Git

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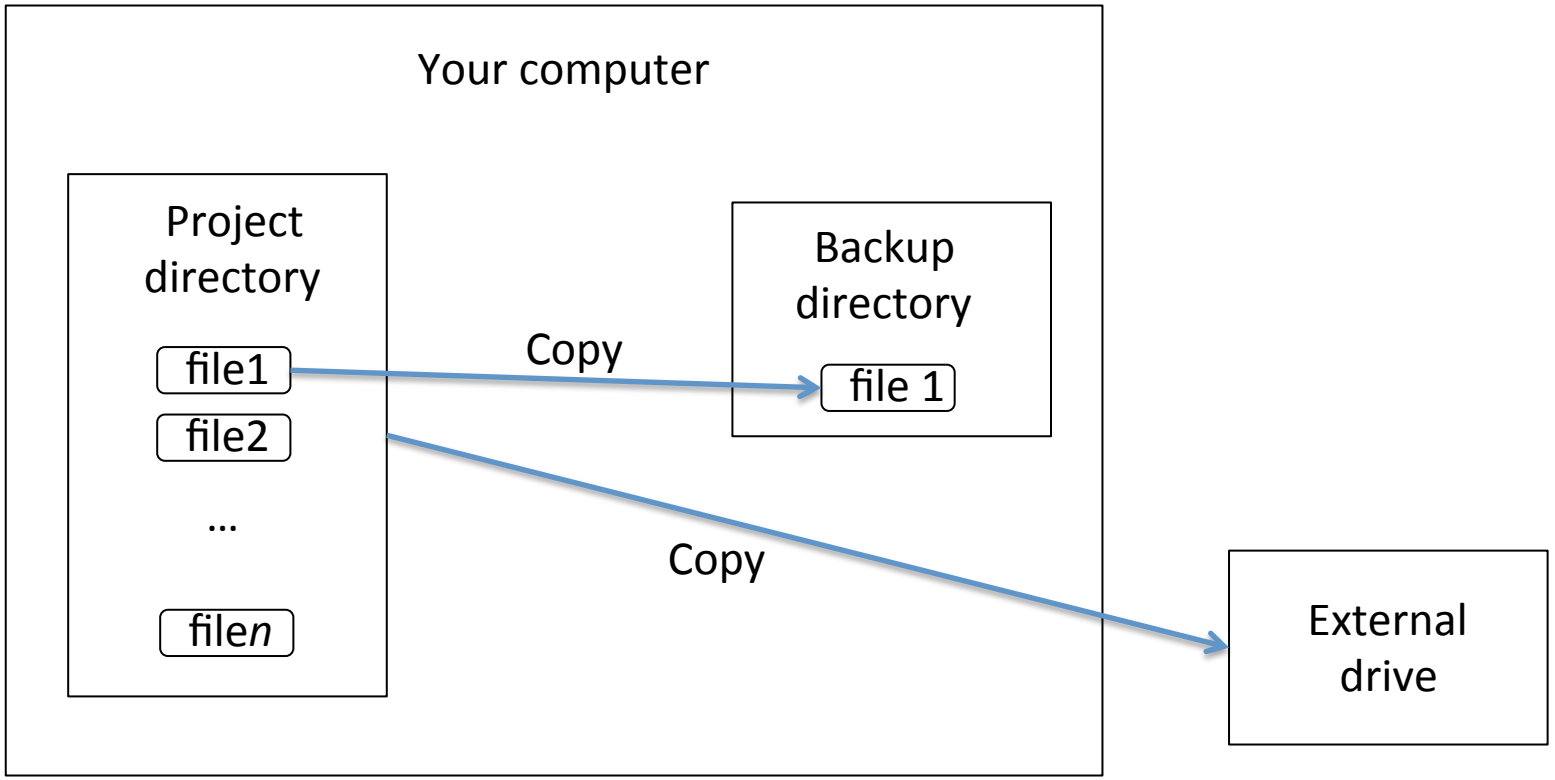
Python bootcamp 2016

