

Git

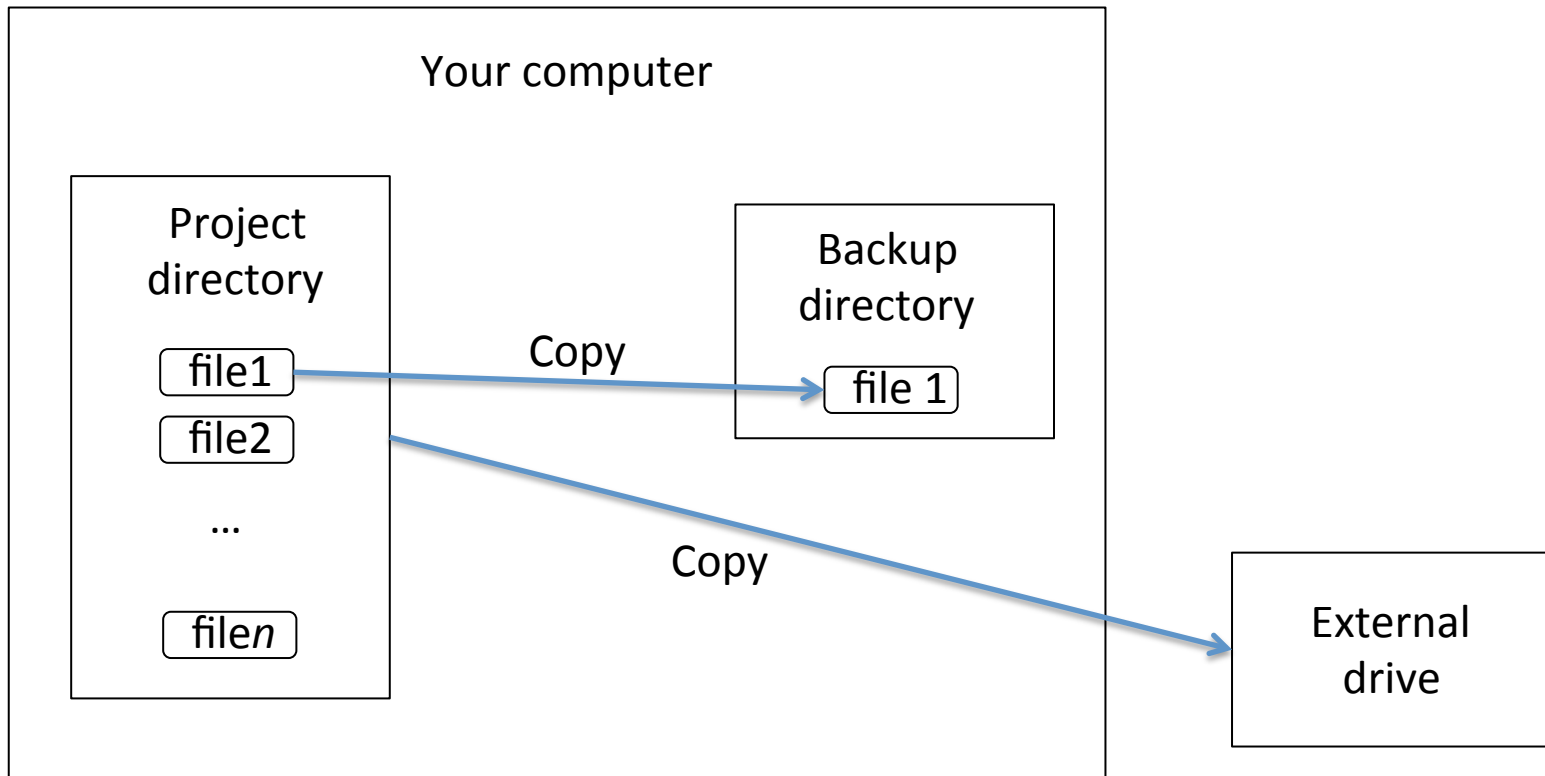
Carlos Cruz
NASA GSFC

Python bootcamp 2016

