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Aside from making commits, VCS enables branching.
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Two basic kinds of merge, "fast-forward" and "three-way merge".
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Example

Example, Cont'd

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- The name's Gager
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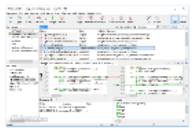

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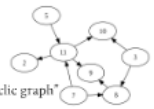

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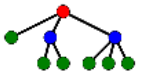

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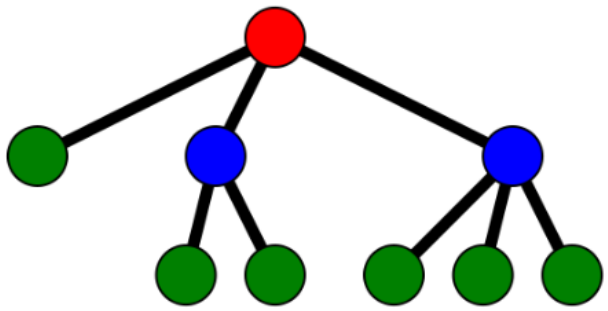

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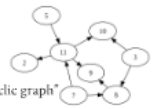

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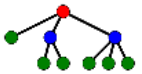

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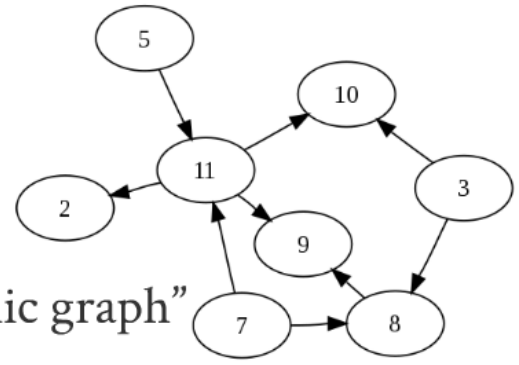

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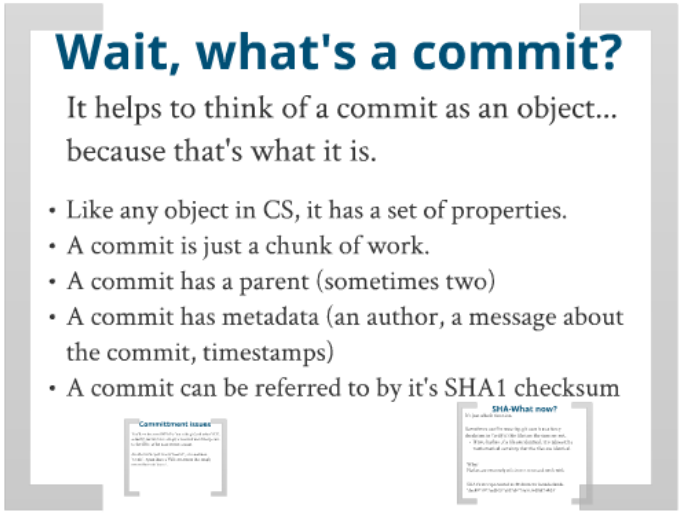

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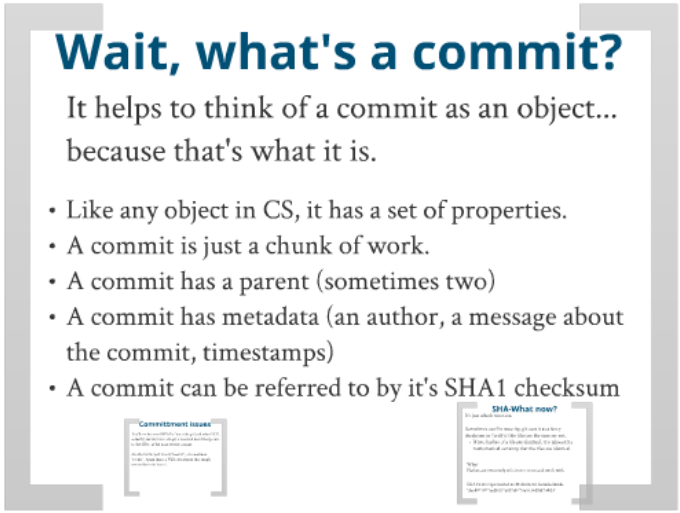
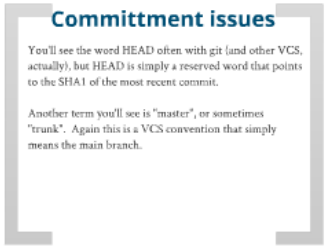
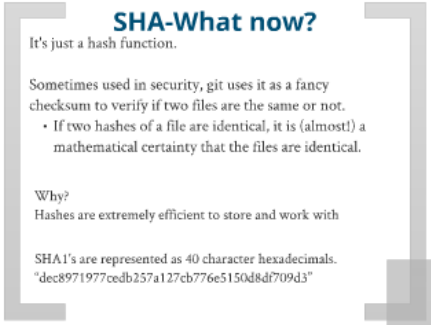


Wait, what's a commit?