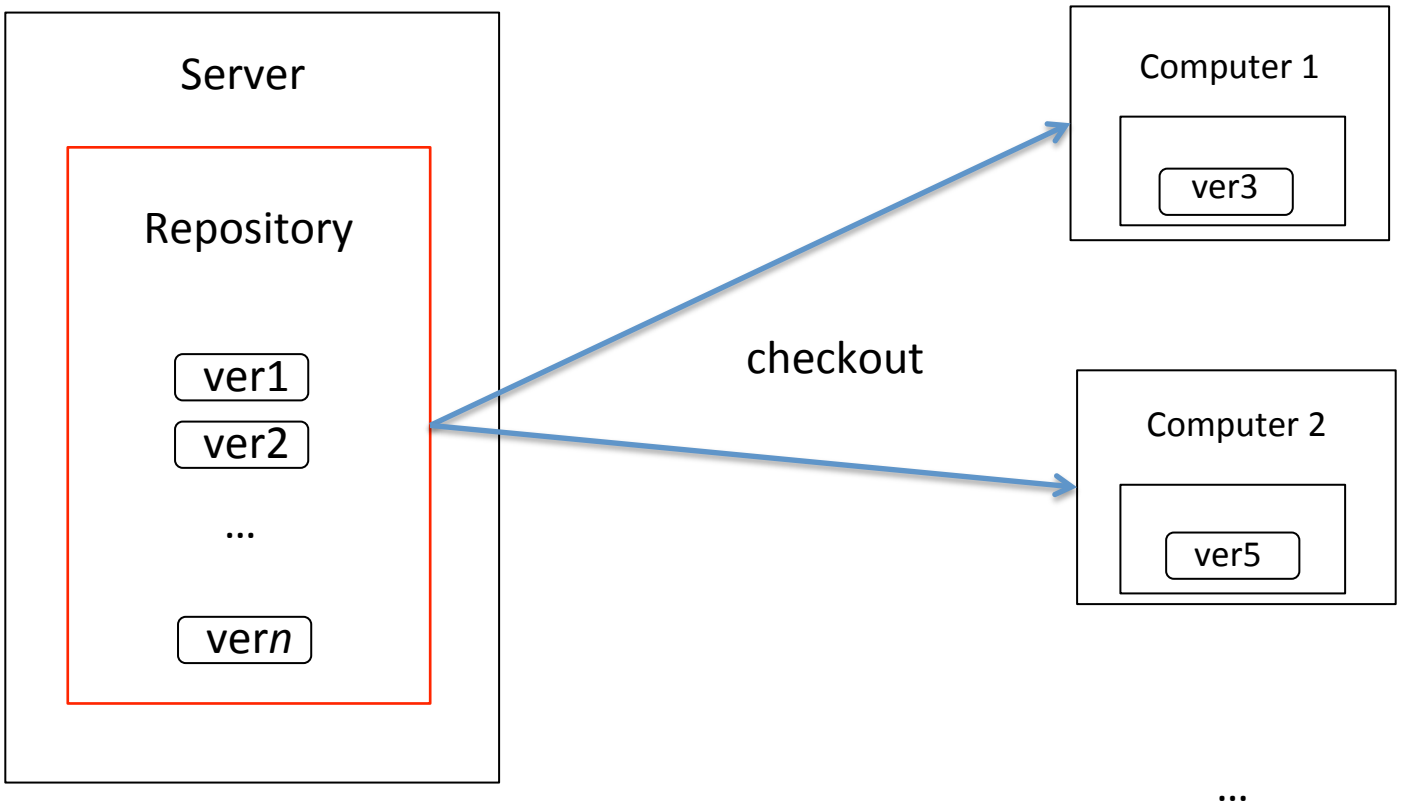
Version control system

A version control system is a program that can record multiple versions of a source file, storing information such as the creation time of each version, who made it, and a description of what was changed.

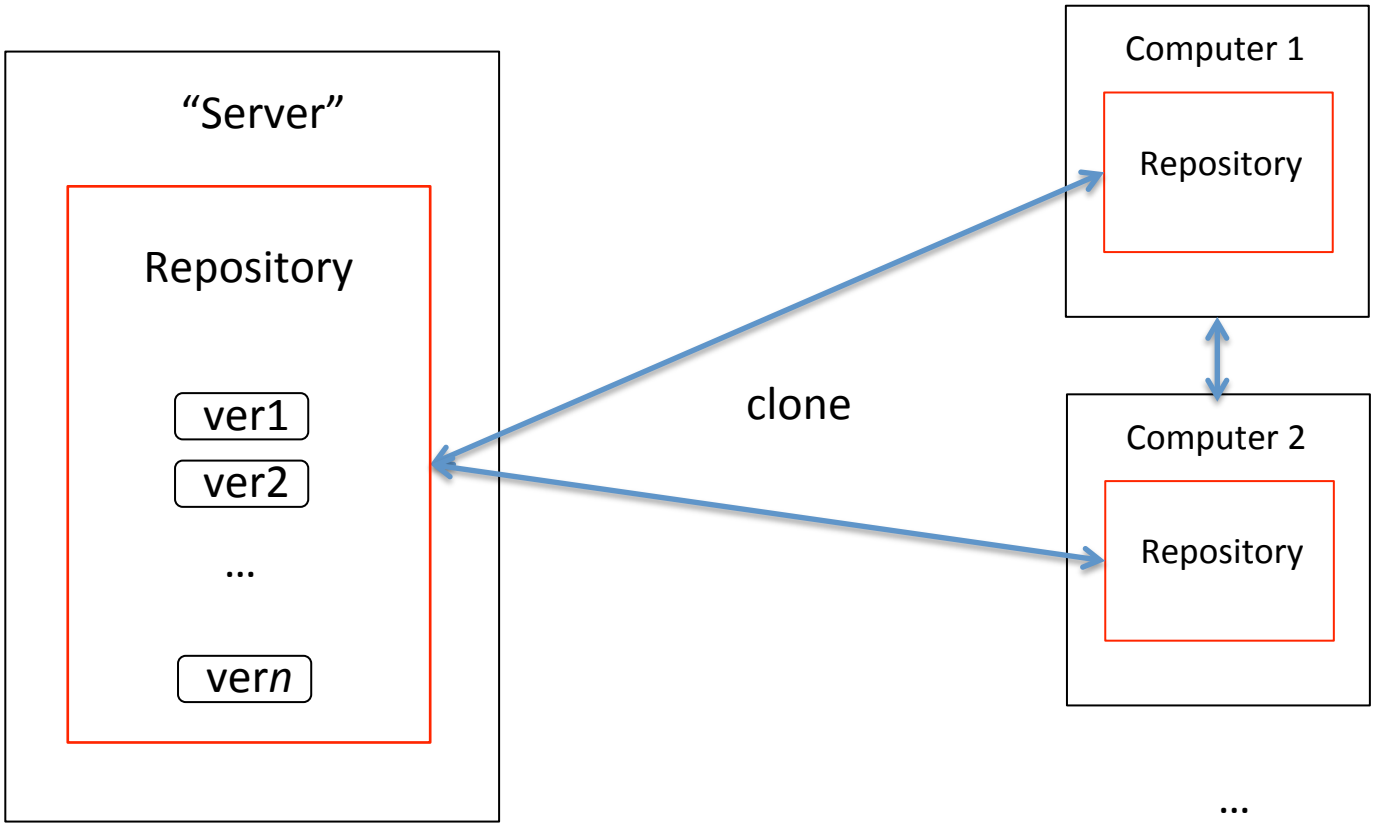
Why version control?