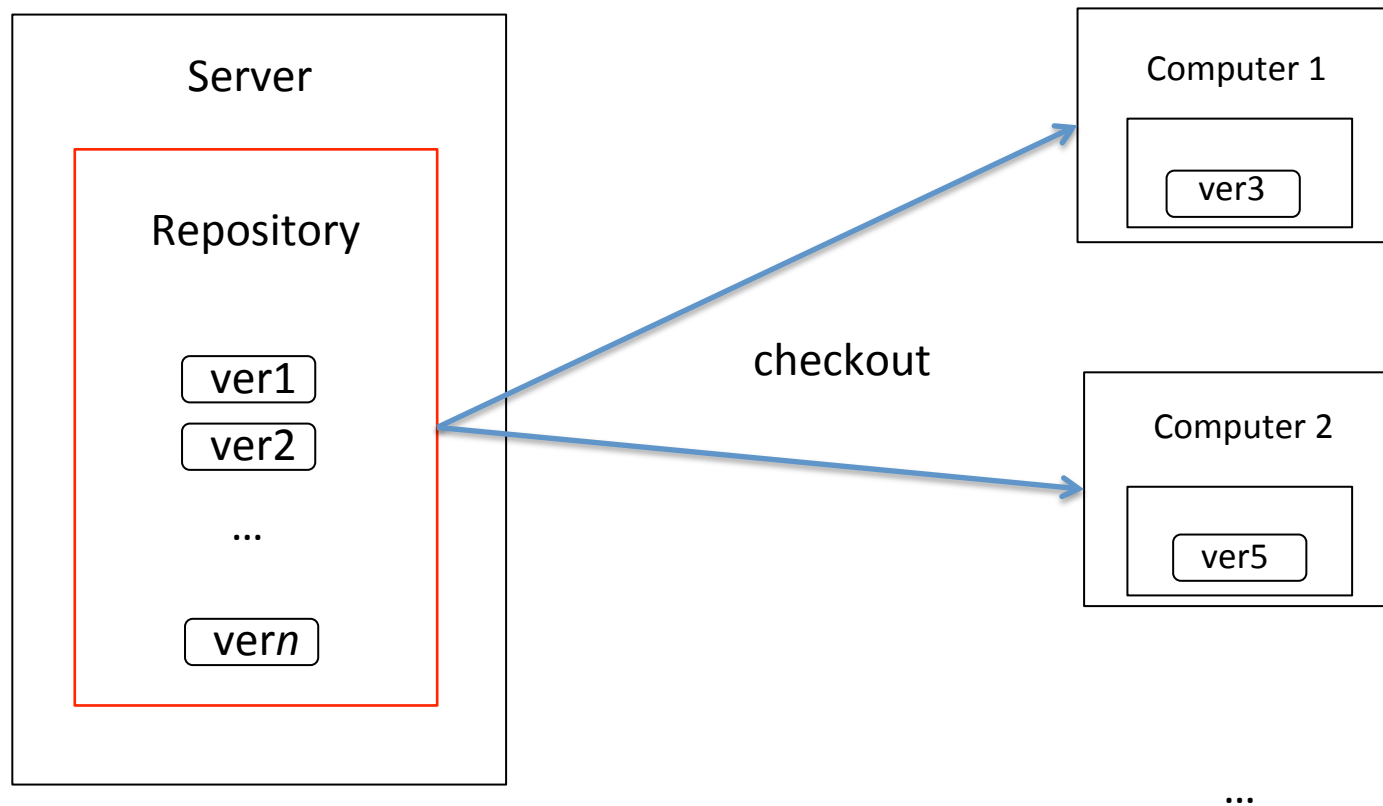
Version control system

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.

