Lab 1: Creating Git repository and Accessing Timberlea server [HTML, CSS]

Learning Outcomes:

- Learn to use GIT for version control.
- Learn to use Timberlea for submitting your work in the course.
- Understand the process to follow when submitting your work in this course.

Instructions:

- For this lab, you will be creating a simple webpage and exploring the use of Git and Timberlea for submitting your work. In particular, you will be creating a git repository to push your code onto it, and, learning to access the FCS Timberlea server in order to upload your code files and preview it.

  Note: It is important for you to understand how to use both Git and Timberlea, as this is how you will be expected to submit your work going forward in this course. Our rule of thumb is: "If you can preview your work through a browser following the URL specified in the lab handout, then the TAs and Instructor will also be able to view and mark your work."

- In our labs, you will be submitting three items, detailed instructions for each of these items are included in the **Submission Section** (See Page 3) of this handout:

  1. A **README** file which will include the URL to your GitLab Repo and Timberlea submission, along with any sources or citations needed for your code. A template of the README file you'll be creating is available in the **Resources section** of our Brightspace Course Site, feel free to edit the template based on your needs.

  Note: You will notice that the contents of the README file are written using Markup Language despite the file being saved as a TXT file, this is done to allow for the README file to be opened directly on Brightspace when marking, without requiring the file to be downloaded, allowing the marking process to take place more efficiently.

  2. A **GitLab** repo for a given lab and/or activity submission, which the Instructor and Markers will use to mark the quality of your code. Therefore, it is important for you to ensure that you have given **maintainer access** to the Instructor and Markers BEFORE to the lab deadline. **See Lab 1 module for the Instructor's and Markers' CSIDs.**

  3. A **Timberlea** submission. Each lab you complete in this course MUST be remotely accessible through Timberlea's Web Server (not Timeberlea's File Server which is often used in non-web

related courses). Each lab handout will include the URL structure through which your lab should be accessible. However, **you MUST also include your Timberlea URL on your README file**. The URL structure for you to follow for lab 1 is **https://web.cs.dal.ca/~yourCSID/csci3172/lab1/** where **yourCSID** would be replaced with your actual CSID without omitting the tilde (~).

- To complete this lab, you will be expected to complete the following:

  (a) Create a simple on-page website with some content about yourself. Your lab is expected to be:

  i. Fully responsive,

  ii. Successfully apply UX/UI guidelines covered in CSCI 1170,

  iii. Be aesthetically pleasing based on your design choices,

  iv. Be HTML5 and CSS3 W3C compliant.

  You **MAY NOT** use any CSS Frameworks (e.g., bootstrap) or other Front-End Development Frameworks in completing this lab. Use this opportunity to brush up on what you already know (e.g., HTML, CSS).

- Regarding the look-and-feel of your assignment, you have complete creative freedom for this assignment. You are encouraged to work towards an aesthetically pleasing website that applies the design and development principles you have learned thus far in your academic and/or web development career. You may use Creative Commons images and/or logos with proper author attribution (provided through code comments, and/or **README.txt** file).

Note: Do keep in mind that as part of this assignment, you are expected to work individually, you may discuss ideas with your classmates, but do refrain from sharing any code. You are also expected to follow proper web design guidelines.

- **Your lab MUST be responsive.** The level of responsiveness of your lab is dependent on the design you decide to implement. As such, you are expected to test your lab on multiple browsers, platforms, and devices.

- **Your assignment MUST be W3C compliant**, i.e., it must pass W3C front-end validations tests (e.g., HTML and CSS).

Note: Failure to submit valid code will result in a possible maximum grade of 50%. Any validation warnings WILL NOT affect your grade.

- **Include in your README.txt file,** the URL from which your lab can be accessed (i.e., your Timberlea submission) and the URL to your lab's GitLab repo. All pages you develop for this assignment will need to be accessible through those link.

Note: If you decide to use and modify any existing code, e.g., code found on online or printed sources or code used during in-class/tutorial examples, you are expected to provide author attribution in your code comments, and a more detail explanation of your sources in your README file (i.e., providing an explanation of why the piece of code is necessary for your work, where, how and why the code or section of code was modified). Keep in mind that simply stating "code was modified" does not provide sufficient information required in your programming assignments.

