Web Publishing and FTP Software

Web Publishing Defined

- Web publishing is a two-step process, similar to publishing a book:

1. Creating web content (i.e. a website).
   - analogous to writing your book
   - Creating your web site is done on your local computer
   - Can be done simply with any text editor
2. Making your web content available for viewing
   - analogous to making copies of your book, and then making them available for purchase
   - Making your website available to the public requires you to place your files on a web server (i.e. a remote computer)
   - How do you transfer files from one computer to another over a network? ANSWER: FTP

File Transfer Protocol

- FTP is the standard by which specialized software is used to transfer data (i.e. files) from one computer to another over the Internet, or through a network
- Requires client and server software, i.e. not only must a client have FTP software to connect to another computer, the other computer must be equipped to accept and process the file transfer requests

FTP Client Software

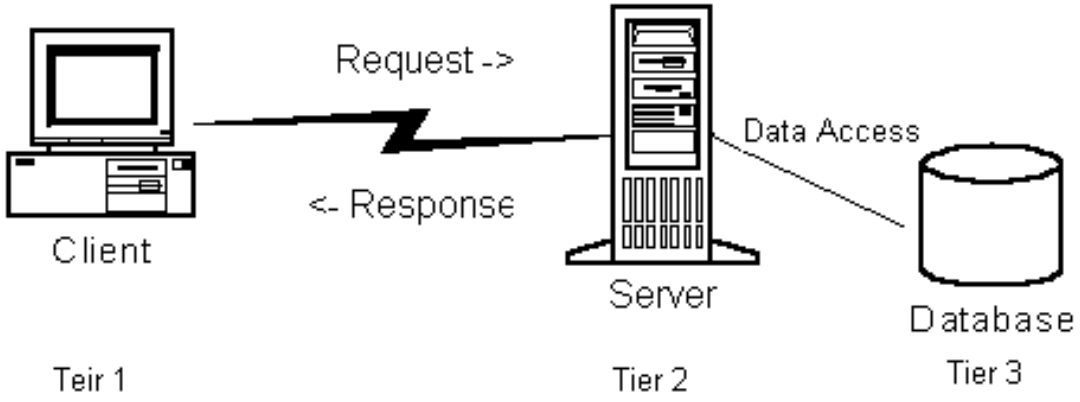
- Wikipedia lists dozens of FTP client software tools that will perform file transfers

  https://en.wikipedia.org/wiki/Comparison_of_FTP_client_software

- For this course we will be using a program named WinSCP, for several reasons:
  - it works well (not perfectly)
  - it is easy to use
  - it supports SFTP (Secure FTP) which means your password and user id are sent encrypted (instead of plain text)
  - it is free (like all the software we use in this course)
- Download from the course website's software page

3-Tier Architecture

- The web is based on a 3-tier architecture



- The client, in a browser, sends a request (either by entering a URL or clicking on a link)
- The “request” is sent across the network to a computer that is configure to handle web requests, i.e. a server (specifically a web server)
- The server retrieves the requested information (either a web page from a file, or possibly a database)
- The web server send backs the requested information (i.e. sends a “response”)

Web Servers

- A server is usually just a simple, but powerful, networked computer
  - Simple in the fact it does not need have great video, audio or peripheral devices (printers, scanners etc)
  - Powerful, as it should be loaded with fast processing, a lot of memory, with access to a lot of storage
  - Networked so that it can interact with “clients”
  - A computer in the fact that it has an operating system and is loaded with specific software (what software depends on the purpose of the server)
- Therefore a web server is just a server (i.e. simple, powerful networked computer) that has been loaded with specialized software that is equipped to accept requests and issues responses from the clients over the World Wide Web (simply called “web server software”)