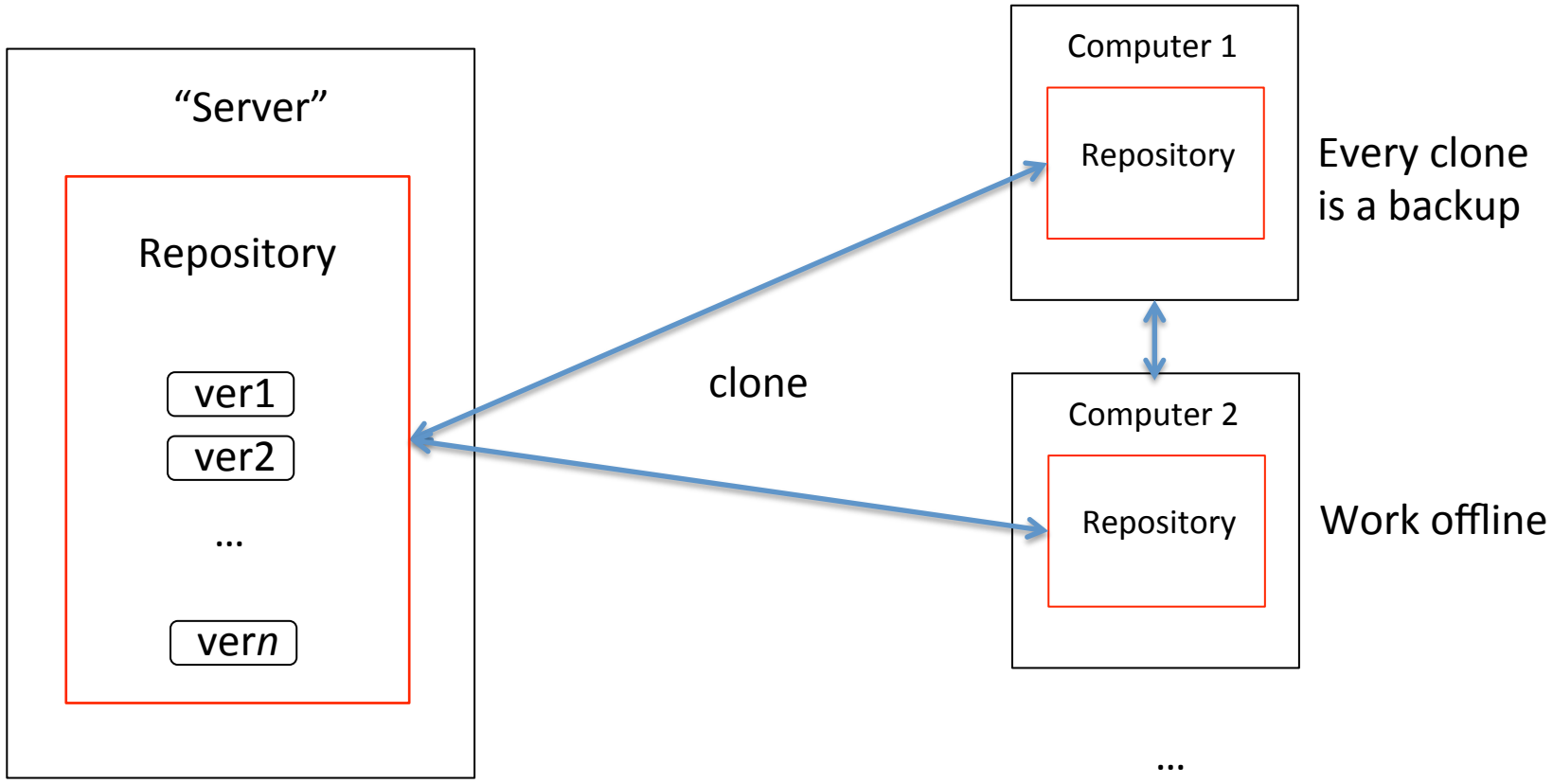
Centralized VCS



Distributed VCS



Distributed VCS



There is by convention – an upstream repo – to stay in sync

Getting started

- Install git ✓
- Configure git

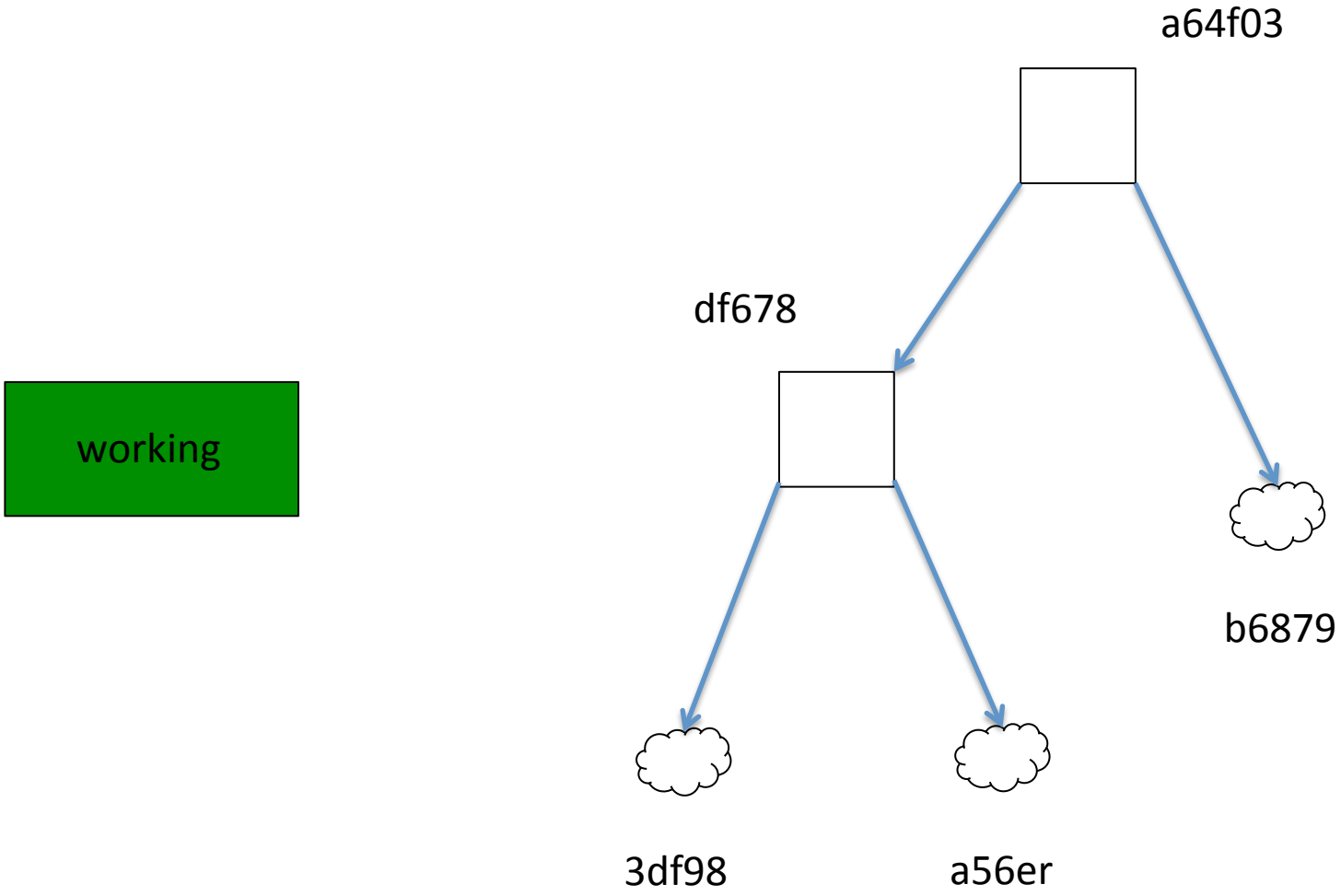
Configure git

Getting started

- Install git ✓
- Configure git ✓
- Git concepts
- Demo
  - Initialize a repository
    - Working with repository
    - add, commit, etc…
  - Working with a remote repository
    - Pushing changes