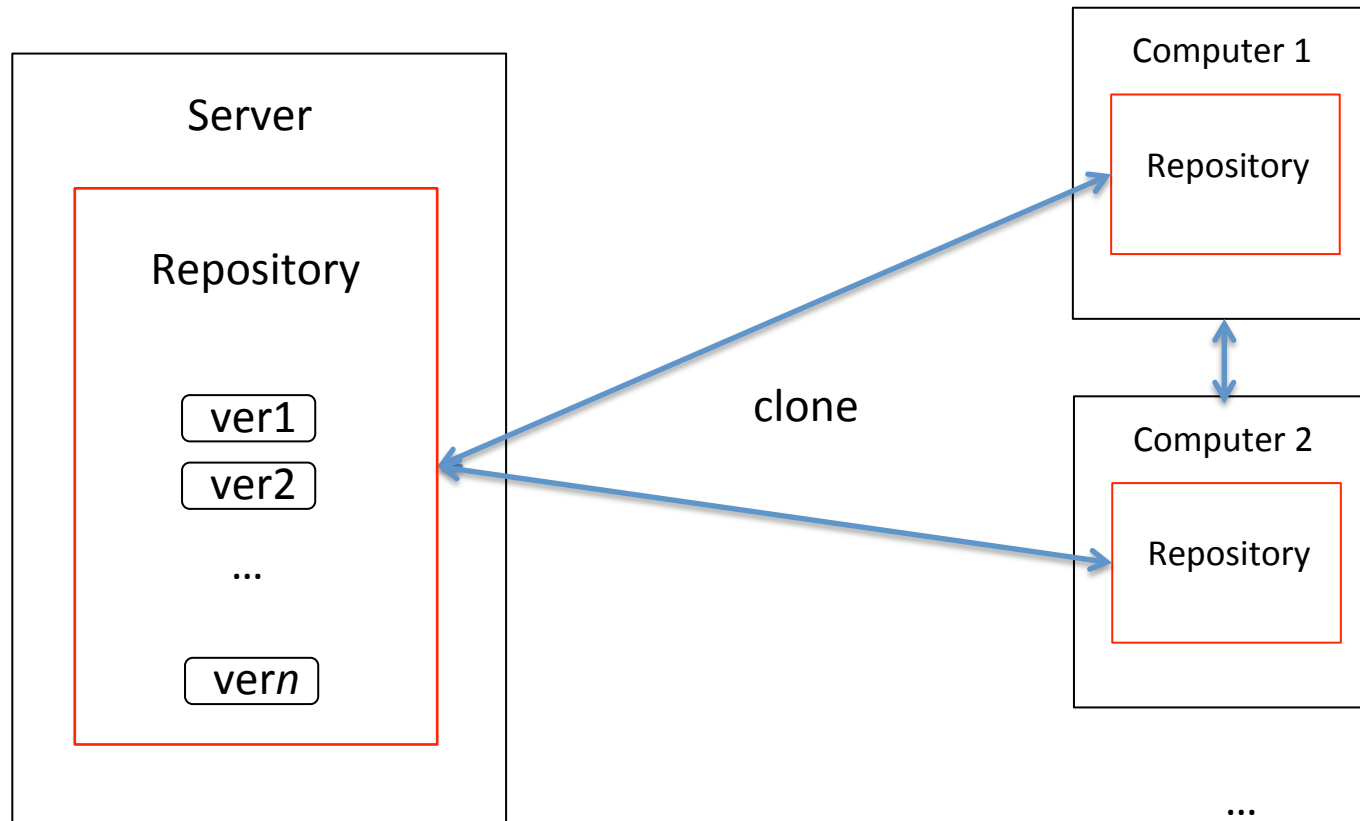
Why version control?



