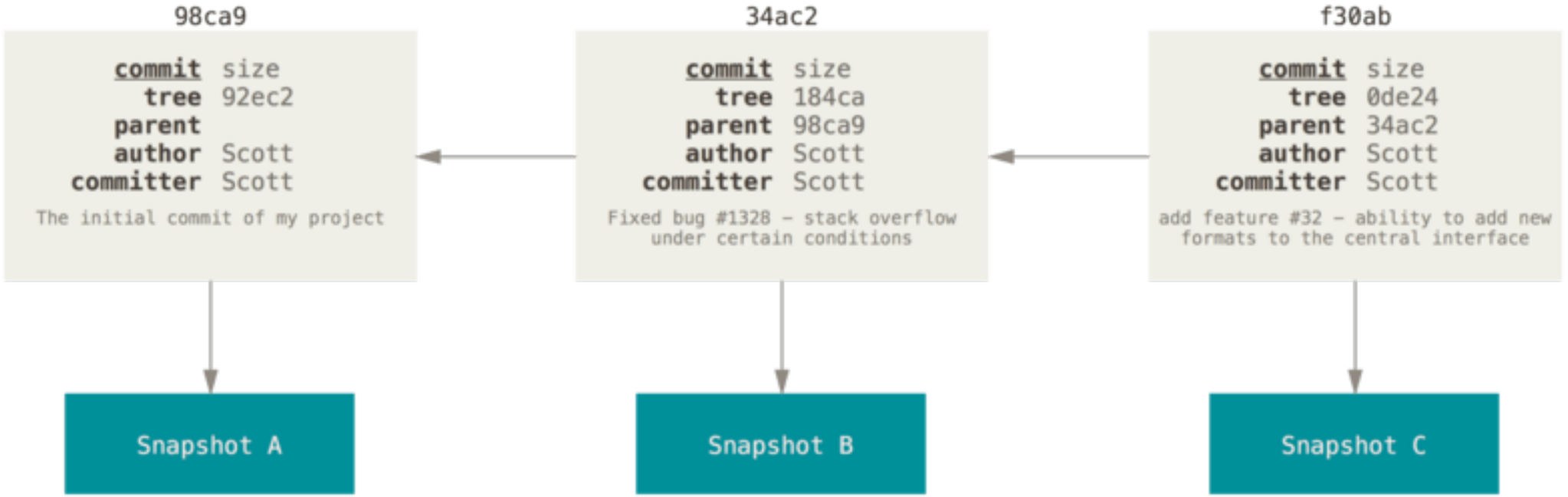
Liste chainée de commits



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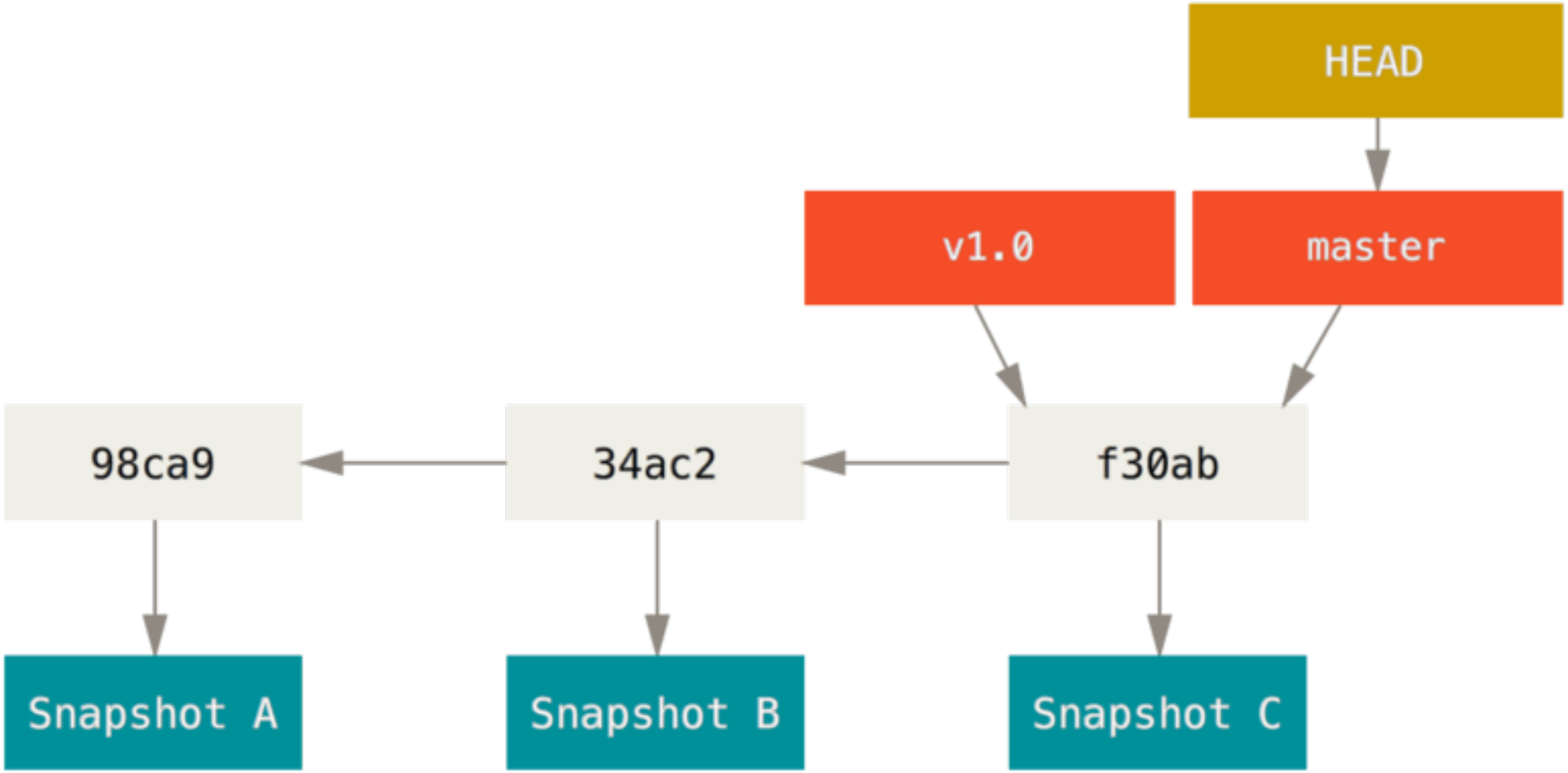
Branche = pointeur vers un commit



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Les commandes git (4)

- `git branch`
  - Liste les branches de votre repo
- `git branch [branch-name]`
  - Crée une nouvelle branche depuis l'emplacement courant dans le repo
- `git checkout [branch-name]`
  - Aller dans la branche donnée et modifier le contenu local en conséquence

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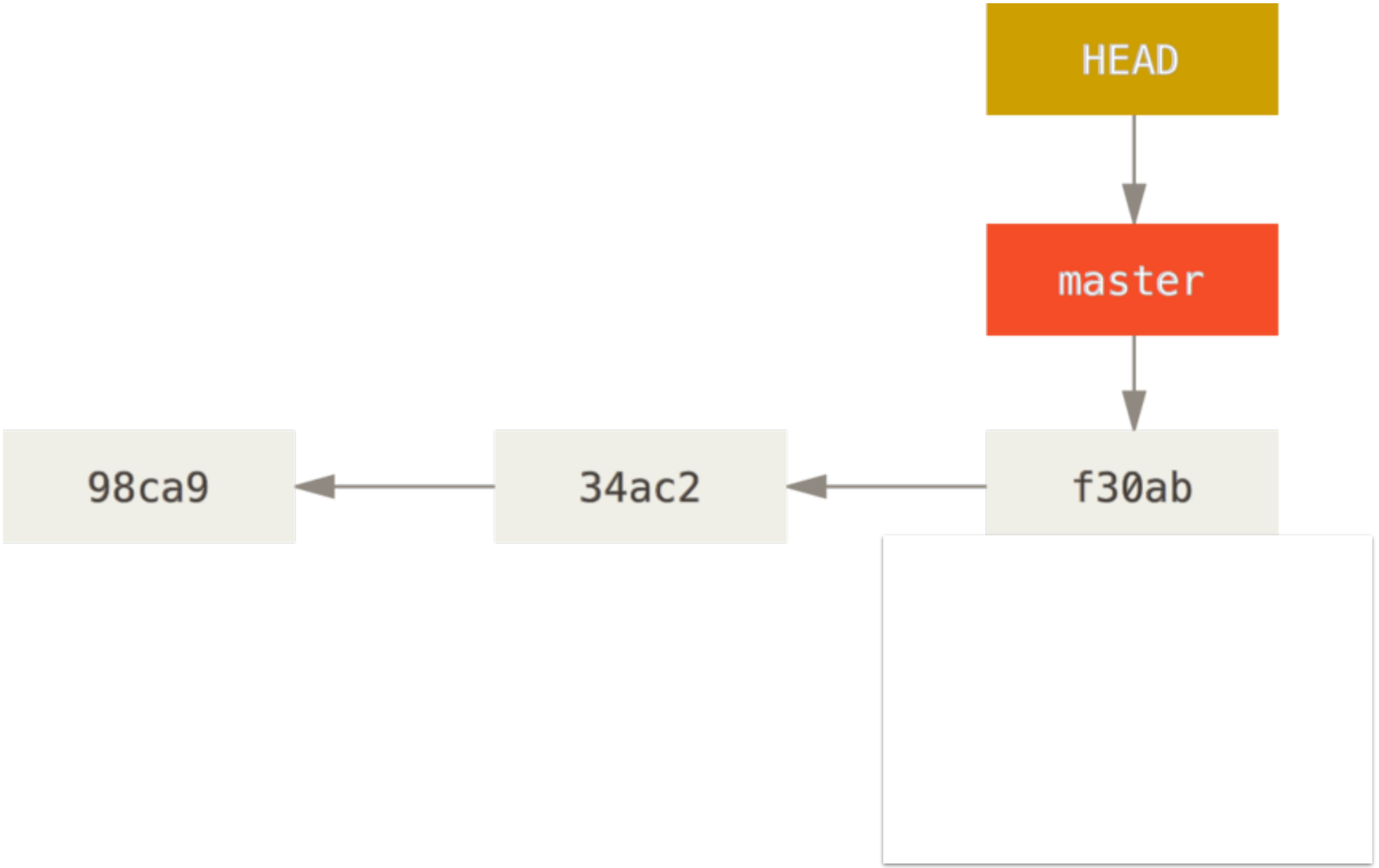
git branch testing



