EE461L HW1 – Git Katas

In Homework 1, you will learn how to use Git Commands, setup account on GitHub, and create a GitHub repo for your team project, setup a wiki page for your project, and create different labels for your issues/work items.

This homework will help with the setup of the infrastructure needed for the following learning outcomes (as described in the course syllabus)

- Construct a project plan for working in cross-functional teams on collaborative software design and development
- Prioritize work items to deliver large-scale software systems in a timely manner

Step 1: Read about Start-Transcript

The relevant command records a script of your interaction with the system. You will use this command to produce the files that you will submit on Canvas.

Unix: Read the description of the script command.

Windows: Read the description of the Start-Transcript (Links to an external site.) command.

Step 2: Open your terminal

(**Windows users only**): Do not use your command prompt for this lab. Instead, open PowerShell in Administrator mode. Do not use PuTTy or any other Unix emulator.

(**Windows users only**): We would also recommend using WSL, since linux/mac students in previous sections had 0 issues.

Step 3: Clone the repository

Go here and review the Quick Start instructions

Clone the repository in your terminal by entering

git clone https://github.com/eficode-academy/git-katas

If your terminal says, "git command not found," then download the Git CLI from here.

Windows users only: After

- Find "Edit the system environment variables" in your Control Panel.
- Click on "Environment variables"

- Double-click on "Path" in the User variables section
- Add these two lines to your Path:
  - C:\Program Files\Git\bin\
  - C:\Program Files\Git\cmd\

Everyone: After downloading Git, close and re-open your terminal, and run "git –version" to make sure that Git is installed.

Step 4: Enter the git-katas directory by entering "cd git-katas"

Step 5: Perform any git config setup

    i.e., git config --global user.name "John Doe"

Step 6: Do the basic-commits tutorial

- Start your transcript and store it into a file titled "git-1.txt"
  - `Start-Transcript -Path "C:\git-1.txt" -NoClobber` if you are in PowerShell
  - Script git-1.txt in Unix
- Enter "whoami" into your terminal to see your system username
- cd into the exercise folder
  - cd basic commits
- Open the README.md file to see what your instructions are for this exercise.
  - cat README.md
  - (We would also recommend opening the README.md in the GitHub repo on your browser. Go to the Git-katas repo here, click on the "basic-commits" folder, and scroll down to see the enter README.md)
  - *Make sure to add a commit message when you commit using **git commit –m"Commit message"**
- Do all the steps in your "Setup" and "The task" sections
  - If you run into any issues while completing these sections, ask your TA or see the "Common questions" section at the bottom of this document
  - **You can also learn about the different commands by looking at the "Useful commands" section of the README file.**
- Once you have finished with the steps in the sections, stop your Transcript
  - `Stop-Transcript in PowerShell`
  - `Exit in Unix`
  - Now, your recording for this exercise will be stored in the git-1.txt file in your C drive.

<u>Step 7: Next, do these tutorials in git-katas:</u>

- basic-staging
- basic-branching
- basic-revert
- basic-stashing
- merge-conflict
- squashing

For these tutorials, follow the same outline of steps that you did for the basic-commits tutorial in Step 6.

For basic-staging, store your transcript into a file titled "git-2.txt"

- o `Start-Transcript -Path "C:\git-2.txt" -NoClobber` if you are in PowerShell

Store the basic-branching transcript into "git-3.txt," the basic-revert transcript into "git-4.txt," the basic-stashing transcript into "git-5.txt", and the merge-conflict transcript into "git-6.txt"

Similarly, to the basic-commits tutorial, if you run into any issues while completing these sections, ask your TA or see the "Common questions" section at the bottom of this document.

<u>Step 8: Close your terminal and go to your C-drive</u>

- Make sure you can see "git-1.txt," "git-2.txt," "git-3.txt," "git-4.txt," "git-5.txt", and "git-6.txt"
- You will submit these 6 files on Canvas

What to Submit

Upload all 5 deliverables to Canvas.

Deliverables:
1. basic-commit (git-1.txt)
2. basic-staging (git-2.txt)
3. basic-branching (git-3.txt)

4. basic-revert (git-4.txt)

5. basic-stashing (git-5.txt)

6. merge-conflict (git.6.txt)

Rubric

Git Tutorial Rubric

What to submit?	Points
Basic Commits	0.5
Basic Staging	0.5
Basic Branching	1
Basic Revert	1
Basic Stashing	1
Merge-Conflict	1

Common Questions

1. **Can I just screenshot my terminal instead of doing script/Start-Transcript?**
   No
2. **My setup (source setup.sh or .\setup.ps1) is not working**
   The issue could be that you are not running PowerShell in Administrator mode. You can also try entering "set-executionpolicy remotesigned," then select "Yes," and this should fix your issue.
3. **For steps in the tutorials like "What does git diff tell you?," "Explain what is happening," and "What does the log look like?," what do I do in my terminal?**
   You can use echo. Enter "echo [<your message>]" in your terminal.
4. **How can I view what is in my file?**
   cat "file-name"
5. **How can I edit what is in my file in PowerShell?**
   To open a text editor, use the command "notepad.exe *Name of file*"
6. **How do I create a new file in PowerShell?**
   - sc filename 'content'
   - (Also, for steps that say you must "Create a new file," you do not have to name the files anything specific.)
7. **In Steps 3 and 9 in the basic-revert tutorial, what do I put as my argument after "git revert"?**
   When you run "git log --decorate –oneline" in Steps 1 and 8, your terminal should show a line this:
   064a1af (HEAD -> master) Overwrite greeting.txt

The number at the beginning (064a1af) OR HEAD is the argument you should put after "git revert"

8. **What do I do if the script command (Windows) is only showing commands, not outputs?**
Run: Start-Transcript -Path "C:\...\git-#.txt" -NoClobber

9. **In Steps 3 and 9 in the basic-revert tutorial, the text shown is "This should have been appended to the original content, rather than overwriting it". Is this an error?**
No, that is what it is supposed to show.

10. **How do I fix PowerShell says, "execution of scripts is disabled on this system"?**
https://stackoverflow.com/questions/4037939/powershell-says-execution-of-scripts-is-disabled-on-this-system

11. If you go into editor mode or vim, you will need to type in: q to get back to your command prompt/terminal

For any other issues, please consult your TAs and look at the "Useful Commands" section of the README files.

Project Team Formation Tasks

1. Please talk with students in your lab section to form teams for your project. Each team should consist of 5 students. In some cases, if there are not enough students in a particular section, we may allow a team of 4 students.
2. Communicate your team's name and members to your TA by the due date for HW1
3. Create a Wiki page for your project in GitHub.
4. Add your team members to the project.
5. Please add your TA and instructor to your project

Rubric

What to submit	Points
A link to team project GitHub page with TAs and instructors added as collaborators	1