Presentation Framework

- **A Short History of Git**
- **What is "version control" ?**
- **What is Git?**
- **The Three States**
- **Git Branching**
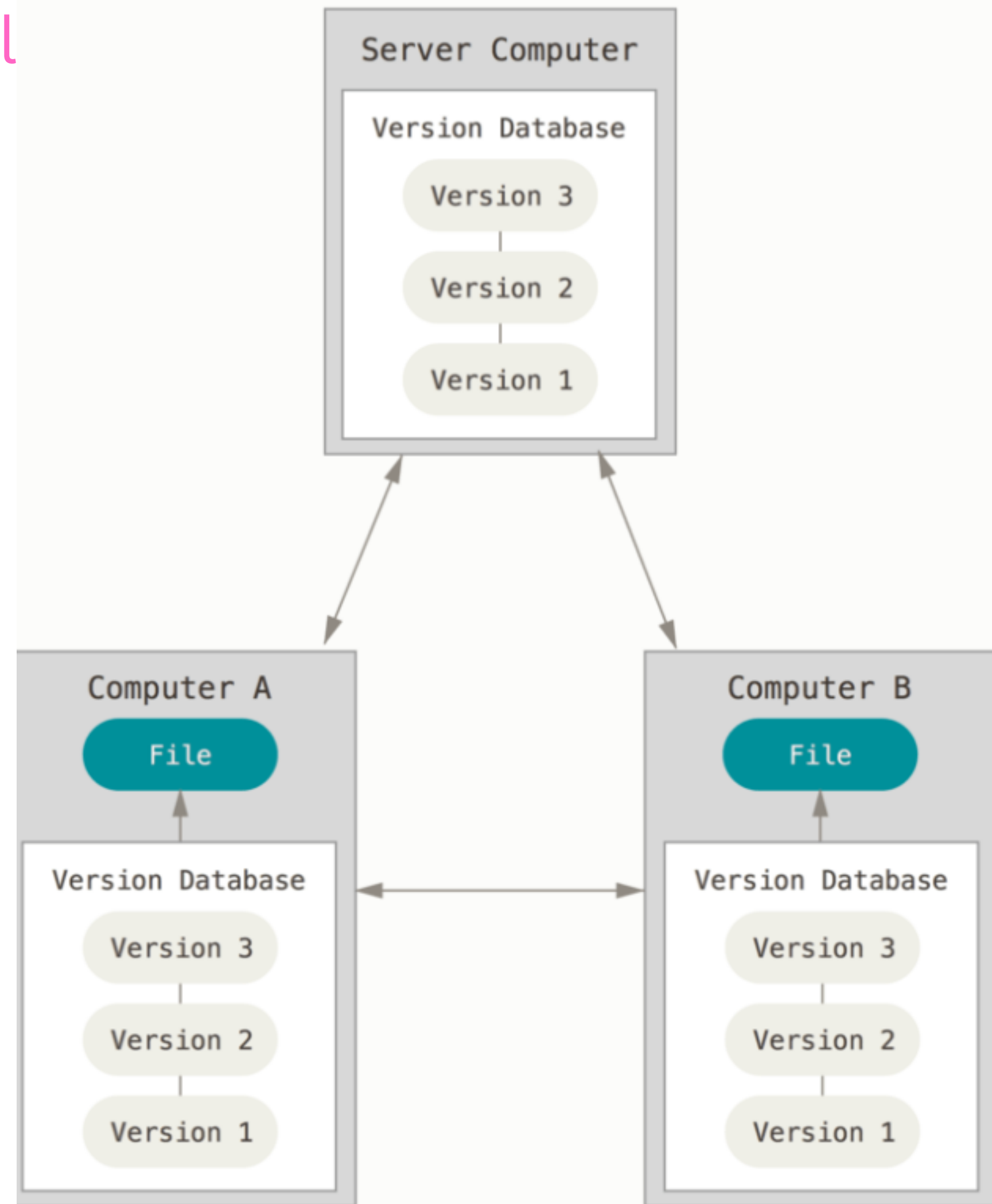- **Create a Repository**