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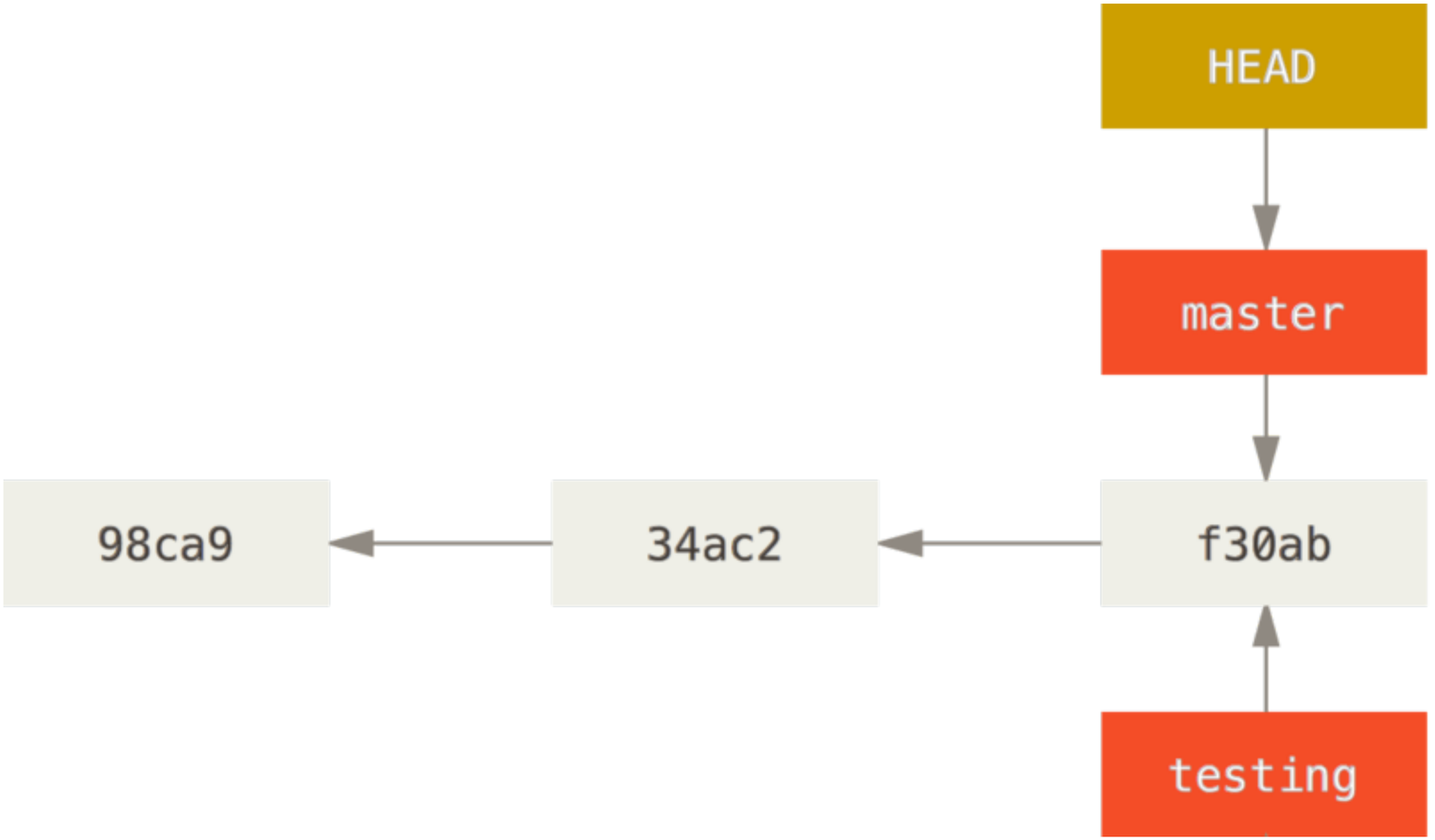
git branch testing



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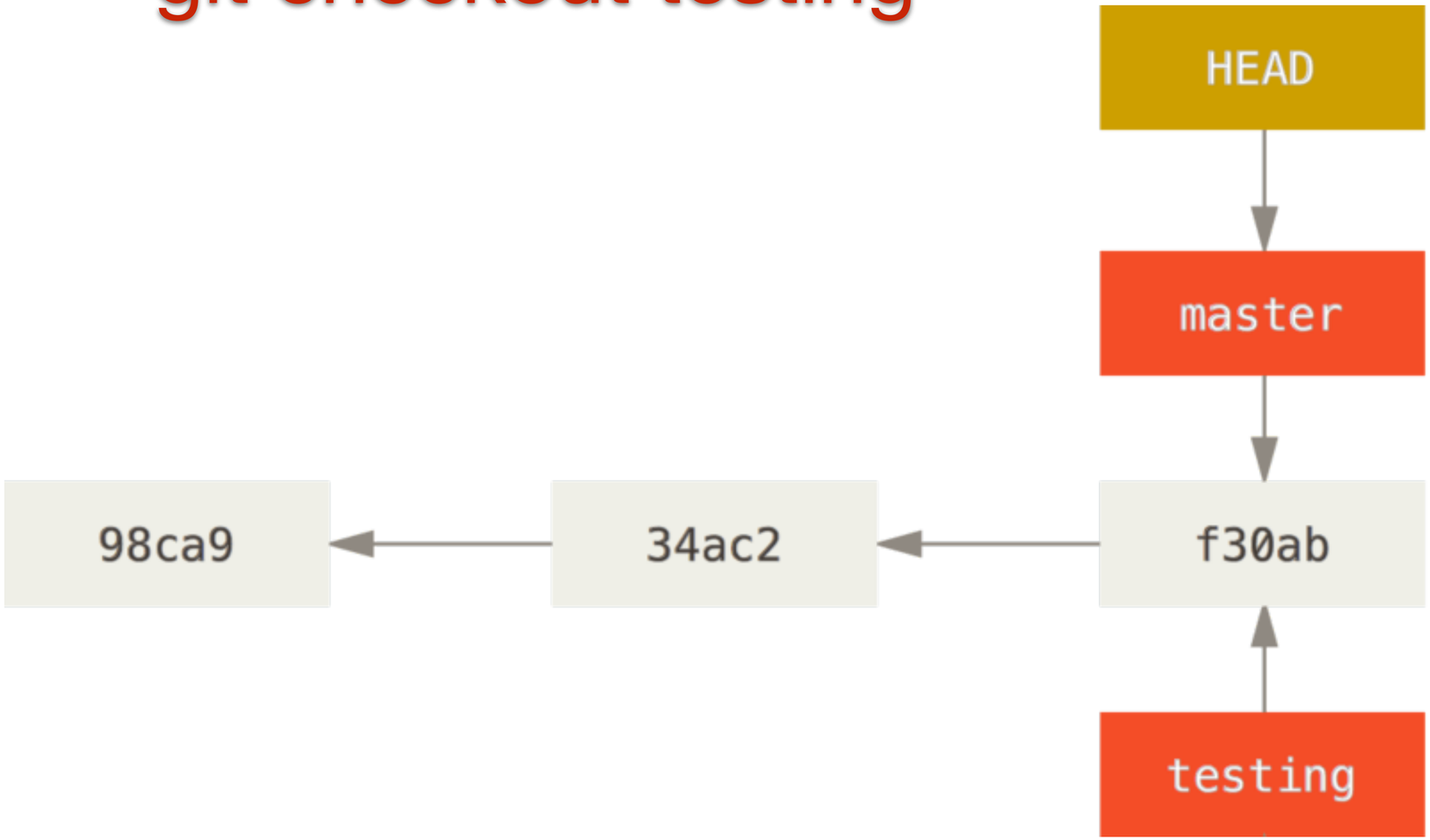
git checkout testing



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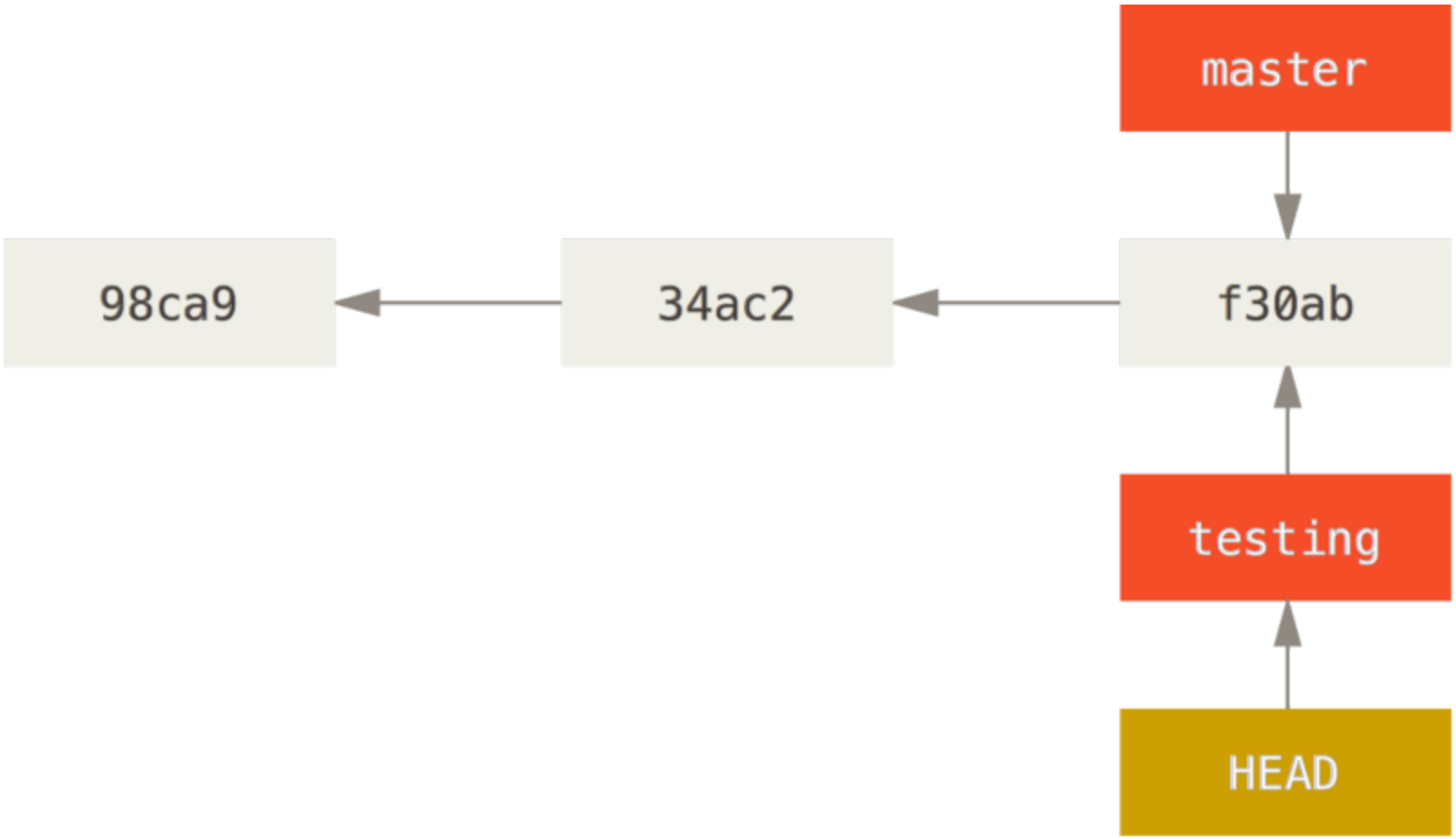
git checkout testing