It helps to think of a commit as an object... because that's what it is.

- Like any object in CS, it has a set of properties.
- A commit is just a chunk of work.
- A commit has a parent (sometimes two)
- A commit has metadata (an author, a message about the commit, timestamps)
- A commit can be referred to by it's SHA1 checksum





SHA-What now?

It's just a hash function.

Sometimes used in security, git uses it as a fancy checksum to verify if two files are the same or not.

- If two hashes of a file are identical, it is (almost!) a mathematical certainty that the files are identical.

Why?
Hashes are extremely efficient to store and work with

SHA1's are represented as 40 character hexadecimals.
“dec8971977cedb257a127cb776e5150d8df709d3”

Committment issues

You'll see the word HEAD often with git (and other VCS, actually), but HEAD is simply a reserved word that points to the SHA1 of the most recent commit.

Another term you'll see is "master", or sometimes "trunk". Again this is a VCS convention that simply means the main branch.

Git isn't written with binary files (images, audio, executables) in mind.

Don't store these in git if they change frequently, or else your repository will get huge and people will say mean things about you.

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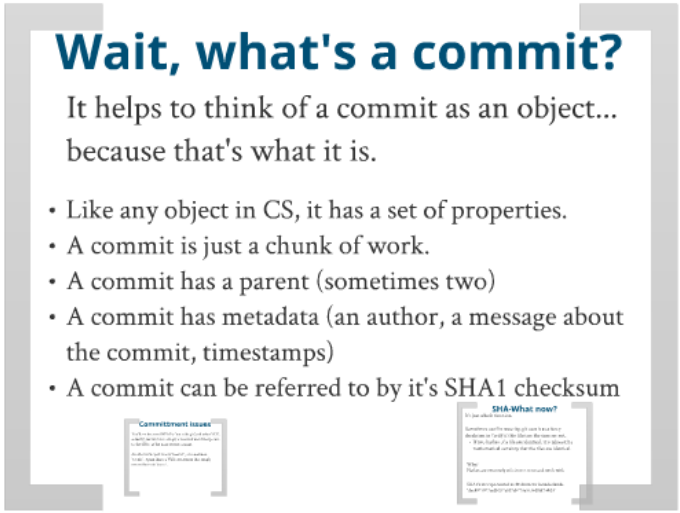

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Aside from making commits, VCS enables branching.

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You can even have multiple branches:
git checkout -b branchitymcbranch master
will start a new branch at whatever the last commit of master is.

Git happens to make branching very easy compared to other VCS

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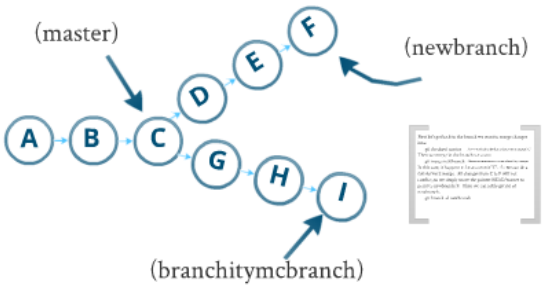

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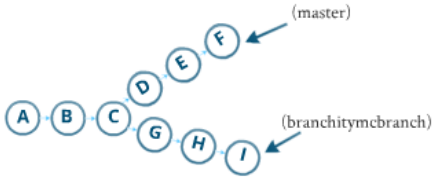

