

# CS 1033

## Multimedia and Communications

**REMEMBER TO BRING YOUR MEMORY STICK TO EVERY LAB!**

### **Lab 01: Learning how to transfer files between your Computer and a Web Server**

**Upon completion of this lab, you should be able to:**

- **Activate your personal web space on the UWO server which will be available to you for the entire time you are at Western.**
- **List the 4 things required to SFTP(upload or download) a file from a local machine to a web server**
- **Name the 2 networks you will be using while taking this course.**
- **Name the type of operation used to copy a file back and forth from your laptop to a server and give the name of two applications that will perform this operation.**
- **Copy a file and/or folder from your local machine to the panther web server.**
- **Copy a file and/or folder from your local machine to the gaul web server.**
- **Change the permissions on a folder and/or file.**
- **Indicate the correct Octal number for the permissions in order to be able to view a folder or file in a browser.**
- **Go to the correct web address using a browser to see your folders/files on the panther web server.**
- **Go to the correct web address using a browser to see your folders/files on the gaul web server.**

## INTRODUCTION TO THE COMPUTING ENVIRONMENT:

We want to keep the lab machines working well, so please immediately report any issues/problems (monitor flickering, software not working) you have when sitting at the machines in either MC230 or NCB105.

- If you are in MC230, report problems here: [http://www.csd.uwo.ca/prob\\_report.html](http://www.csd.uwo.ca/prob_report.html)
- If you are in NCB105b, report problems here: <http://www.uwo.ca/its/about-its/contact.html>

A **computer network** is a group of computers that are connected to each other. In this course, you will be using two different computer networks: **GAUL and UWO (or Panther)**. Accessing a computer on one of these networks requires up to four things:

- User ID
- Password
- Host Name
- Port Number

Both of these networks will have the same username (everything before the @uwo.ca in your email address) and password (your Western password) but the host name and the port numbers will be different. Both of these networks have web servers that allow the outside world to see files that you upload on to them. Today we will try to upload files onto both of these networks.

### GAUL Server

The Computer Science Department's undergraduate network is called **GAUL**. You will be using the GAUL network to hold your second and third assignment. You will try uploading an image to that network in today's lab.

### ITS/UWO/"Panther" Server

The second network that you will be using is the **UWO (or Panther)** network, which is the general network used by all students in the University and maintained by ITS (ITS is located in Support Services building on Western Road, near Huron College). This network is connected to all library computers and the General Computing labs ("Genlabs") scattered throughout the University. You will use this network to hold your first assignment.

## INTRODUCTION TO FTP:

FTP (File transfer protocol) enables a user to transfer files between his/her **local** computer (the computer you are sitting working at) and a **remote** server. Some terminology:

- **hosting** – placing website files on a computer that is set up to allow access to those files from the Internet
- **webserver** – a computer that is set up to host websites which means that your website when uploaded to a server allows everyone on the Internet to see your website/files. In this course, we will be hosting our websites on the webserver maintained by ITS (called "panther") and the webserver maintained by Computer Science Dept (called "gaul")
- **downloading** - copying files from a remote server (such as 'panther') to the local PC computer (the computer you are using right now)
- **uploading** - copying files from the local PC to the remote server

- **ftp-ing** - copying files from the local PC to the remote server or from the remote server back to the local PC, a slang term for uploading or downloading.

At Western, we tend to use the following two FTP programs (there are many to choose from), both are free: **WinSCP (for PC) or Filezilla (for Mac)**. You will want to download and install the FTP software on your laptop/home machine.

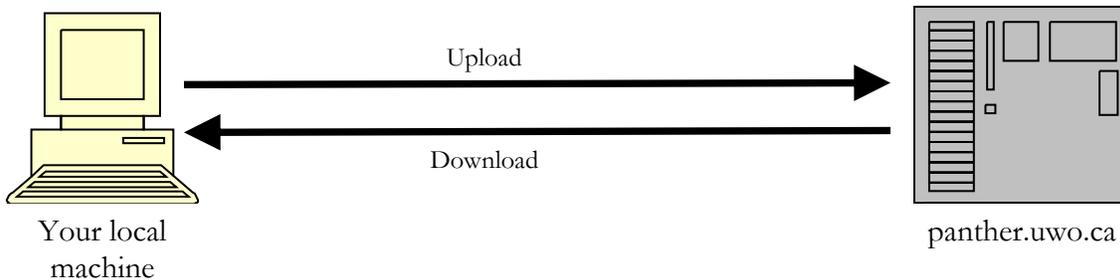
**WinSCP (Windows users) info**

- Download from here: <https://winscp.net/eng/download.php#download2>
- FAQs can be found here: <http://winscp.net/eng/docs/faq>

**Filezilla (Mac users) info:**

- Download from here: <https://filezilla-project.org/index.php>
- FAQs can be found here: <https://filezilla-project.org/faq.php>

FTP allows you to move files (such as .jpg files or .html files) between the machine you are sitting at (your local machine) and the web server (we will be using a web server called panther.uwo.ca or the web server called cs1033.gaul.csd.uwo.ca)



**LAB #1 – Exercise 1 – Creating a folder on the web server to hold your files on the UWO/Panther network.**

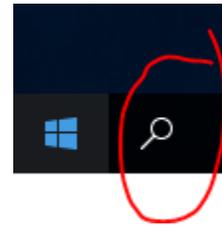
Before you can put anything on the UWO (Panther) network, you need to create a folder or directory to hold all your work. This folder must be called *public\_html*. (NOTE: You do not need to do this for the Gaul network as the Computer Science Department does it for you). For the UWO (Panther) network, you only need to do this ONCE while you are at Western. To make this easier, the ITS department has created a web page form for you to fill in that will create the public\_html folder automatically.