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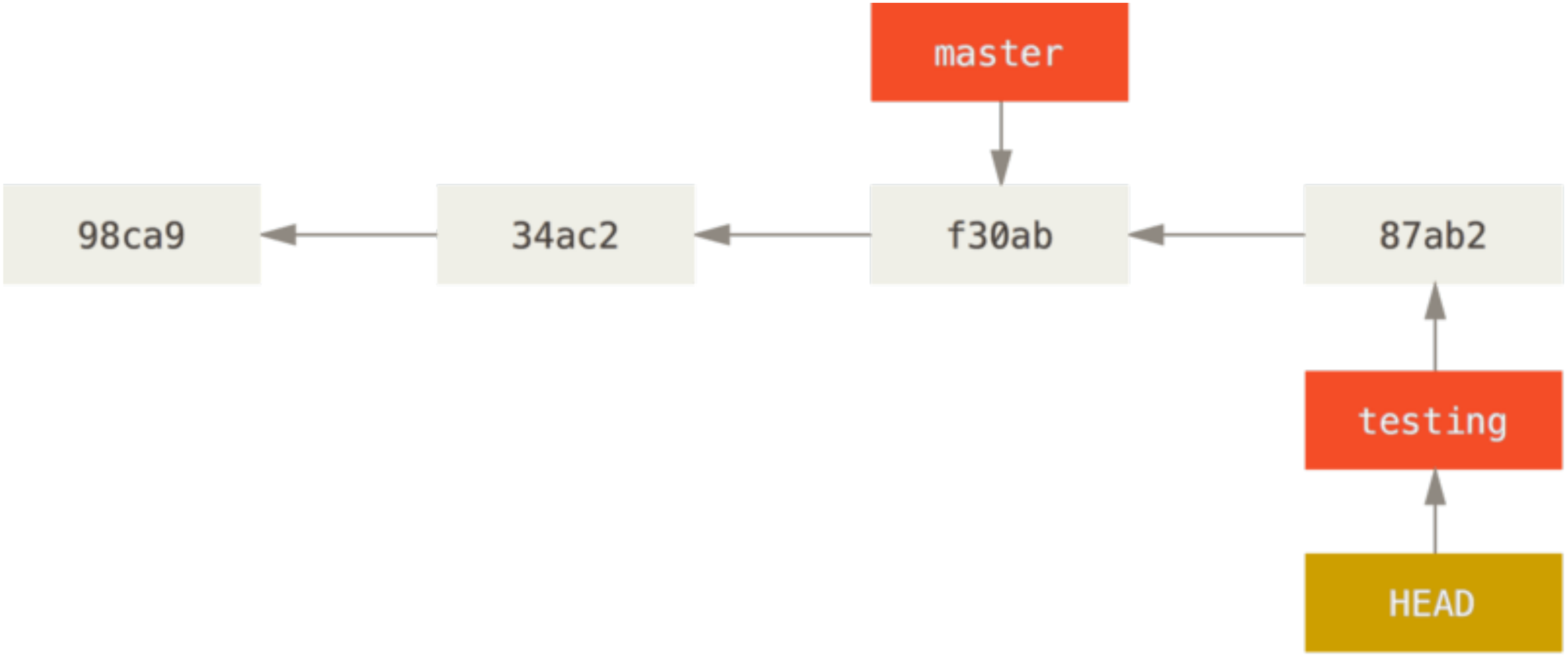
vim test.rb
git commit -a -m 'made a change'



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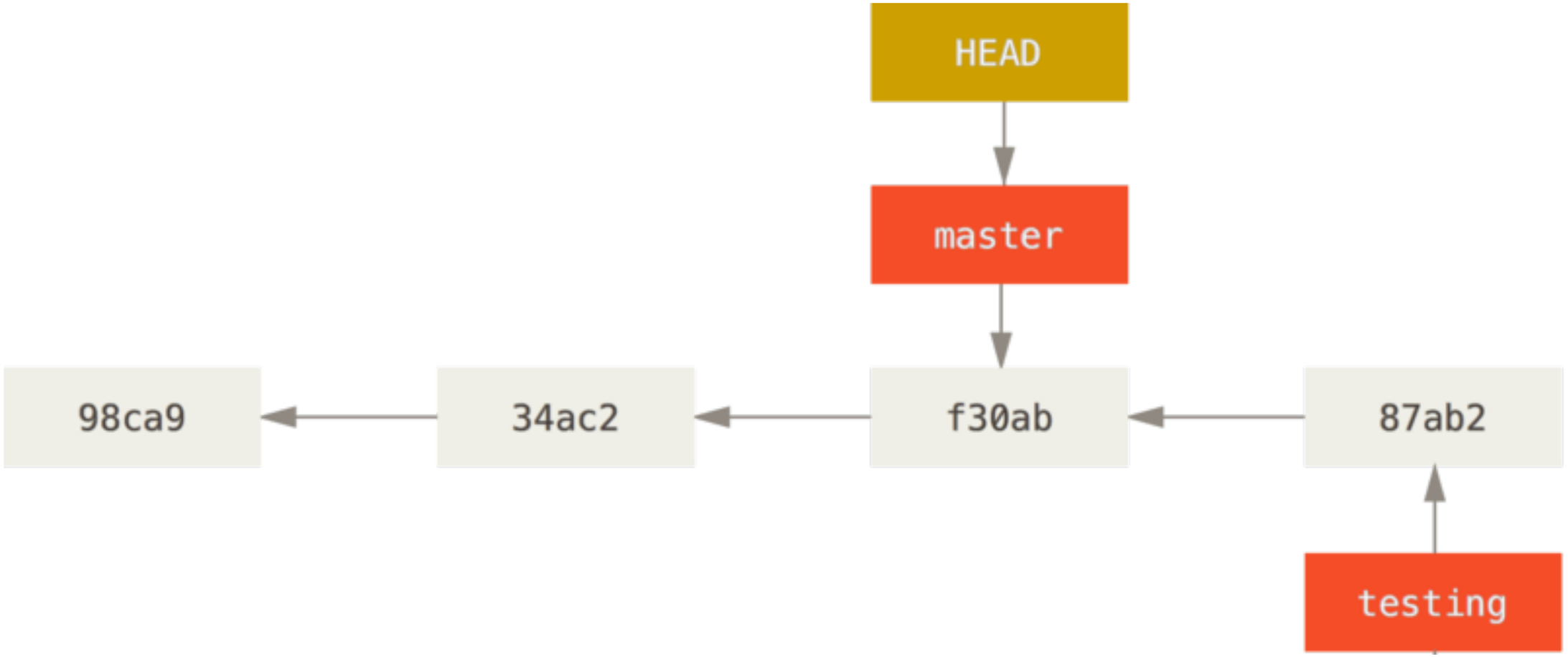
git checkout master



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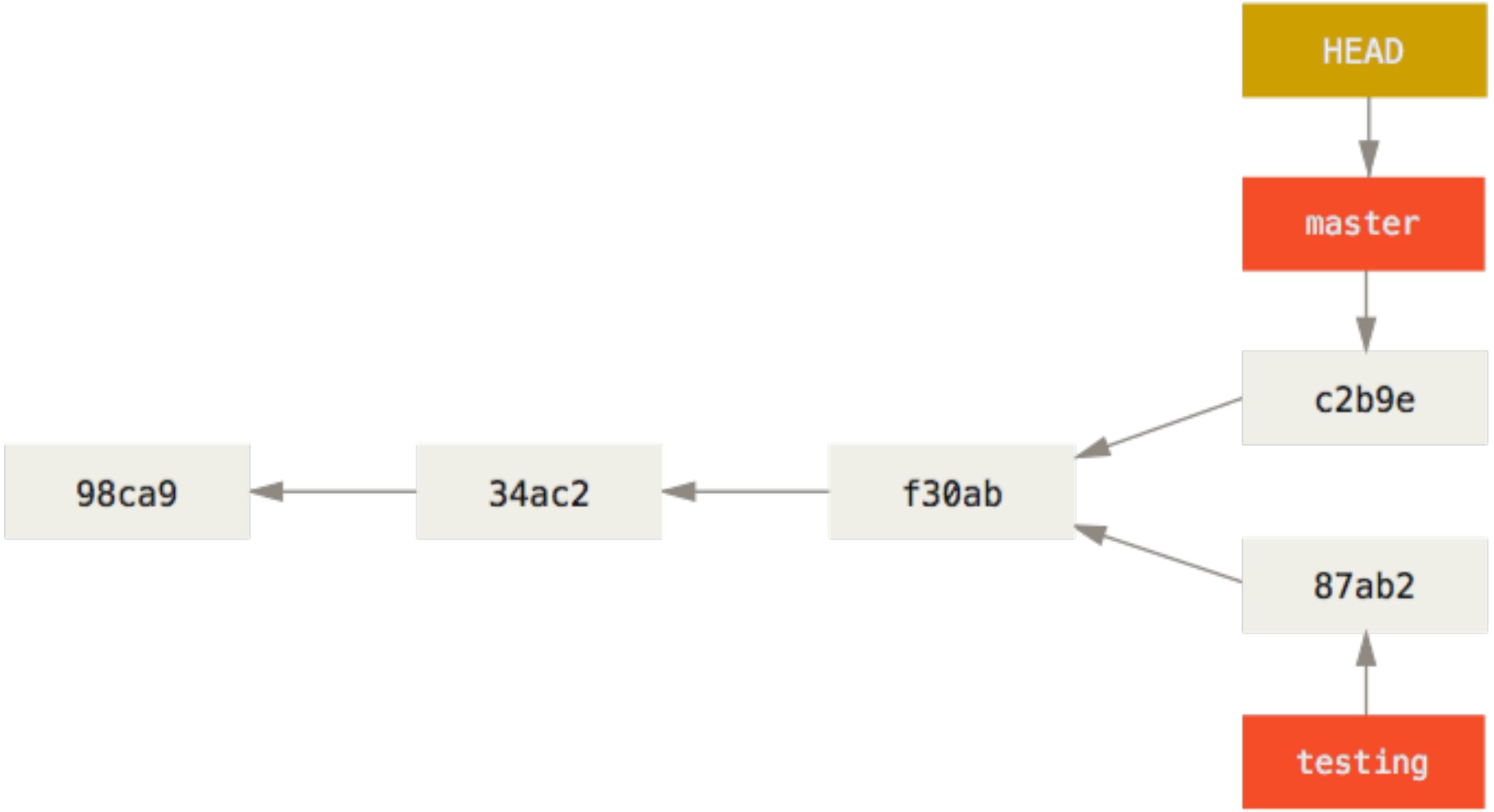
vim test.rb
git commit -a -m 'made other changes'



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Les commandes git (5)

