GENERAL ASSEMBLY

INTRO TO DATA SCIENCE

SESSION 2.1: VERSION CONTROL, GIT

Rob Hall
DAT SF 19 // December 2, 2015

INTRO TO VERSION CONTROL

VERSION CONTROL

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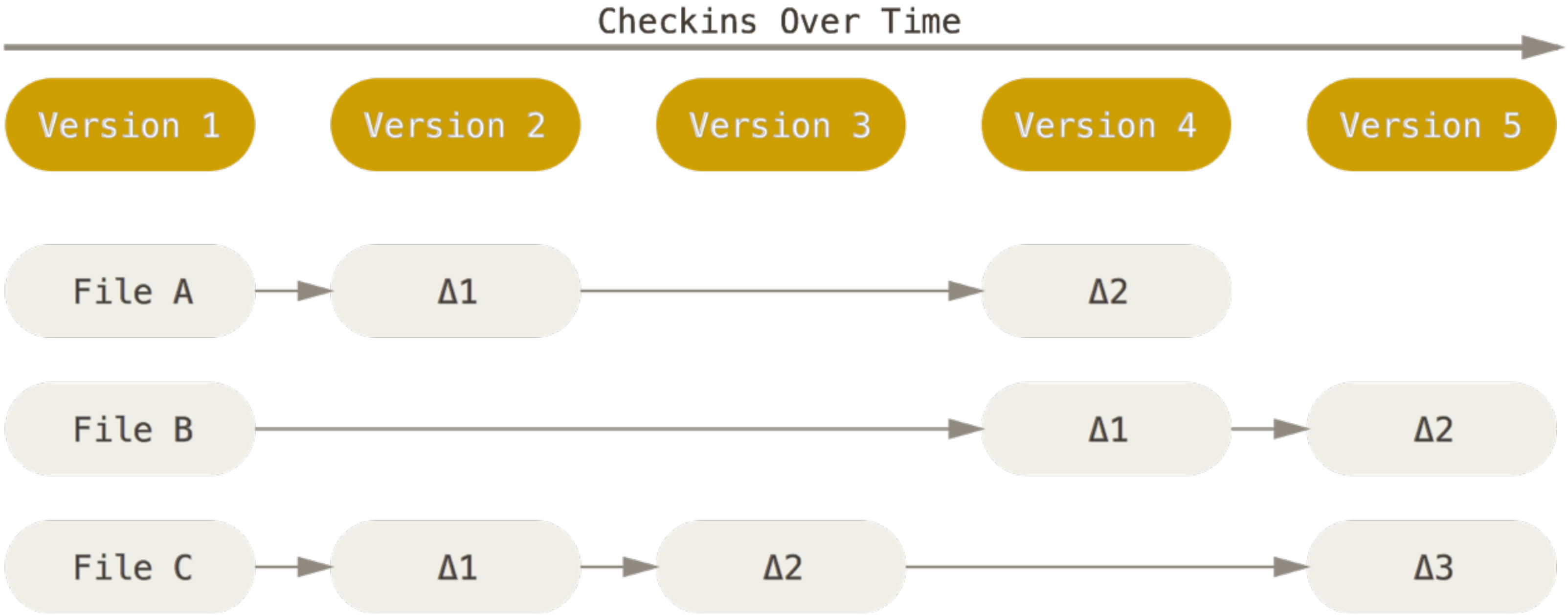
That's why we care about version control!!