Submission:

- For this lab, you will need to **submit your work through Timberlea, GitLab and Brightspace as follows:**

To submit your work to Timberlea:

As part of this lab, you will need to create a **'csci3172'** directory on Timberlea inside of your **'public_html'** folder. Your **'public_html'** folder is the root directory for a given domain name (e.g., https:// web.cs.dal.ca/). For this purpose, you will need to connect to Timberlea using either an FTP Client or the command line.

Note: If you have never used Timberlea's Web Server before, using FileZilla will help you see the specific folder you will need to access in order to work with Timberlea's Web Server rather that its File Server, we will move on to using the Command Line as we move through the term. However, if you have used Timberlea's Web Server before, feel free to use Terminal or Command Line to upload your work.

(a)If using an FileZilla or any other FTP Client:

1. Open FileZilla and log onto the FCS Web Server, i.e., Timberlea, using the login information listed below. You will be entering this information into FileZilla's **Quickconnect bar**, once you've entered the details for Host, Username, Password, and Port, click the **'Quickconnect' button** (*see Figure 1*).

   Host: timberlea.cs.dal.ca
   Username: Your CSID
   Password: Your CSID Password
   Port: 22

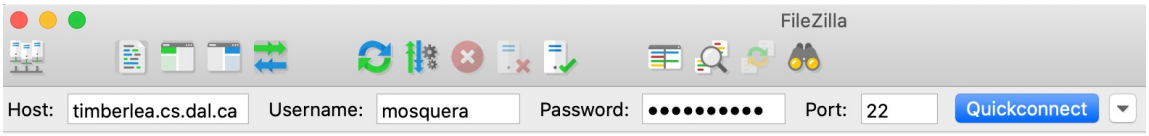

Figure 1. FileZilla Quickconnect Bar.

Note: Your FCS Account IS NOT the same as your Dalhousie Account. Each student enrolled in a CS course is given their own FCS account which provides them with exclusive access to FCS Resources. If you have not changed your FCS account's password then your password will be your B00 number. If you are still unable to log onto Timberlea, it may be due to your personal firewall, please contact the FCS Help Desk at cshelp@dal.ca as they will be able to assist you.

2. On the following window prompt, shown on *Figure 2*, click OK. You will only get this prompt during your first login attempt.

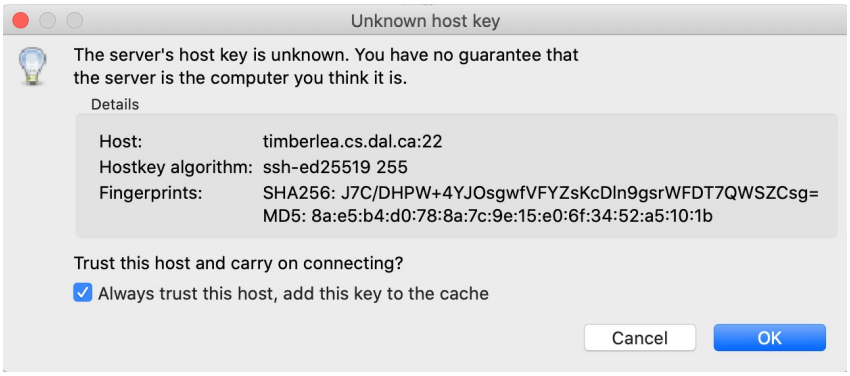

Figure 2. Unknown host key window prompt.