- `git merge [branch]`
  - Fusionne la branche nommée avec la branche courante

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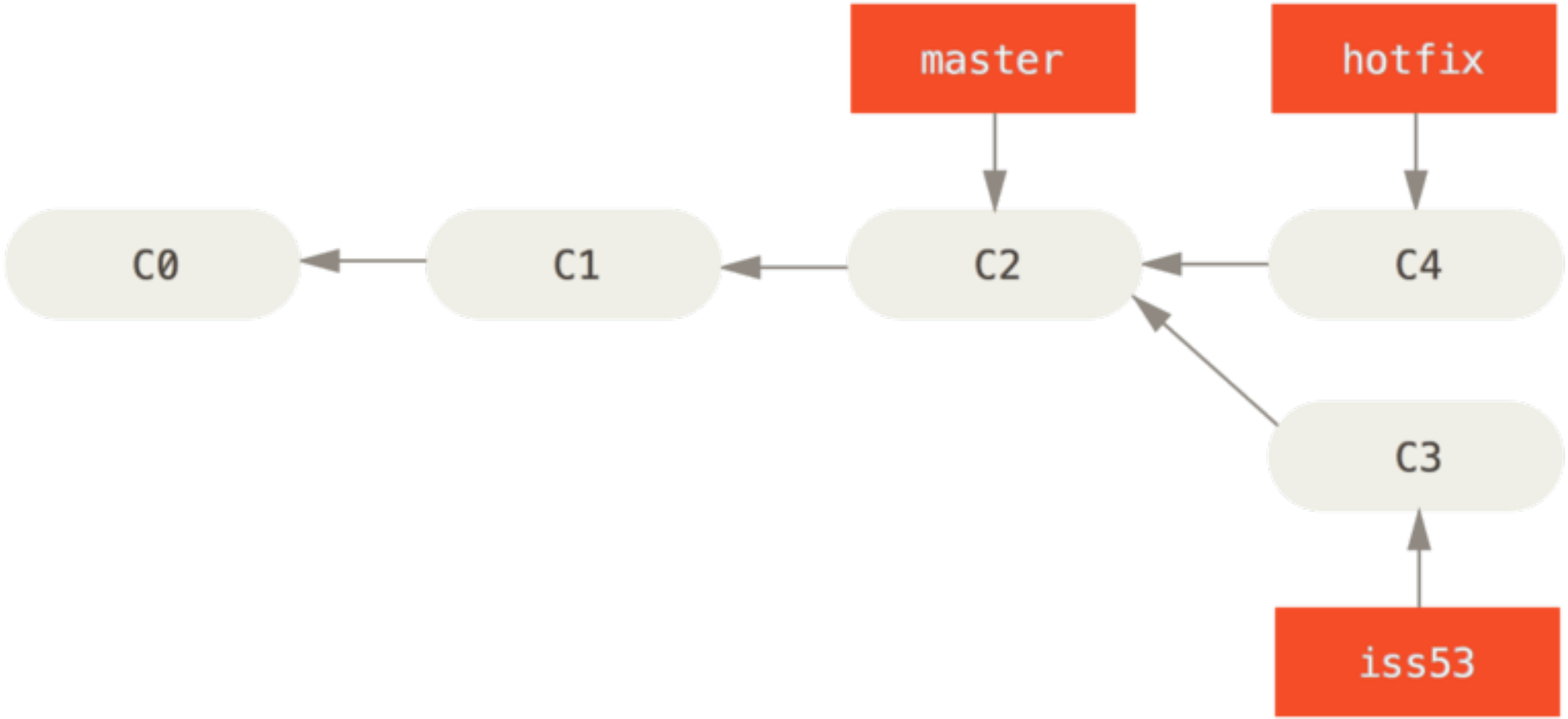
Fast-forward merge



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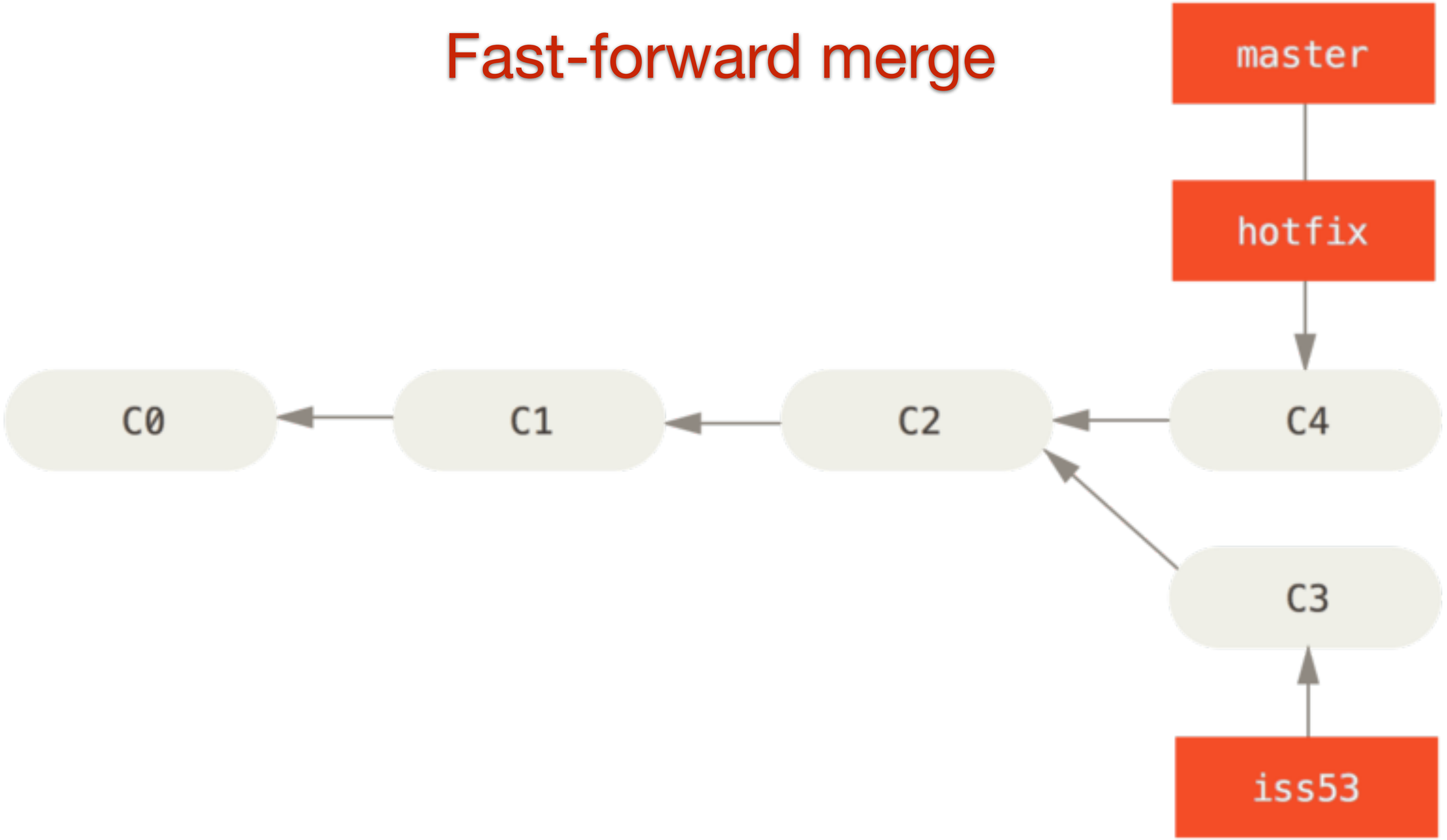
Fast-forward merge



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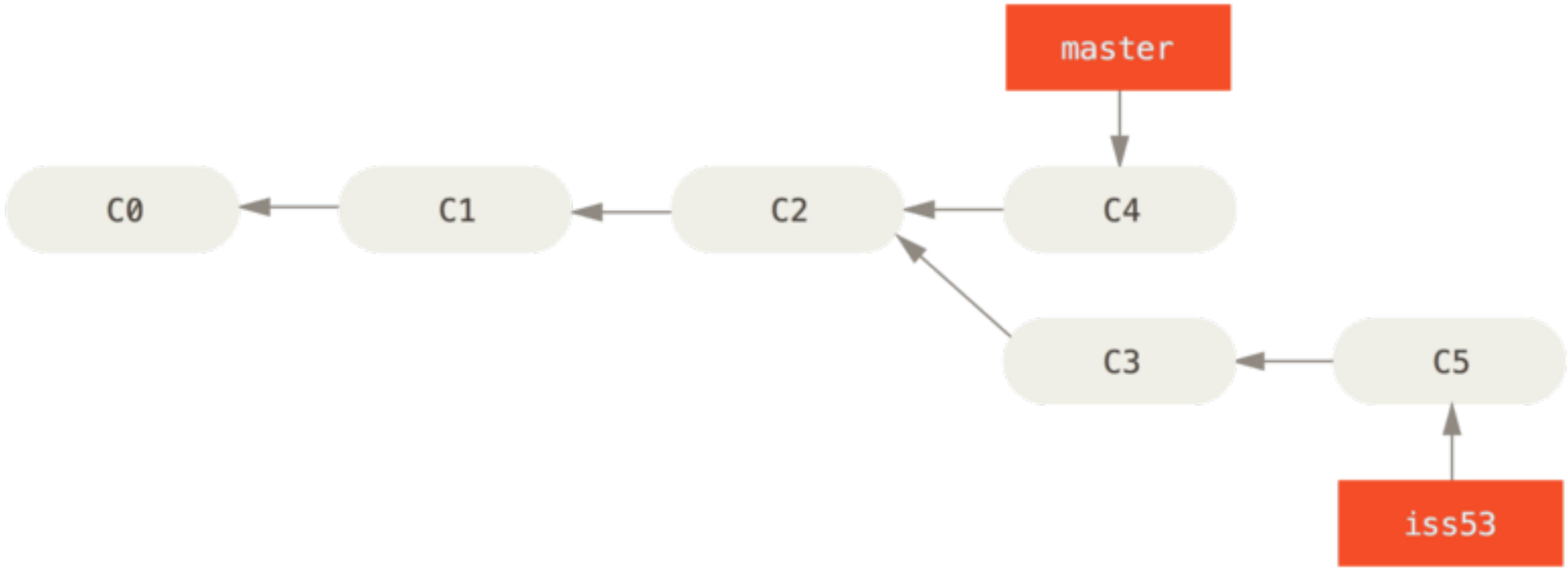
Basic merge