VERSION CONTROL

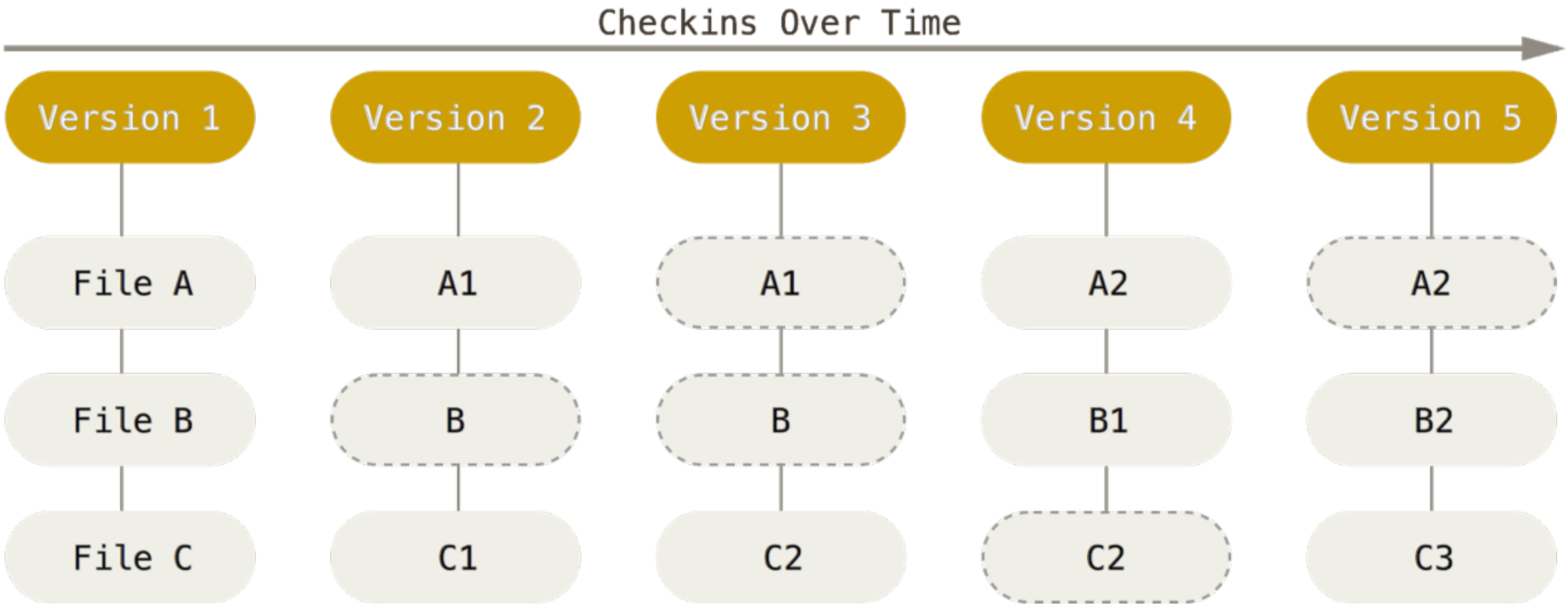
Version control is a system that records changes to a file or set of files over time so that we can recall specific versions later.

(Think of Time Machine for your Mac)