A Short History of Git

In 2005 the Linux development community (and in particular **Linus Torvalds**, the creator of Linux) starting to develop their own Distributed Version Control Systems (DVCS) based on some of the lessons they learned while using BitKeeper.
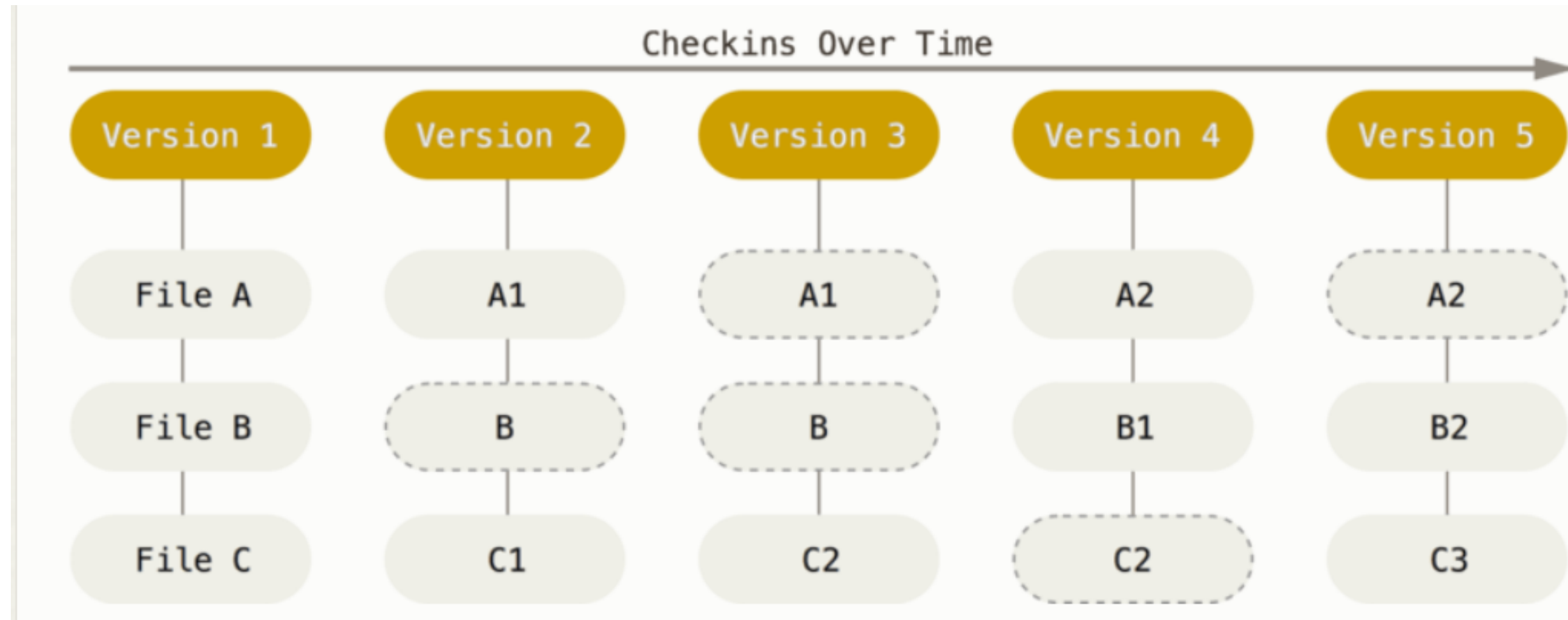
About Version Control

Version control is a system that records changes to a file or set of files over time so that you can recall specific versions later.

VSC types

- Local Version Control Systems
- Centralized Version Control Systems
- Distributed Version Control Systems

What is Git?