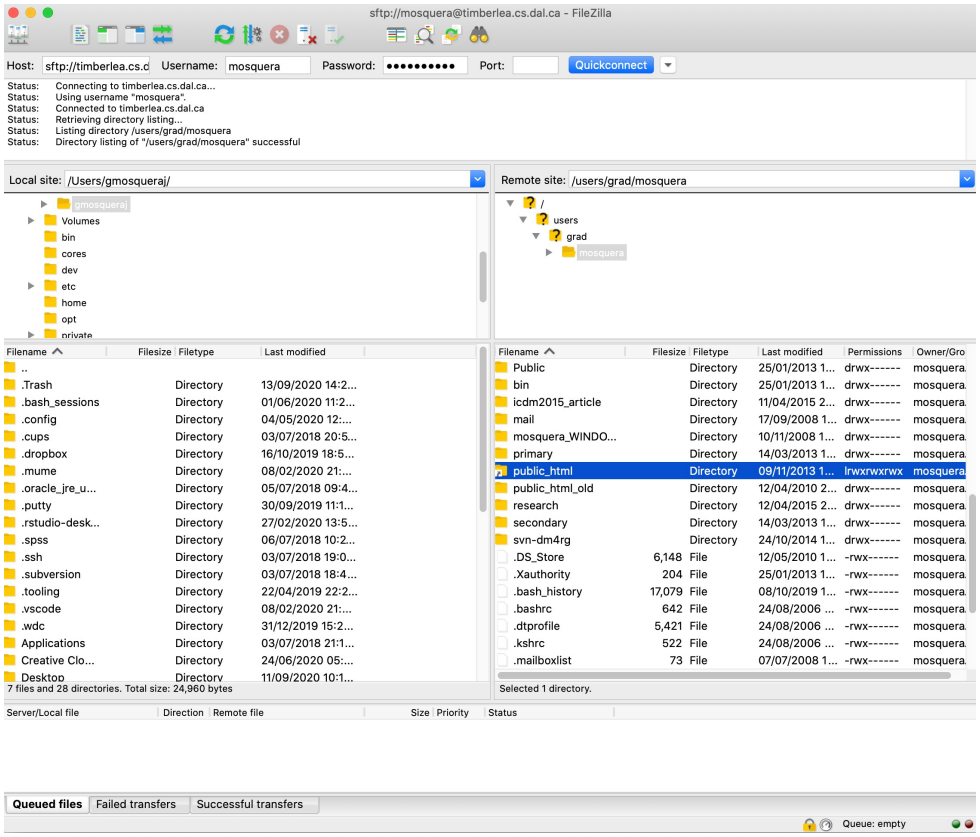

Figure 3. FileZilla's application window after a successful login.

3. Once logged in, you will see a screen similar to that shown on Figure 3. Everything you see **on the left side of this screen** are files within the computer you are using to access the FCS web server,

i.e., your computer, lets call this area the **client frame**. Everything you see **on the right side of the screen** are your FCS resources (i.e., files) within Timberlea, lets call this area the **server frame**.

4. **On the server frame**, navigate to your **'public_html'** folder and double-click on it, see Figure 3. Everything you submit through the FCS web server will have to be placed within the **'public_html'** folder in order for your work to be remotely accessible and graded. After accessing your public_html folder, you will notice that even though you logged onto Timberlea using timberlea.cs.dal.ca as your Host, the path shown as 'Remote Site' (i.e., the web folder path) will point to web.cs.dal.ca. This is not an issue or a mistake, the change in the file path indicates that you are working with files accessible through Timberlea's Web Server instead of its File Server.

Note: If you do not see a **'public_html'** you will need to contact the FCS Help Desk (cshelp@cs.dal.ca), and let them know that you need access to your **public_html directory**. DO NOT simply try to create the directory yourself, you need admin privileges on Timberlea to be able to do this.

5. Once inside the **'public_html'** folder, create a directory called **'csci3172'** by right-clicking anywhere empty on the server frame. See Figure 4 through 6.