Traditional VCS' work in terms of files and differences

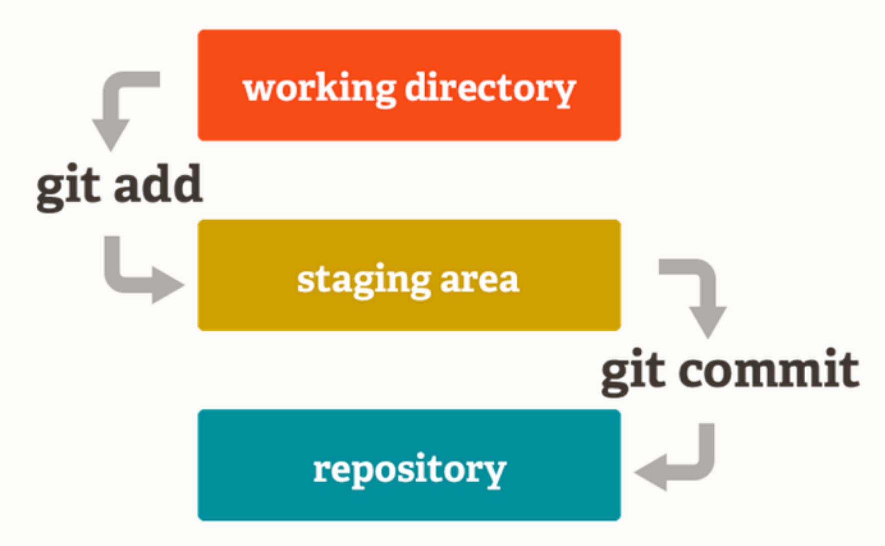


Git stores data more like a stream of snapshots of the project over time

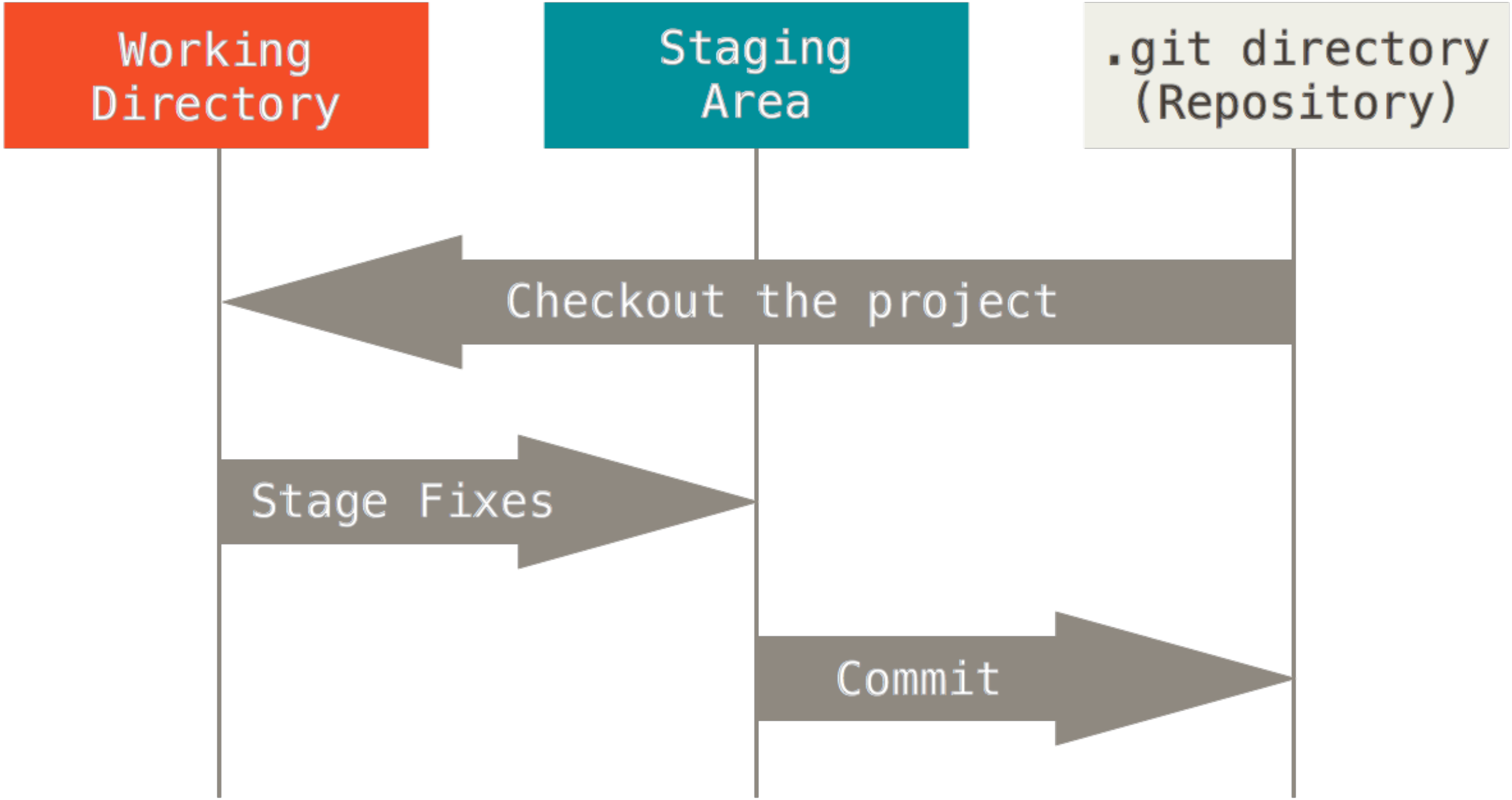


The basic Git workflow

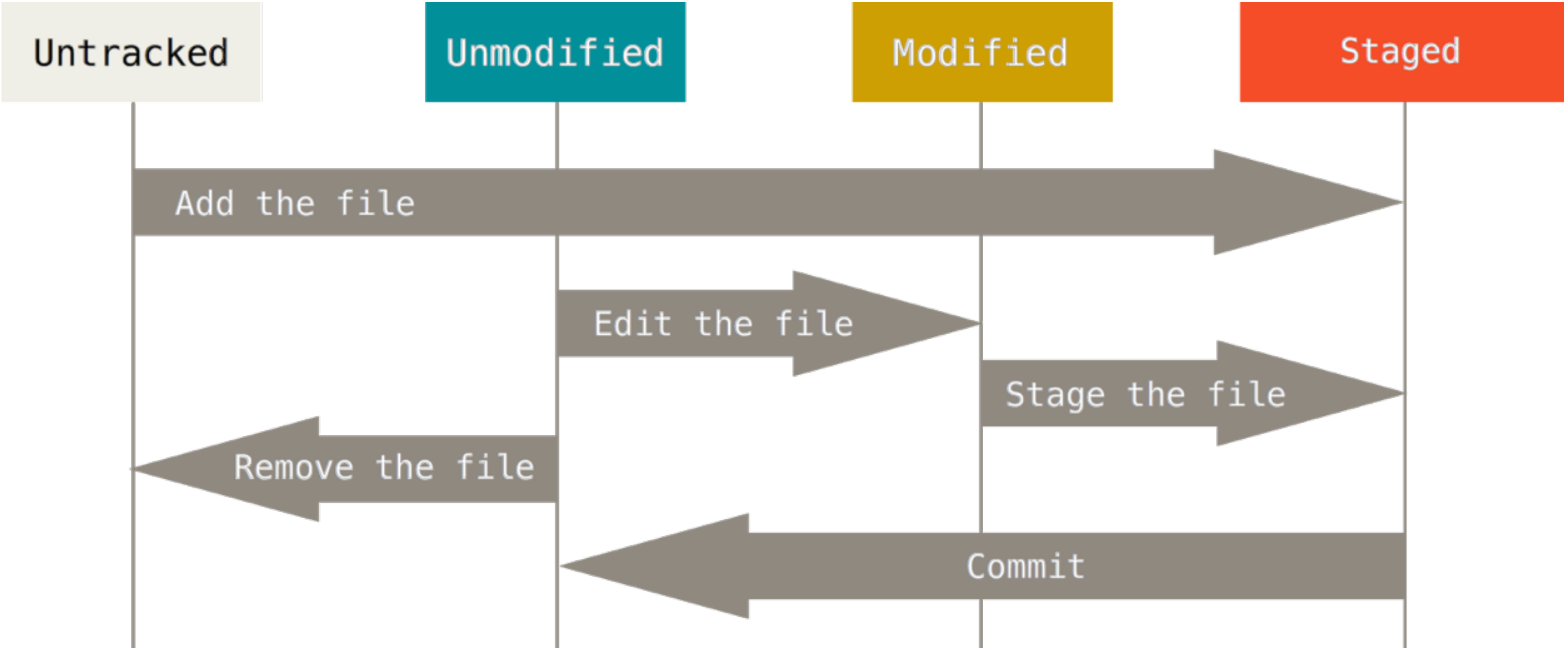
1. *Modify files in your working directory.*
2. *Add them to your staging area to prepare to snapshot a version.*
3. *You do a commit, which takes a snapshot of ALL the files in the staging area and stores that snapshot permanently to your Git directory. This version can be referenced later by its SHA-1 hash.*



