

How Git Works

Git Is Not What You Think



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We're going to talk about the
internals of Git.

“Porcelain” Commands

git add

git commit

git push

git pull

git branch

git switch

git merge

git rebase

...

“Plumbing” Commands

git cat-file

git hash-object

git count-objects

...

If you want to master Git, don't worry
about learning the commands.
Instead, learn the model.

Version Check

This information should work on your Git

If you don't have *git switch*, then use *git checkout*

If you see obsolete information, let me know!

Wrapping Your Head Around Git



Git Is...

...a Distributed Revision Control System



Git Is...

...a Revision Control System



Git Is...

...a Stupid Content Tracker



Git Is...

...a Persistent Map



Values and Keys

Any sequence of bytes



SHA1 hash

Values and Keys

“Apple Pie”



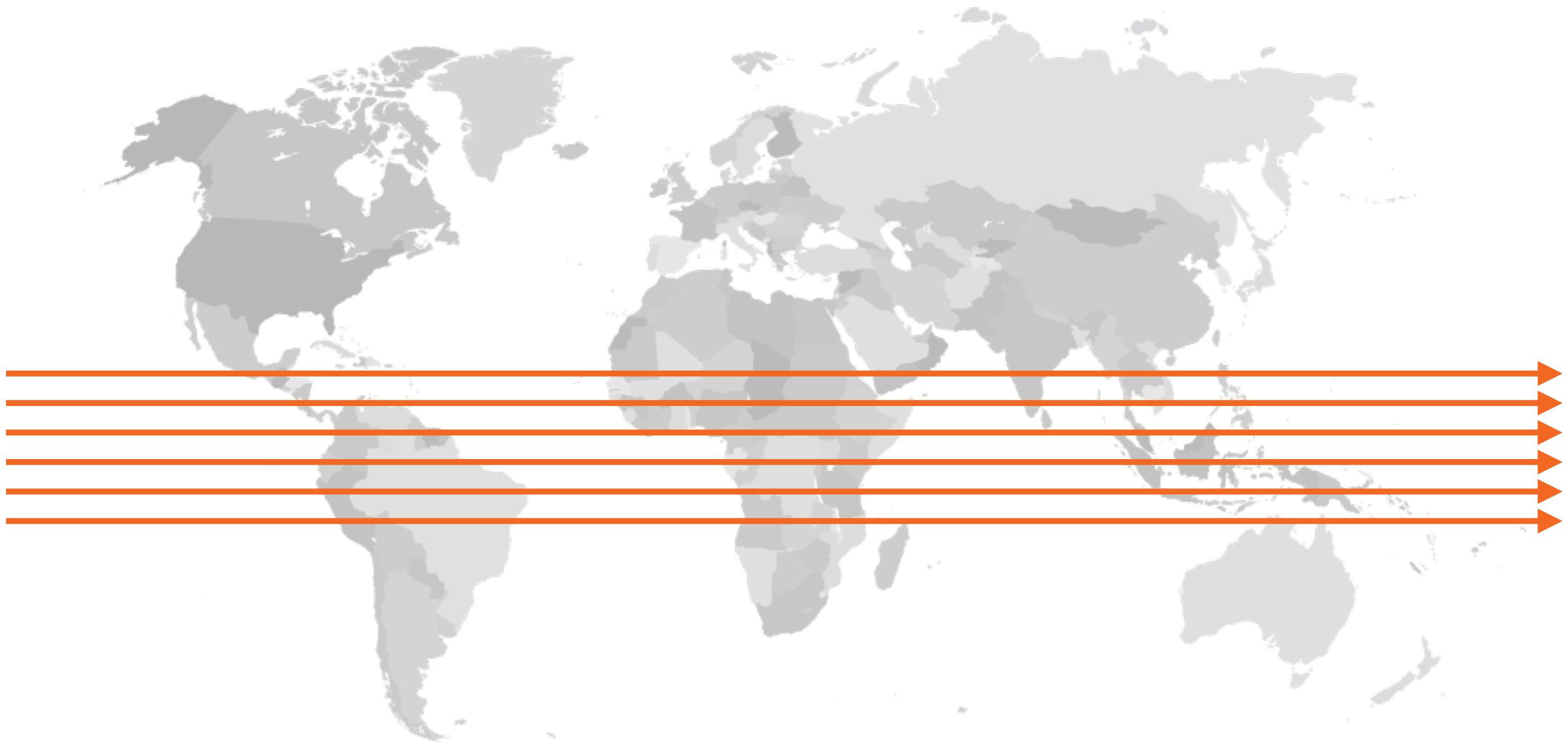
23991897e13e47ed0adb91a0082c31c82fe0cbe5

Every object in Git has its own SHA1.
So, what if they collide?

