Lab: (Command Line) Merging

Estimated time: 10 minutes

> Note: This lab assumes that you are using a command line. If you would prefer to use Sourcetree, there are separate instructions.
>
> Note: This lab assumes that you have created a local repository named `projectc`. This was done in the previous lab.

In this lab, you will:

1. Perform a fast-forward merge.
2. Perform a merge with a merge commit.

1: Perform a fast-forward merge.

1. In a previous lab, you should have created a commit in your `projectc` repository with a `fileA.txt` file containing a string "feature 1". The commit message should be "add feature 1". This commit should be on the `master` branch. If you do not have this commit, create it now.

2. Create and checkout a branch off of the latest master commit named "feature2". Use the same process that you used in the previous lab.

3. In your local repository, **create a commit** on the `feature2` branch with the following:

   - modify `fileA.txt`, adding "feature 2" directly under the line "feature 1"
   - add a commit message of "add feature 2"

4. Use `git log --oneline --graph --all` view your commit graph. You should see a straight line, with your `feature2` branch label and "add feature 2" commit message on the most recent commit. You should see `HEAD -> feature2`.

5. Let's assume that feature 2 is ready to be merged into the `master` branch. Start by **checking out** the `master` branch.

6. Execute `git merge feature2`. By default, this command will perform a fast-forward merge if possible.

7. You should now see a linear history with the `master` and `feature2` labels on the most recent commit. The fast-forward merge simply moved the `master` branch label to the

latest commit.

8. Delete the `feature2` branch label.

> Congratulations, you have performed a fast-forward merge.

2: Perform a merge with a merge commit.

1. Repeat the process above to create a `feature3` branch and commit.

2. This time, when you are ready to merge in the `feature3` branch, execute `git merge --no-ff feature3`. The `--no-ff` option will create a merge commit, resulting in a non-linear history. Verify that a merge commit was created.

3. Delete the `feature3` branch label.

4. You will not use the `projectc` repository in future labs. You can delete it.

> Congratulations, you have performed a merge with a merge commit and completed this lab.