Checkins Over Time

| Version 1	Version 2	Version 3	Version 4	Version 5
File A	A1	A1	A2	A2
File B	B	B	B1	B2
File C	C1	C2	C2	C3

Git thinks of its data more like a series of snapshots of a miniature filesystem. With Git, every time you commit, or save the state of your project, Git basically takes a picture of what all your files look like at that moment and stores a reference to that snapshot

The Three States
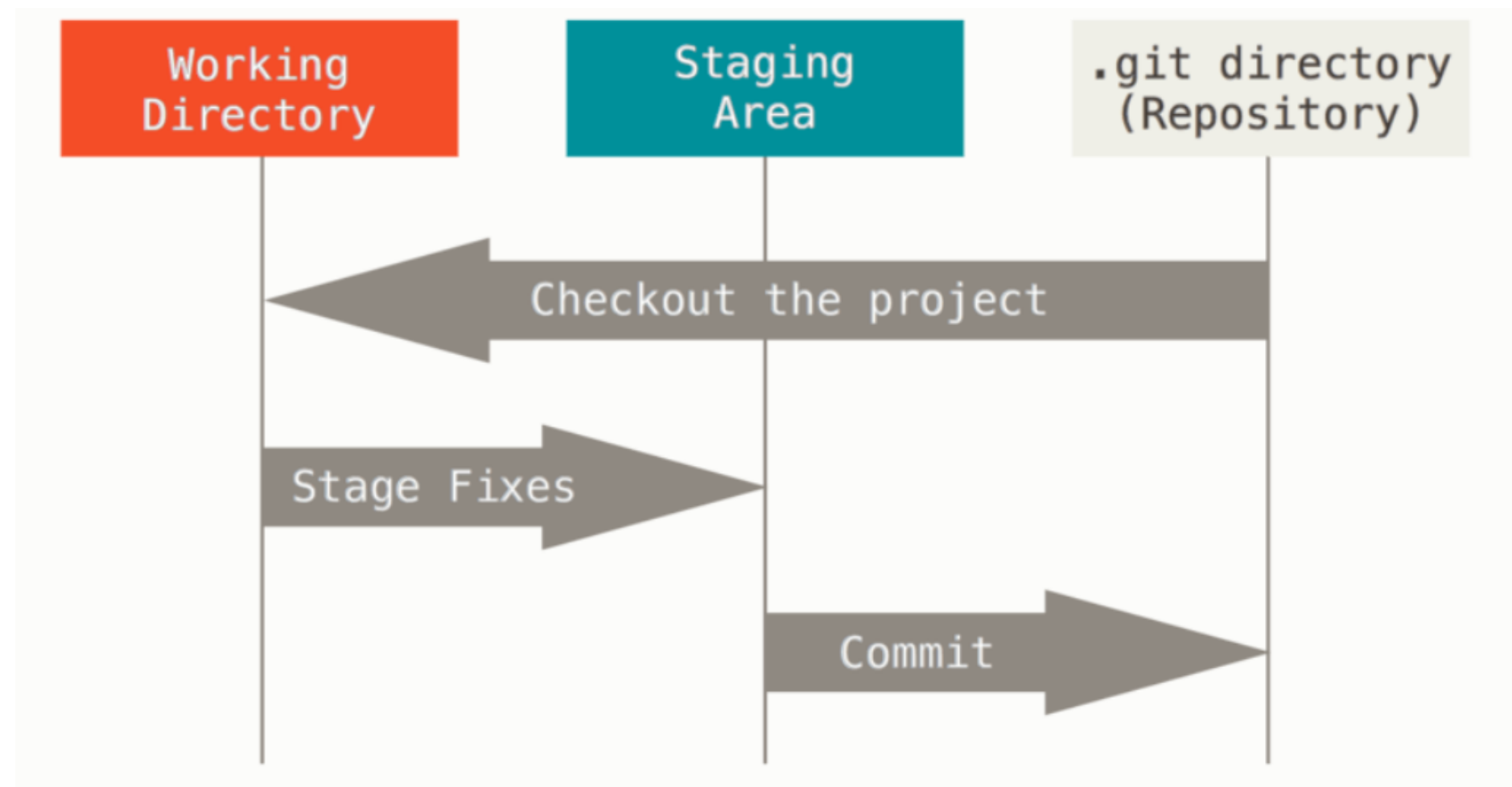
- Modified means that you have changed the file but have not committed it to your database yet.
- Staged means that you have marked a modified file in its current version to go into your next commit snapshot.
- Committed means that the data is safely stored in your local database.
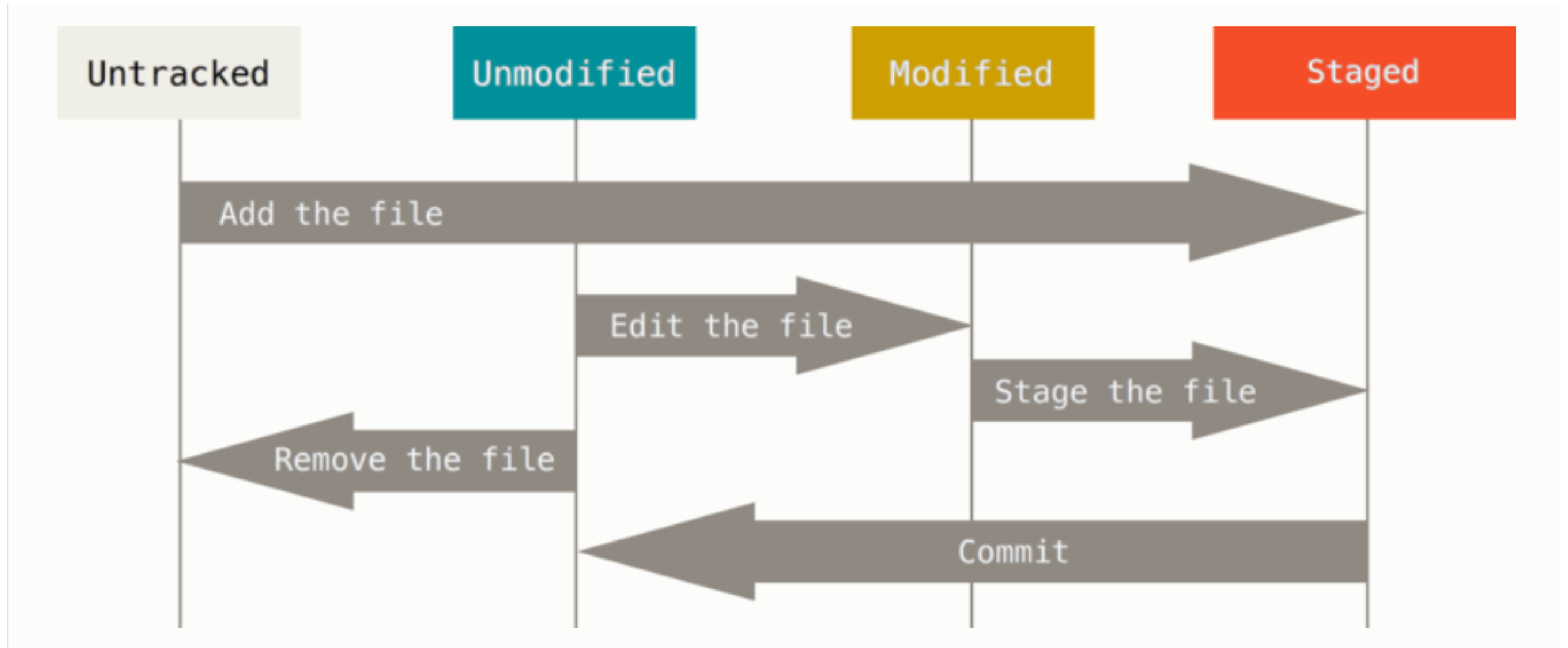
Each file in your working directory can be in one of two states: tracked or untracked.