Common Web Server Configurations

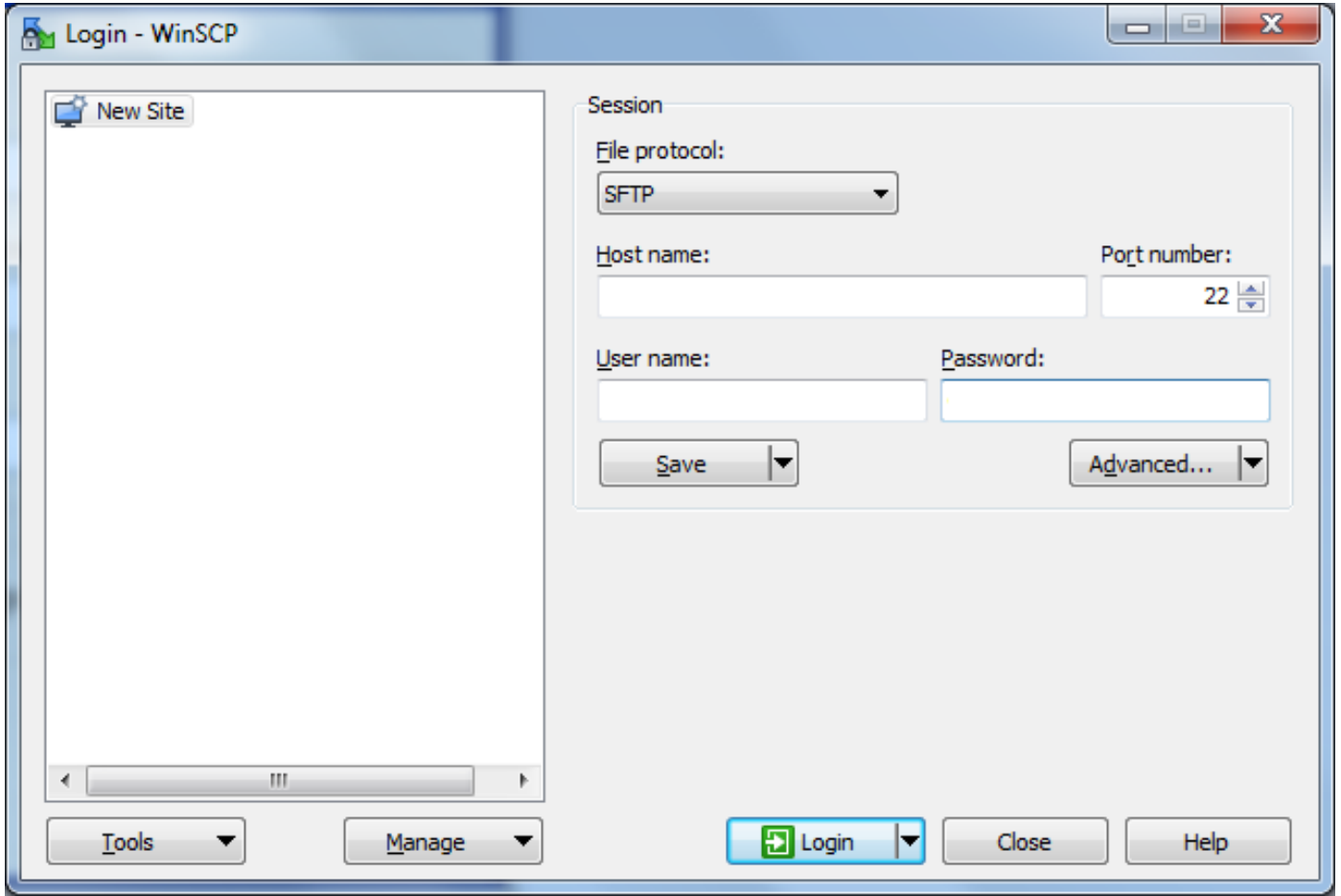
- Usually web servers take on two basic configurations (~ 75% of the web):
  - A Windows OS running MicroSoft (MS) Internet Information Services (IIS) web server
  - Or, a UNIX/Linux/UNIX-like OS running a version of Apache web server software
- Both configurations work
- Apache with a UNIX-flavoured OS is the most popular (because unlike MS it is all free)

Our Web Server

- The course server is named opentech.durhamcollege.org
  - It is running the Ubuntu Linux OS (a UNIX-like OS)
  - With Apache
- N.B. everything we are using in this course is legitimately **FREE!**
  - This means you could replicate the whole server setup when you leave the college on your own