1. Open a web browser and go to this website: [http://www.uwo.ca/wts/services/web/activate\\_my\\_personal\\_web\\_space.html](http://www.uwo.ca/wts/services/web/activate_my_personal_web_space.html)
2. Enter your User Name and Password as requested and hit Submit. In a few minutes a special area (really just a folder) will be created. Anything that you move (upload) to this file will now be available on the World Wide Web.
3. The place where this folder will be available is <http://publish.uwo.ca/~yourwesternusername>. For example, if your name was Jane Smith and so your Western User Name was jsmith789, then, after completing step 2 above, you would now see something at <http://publish.uwo.ca/~jsmith789> In a web browser, try going to [publish.uwo.ca/~yourwesternusername](http://publish.uwo.ca/~yourwesternusername) and see if anything shows up. NOTE: this takes a few minutes, so if nothing happens, just move on, we will try this step again later on in this lab.  
REMEMBER: if you completed the webform in step 1 and 2 above and hit Submit, you should never have to do this step again, you should only need to do this once.

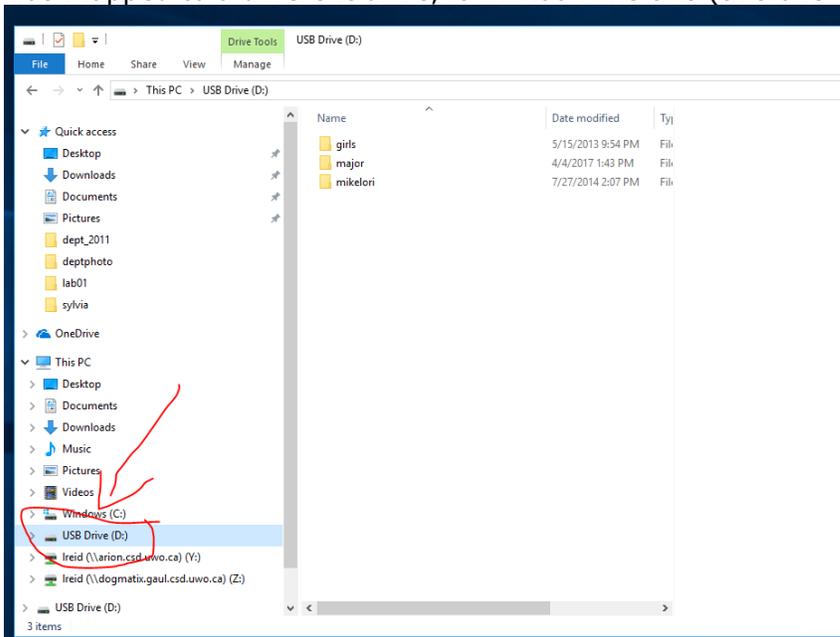
## LAB #1 – Exercise 2 – Loading the files onto your memory stick (likely the F: Drive).

NOTE: For the remaining labs in CS1033 remember that **folder** and **directory** mean the same thing. Because the set up in MC230 is slightly differ than the set up in NCB105, we have to do a bit of setup so that your memory stick is pointing to the same place in both lab rooms. Normally the memory stick will map to the F: drive, so this lab will ALWAYS refer to the F: drive but just in case, perform the steps below to figure out which drive your memory stick was mapped to. Then we will save everything to the F: drive (i.e. your stick)

1. Put your memory stick into a USB slot
2. In Windows 10, open up the File Explorer as follows:
  - a. Click on the magnifying glass icon (the Search Windows area) in the bottom left corner next to the Window icon →
  - b. In the box that opens that says *Search Windows*, type *File Explorer*
  - c. Click on the File Explorer Icon (should look like a folder)



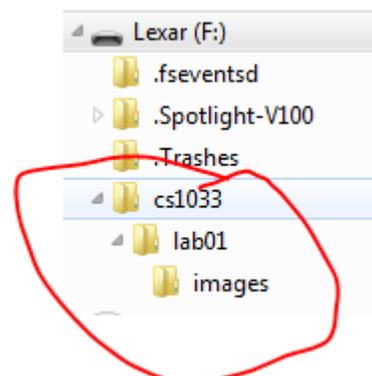
3. Look along the left side and see which drive your memory stick was mapped to. It will likely be under an area labeled "USB Drive". Make sure you remember the drive letter and substitute it every time you see F:\. If your memory stick was mapped to a different drive, it will look like this (this one was mapped to the D: drive):



4. Double click on the **F:\** drive (memory stick) to get into this area.
5. Once you have gone into your **F:\** drive, create a folder (i.e. directory) by right clicking the F:\ drive and selecting *New>Folder*. Call the new folder **cs1033**. *This is where you will store your labs files for the course.*

In the next steps you will learn how copy to a memory stick the lab files (images, documents, video clips, sound clips etc.) that you will be provided with for each lab. For each lab, you will copy the files containing images, documents, video clips, to your F: drive (memory stick). You will need to copy them to your F: drive in the cs1033 folder (directory) every week for each lab.

6. On your memory stick, move to the folder you created above called **cs1033** (it will likely be put on the F: drive)
7. Move to the *cs1033* folder and create a folder called **lab01**  
**NOTE: it is VERY important you name your files and folders carefully and use the exact same spelling and exact same case (usually make every file/folder name lowercase with no spaces in the folder name or file name)**
8. Move to the **cs1033/lab01** folder and create a folder called **images**
9. Move to the **cs1033/lab01/images** folder.
10. Using a browser such as Chrome, IE or Firefox open the following website:  
<http://www.csd.uwo.ca/~lreid/cs1033labs/lab01/images>
11. Right click on the file called [middlesexcollege.jpg](#) and select *Save target as...* (or *Save picture as...*) and save this file to the folder on your memory stick called **cs1033/lab01/images**
12. Right click on the file called [thegradclub.jpg](#) and select *Save target as...* (or *Save picture as...*) and save this file to the folder on your memory stick called **cs1033/lab01/images**
13. Using a browser such as Chrome or IE, open the following website:  
<http://www.csd.uwo.ca/~lreid/cs1033labs/lab01/>
14. Right click on the file called: *picturepage.html* and save it to your memory stick to the folder called **cs1033/lab01**
15. Right click on the file called: *lab01.doc* and save it to your memory stick to the folder called **cs1033/lab01**
16. Right click on the file called: *lab01.pdf* and save it to your memory stick to the folder called **cs1033/lab01**
17. Your memory stick should now look similar to this:

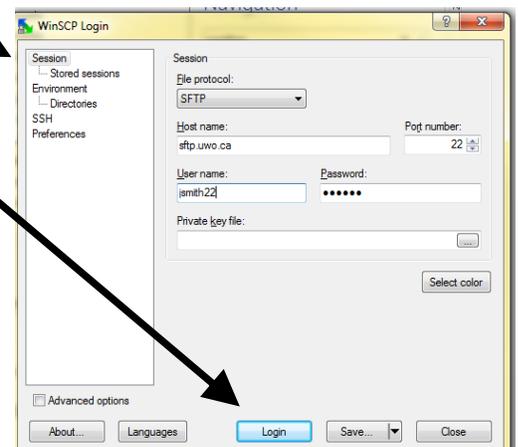
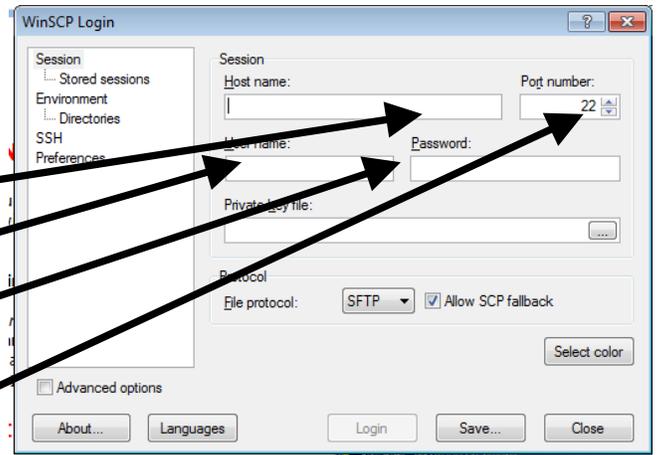


## LAB #1 – Exercise 2 – Connecting to the Western web server called Panther and copying files up to it.

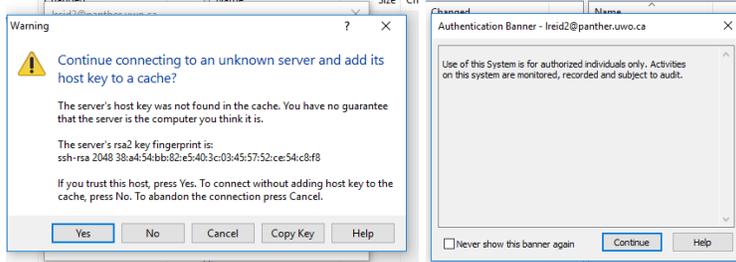
You are now going to learn how to use WinSCP to connect to the Western web server called *panther* (the remote server that will store your completed webpages).

Since *panther* is a remote server, you must use a SFTP program such as WinSCP (or Fugu or Filezilla for Mac users) to connect and copy files onto *panther*. In the previous exercise, when you did "Activate my Personal Web Site", you created a "publish area" (a folder called `public_html`) – this is where you will put a copy of your completed websites/files/assignment work so that they are viewable on the Internet (in other words, "publishing" your websites).

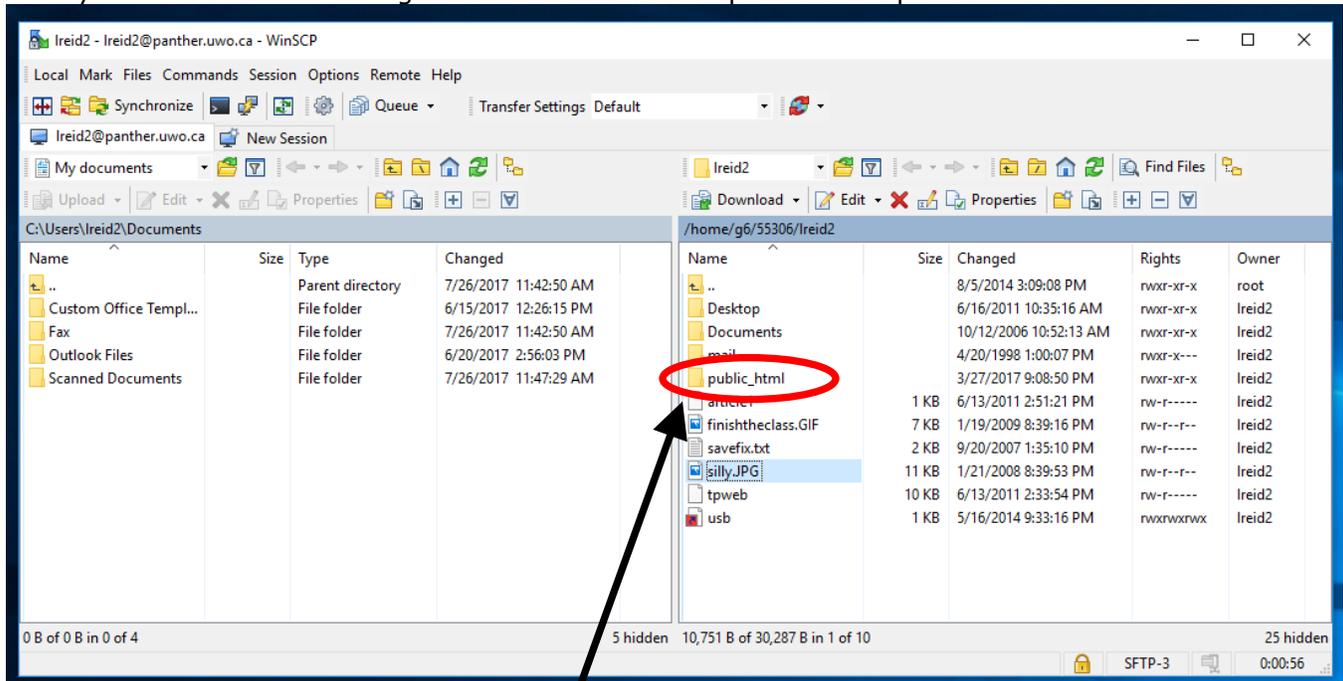
1. Open **WinSCP** (either click on this icon  OR click on the Search Windows magnifying glass in the bottom left corner and type WinSCP and click on the WinSCP icon)
2. Select the **Quick Connect** button. You will then see the screen to the left.
  - Enter ***sftp.uwo.ca*** in the **Host Name:** box
  - Enter your Western userid in the **User name:** box
  - Enter your Western password in the **Password:** box
  - Make sure the **Port Number:** is 22
  - Your screen should look similar to this
  - Then click on the **Login** button