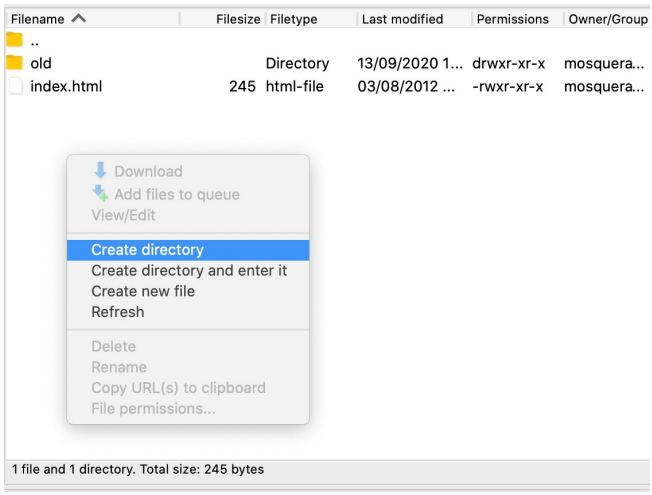

Figure 4. Pop-up shown after right-clicking in the server frame.

Note: Type the name of your new directory by replacing '**New directory**' with the name of your directory. Please ensure you use all lowercase letters and refrain from using any spaces. **The names of directories and files on a web server are case sensitive**, i.e., a web server considers CSCI3172 and csci3172 to be two very different directories, as such it is extremely important that you follow this instructions and use the exact naming conventions included within this handout.

6. If once within a directory you find yourself in need to backtrack (i.e., exit the directory you are in), simply double-click on the **'..'** directory shown right at the top of your server frame.

7. Navigate to your newly created 'csci3172' directory and double-click on it. Once inside the 'csci3172' directory, repeat Step 5 to create a **'labs'** directory inside your 'csci3172' directory.

8. Navigate to your **'labs'** directory inside your **'csci3172'** directory and create your **'lab1'** directory. See Figure 5.

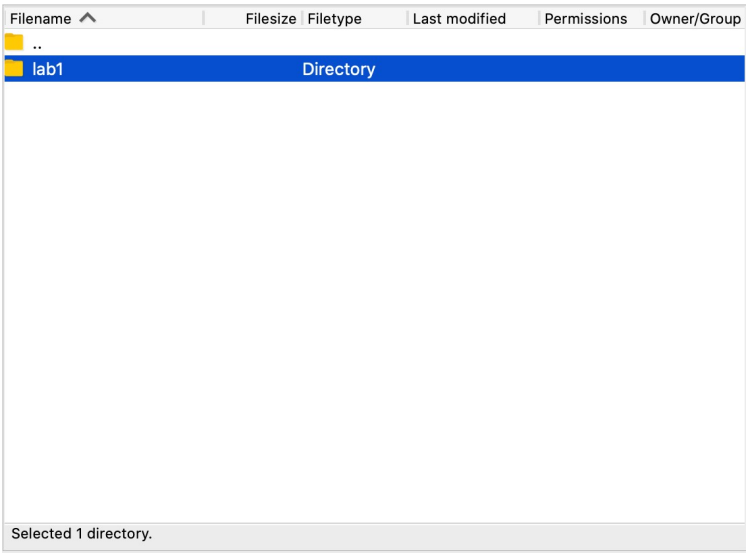

Figure 5. FileZilla's server frame after successfully creating the 'lab1' sub-directory.

Note: All the work you do for your lab 1 will need to be saved within your lab 1 directory. Being a Graphic User Interface, FileZilla allows you to use drag-and-drop to copy files from your computer onto the Timberlea server. You must re-upload onto Timberlea any files you have made changes to on your computer in order for the updated files to be accessible through the web.

9. Ensure you have set the proper file and folder permissions for your Lab 1 work by simply right-clicking on the folder or file you are setting the permissions on, then click on 'File Permissions'. Once on the file permissions window, you can simply enter the numeric value corresponding to the permissions you want to specify. On a shared server, such as Bluenose, it is recommended to **use '755' (i.e., rwxr-xr-x) on folders, and '644' (i.e., rw-r--r--) on individual files.**

Note: For your files to be accessible through a browser for testing and grading, you must ensure you are using the correct file permission settings on your files and folders. Not setting the correct file and folder permissions will cause your lab to be inaccessible which will result in a grade of **ZERO (0)**.