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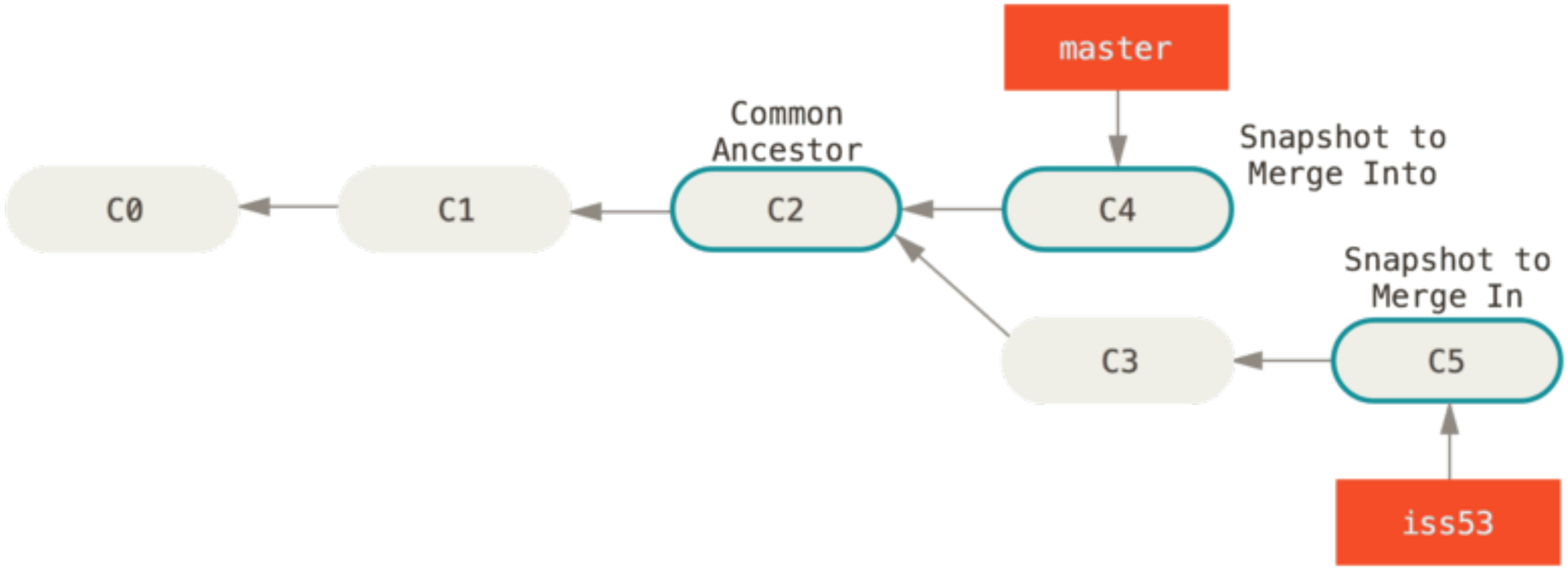
Basic merge



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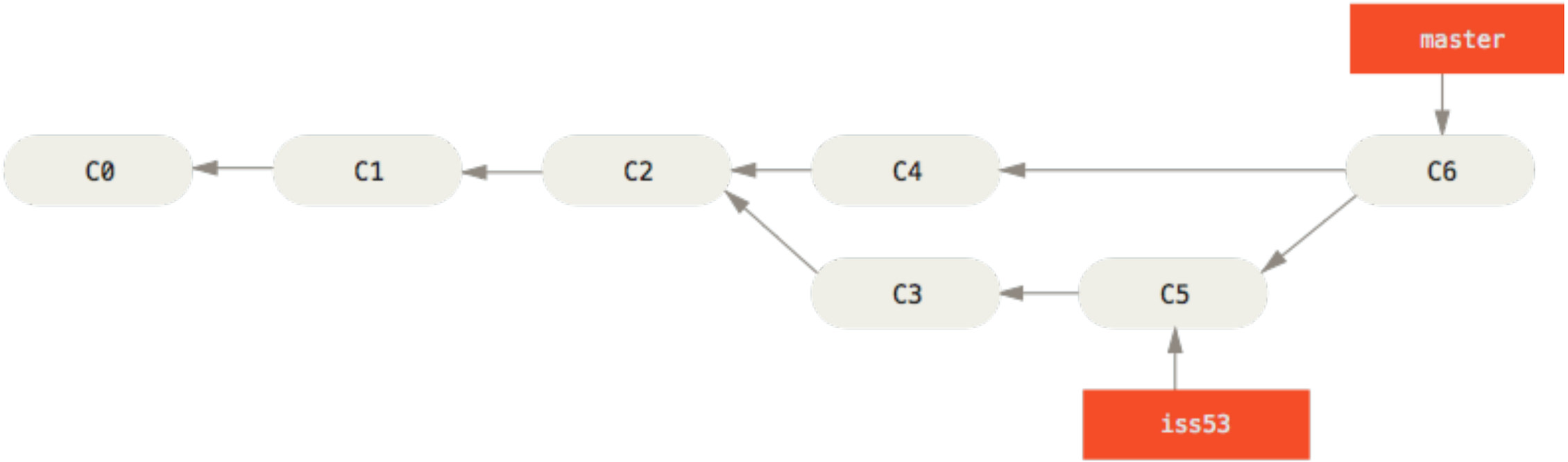
Basic merge



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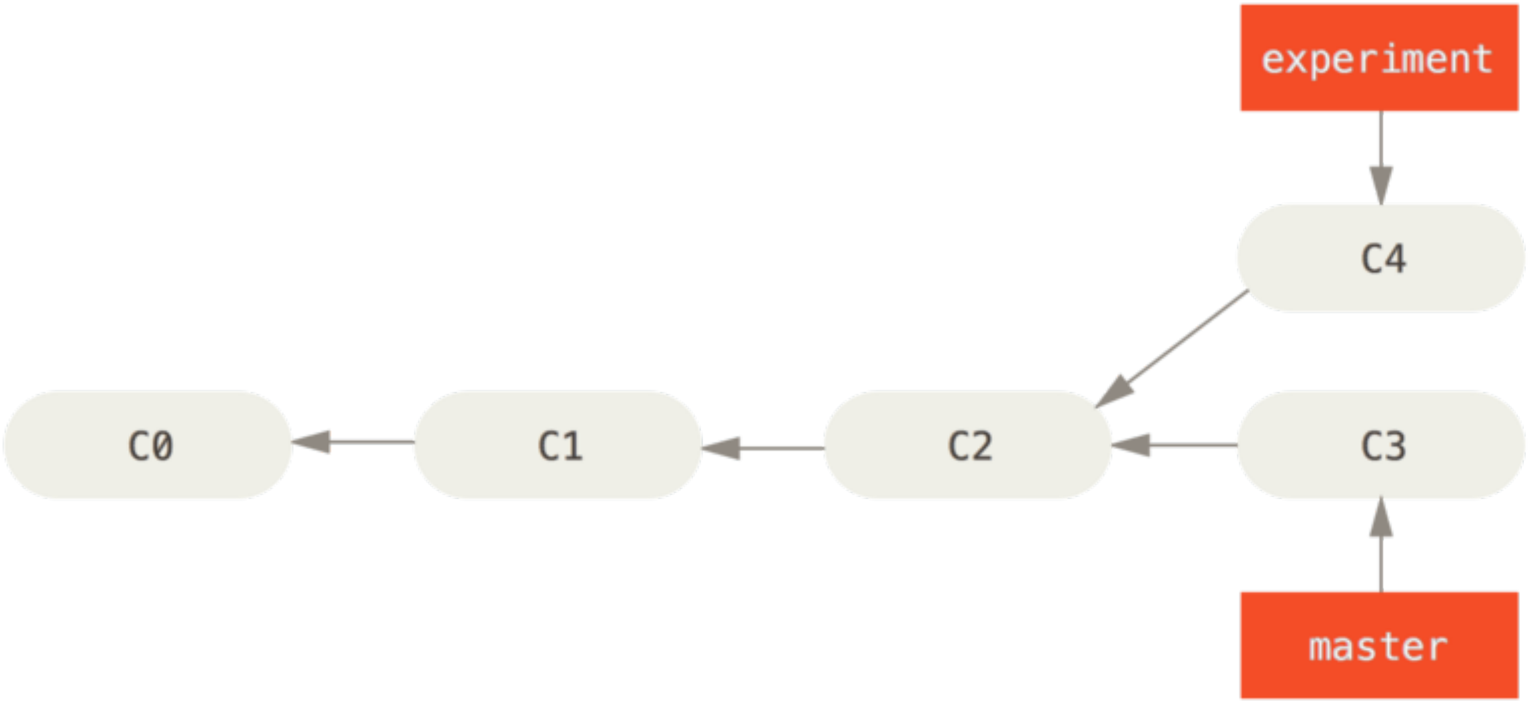
merge vs. rebase



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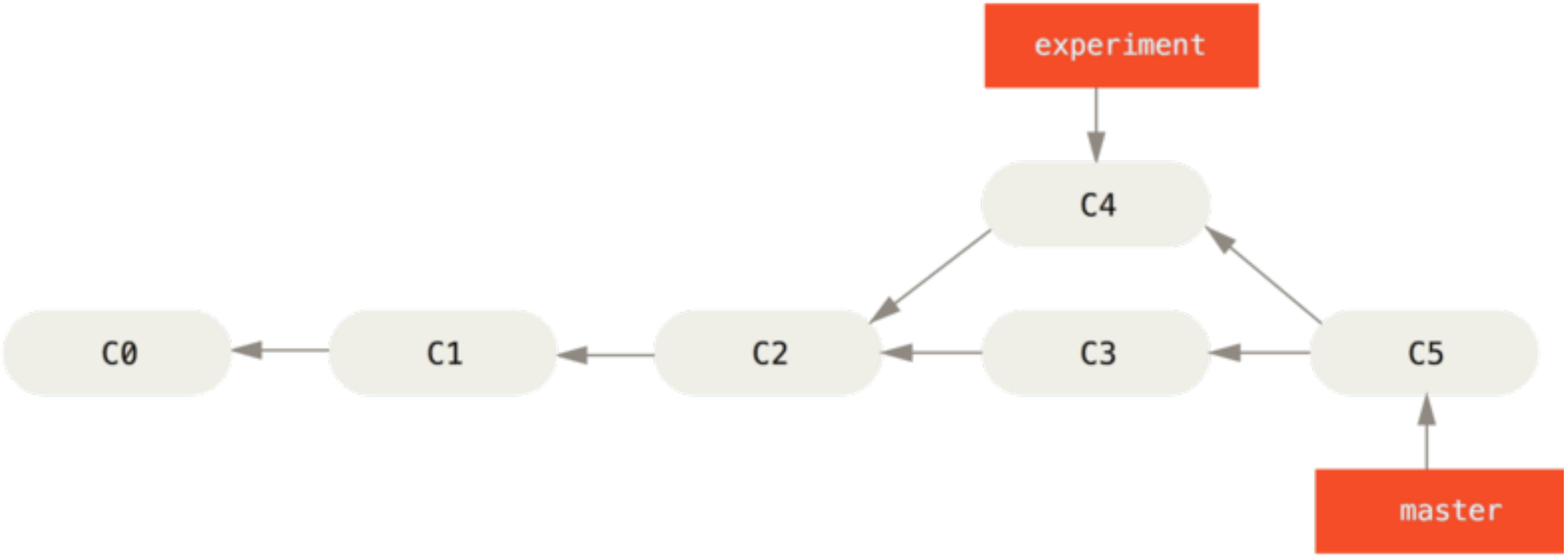
merge vs. rebase