Git concepts

Git concepts



Git concepts

Git generates a checksum for each change set

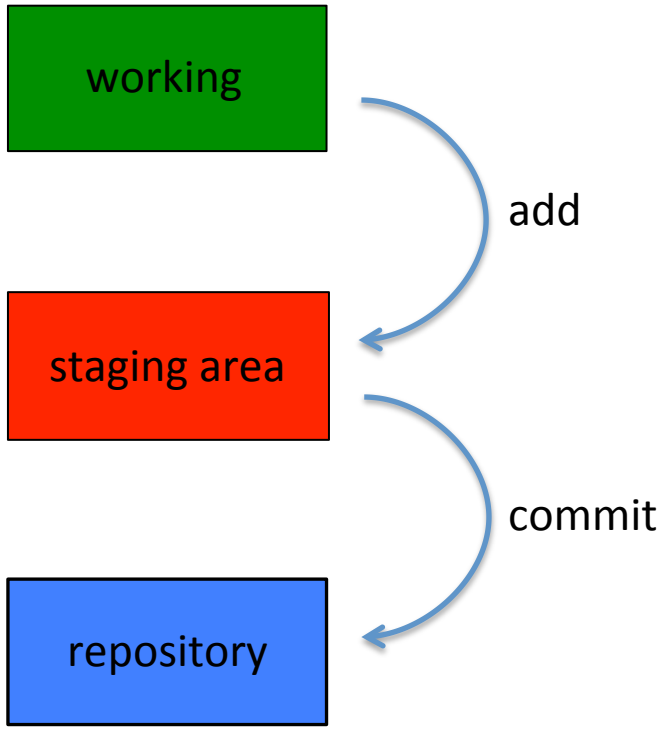
-> Data integrity

Git uses SHA-1 hash to create checksums

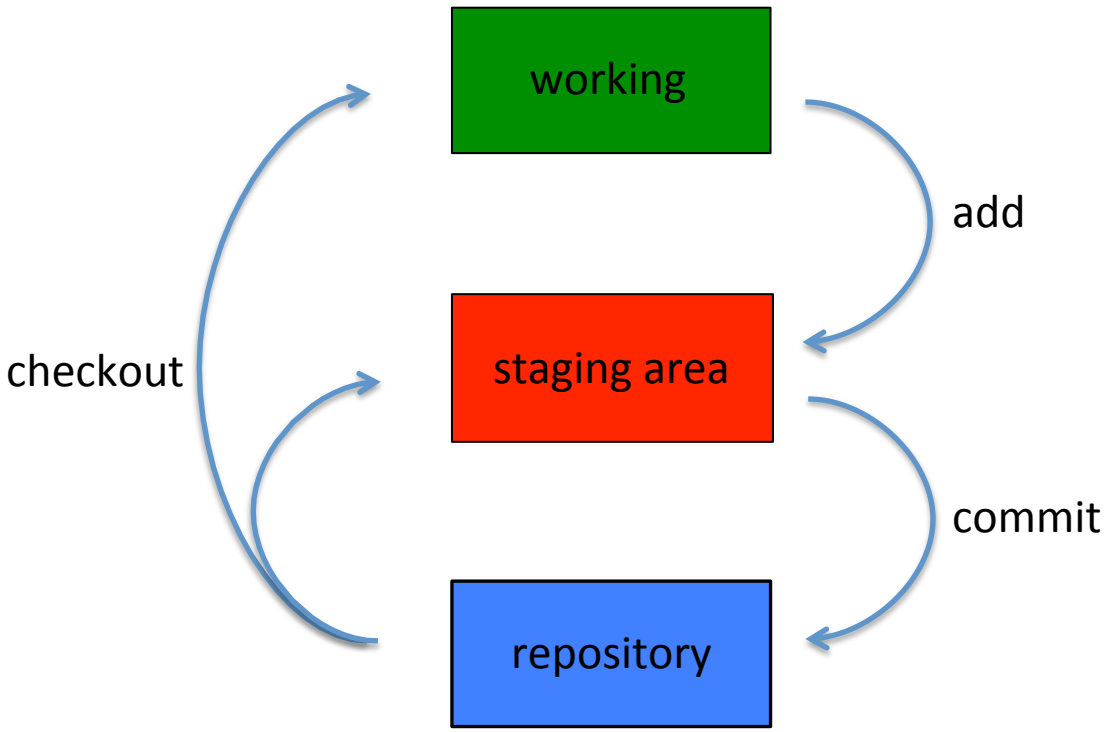