3. You may then see these two windows, just click on **Yes** and **Continue**



- Next you will see the following screen. The screen is split into two panels:



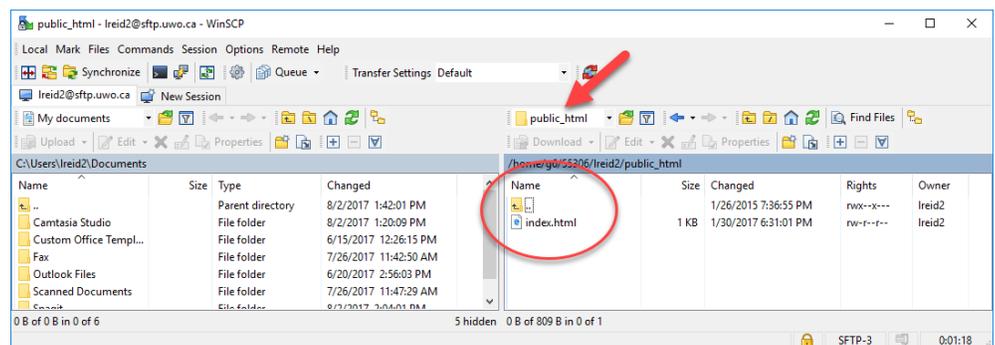
- **The left panel** is your local computer side (or your memory stick if you navigate to it) We call this the Local Side.
- **The right panel** is the *panther* server files and we call this the Remote Side. NOTE: any files you upload to the remote side could potentially be viewed by anybody if they know the proper website address!

- Refreshing your Panel:** There will be times when you won't see your files on either side of the panels after you have uploaded. If this is the case, you can always refresh the panel.

Do this by clicking on the Refresh button/icon (white icon with 2 green arrows)  or press ctrl-R for both panels. Remember you have to refresh each side in order to see the latest on each side.

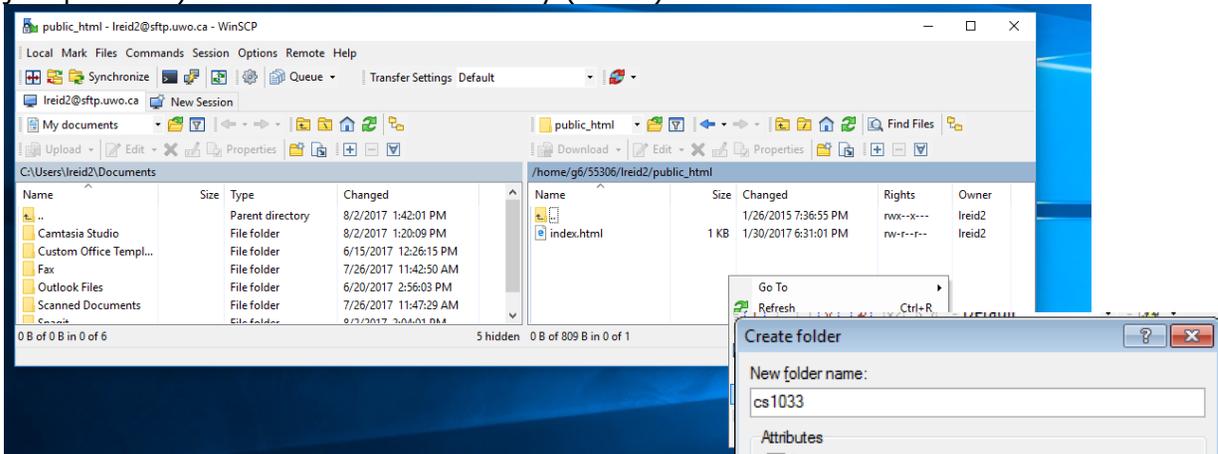
- Find a folder called **public\_html** on the Remote Side (right side). You will be moving/uploading your files into this folder for the labs and assignments. NOTE: if you did not complete steps 1 and 2 in Exercise 1 at the very beginning of this lab, this folder might not exist!

- Once you have found that folder, double-click the **public\_html** folder (This is your directory called your "publish area"). Note: your public\_html folder (directory) might contain other files as well – ignore these for now.

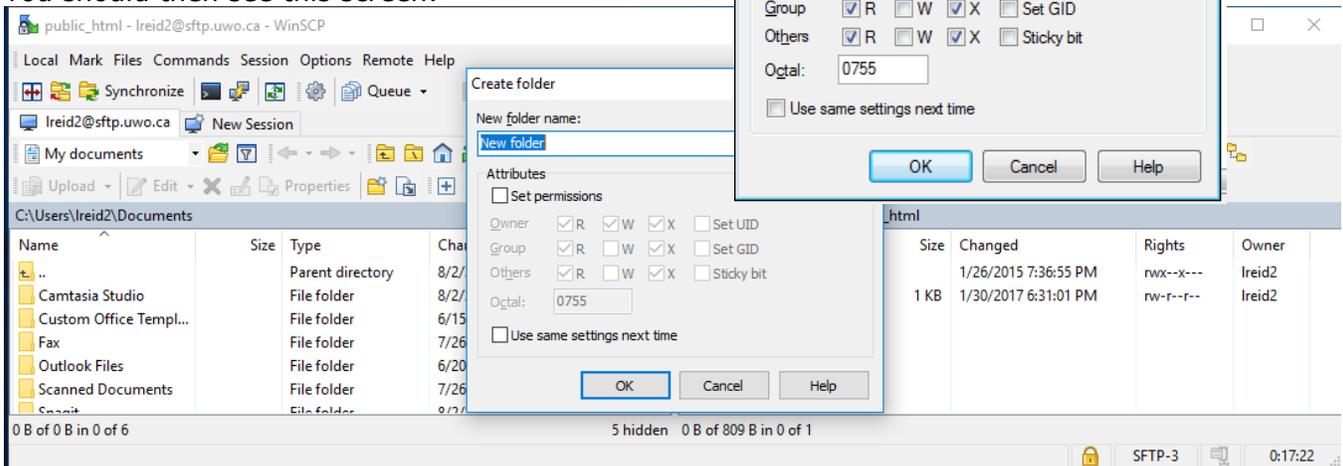


Make sure you have clicked on the right side panel (the bar will be a darker blue). This means you are active on the server side. Then click on the F7 Create Directory button (or