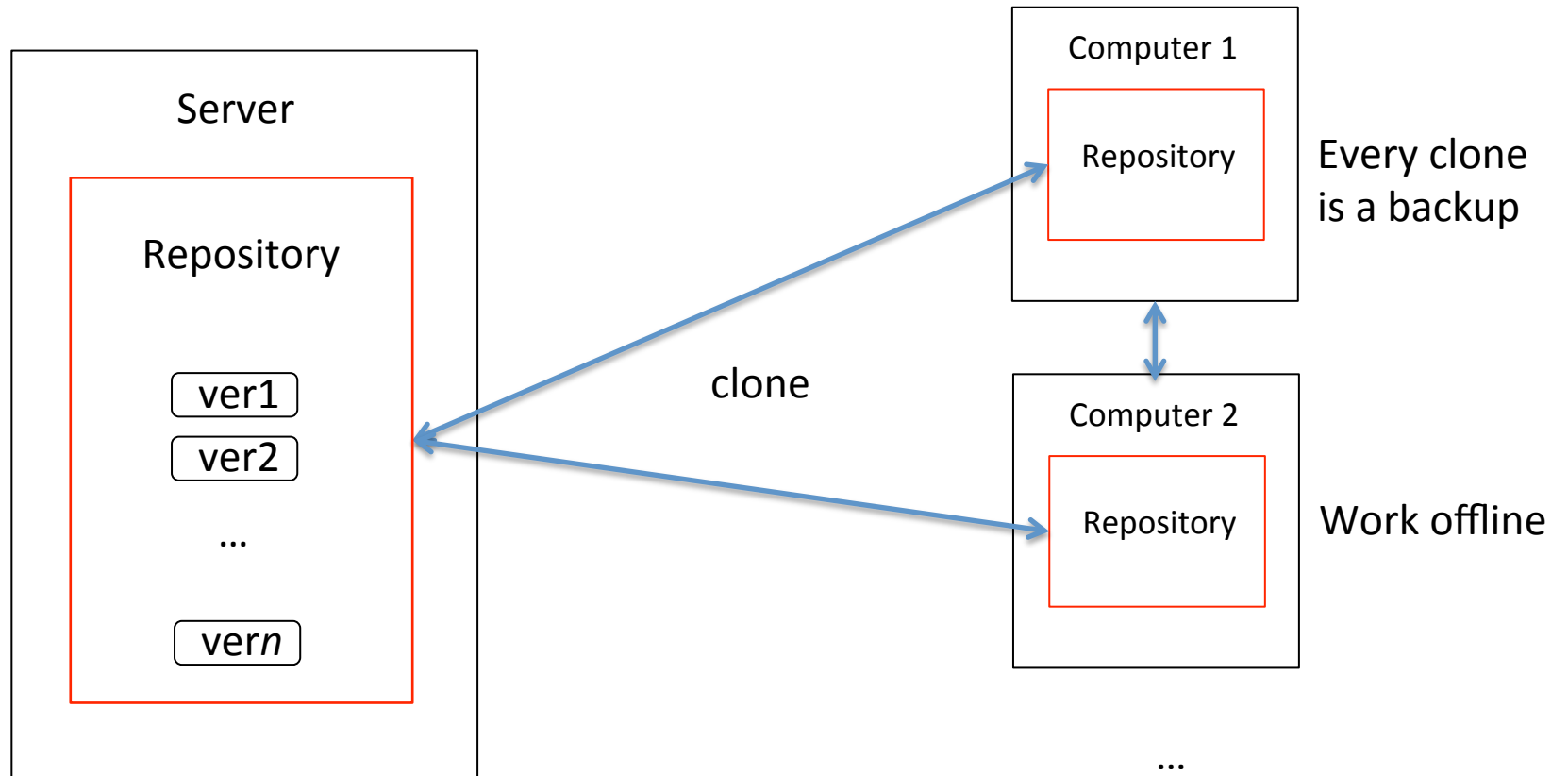
Centralized VCS



Distributed VCS



Distributed VCS



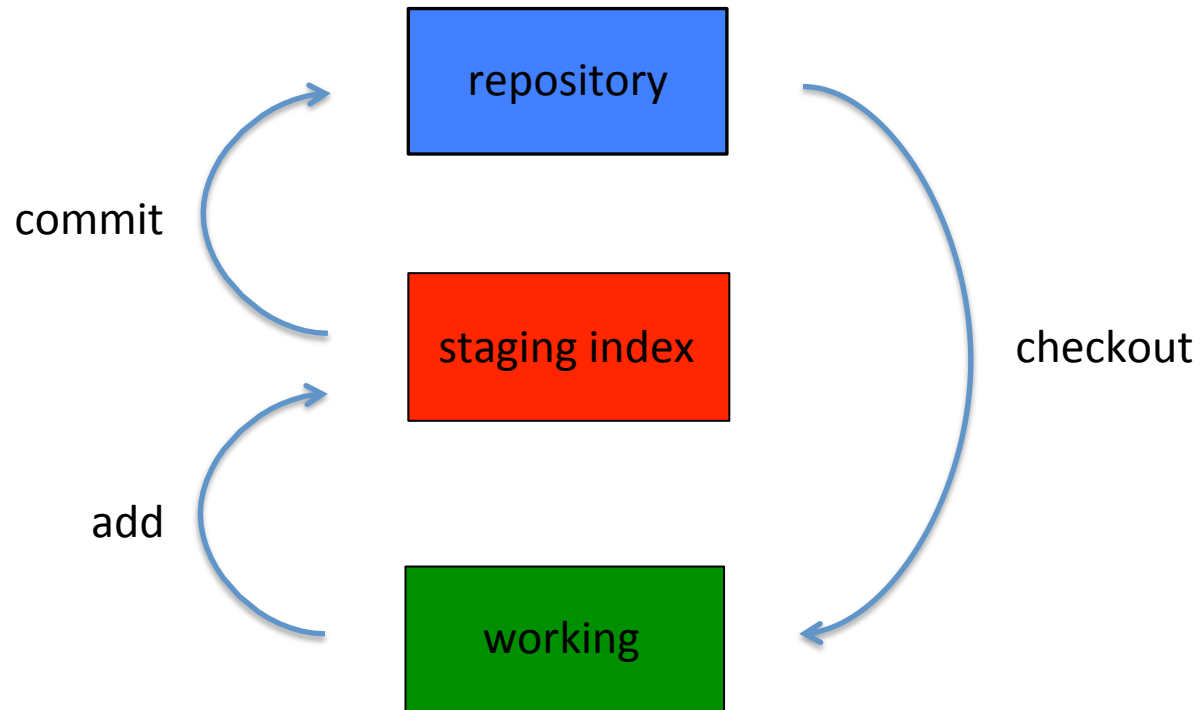
There is by convention – an upstream repo – to stay in sync