Git Branching
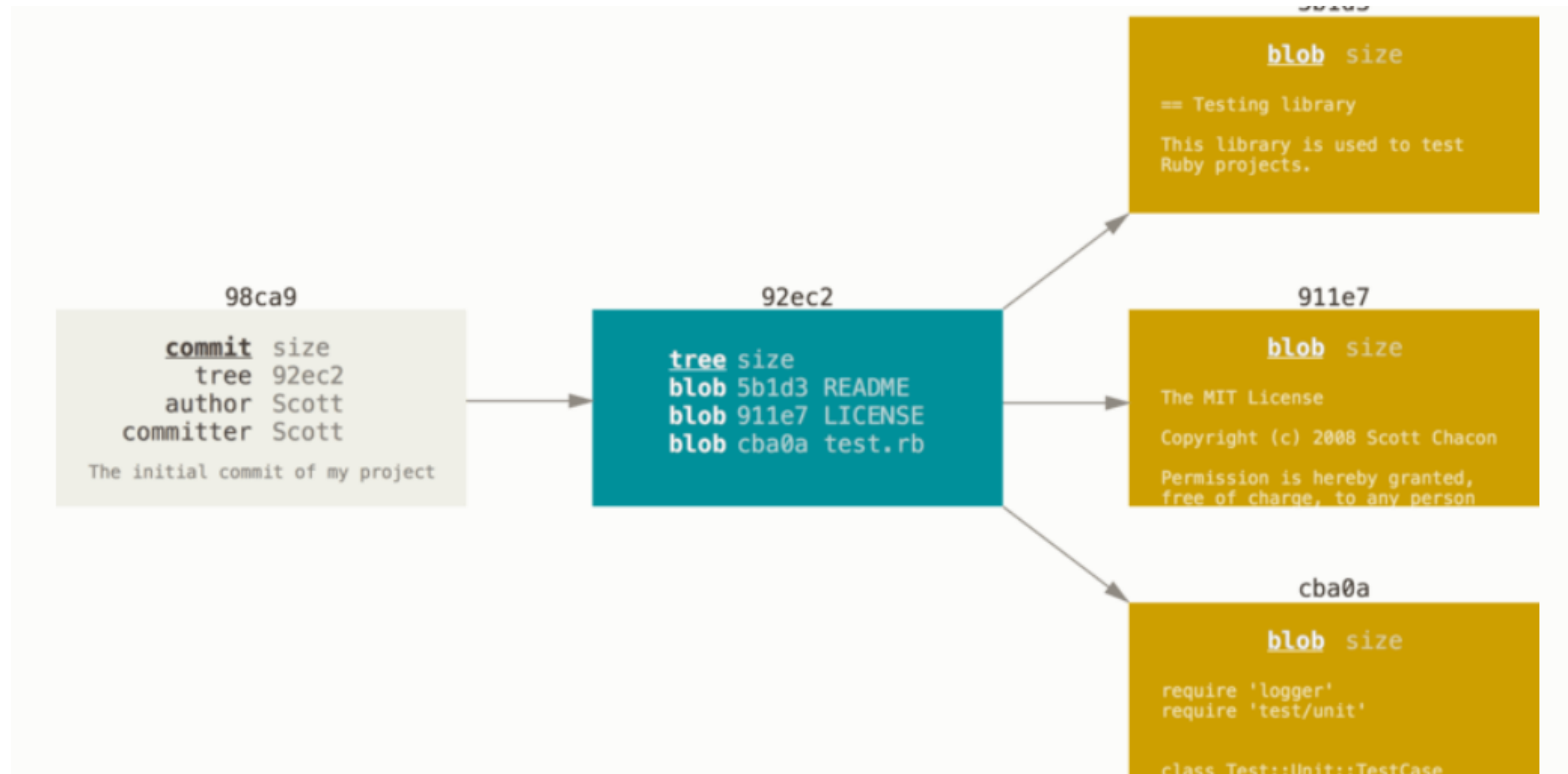
When you create the commit by running git commit, Git checksums each subdirectory and stores them as a tree object in the Git repository, then creates a commit object that has the metadata and a pointer to the root project tree so it can re-create that snapshot when needed.