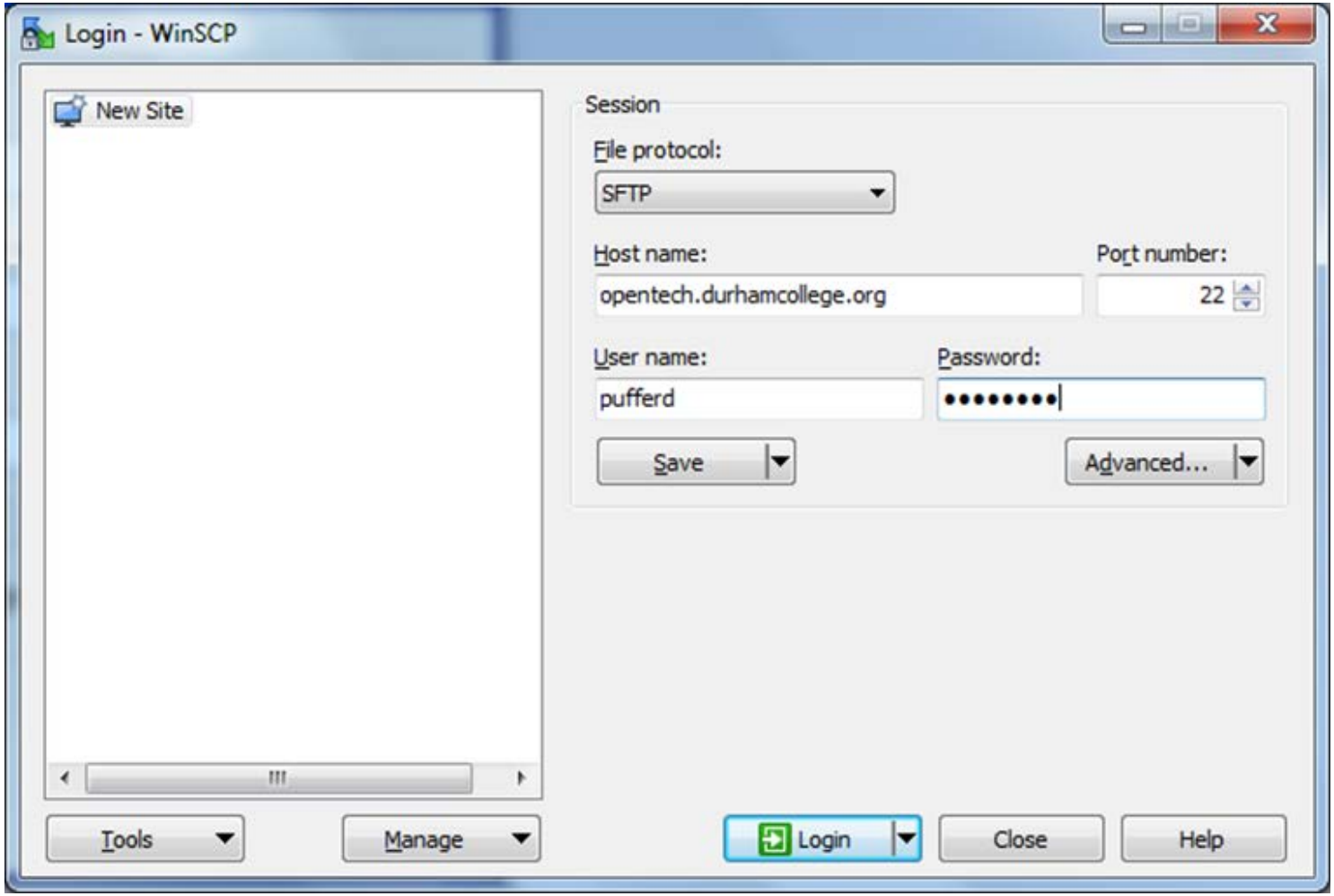
Connecting to the Server

- After running the setup file for WinSCP, go to Start->All Programs -> WinSCP
- Will bring up the following window:



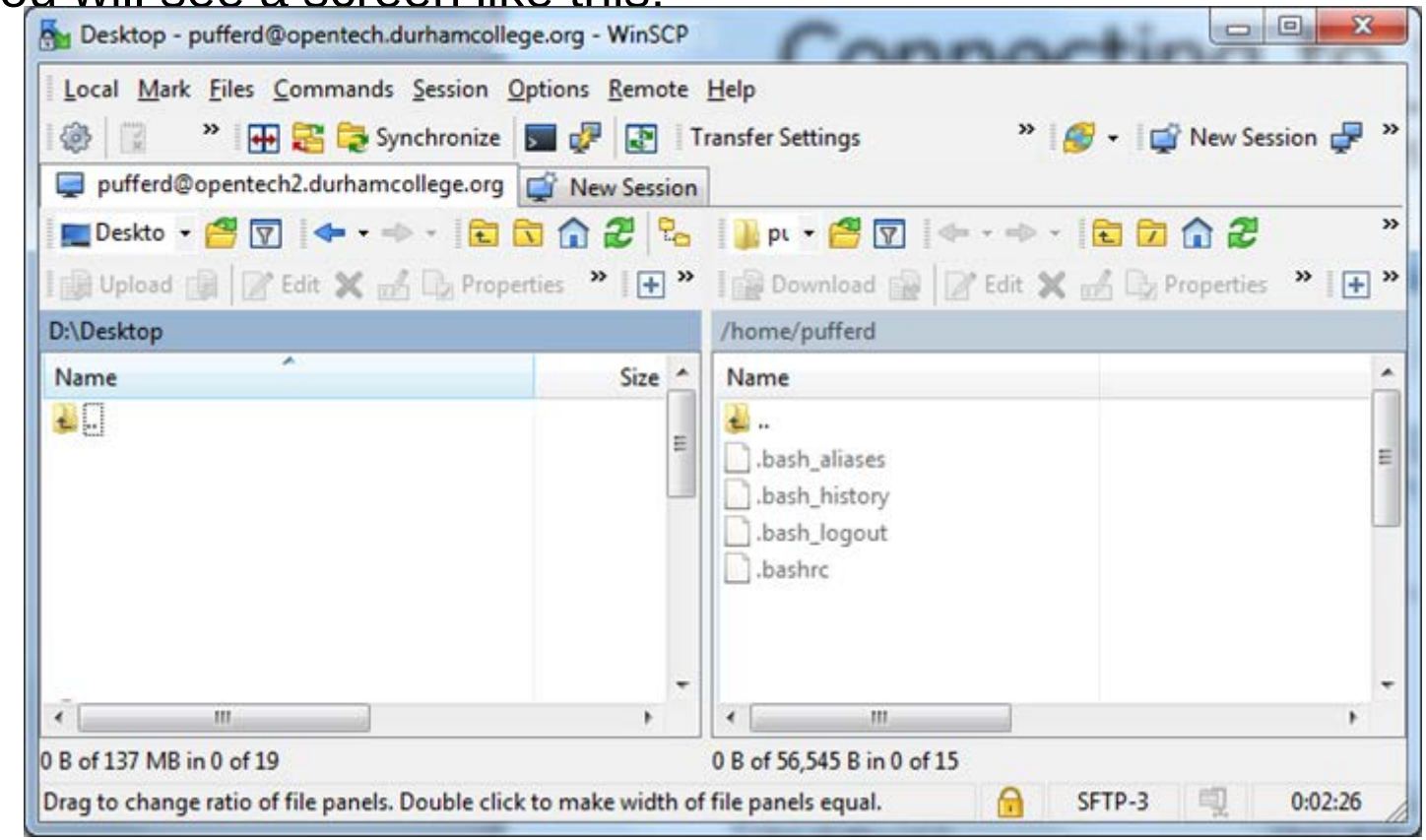
Connecting to the Server

- Enter into host name: opentech.durhamcollege.org
- Your user name is: lastnamefirstinitial (Bill Smith would be smithb)
- Your default password is your student number (NOTE: this should be changed)
- Click “Login”