Getting started

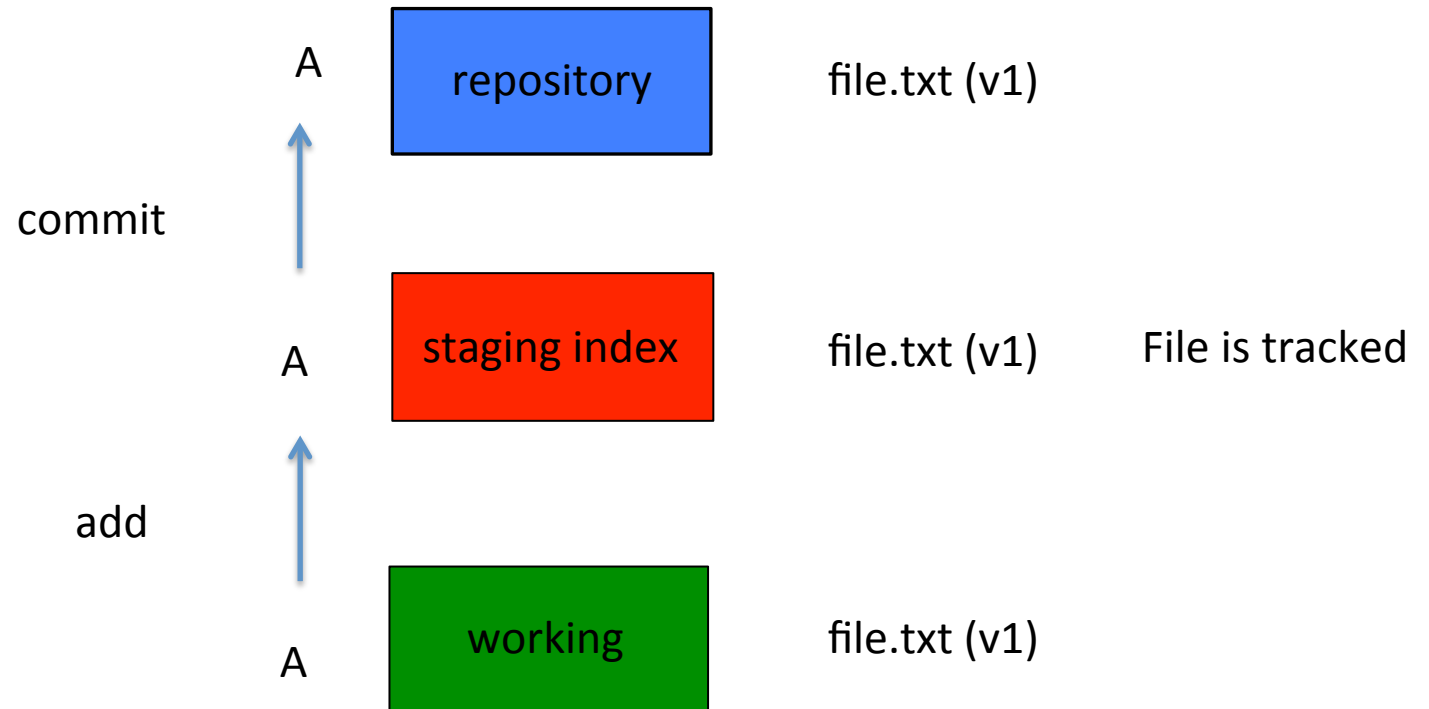
- Install git ✓
- Configure git
- Git concepts
- Hands on
 - Initialize a repository
 - Working with repository
 - add, commit, etc...
 - Working with a remote repository
 - Pushing changes