Git Branching
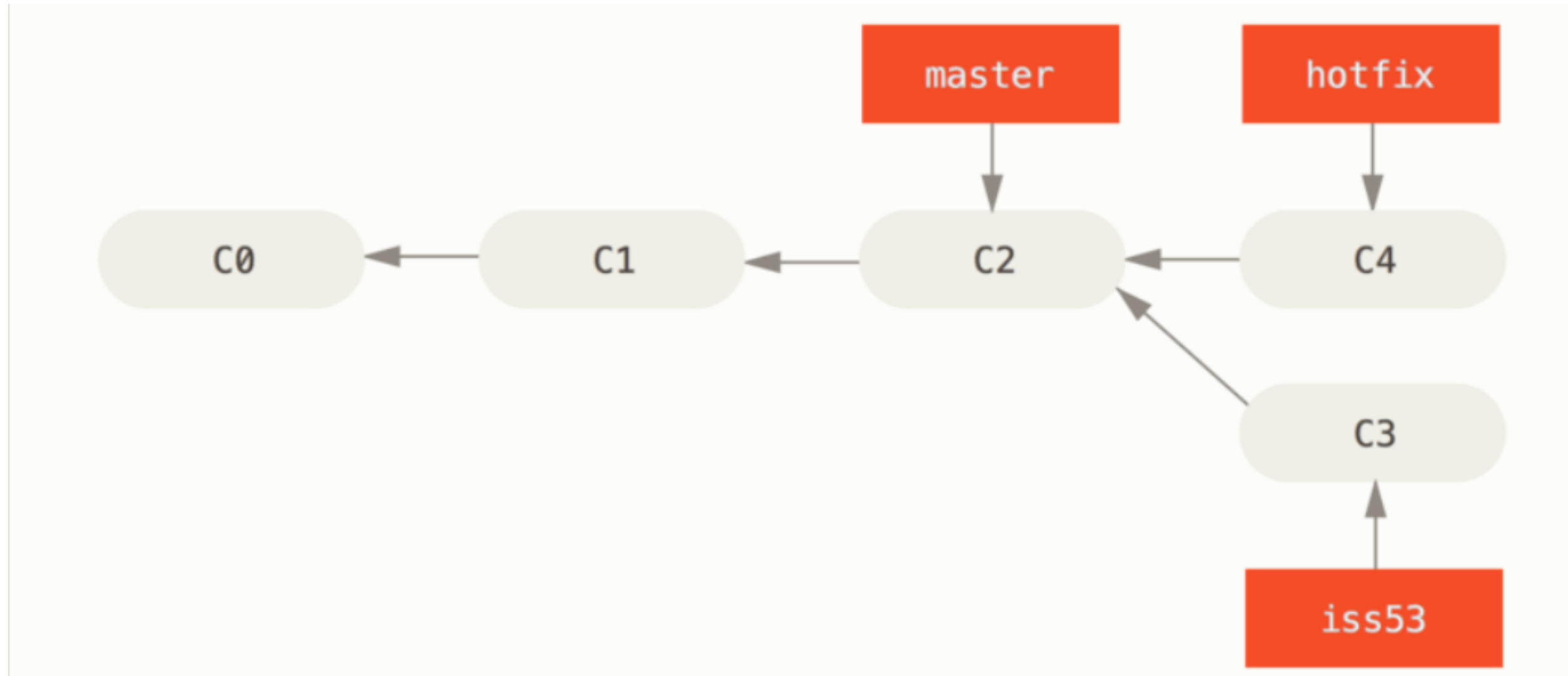
A branch in Git is simply a lightweight movable pointer to one of these commits. The default branch name in Git is master. As you start making commits, you're given a master branch that points to the last commit you made. Every time you commit, the master branch pointer moves forward automatically.