-> 40-character hexadecimal string

e.g. 1fbb5af06b9e4facff4170fc687ecdd143daad50

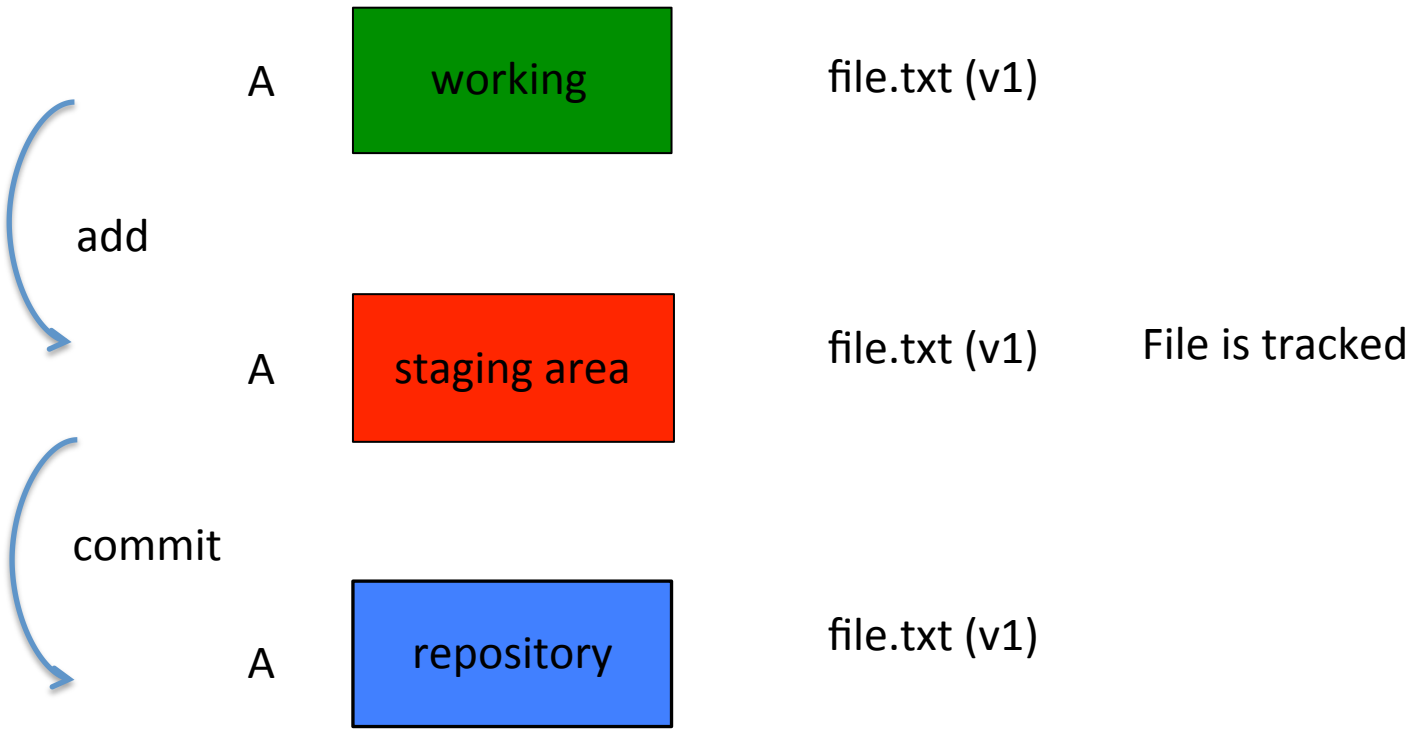
Git concepts



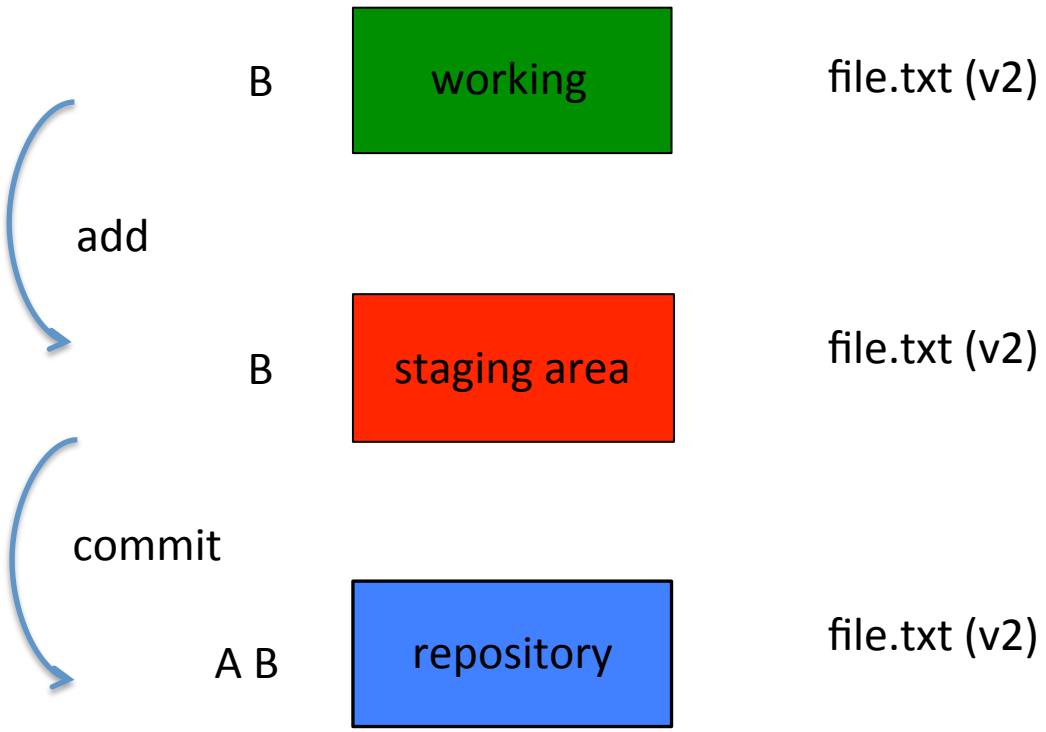
Git concepts