Configure git

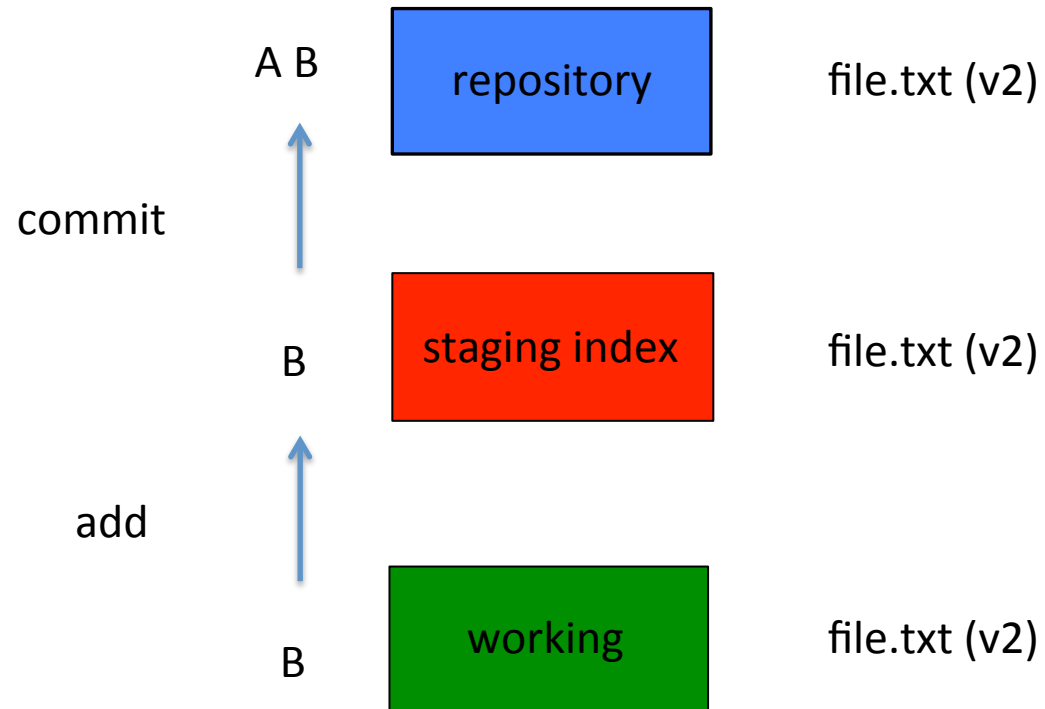
Git concepts



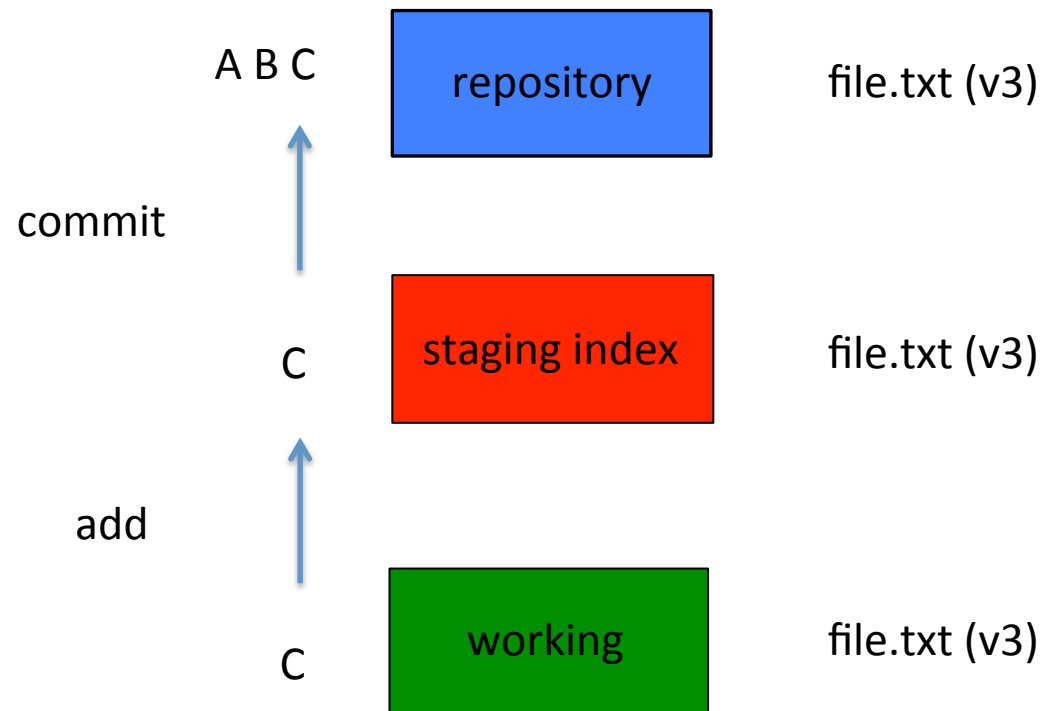
Git concepts



Git concepts



Git concepts



A B C are change sets

Git concepts

Git generates a checksum for each change set