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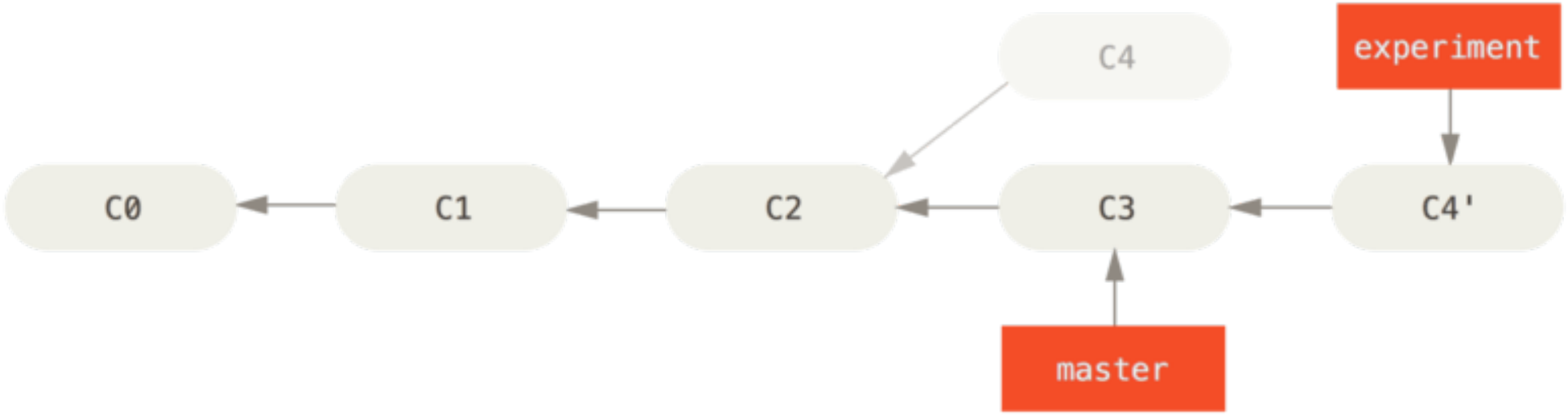
merge vs. rebase



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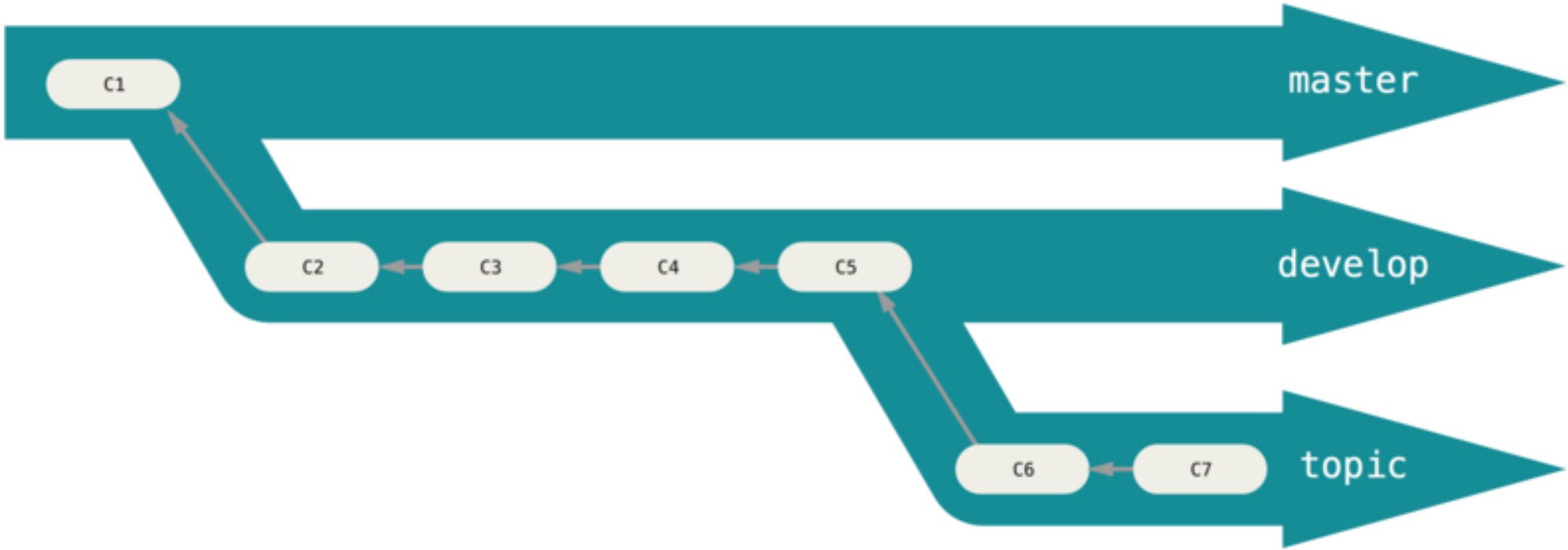
Branches aux long court



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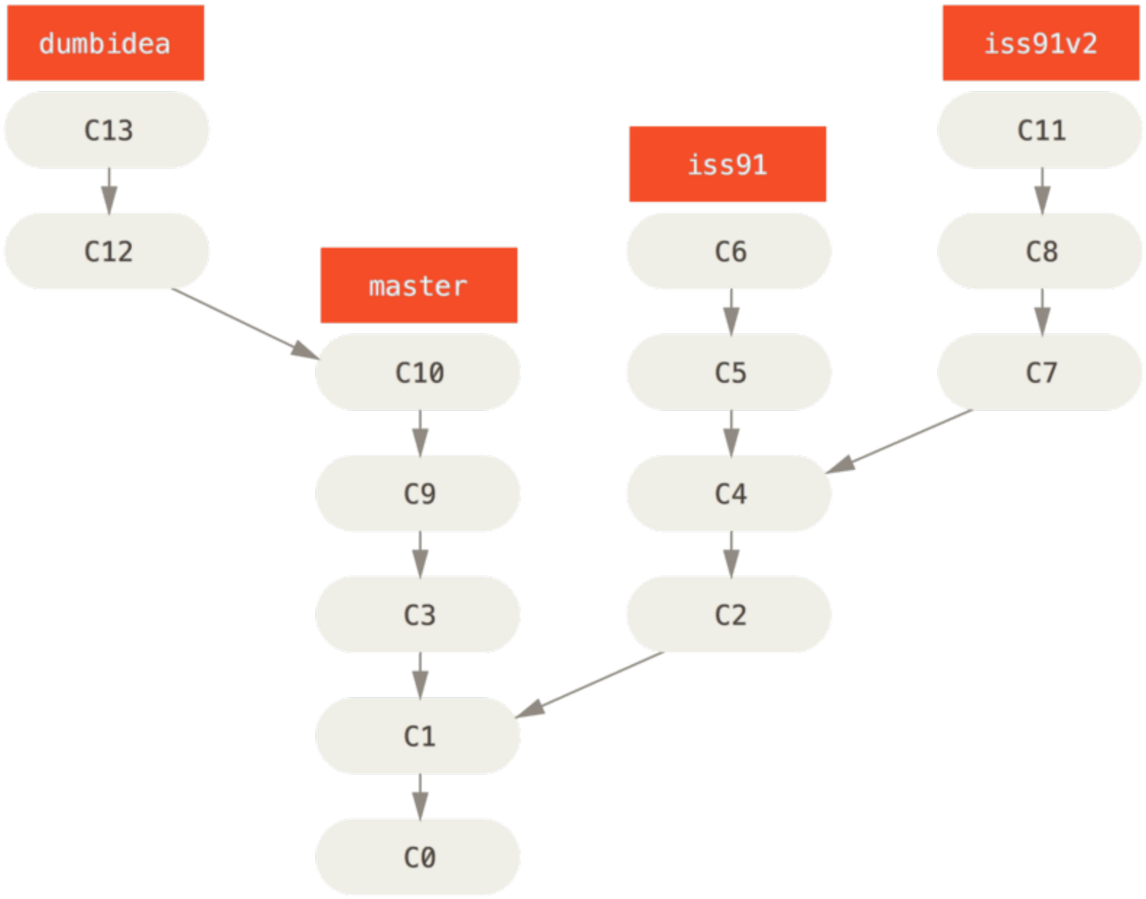
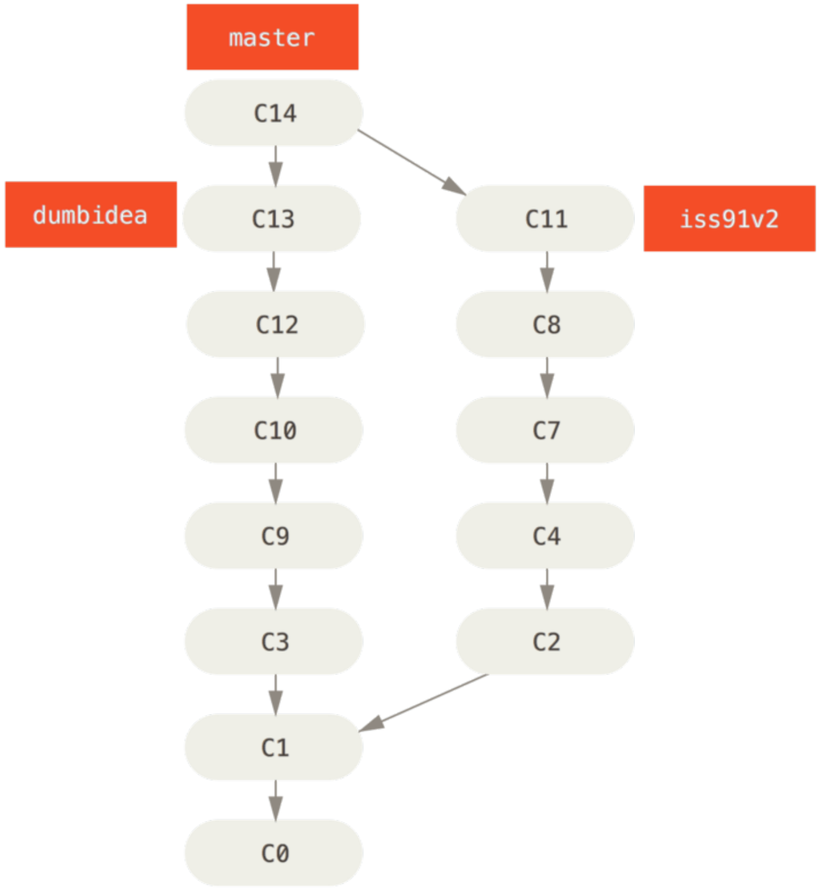
Branches thématiques