Connecting to the Server

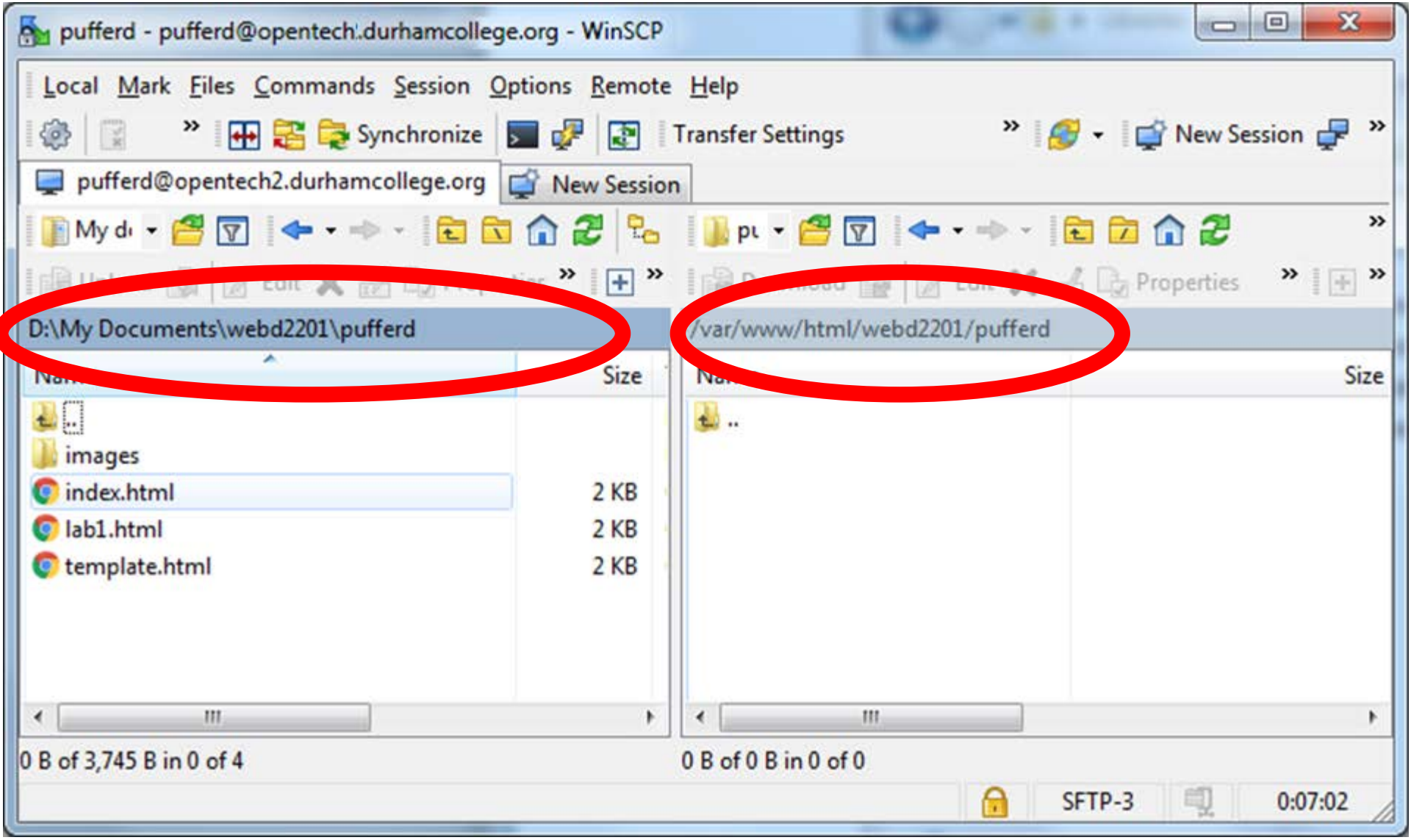
- If prompted about a license, click ‘Yes’
- You will see a screen like this:



- The left hand window is your local machine (the client)
- The right hand window is the opentech machine (the server). N.B. the default location is the /home/userid folder, this is not where your files should go