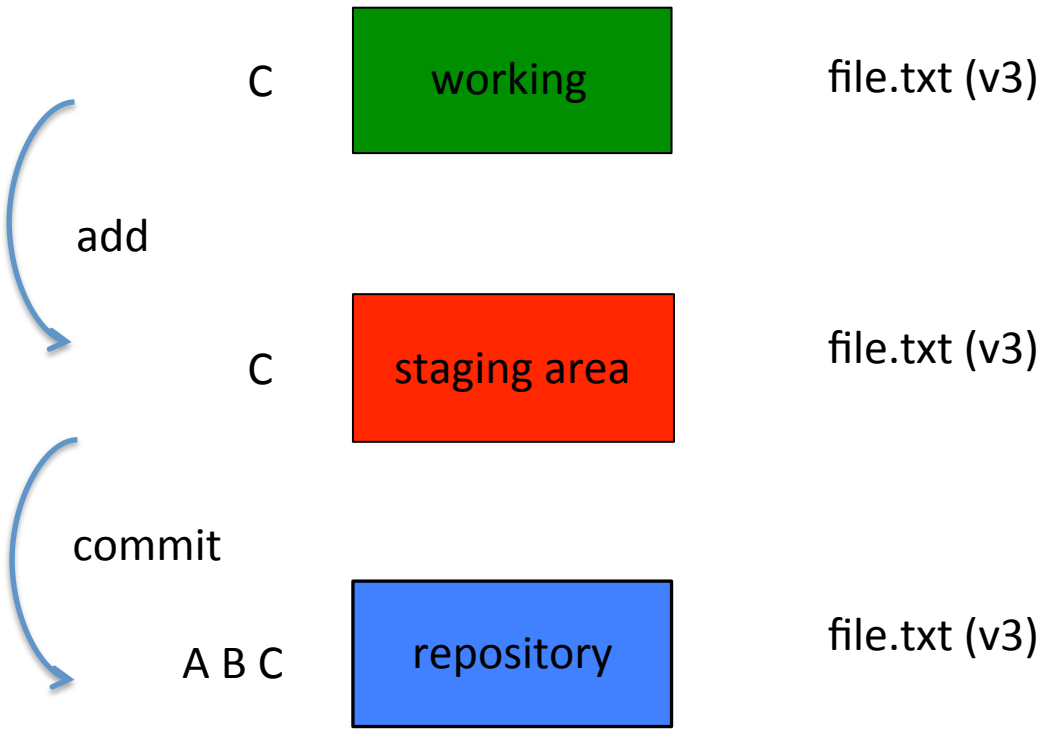
Git concepts



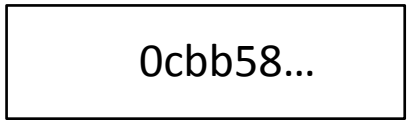
Git concepts



Git concepts



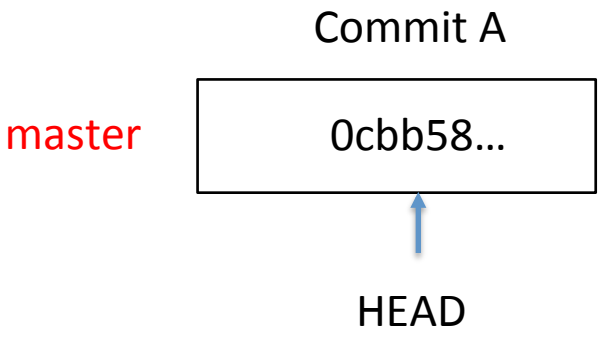
Git concepts



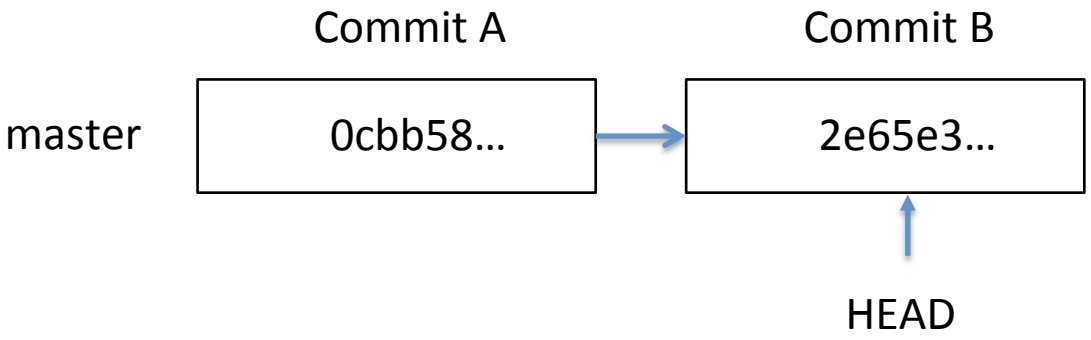
Commit:

Represented by 40-char hex string
Author
Timestamp
Message
Parent

Git concepts



Git concepts



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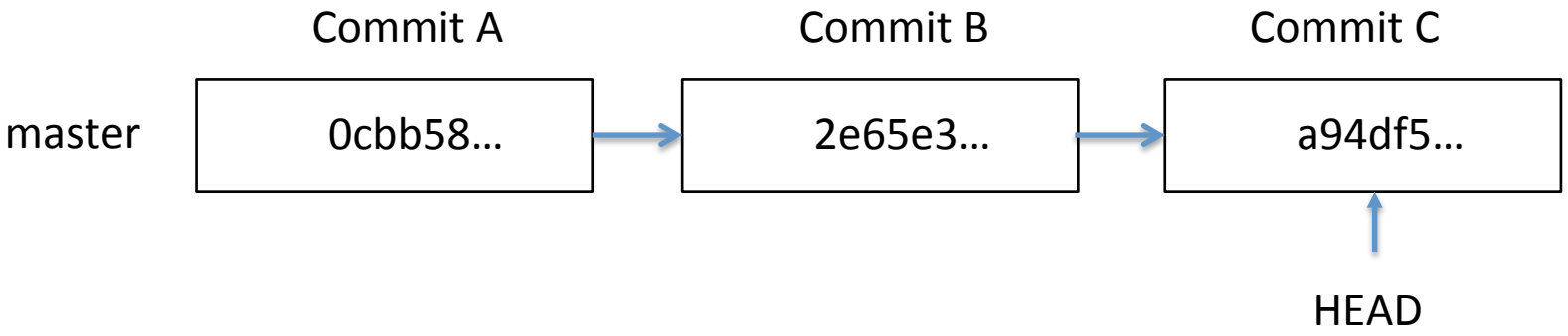

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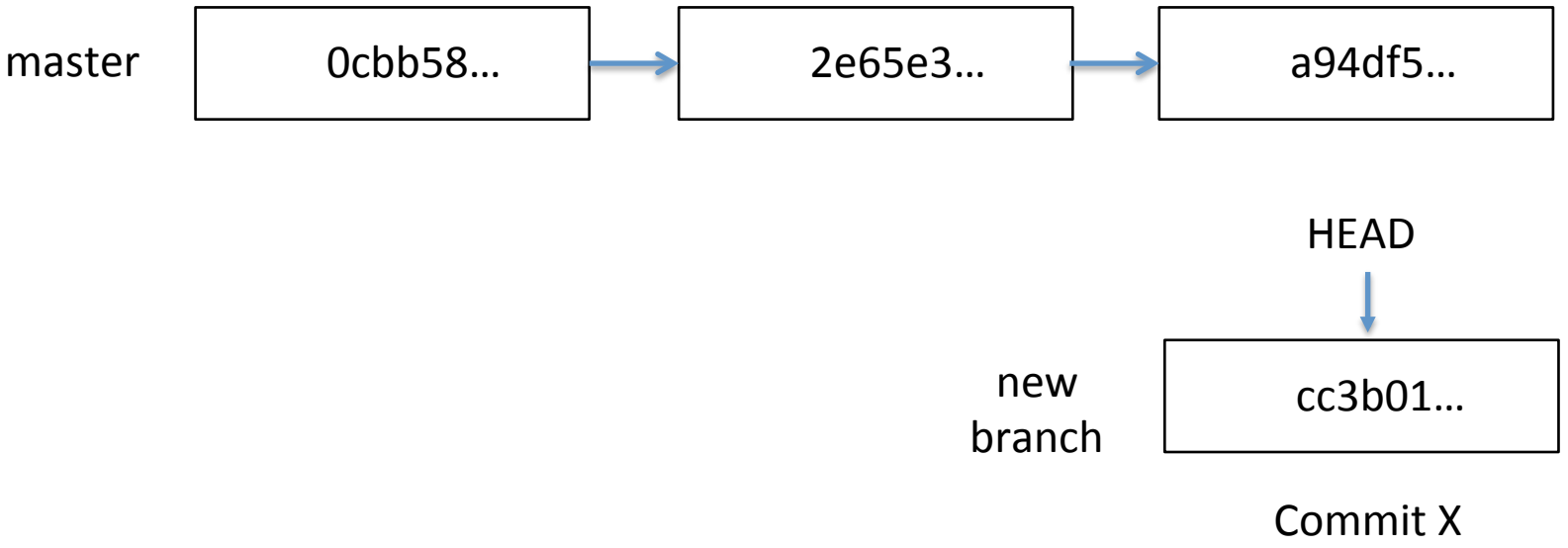

HEAD points to tip of current branch in repository

Demo