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À distance…

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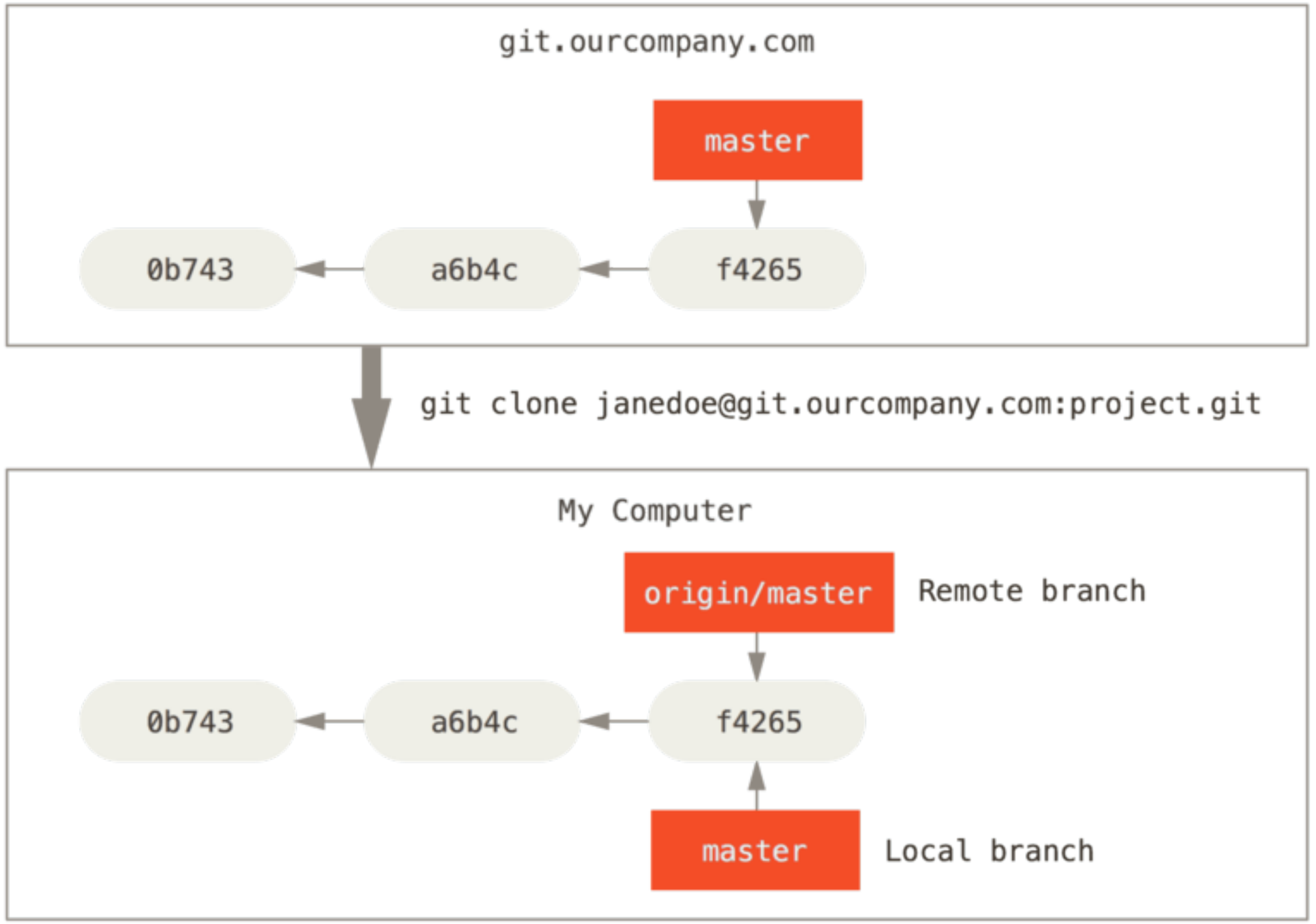
Branches de suivi à distance



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Les commandes git (6)

- `git push`
  - Transmet la branche locale à la branche à distance
  - Si c'est la première fois que l'on `push`, il faut écrire `git push -u origin [branch]` pour créer le lien entre la branche locale et la branche sur le repo à distance surnommé `origin`
- `git fetch [alias]`
  - Copie localement les branches du repo à distance `alias`
- `git pull`
  - Effectue un `fetch` puis un `merge`

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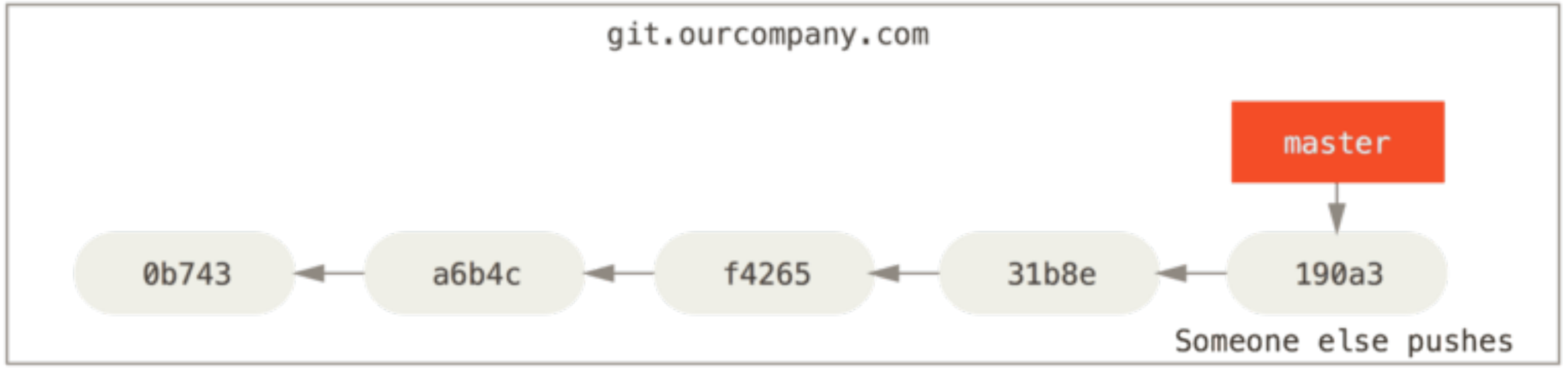
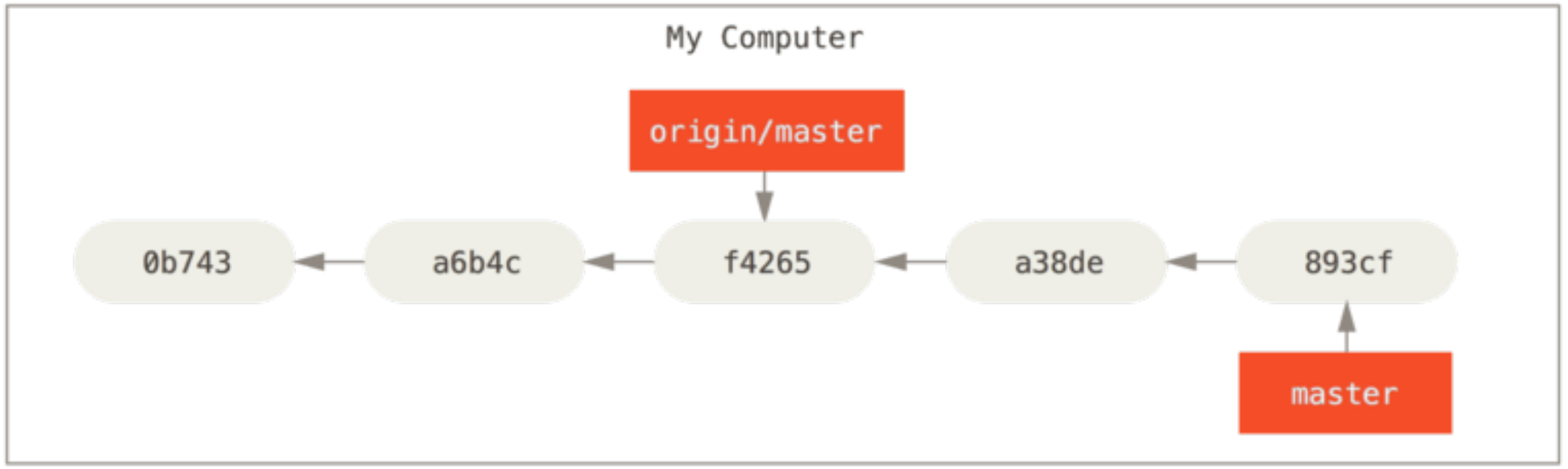
Branches de suivi à distance (2)





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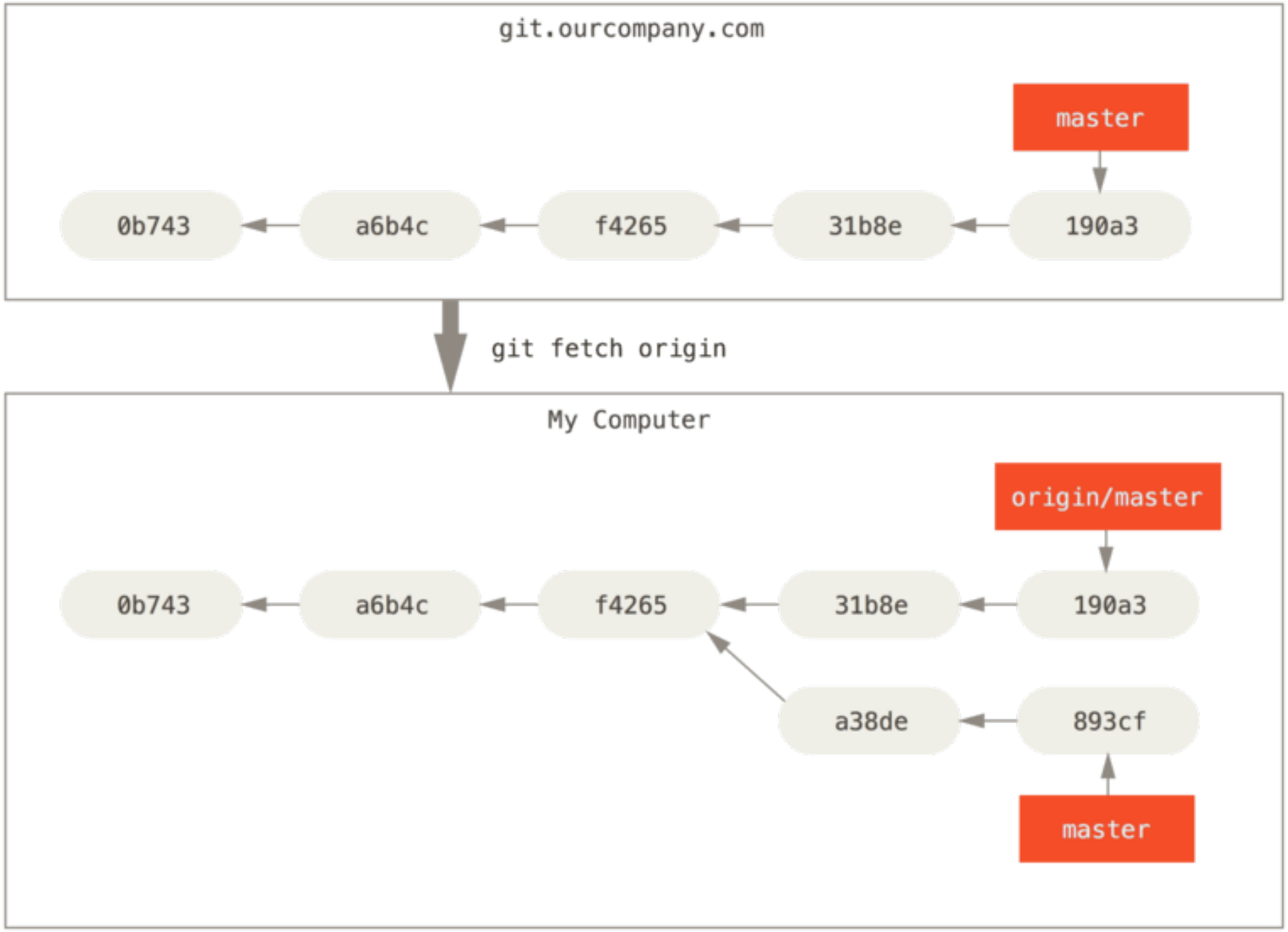
Branches de suivi à distance (3)