10. If you followed the instructions provided in **Steps 1 through 7,** your lab1 should be be accessible through a web browser by visiting the following URL:
https://web.cs.dal.ca/~yourcsusername/csci3172/labs/lab1/

Note: If you have re-uploaded a file onto Timberlea, you must **reload** your browser window in order for the updated file to be visible on your browser. Make sure you check your work through a browser using the link above, and include this link in your README file. Failure to submit your work through Timberlea will result in a grade of **ZERO (0)**. Failure to ensure your work is remotely accessible through a web browser, using the specified URL will result in a grade of **ZERO (0)**.

(b)Using Command Line:

1. Log into Timberlea using the following command:

```
ssh -l CSID timberlea.cs.dal.ca
```

2. Navigate to your **'public_html'** folder:

```
cd public_html
```

3. Create your **'csci3172'** directory:

```
mkdir csci3172
```

4. Set your csci3172 folder permissions:

```
chmod -R 755 csci3172
```

Note: For your files to be accessible through a browser for testing and grading, you must ensure you are using the correct file permission settings on your files and folders. On a shared server, such as Bluenose, it is recommended to **use '755' (i.e., rwxr-xr-x) on folders**, and **'644' (i.e., rw-r--r--) on individual files**. You will need to set your folder permissions each time you submit your work, permissions are not set to cascade on Timberlea.

5. Go into your 'csci3172' directory:

```
cd csci3172
```

6. Create your **'labs'** directory by repeating Steps 3 through 4, then create your **'lab1'** directory (nested inside your newly created 'labs' directory, you are essentially replicating the folder structure you set out on Timberlea). Once, you are ready to upload your work, go into your 'lab1' directory. Remember, your folder permissions need to be 755, while your individual file permissions need to be set to 644.

7. You can upload files and folders to Timberlea using the following command:

```
scp [sourcefile] username@timberlea.cs.dal.ca:/file/path/
```

8. Test your lab is accessible by visiting **https://web.cs.dal.ca/~yourCSID/csci3172/labs/lab1/** on any browser and ensure you can view your work.

Note: Failure to submit your work through Timberlea will result in a grade of **ZERO (0)**. Failure to ensure your work is remotely accessible through a web browser, using the specified URL will result in a grade of **ZERO (0)**.

To submit your work to GitLab:

- Visit the Dal FCS GitLab site (**https://git.cs.dal.ca/**) and create a new project for **CSCI 3172.** See Figure 6 and Figure 7.

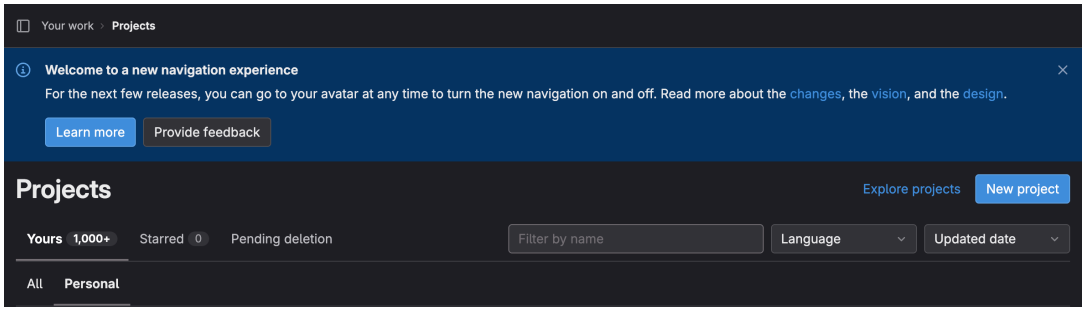

Figure 6. Creating a New Project on Git Lab.