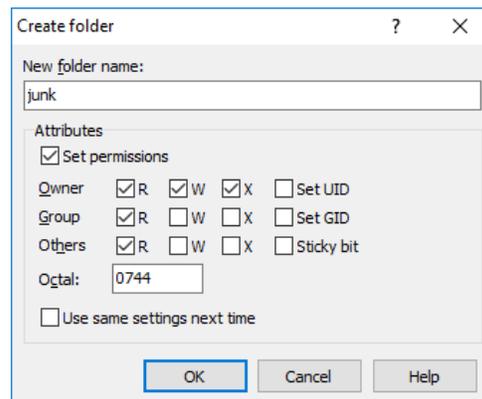
just press F7) and create a new directory (folder).



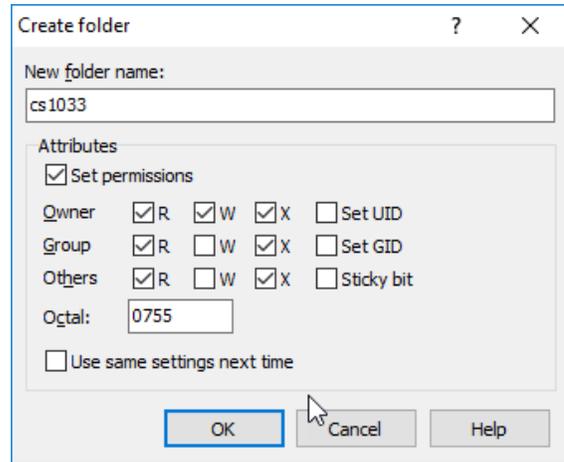
You should then see this screen:



8. Give the new folder the name **junk** (ALL IN LOWER-CASE AND WITH NO SPACES) and click on the Set Permissions box.
9. Click on the **Set Permissions** box just under attributes and make sure your permissions checkboxes are identical to this  
→  
The Octal box should say 0744  
Then hit the **OK** button.



10. Create another folder called **cs1033** (all lower case with no spaces) and click on the Set Permissions box.
11. This time set the permissions to Octal **0755**. It should look like this →

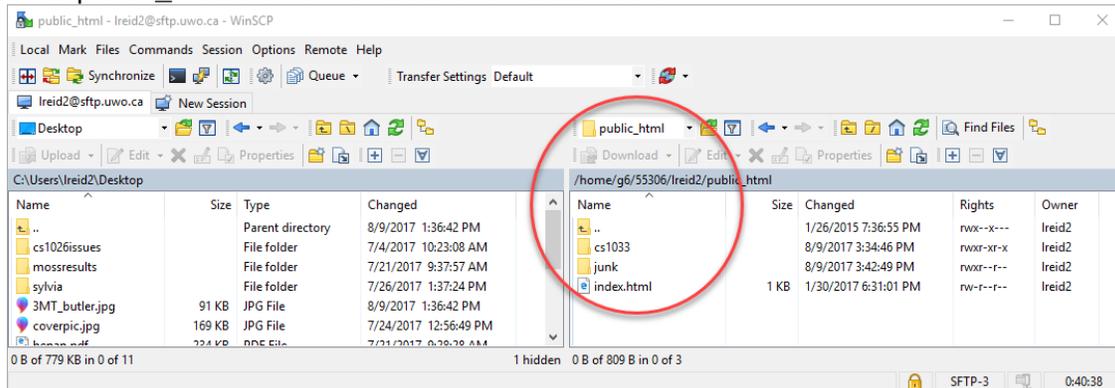


The permissions determine if everyone on the internet can see your folders and files or not. In a few steps you will see what happens if you do not have the permissions set correctly.

NOTE: NORMALLY when you create/upload a folder the permissions will automatically be **0755** and when you upload a file the permission will normally be **0644**. THESE

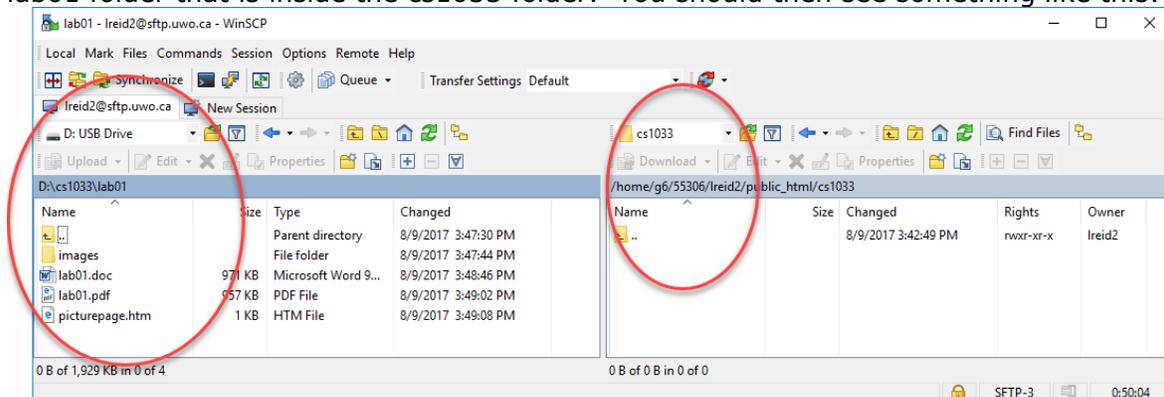
ARE THE PERMISSIONS WE WANT. If for some reason someone isn't authorized to view your folder or your files, this is a good thing to double check, the permissions!