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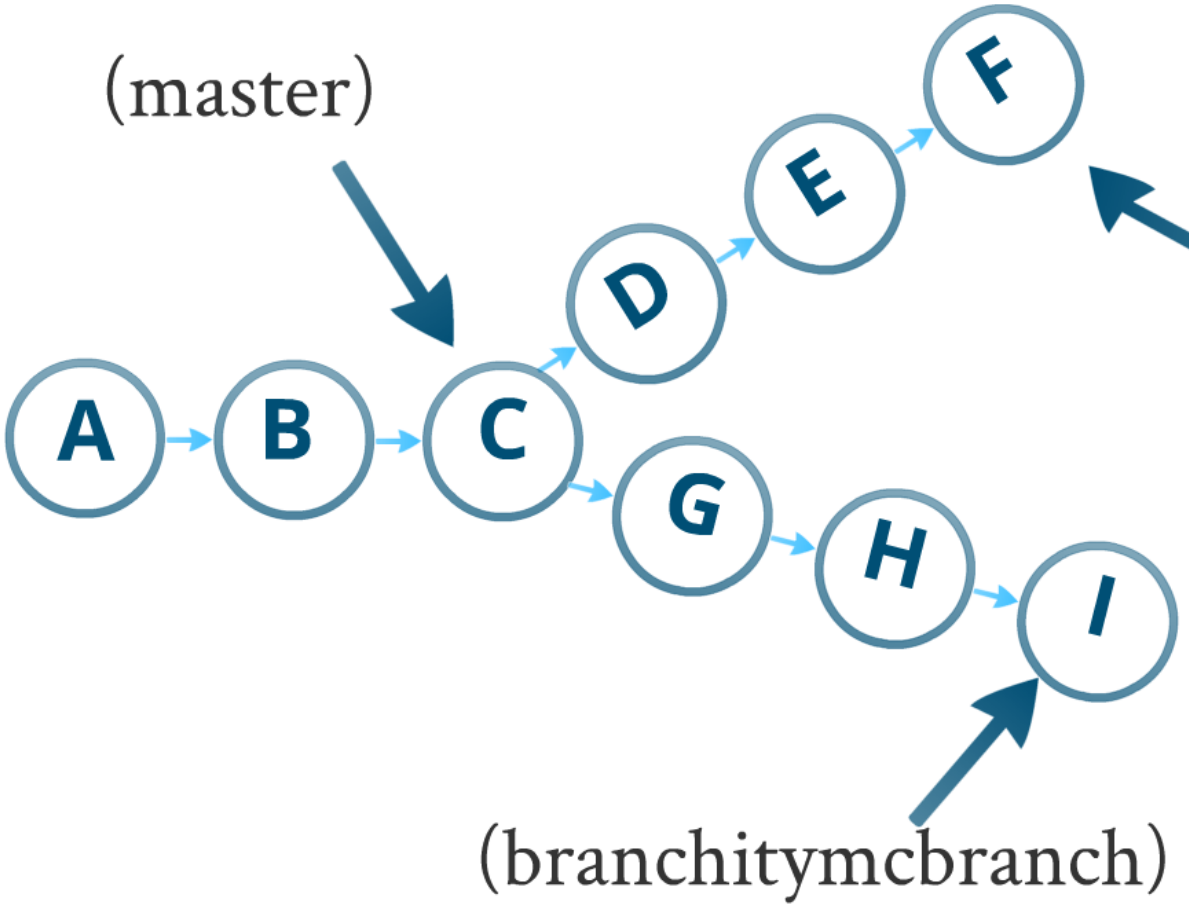

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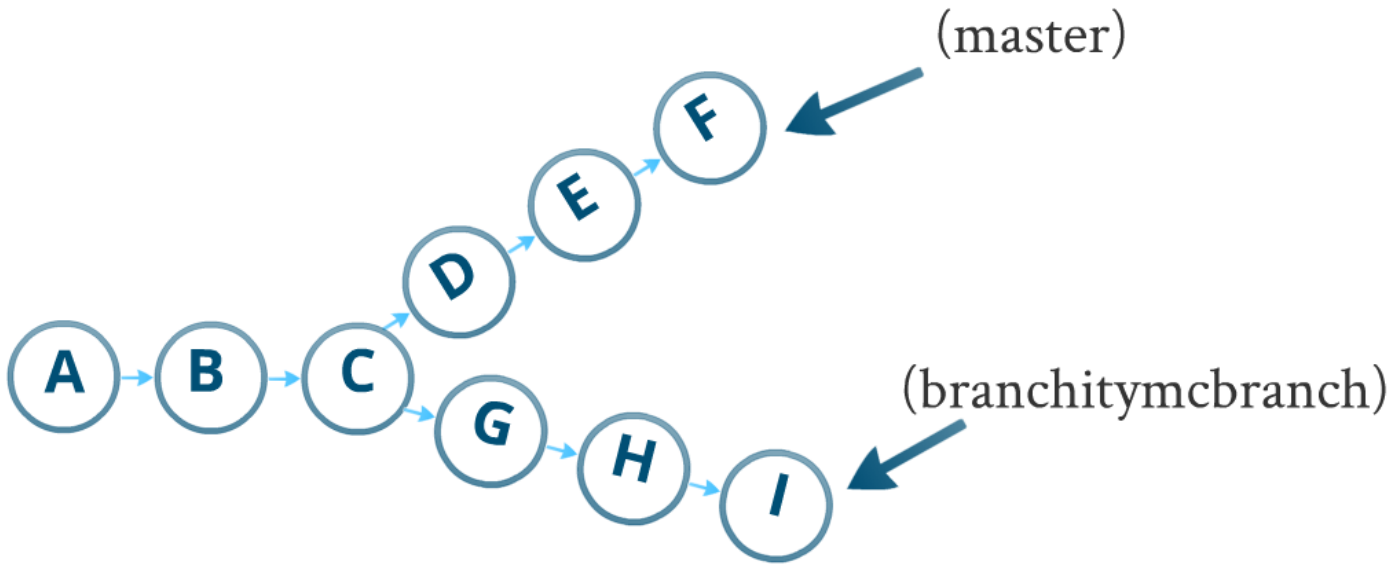