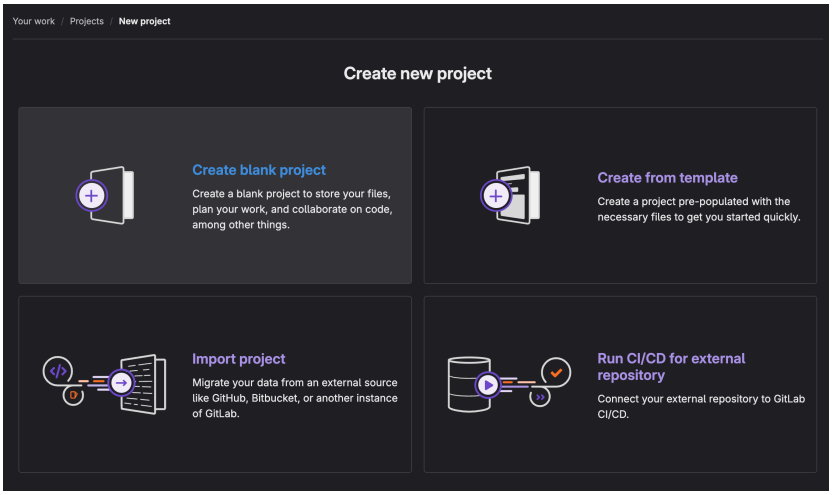

Figure 7. Selecting a Blank Project for our DGIN 5100 project.

- Setup your **CSCI 3172** project as a '**private project**' and add the course Teaching Assistants (TAs) and Instructor as 'Maintainers' to your project, using their CSIDs.

  Note: The CSIDs you will need to set us up as 'Maintainers' are included in your Lab 1 module on Brightspace. Failure to add our CSIDs as 'Maintainer' for your work on GitLab will result in a maximum possible grade of 50%.

- Within your **CSCI 3172 Project**, create a directory for your labs and activities, name them **'labs'** and **'activities'**, respectively. See Figure 8 and Figure 9.

  Note: The purpose of creating directories is to help you organize your code for each individual activity and lab.

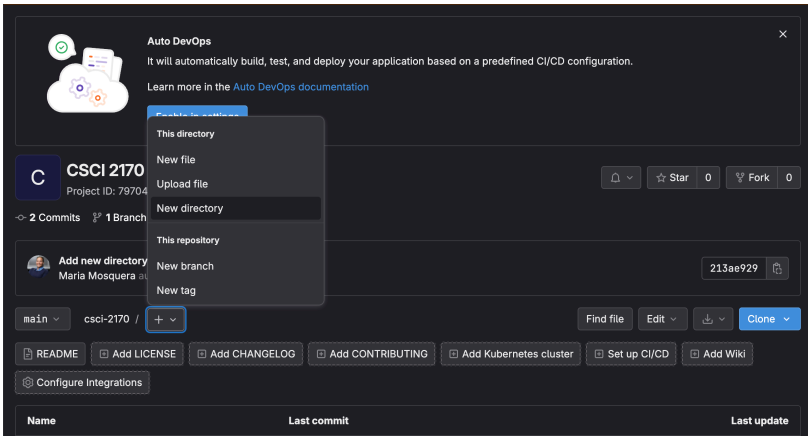

Figure 8. Creating a New Directory on Git Lab.

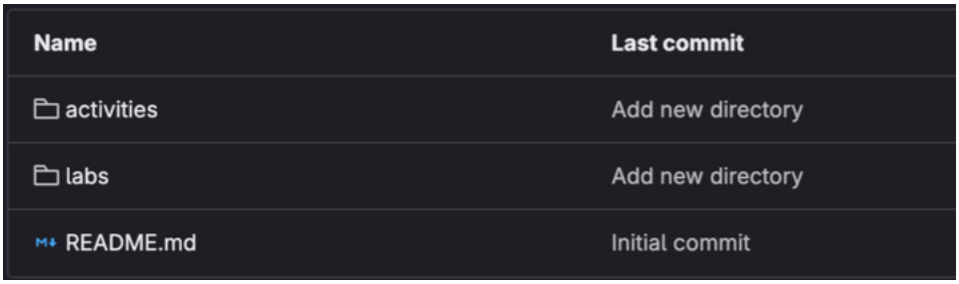

Figure 9. GitLab Folder Structure Example.

- Within your **'labs'** directory, create a directory for your current lab, in this case you'll be naming your directory **'lab1'**. See Figure 10.