12. Your public\_html folder should now look like this:



13. You are now going to upload (transfer) files from your local computer to the Remote side (panther server).

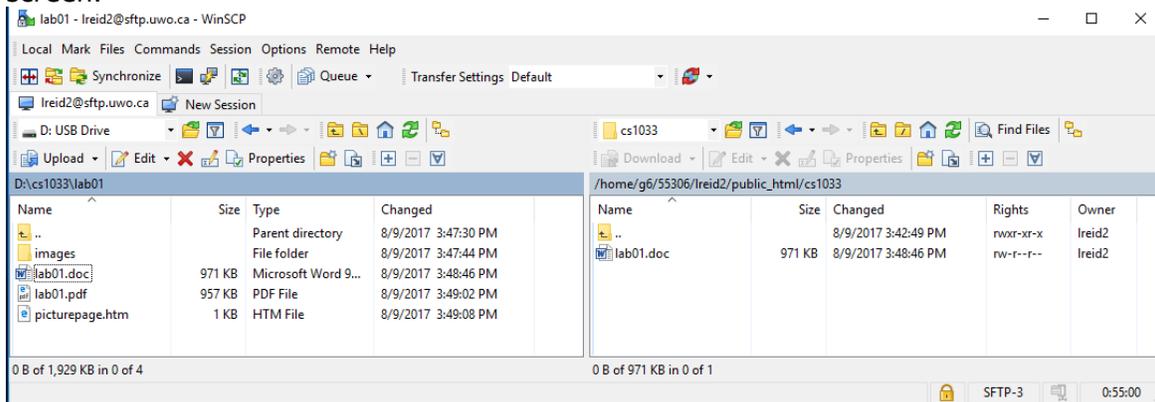
Double click on the cs1033 folder in the right hand panel that you just created so that you are positioned IN the folder. Move your mouse over to the drop down box in the left hand panel near the top of the screen, click on the drop down button and select the memory stick (the F: drive). Then on this *left side*, find the cs1033 folder you created and click IN to the lab01 folder that is inside the cs1033 folder. You should then see something like this:



14. To copy a file from your local machine to the server (this is called uploading), just click on the file in the left pane and then press the **F5 (copy) button**, OR **drag it** from the left side panel over to the right side panel and drop it there OR press the Upload button

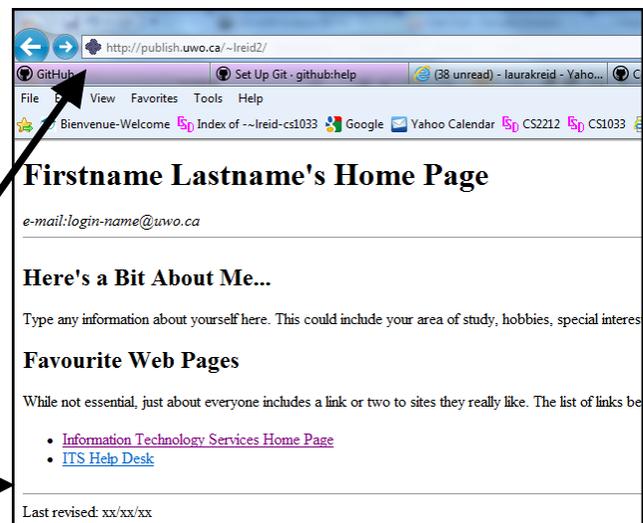


in the left pane OR right click on the file and select the Upload button. Try it NOW by copying the file called **lab01.doc** by dragging it from the left side panel to the right side panel. You will then see something like this: You might have to refresh your right screen.



15. Now we want to double check if our file is really on the internet by opening a browser (like IE or Chrome or Firefox) and viewing it.

Open up a browser and go to your personal web area that is provided to every Western student. Your personal web area will be at: <http://publish.uwo.ca/~youruwouserid> REMEMBER *youruwouserid* means **your** Western username, for example: jsmit2 You should see something at first like this: (Notice that Western gives every student a default template for a home page) that looks like the side image.



16. Now try to see the page you just uploaded by going into the directory called cs1033. So add **/cs1033** to the end of the above webaddress. Thus, the new webaddress will be: <http://publish.uwo.ca/~youruwouserid/cs1033> REMEMBER *youruwouserid* means **your** Western username, for example: jsmit2 You should see something like this:

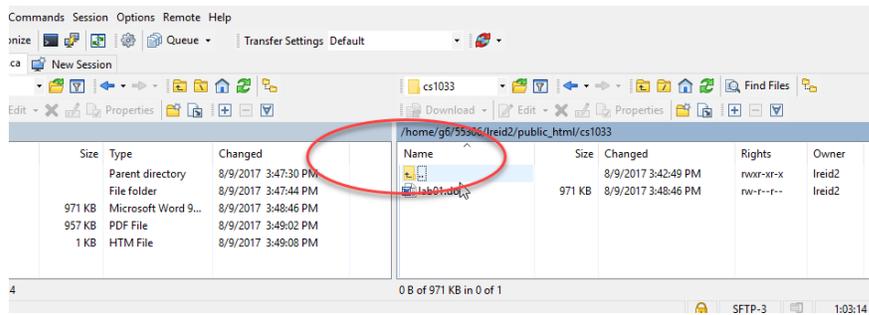


## Index of /~lreid2/cs1033/

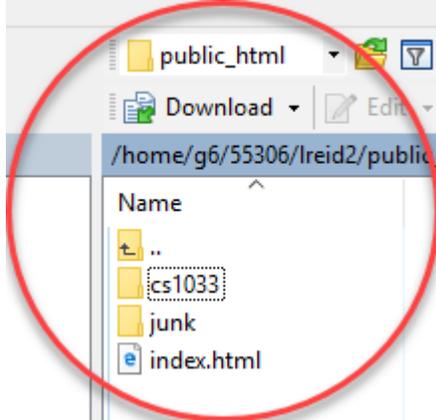
- [Parent Directory](#)
- [lab01.doc](#)

17. Then try to click on the lab01.doc file. It should attempt to download (save) the file or perhaps open it, just hit Cancel