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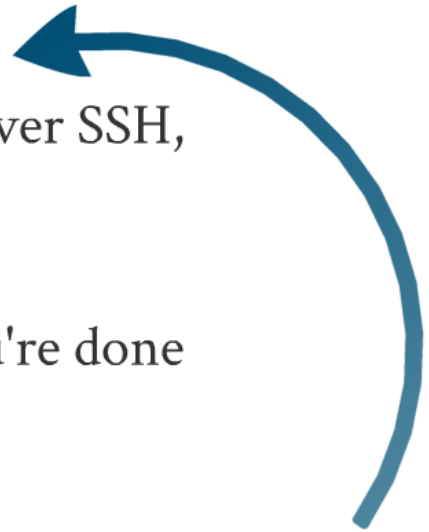

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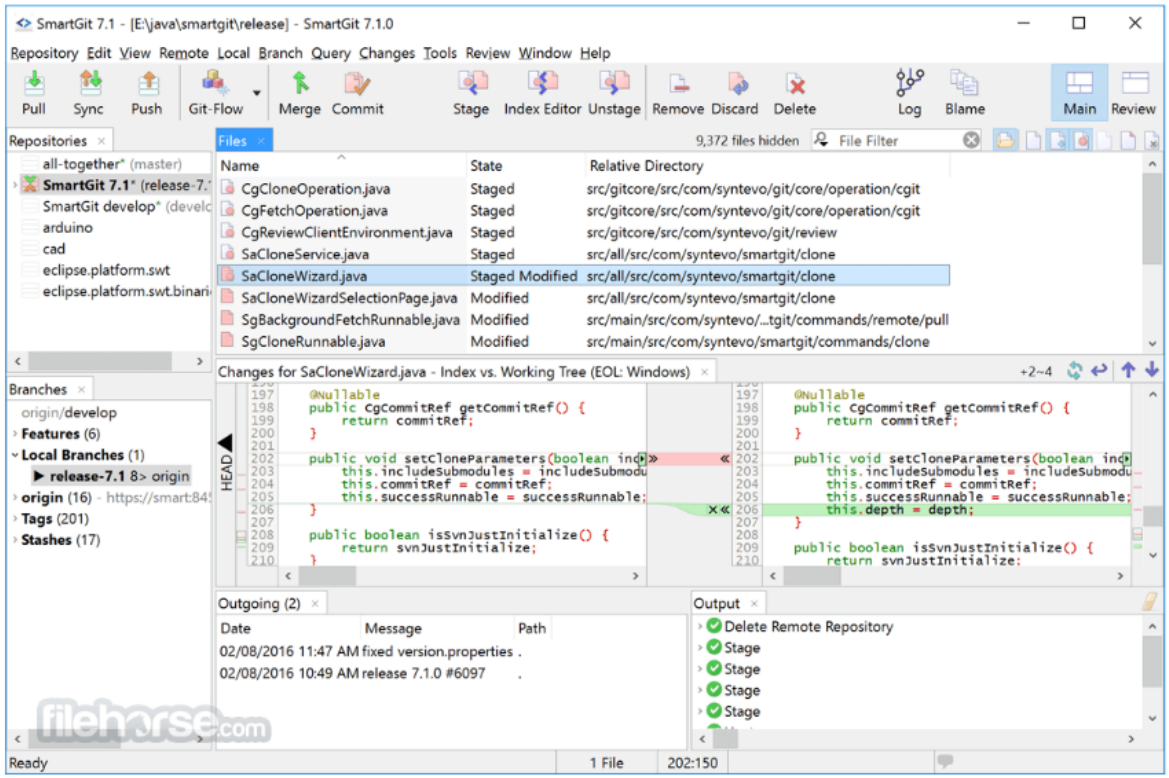

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