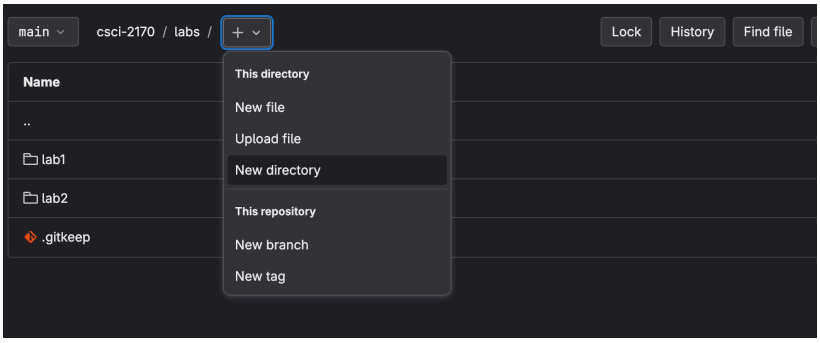

Figure 10. Creating a New Directory within your labs directory.

- Within your **'lab1'** directory, upload your files for lab 1. See Figure 11 and Figure 12.

> **Note:** It is possible for you to create branches within your **'lab1'** for working with specific files. When creating a **branch** you are essentially creating a copy of a file your are working with (e.g., index.php), which allows you try out code and/or make changes without affecting your original copy of that file; this type of branch is called a **feature branch**. When you are ready to commit your changes and are sure that your code works, you can merge your **feature branch** with your **default branch** (i.e., the original file). The use of branches comes in handy when we are working with more complicated code and are unsure our code works properly.

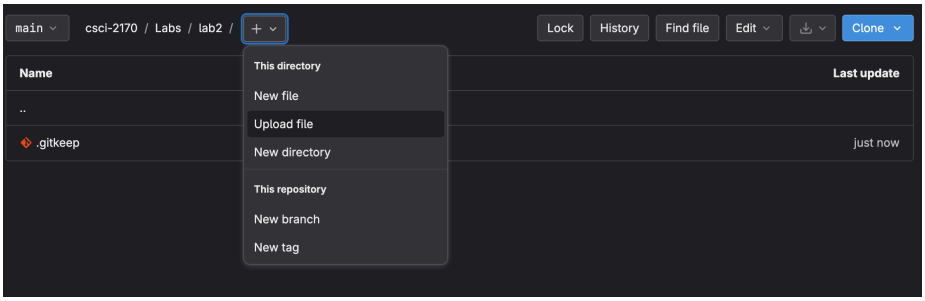

Figure 11. Selecting 'Upload file' on Git Lab.

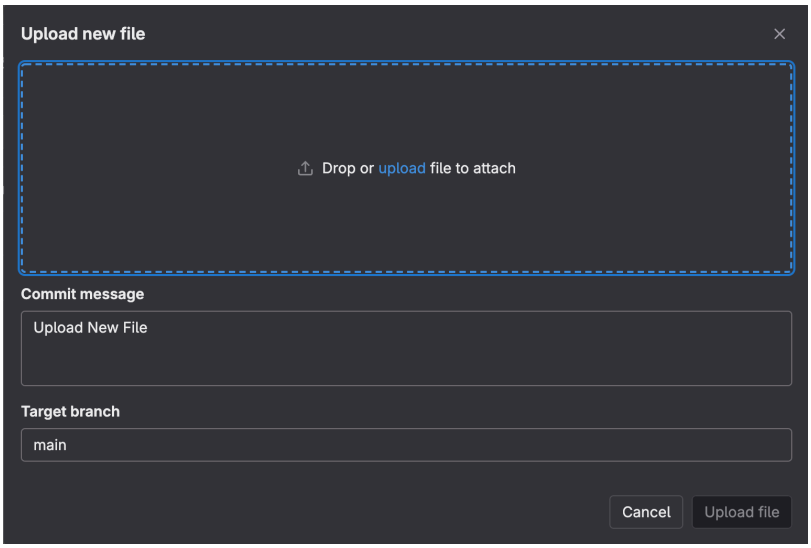

Figure 12. Uploading files on Git Lab.

- You **'lab1'** directory must include all the files you used in completing this lab.

  Note: For this lab, you will be submitting your GitLab Repository link, along with the URL from which to access your lab in the **README.txt** you will be submitting through BrightSpace.