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Git distribué

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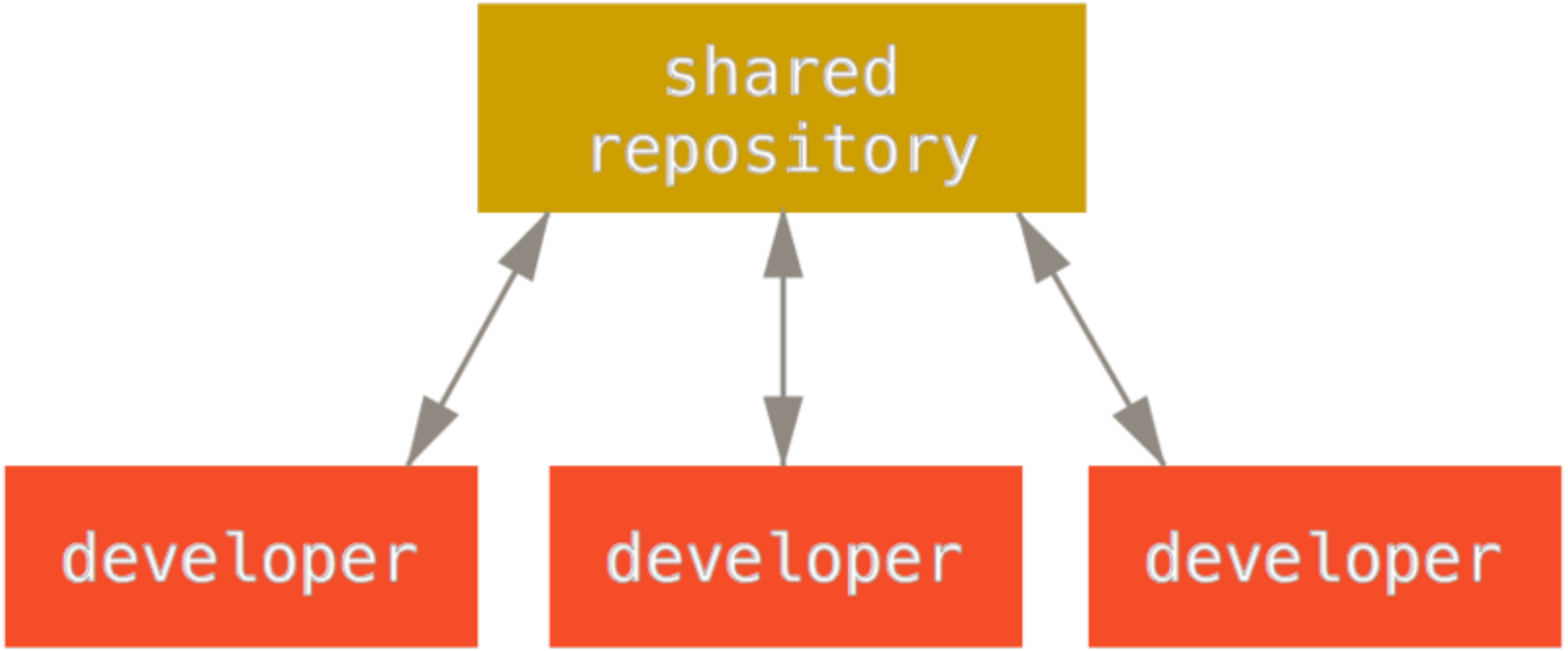
Gestion centralisée



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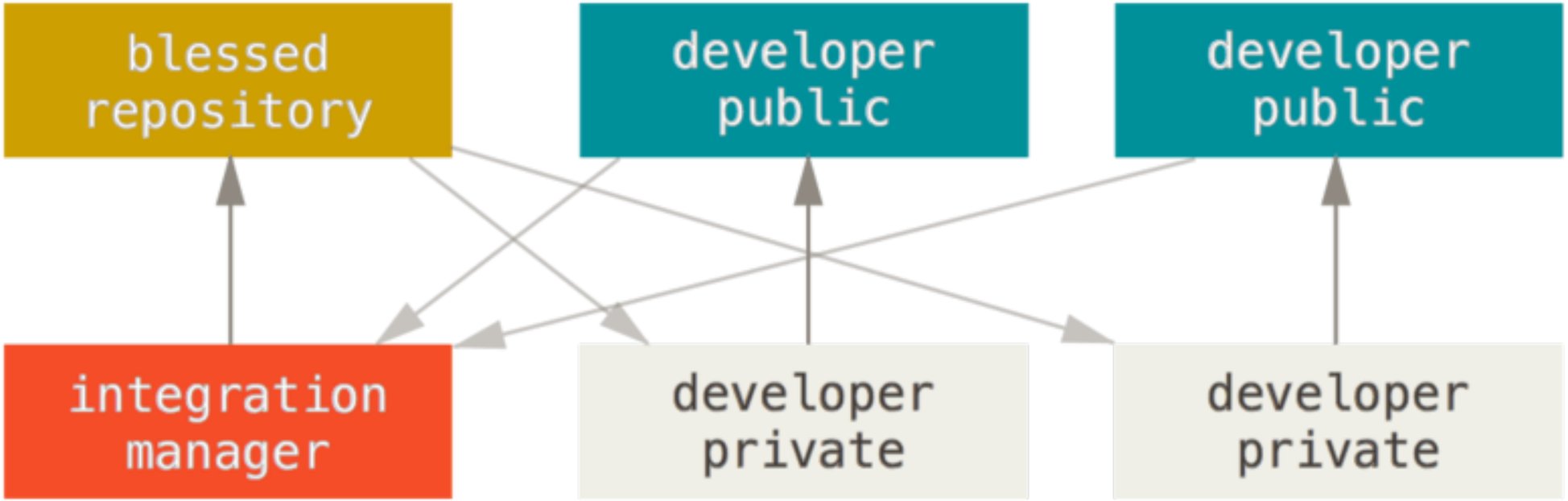
Gestionnaire d'intégration



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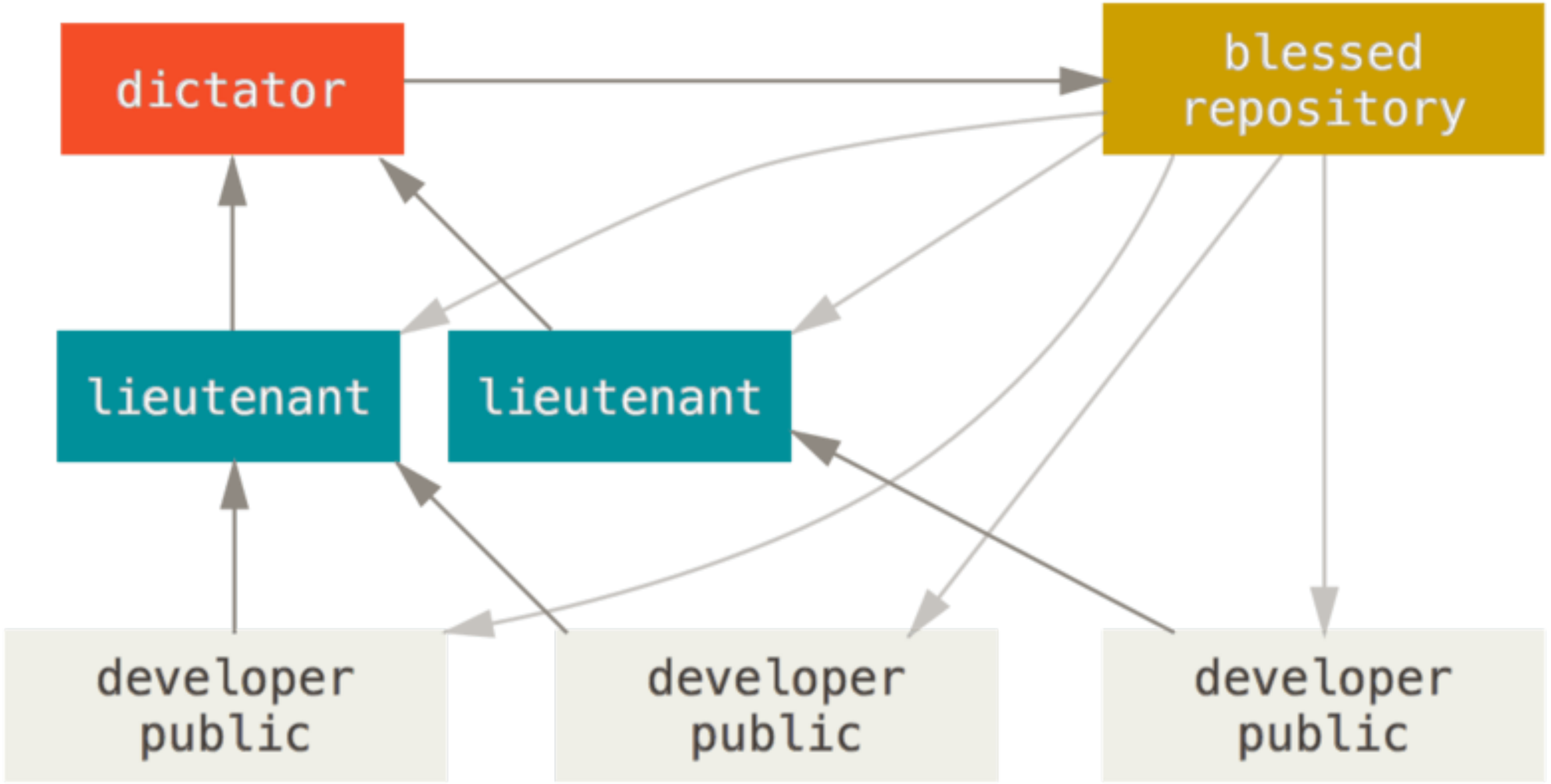
Dictateur et lieutenants



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Et plus encore…

- Cette présentation ne couvre pas l'utilisation de fork et de pull_request sur GitHub.

- Vous pouvez en appendre plus sur ce sujet ici …

`https://docs.github.com/en/github/collaborating-with-issues-and-pull-requests`