Winning the Jackpot

1 chance in 175.000.000

Winning the Jackpot



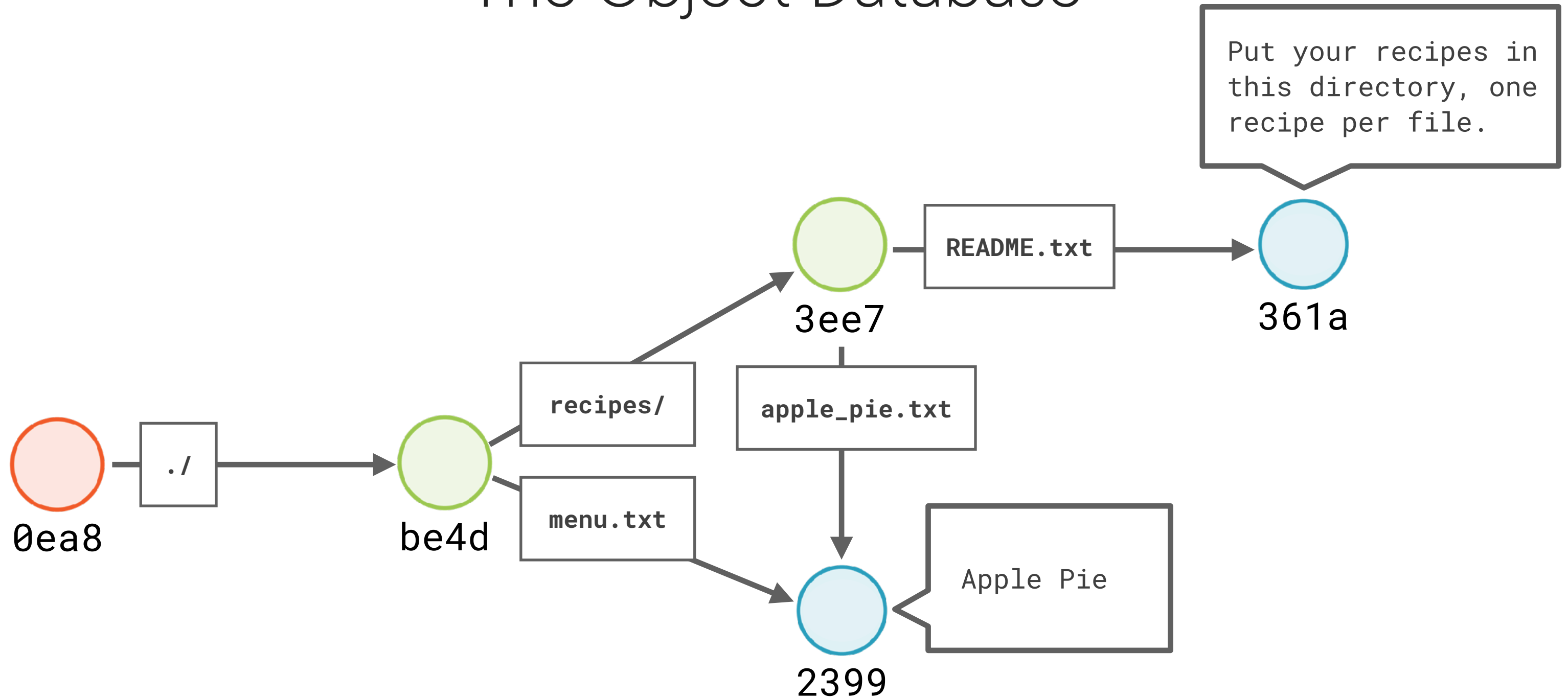
SHA1s are unique in the universe.

