

HW 3C: Version Control with Git, Part C

Submit Assignment

Due Feb 22 by 11:59pm **Points** 40 **Submitting** a file upload

Part C

Much of Git's power comes from the interaction between your local repository and remote repositories. Remote Git repositories help you collaborate with others on a software project.

There are several services out there that will host a remote git repository for you for free, the most popular of which is GitHub.com. GitHub.com is particularly popular among the open source community, and there are pieces of software you probably use every day that are hosted on GitHub.com. Reddit (reddit.com) is one such software (web application) that is maintained on Github

1. Let's use git to view the Reddit source code repository hosted on GitHub. Start git, use cd to navigate to an empty folder, and run the command **git clone https://github.com/reddit/reddit.git**.
2. You now have a local copy (on your computer) of the remote repository. It's important to understand that this is not only a copy of the source code, but also a copy of the history of changes stored by git. And since it's a local repository, all the commands you used in the previous part of the assignment will work. To try this out, run the command **cd reddit** to go inside the reddit project folder, then run **git log**. This shows you the most recent log messages for changes made to the Reddit source code.
3. Here's another variation on the git log command to try: **git log -1 -p --before='2014-03-31 11:52:45'**. This is nothing new except for the **--before='2014-03-31 11:52:45'** part. That tells git you only want to see log entries for changes made before March 31, 2014 at 11:52:45am. As you saw in part B, the -1 means you only want to see one entry, and **the -p means you want to see a diff of the changes**. As you can see, a contributor named "Andre D" changed the mouseover property to "cancelTimeout" from "queueShow" in the file `r2/r2/public/static/js/saved.js`.
4. Since we have a complete copy of the Reddit project's repository, we also have a copy of every snapshot going all the way back to the beginning of the project. To see the log entries for the earliest commits, run the command **git log --reverse**.
5. Recall that each commit is given a unique hash (aka SHA1). Many commands in Git can take a hash as input. For example, try **git log -1 4778b17e939e119417cc5ec25b82c4e9a65621b2** and **git show 4778b17e939e119417cc5ec25b82c4e9a65621b2**. (Don't forget that you can use only the first four digits/characters of the hash. If git complains that the short SHA1 is ambiguous (because more than one commit has the same first four digits), try adding a few more digits from the long hash.)

6. One more git log option to know about is **--skip= N** , where N is a non-negative integer. This means to **skip N commits** before starting to show the commit output. Try **git log --skip=100 -5**.
7. Run a log showing five commits to Reddit (without diffs), skipping the first N commits, where N is the first three digits of your UCI student id number. For instance, if your id is 12345678, then N is 123. Leading zeros are no problem. Redirect the log output to **git_C_<SID>.txt** and upload it to Canvas before the deadline. **<SID>** is your 8 digit student id. For example, if your student number is 12345678, then the output must be written in **git_C_12345678.txt**.
8. If you wanted (and had the permissions), you could modify part of the Reddit source, commit your changes (on your local repo), and then use **git push** to copy your local branch back to the GitHub repository. That's beyond the scope of Informatics 43, but it's good to know that git is a sophisticated tool that facilitates multiple people updating shared files, logging their updates, and assisting with the resolution of updates that conflict.