- **Ensure** your **'lab1'** directory includes a README.txt follow the guidelines specified in the README template provided.

- You may also clone your **FCS GitLab git repo** to your local system using the following command:

```
git clone *your repo https link*
```

- You may also copy a file to the local copy of your repo and push it to your git repo using the following commands:

```
git add .
git commit -m "your commit message"
git push
```

Note: If you're new to FCS' GitLab or prefer to use a GUI, please see the instructions provided at the start of this Sub-Section.

To submit your work to Brightspace:

- Download the **README template** available on Brightspace. *See Resources section* on left-hand side menu on Brightspace.
- Edit the README template to include any citations for your code and/or images used for this Lab.

  Note: If the work you are submitting as part of your Lab is work done by you without the use of any external sources, then please specify so within your README file.

- Rename your README file as **L#_LastName_FirstName_README.txt**

  Note: Ensure your README file includes the URL to your Lab and git repo for remote access.

- Submit your README file through the corresponding lab assignment dropbox on Brightspace.

Marking Rubric:

The following grading criteria will be used for marking your lab, **please check that you have included your GitLab and Timberlea URLs and that your work on Timberlea is remotely accessible**:

Dimensions	Does Not Meet Expectations	Somewhat Meets Expectations	Meets Expectations	Exceeds Expectations
HTML (20%)	Student's index file is empty or does not render properly or at all. **(1 - 3 points)**	Student's index file makes improper use of HTML tags, fails to properly markup the structure of the page, e.g., using <table> for defining a layout, <img> for fonts. **(5 - 10 points)**	Student's index file ONLY implements structural HTML tags to markup the structure of the web document, i.e., makes NO use of semantic HTML. **(11 - 15 points)**	Student's index file successfully implements both structural and Semantic HTML tags to properly markup the structure of the web document. **(20 points)**
CSS (30%)	Student's style.css file is empty or does not render properly or at all or student used CSS frameworks. **(1 - 3 points)**	Student's style.css file ONLY makes use of CSS 1 properties. **(10 - 15 points)**	Student's style.css file ONLY makes use of CSS1 and CSS2 properties **(17 - 22 points)**	Student's style.css file makes proper use of CSS1, CSS2, and CSS3 properties. **(25 - 30 points)**
Design (30%)	Student's overall design is not consistent, or aesthetically pleasing. Design includes broken elements, e.g., images, links, AND is not responsive **(1 - 3 points)**	Student's overall design is somewhat consistent but Includes broken elements that are distracting or confusing design, AND is not responsive. **(10 - 15 points)**	Student's overall design is consistent, and aesthetically pleasing BUT lacks responsiveness or layout breaks unexpectedly. **(17 - 22 points)**	Student's overall design is consistent and aesthetically pleasing. The implemented design is overall very easy to use and FULLY responsive. **(25 - 30 points)**
Cross-Browser Compatibility (20%)	Student's lab is not cross-browser compatible, noticeable and distracting differences are visible. **(0 points)**			Student's lab is cross-browser compatible, no noticeable or distracting differences visible. **(20 points)**
W3C Compliance	Student's lab is not HTML5 AND CSS W3C compliant. **(-50 points)**	Student's lab is not HTML5 OR CSS W3C compliant. **(-25 points)**		Student's lab is both HTML5 AND CSS W3C compliant. **(0 points)**
Git repository	Code is not pushed to repo or Student did not provide access to their Lab's GitLab repository **(-50 points)**			Code is properly pushed to git repo, and student provided access to their Lab/s GitLab repository. **(0 points)**
Timberlea	Code is not uploaded on Timberlea OR the URL doesn't load the HTML file **(-100 points)**			Code is properly uploaded on Timberlea and URL to file is provided as per requirements **(0 points)**
README.txt	Student's did not submit a README.txt file and/or did not edit the template as expected. **(-100 points)**		Student's submitted a README.txt file that is incomplete or is missing the lab's URL. **(-50 points)**	Student's submitted a README.txt file properly edited to include all sources used. **(0 points)**