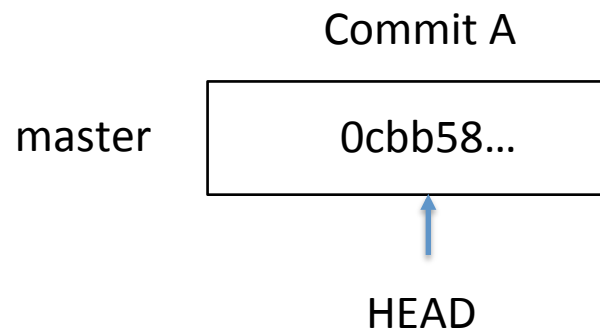
-> Data integrity

Git uses SHA-1 hash to create checksums

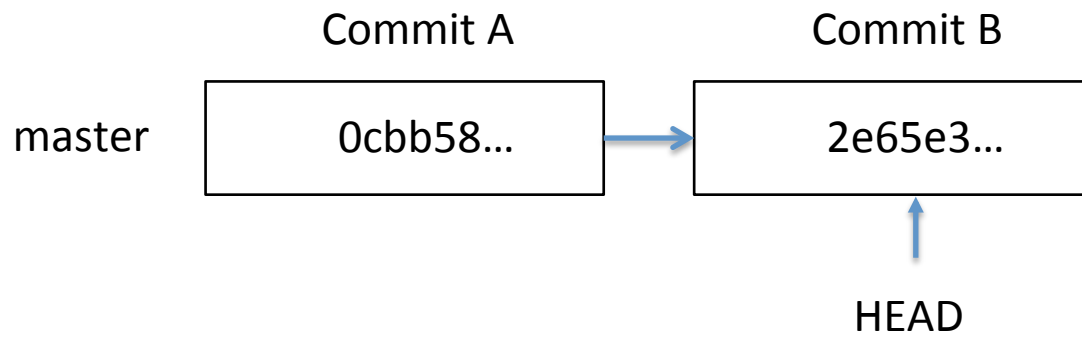
-> 40-character hexadecimal string

e.g. 1fbb5af06b9e4facff4170fc687ecdd143daad50