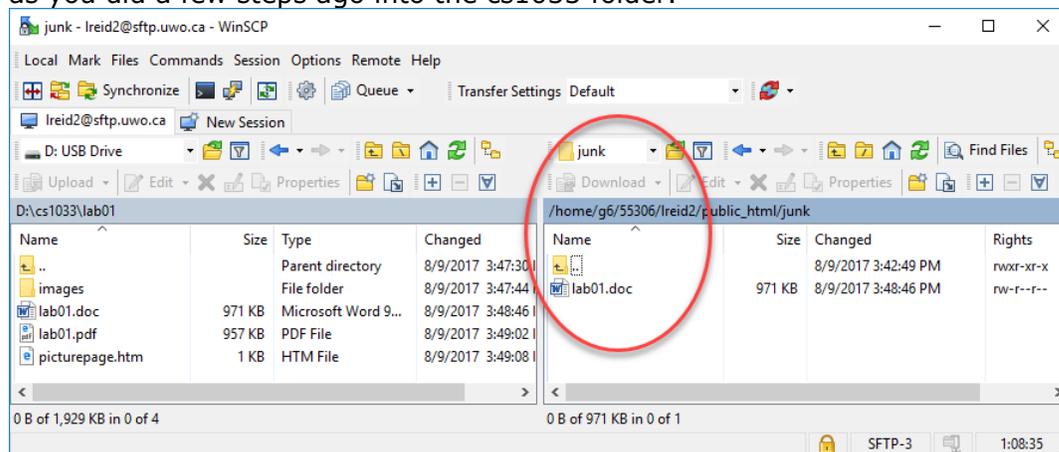
18. Now switch back to the WinSCP program and double click in the right pane on icon that looks like a folder with a .. after it This will take you up one directory.



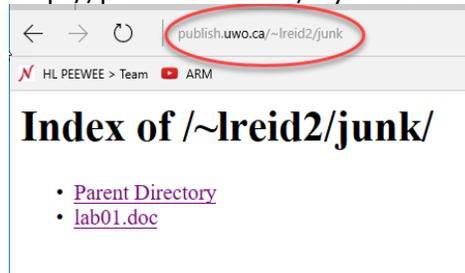
19. You should now see both the **cs1033** folder and the **junk** folder like this:



20. Now double click into the junk folder (remember that we gave it different permissions than the cs1033 folder). Copy the lab01.doc file over from the left pane into the junk folder just as you did a few steps ago into the cs1033 folder.



21. Go back to your browser and open up this folder with the following web address: <http://publish.uwo.ca/~yourwesternuserid/junk> You should see something like this:



22. Now try to click on the lab01.doc file and you should get this screen:



## authorization required

Sorry. You have not been authorised to access this resource.

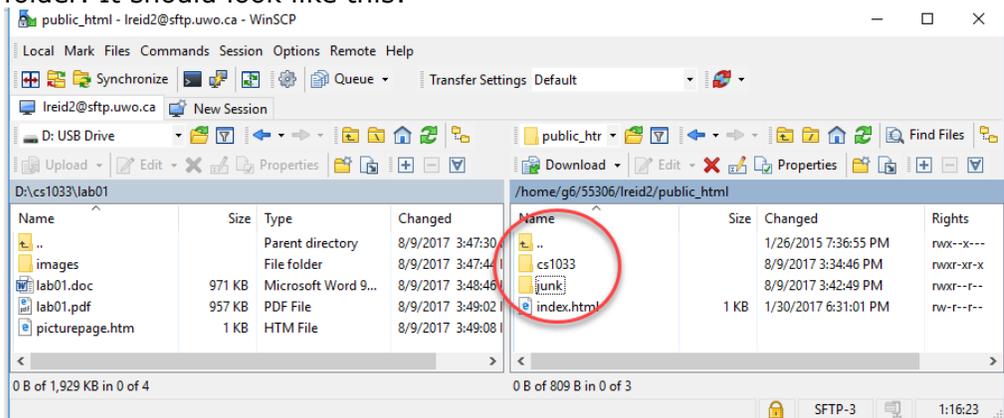
This page is accessible to users with a valid userid and password



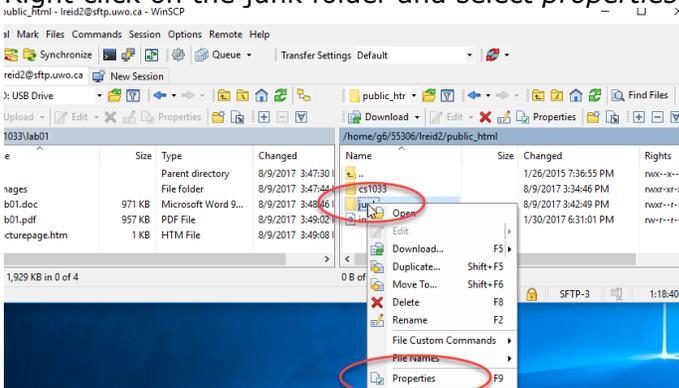
- This error indicates that the username and password passed to the server do not match those required to log on.
- passwords are case sensitive. Try switching the CAPS LOCK on/off, to make sure that you were using the correct case.
- userid's are your UWO id without the @uwo.ca
- Please make a note of the entire address you were trying to access and then email

You are getting this screen because the permissions were not set correctly on your **junk** folder. For a folder, the permissions should ALWAYS be 0755 (unless of course you don't want people to be able to see what you have posted on the web) and for your files, the permissions should be 0644. Let's fix these and see if it works

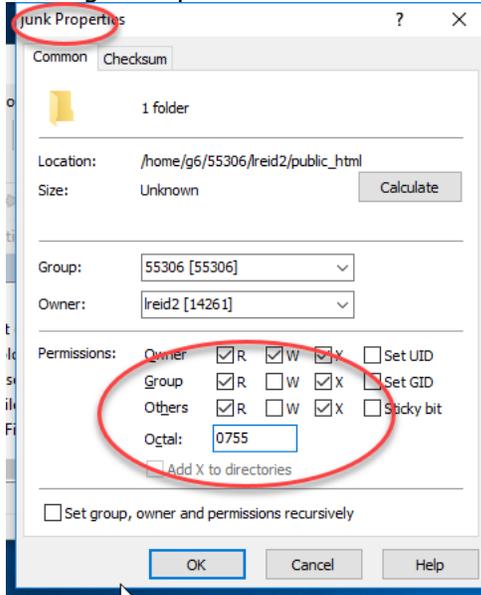
23. Go back to WinSCP and make sure you are in your `public_html` folder BUT NOT in the **junk** folder. It should look like this:



24. Right click on the junk folder and select *properties*



25. Change the permissions to Octal 755 and press OK



26. Now go back to your browser open up this folder with the following web address:  
<http://publish.uwo.ca/~yourwesternuserid/junk> and try to click on the lab01.doc file again.  
This time you should be able to download/save/open it.