VERSION CONTROL



VERSION CONTROL



GIT COMMANDS

Main

git clone – clone a repo

git status – get status

git add – add changes to be pushed

git commit – commit the change with a comment

git push – push the change to github

git pull – pull remote changes from github

Others

git branch – see all branches

git checkout – checkout a branch

git merge – merge in another branch

git stash – stash changes

pull request – remote changes requested to be merged in

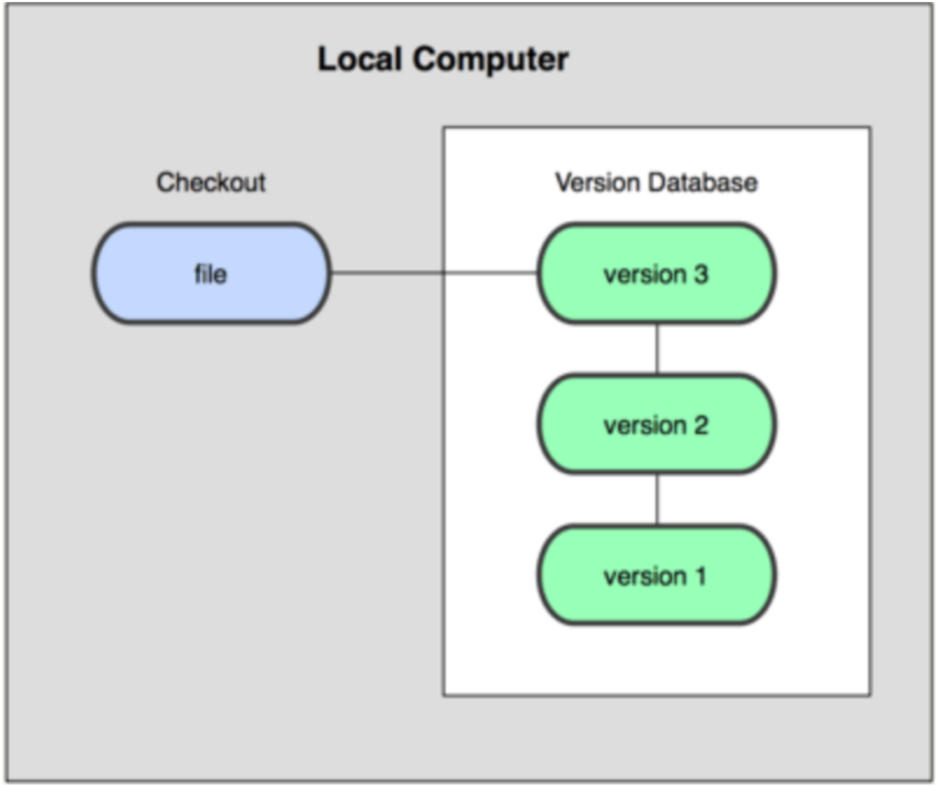
BONUS MATERIAL

VERSION CONTROL

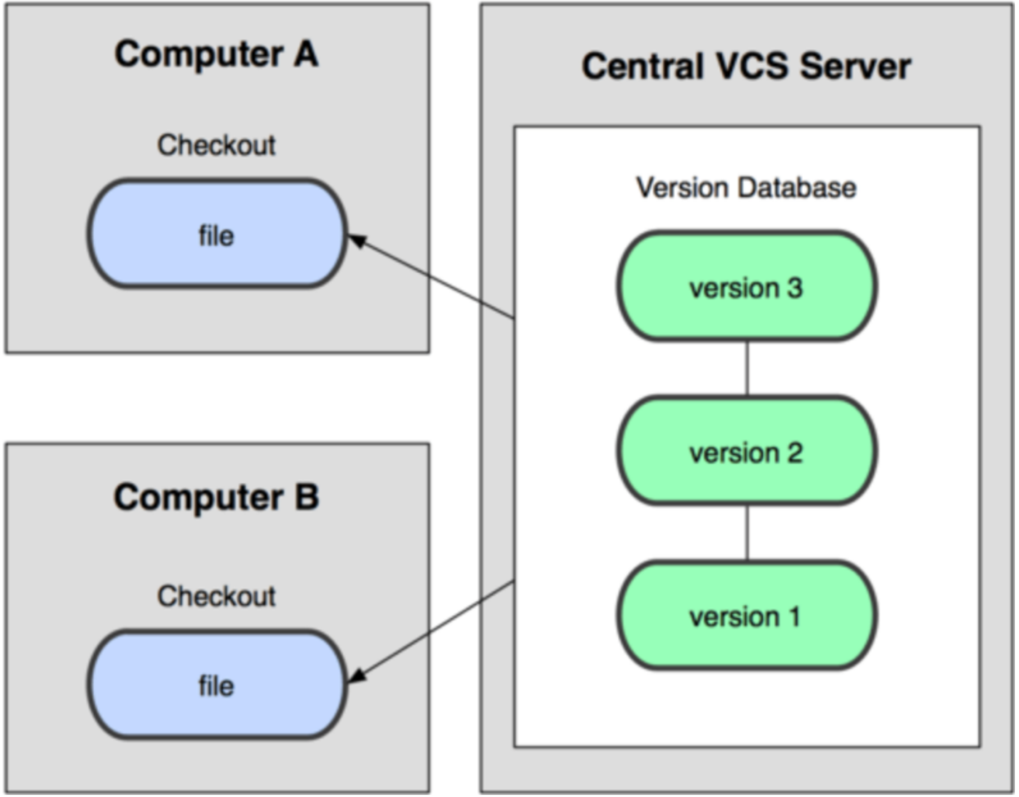
Version control systems (VCS) can be:

- *Local*
- *Centralized*
- *Distributed*

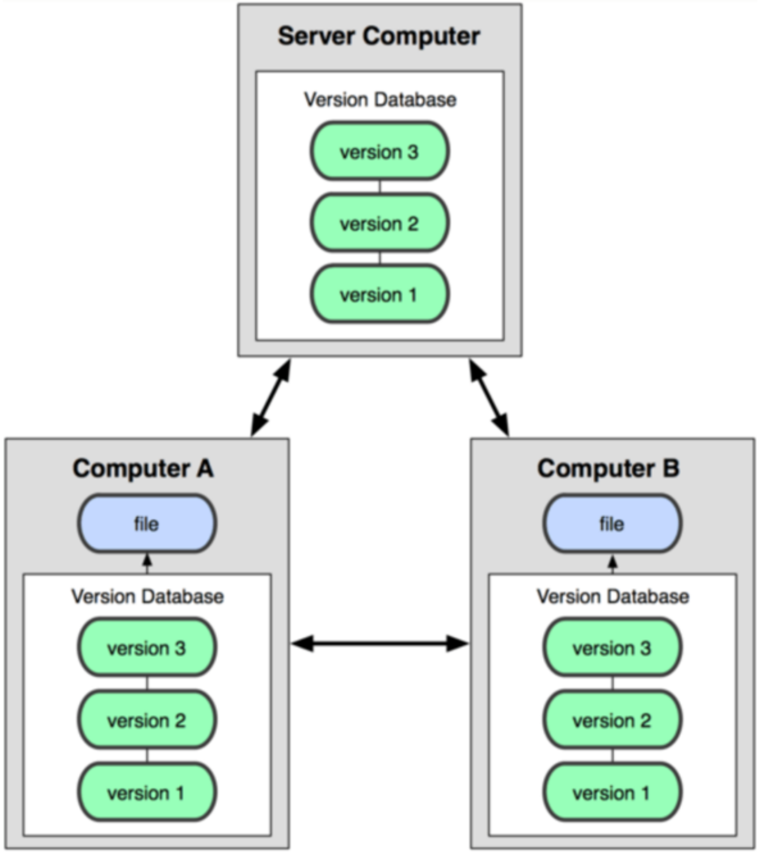
Local version control:



Centralized version control:

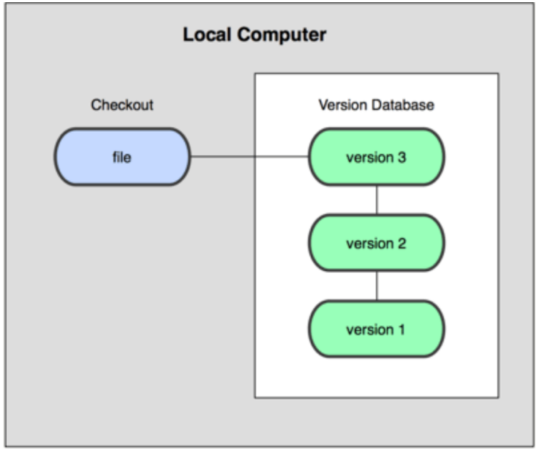


Distributed version control:

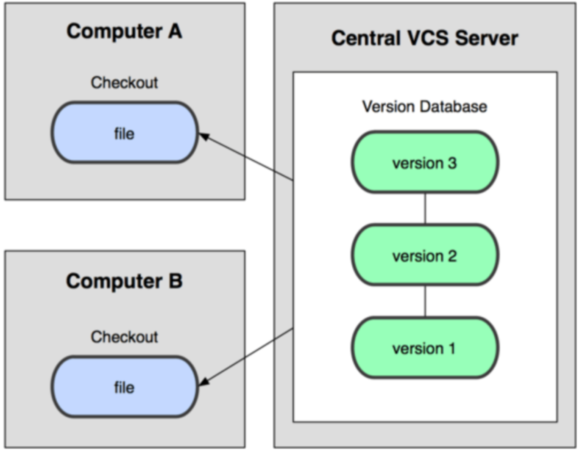


VERSION CONTROL

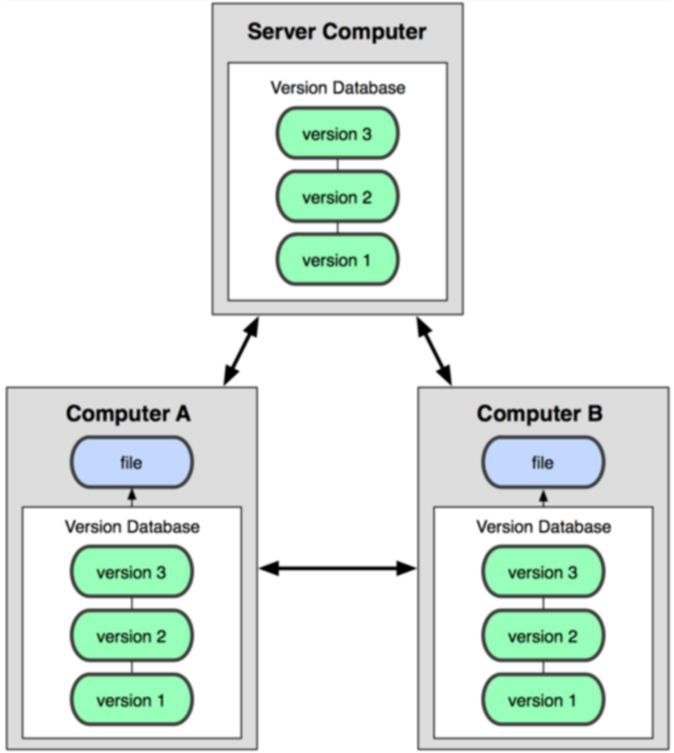
Local



Centralized



Distributed


Server Computer
Version Database
version 3
version 2
version 1
Computer A
file
Version Database
version 3
version 2
version 1
Computer B
file
Version Database
version 3
version 2
version 1