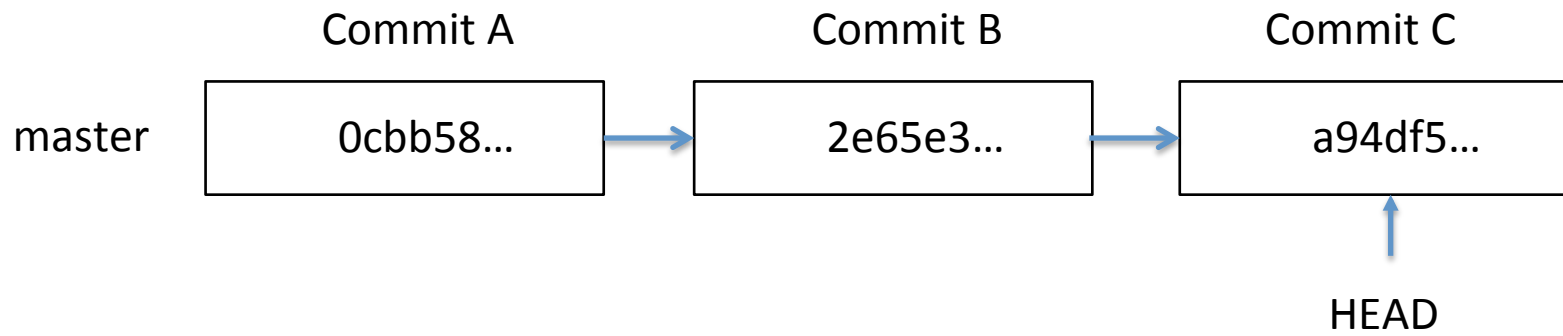
Git concepts



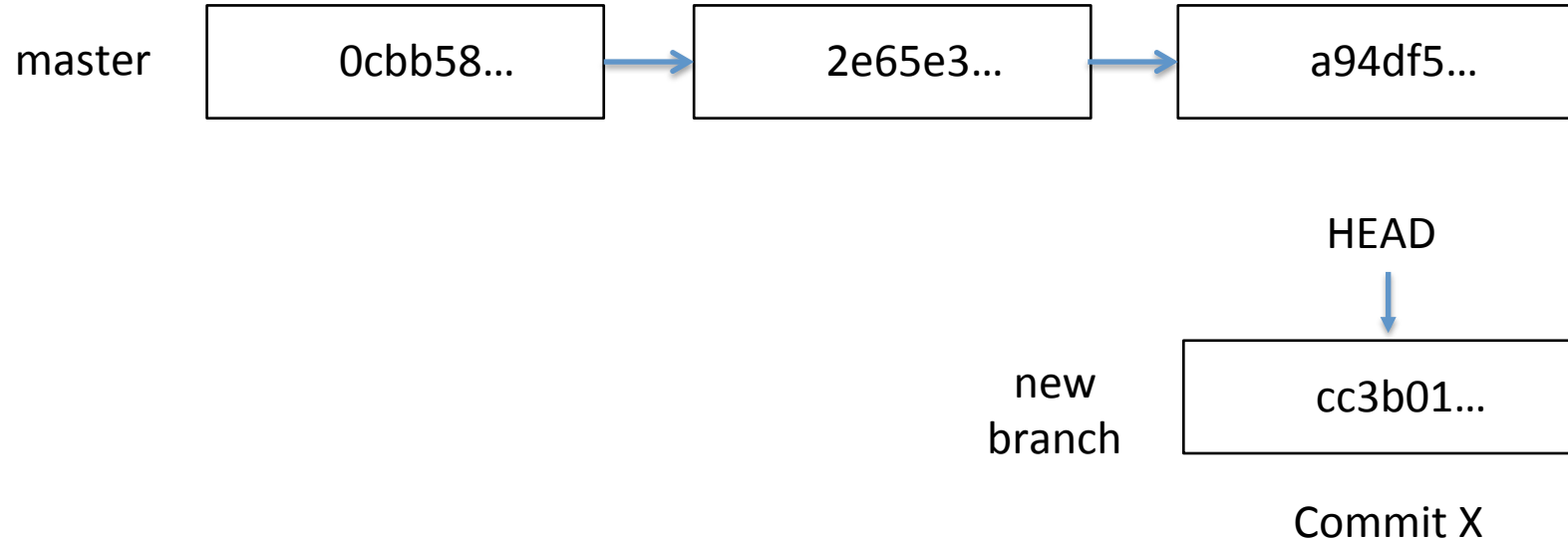
Git concepts



Git concepts



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HEAD points to tip of current branch in repository

Hands on