Git Is...

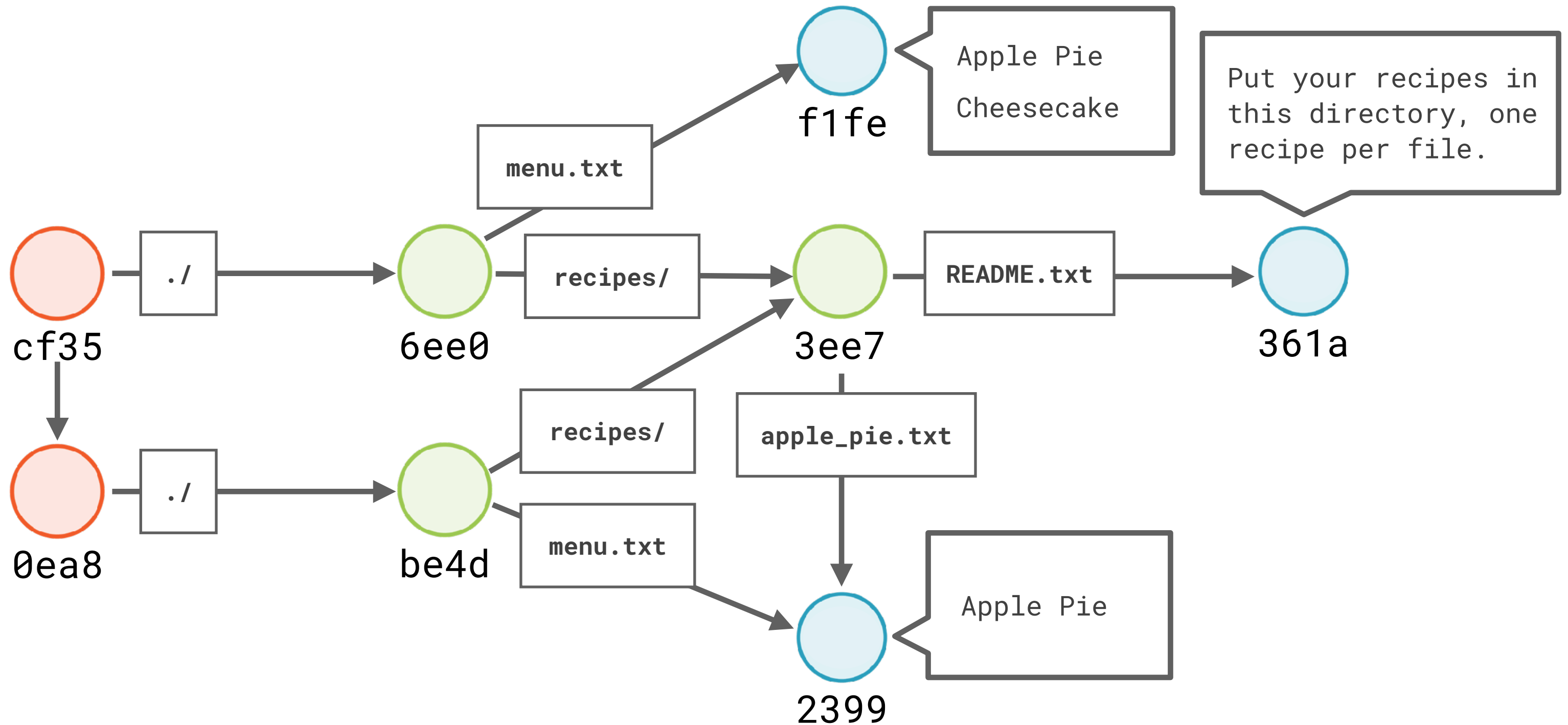
...a Persistent Map



The Object Database



The Object Database



Git Objects



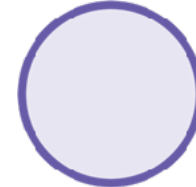
Blobs



Trees



Commits



Annotated Tags

Git Is...

...a Stupid Content Tracker

