

1. Create a repository, make changes

GITHUB DESKTOP APP	COMMAND LINE
Install / Set up tools	
Download from desktop.github.com Under "Preferences..." sign in to your GitHub account.	Install Git command line via git-scm.com/downloads Then: <pre>git config --global user.email "you@youremail.com" git config --global user.name "Your Name"</pre>
Create a repository	
(1) File → New Repository. Include a Readme and a License. **Set the Local Path and remember where it is. (2) Publish Repository	(1) Create an empty repository on GitHub. Include a Readme and a License. (2) <pre>cd <folder where your files are> git init git add <a file(s)> git commit -m 'initial commit' git remote add origin https://github.com/<me>/<repo name>.git git push -u origin master</pre>
Modify files	
(1) In the folder you set as your Local Path, add new files, edit existing files, remove files	
(2) Observe the "Changes" tab. See the changes in each file.	(2) <pre>git status git diff</pre>
Stage and commit changes	
(1) Check the boxes next to the files you want to stage. (2) Add a brief comment in the "Summary" box (3) Press Commit to master (4) Press "Push Origin" (5) View the changes on GitHub	(1) <pre>git add <changed files></pre> (2) <pre>git commit -m 'Describe this set of changes here'</pre> (3) <pre>git push origin master</pre> (4) View the changes on GitHub
View the commit history on Github	

2. Branching and Collaborating

GITHUB DESKTOP APP	COMMAND LINE
One Person: On Github, create a repository. Add collaborators (in Settings → Collaborators)	
Everyone: Clone the repository:	
File → Clone Repository (by URL)	<code>git clone https://github.com/<user>/<repo name>.git</code>
Create some issues	
Assign issues to people	
Each person: Create a branch	
Switch branch to New Branch	<code>git branch <name of the new branch></code> <code>git checkout <name of the new branch></code>
Make changes to files to fix an issue.	
Check in your changes to the branch:	
(1) Check the boxes next to the files you want to stage. (2) Add a brief comment, for example "Adds title, axis labels to plot. Fixes #1" (3) Press Commit to <name of your branch> (4) Press Push Origin (5) View the changes on GitHub	(1) <code>git add <changed files></code> (2) <code>git commit -m 'Adds title, axis labels to plot. Fixes #1'</code> (3) <code>git push origin <name of your branch></code> (4) View the changes on GitHub
On GitHub, create a new Pull Request for the new branch. Assign the pull request to a collaborator. To review the pull request assigned to you:	
(1) Press "Fetch Origin" (2) Switch to the branch you're reviewing	(1) <code>git fetch origin</code> (2) <code>git checkout -b <branch name> origin/<branch name></code>
If everything looks good to you, press the green "Merge Pull Request" button (if it's not green, you have merge conflicts!) Now you can delete the branch (optional)	
On Github, view Insights → Network for a visual representation of what happened	

3. Make a Release of your Software

- On Github, in the Code tab, click on "0 releases"
- Create a new release from the master branch.
- Call the version 1.0 and write something for the release notes.
- Publish your release.

Tip: If you're going to publish your code on Zenodo.org, then Zenodo will need a code release to ingest your GitHub repository!

4. Fork a Repository

- Let's use <https://github.com/gwu-libraries/git-sandbox>
- On the repository's page, press the Fork button.
- Go to your own repositories - notice that you now have a fork of **git-sandbox**.
- Create a branch.
- On your branch, modify some file(s).
- Create a pull request with this branch.