Congratulations! You have posted your first item on the web (from now on, we will post web (html) pages and pictures) but you can really post anything on the internet, even a MS Word .doc document, as we just did ☺

**IMPORTANT: Always remember** to set your permissions and remember that the Octal permissions for:

- folders/directory must be 0755
- files must be 0644 (files such as .jpg/.gif, video files, webpages etc, must have the permission of 644)

If the permissions are not set correctly, then when you try to view it from the browser you will get an error message saying "*Authorization Required...*"

### **LAB #1 – Exercise 3 – Practice uploading to panther.**

1. Make a folder called **lab01** on panther (the right pane) INSIDE the cs1033 folder(directory), i.e. make lab01 a subdirectory (folder inside another folder) of cs1033.
2. In WinSCP, on the local machine (the left pane), inside your cs1033/lab01 folder, find the file called **picturepage.html** and a folder called **images/**.
3. Rename **picturepage.html** to **index.html**.
4. Upload **index.html** as well as the **images/** folder into the lab01 subfolder of cs1033
5. Set up the permissions for the files and folders that you uploaded. **DOUBLE CHECK → DID YOU SET THE PERMISSIONS ON THE FOLDER(S) TO 0755 and the files to 0644?**

6. Go to your website to preview the page.  
**http://publish.uwo.ca/~username/cs1033/lab01**
7. If you are able to view your files from the browser then close WinSCP and move onto the next exercise.

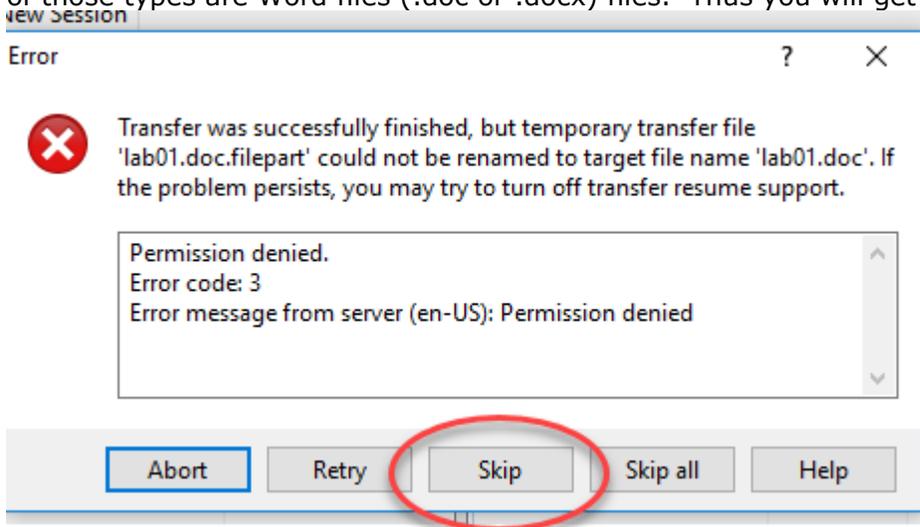
## **LAB #1 – Exercise 4 – Practice uploading to another web server, the gaul web server.**

**You are now going to learn how to use WinSCP to work with the gaul server. It is very similar to making the connection to the panther server.**

1. Make sure you have closed the WinSCP (click on the X or close it) from the last exercise and restart it up again.
2. **To connect to the gaul server** (which is Computer Science Dept's server), in the dialog box for **WinScP** use the following information:
  - a. **Host Name:** *cs1033.gaul.csd.uwo.ca* →
  - b. **Username:** Your Western username, for example *jsmit2*
  - c. **Password:** Your Western password
  - d. **Port:** *1033*
  - e. **File Protocol:** This SHOULD by default be SFTP, but if it is FTP, change it to SFTP
3. Once the connection is made, on the right side (the remote side now being the gaul server), you will be put right in the directory where you will upload your lab01 folder (i.e. this time you do NOT have to move to publish\_html)
4. Make a folder called **lab01** on the remote side as you did for panther. (This time you will NOT have it inside of a folder called cs1033). You are creating it at the root level which is where WinSCP places you once you connect to the server.
5. Now move into that directory lab01 by double clicking on it. You are now in the lab01 folder on the remote side.
6. From the Local side, navigate to your F: drive and into the lab01 folder.
7. Highlight all the files on this side by holding down on the Shift-key and clicking on the first file in that directory and the last. It will have highlighted all the files.

**NOTE: later on, when you do an assignment:** Mac users will be using Filezilla instead of WinSCP (since WinSCP is a pc application). If you are using Filezilla, you need to use this Host Name:  
*sftp://cs1033.gaul.csd.uwo.ca*

8. Drag your files from your machine (on the left panel) the right panel (which is the gaul server). On the gaul server, there are certain types of files we don't want you to upload. One of those types are Word files (.doc or .docx) files. Thus you will get a message like this:



Select the Skip option so that it keeps uploading the other files.

9. To double check that this worked you will need to go to a different web server this time using your browser. Go to this location with your browser:  
<http://cs1033.gaul.csd.uwo.ca/~yourWesternUserId>
10. Then click on the lab01 folder
11. Then click on the picturepage.html to make sure it opens (so that you know the permissions were set correctly).

If you are getting authorization messages, or broken image icons, then you need to set permissions correctly for the files and folders on the remote server side just as you did above with panther. Permissions on the gaul server should be set automatically but if you can't see files, and images, then set the correct permissions and preview your files from your browser again.

12. Call your TA to check your work and receive your mark for this lab.

**13. REMEMBER TO REMOVE YOUR MEMORY STICK FROM YOUR MACHINE AND PUT IT IN YOUR BACKPACK! (don't forget it in our lab machines)! 😊**