

We have been storing our change history locally using the Team → Sharing option. Now that you are working on a larger project with a partner, you will need to share your code with them.

Eclipse’s Team functions internally use a system called *Git* to track the changes and manage versions. *Github* is an online service that will store your Git repository (i.e. your version history) for you. This document describes the basics of hooking everything up so that you and your partner can easily share your code.

Git is a complex system, but it is the industry standard source control system, and using it is well worth the effort.

1 Connecting Eclipse and Github

Setting up the github repository:

1. Both you and your partner should create Github accounts by navigating to github.com and selecting “Sign up”.
2. One of you should create an online repository for your shared project by clicking “New Repository” on the github website.
3. **Important!** Use the following settings:

Create a new repository
 A repository contains all project files, including the revision history. Already have a project repository elsewhere? [Import a repository.](#)

Owner **Repository name ***

mdgeorge4153 ▾ / 2110projects ✓

Great repository names are short and memorable. Need inspiration? How about **fictional-octo-spoon?**

Description (optional)

CS 2110 Projects for mdg39 and abc12

Public
 Anyone can see this repository. You choose who can commit.

Private
 You choose who can see and commit to this repository.

Skip this step if you're importing an existing repository.

Initialize this repository with a README
 This will let you immediately clone the repository to your computer.

Add .gitignore: **None** ▾ | Add a license: **None** ▾ ⓘ

Create repository

4. Copy the link that you are given. It should have the form `https://github.com/.../2110projects.git`.
5. On the github website, select “settings” and then select “collaborators” on the left
6. Add your partner’s github account.

Sharing a project from Eclipse to github:

1. In Eclipse, after you have created a project and set it up for sharing, click Team → Push. When it asks for the repository’s url, enter the link you copied (`https://github.com/.../2110projects.git`). Put in

your username and password for github. Leave everything else the default and keep clicking through until it says it has pushed to master.

Loading an existing project from github to Eclipse:

1. For your partner to download the project, they need to click Window → Show View → Other → Git → Git repositories. Then select “Clone a git repository and add it to this view”. They should put in the same git url (<https://github.com/.../2110projects.git>), and their own username and password.
2. On the next screen, be sure to click “Import all existing Eclipse projects after clone finishes.” The other settings can remain unchanged.

Phew! You finally have a shared project!

2 Git basics

Once you’ve set up your shared project, there are actually three repositories: one is hosted on github, one is stored on your computer, and one is stored on your partner’s computer. Here are the important commands available to you in Eclipse:

- **Commit** takes your local changes and adds them to your local repository. It does not communicate with github; your changes are still only stored on your computer.
- **Push** takes whatever has been committed to your local repository and transfers it to github. This will fail if the files on github have changed since your last pull.
- **Pull** takes the changes from github and integrates them into your local repository. If there are conflicting changes, Eclipse will show you the differences and ask you which ones to keep.

3 Caveat

As I mentioned in the first lecture, this is the first time that git is being introduced into 2110. I think that it will be a net positive, but git is a complex system. If you’re having trouble, ask on Piazza, ask in office hours. If lots of people are having trouble, I am willing to reconsider requiring you to use it.