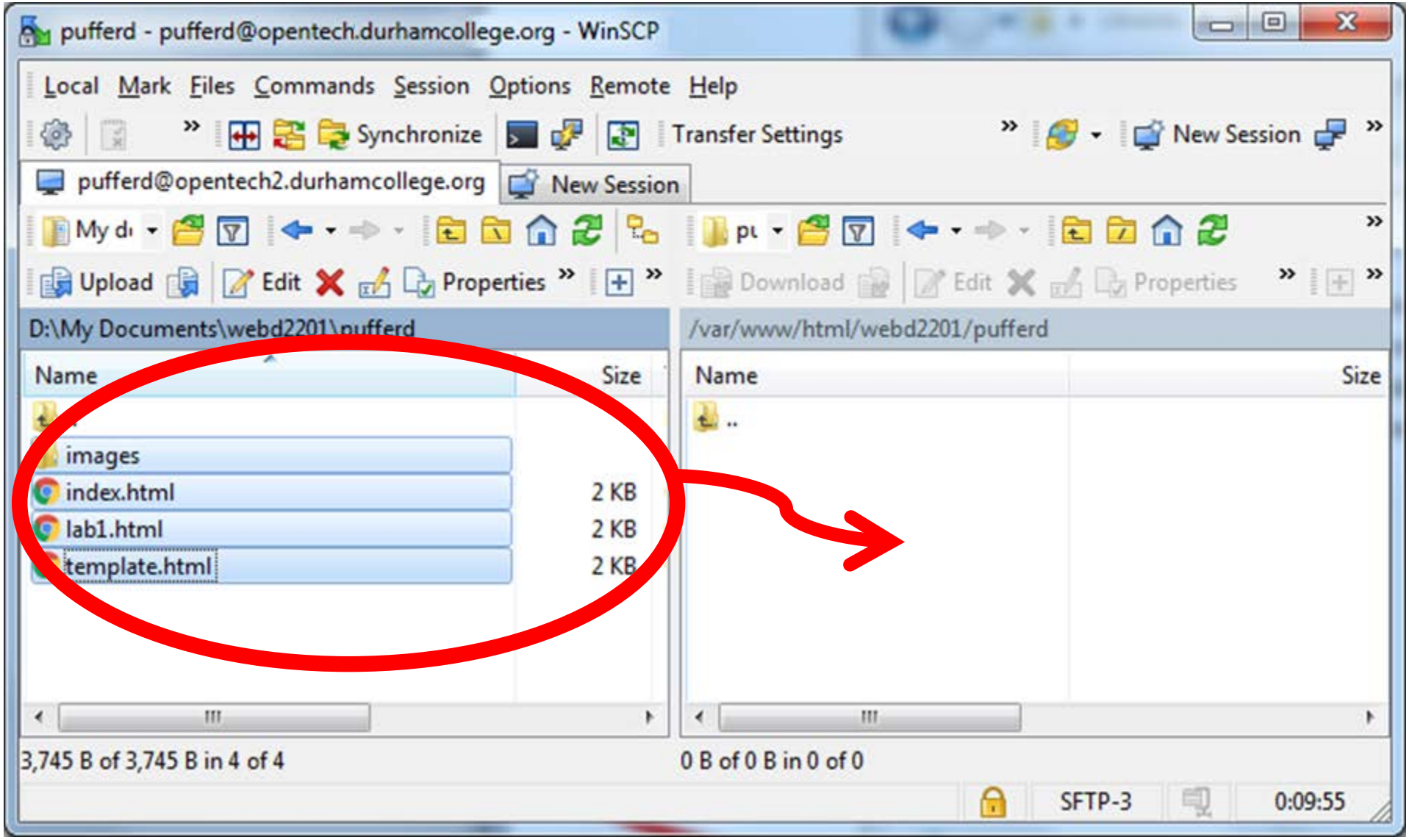
File Locations

- Redirect the left-hand window to where ever your website resides on your local machine
- Redirect your right-hand side window to `/var/www/html/webd2201/userid`
  - N.B. `userid` is your `lastnamefirstinitial`
  - This is where your files have to be for the web server (i.e. Apache) to be able to serve them up


pufferd - pufferd@opentech.durhamcollege.org - WinSCP
Local Mark Files Commands Session Options Remote Help
Synchronize
Transfer Settings
New Session
pufferd@opentech2.durhamcollege.org
New Session
Properties
D:\My Documents\webd2201\pufferd
/var/www/html/webd2201/pufferd
Size
images
index.html 2 KB
lab1.html 2 KB
template.html 2 KB
Size
0 B of 3,745 B in 0 of 4
0 B of 0 B in 0 of 0
SFTP-3
0:07:02

File Transfer

- Select the files/folders to be placed on the folder in the left-hand window
- Drag them onto right hand window
- The file transfer will take place (it should take a few seconds)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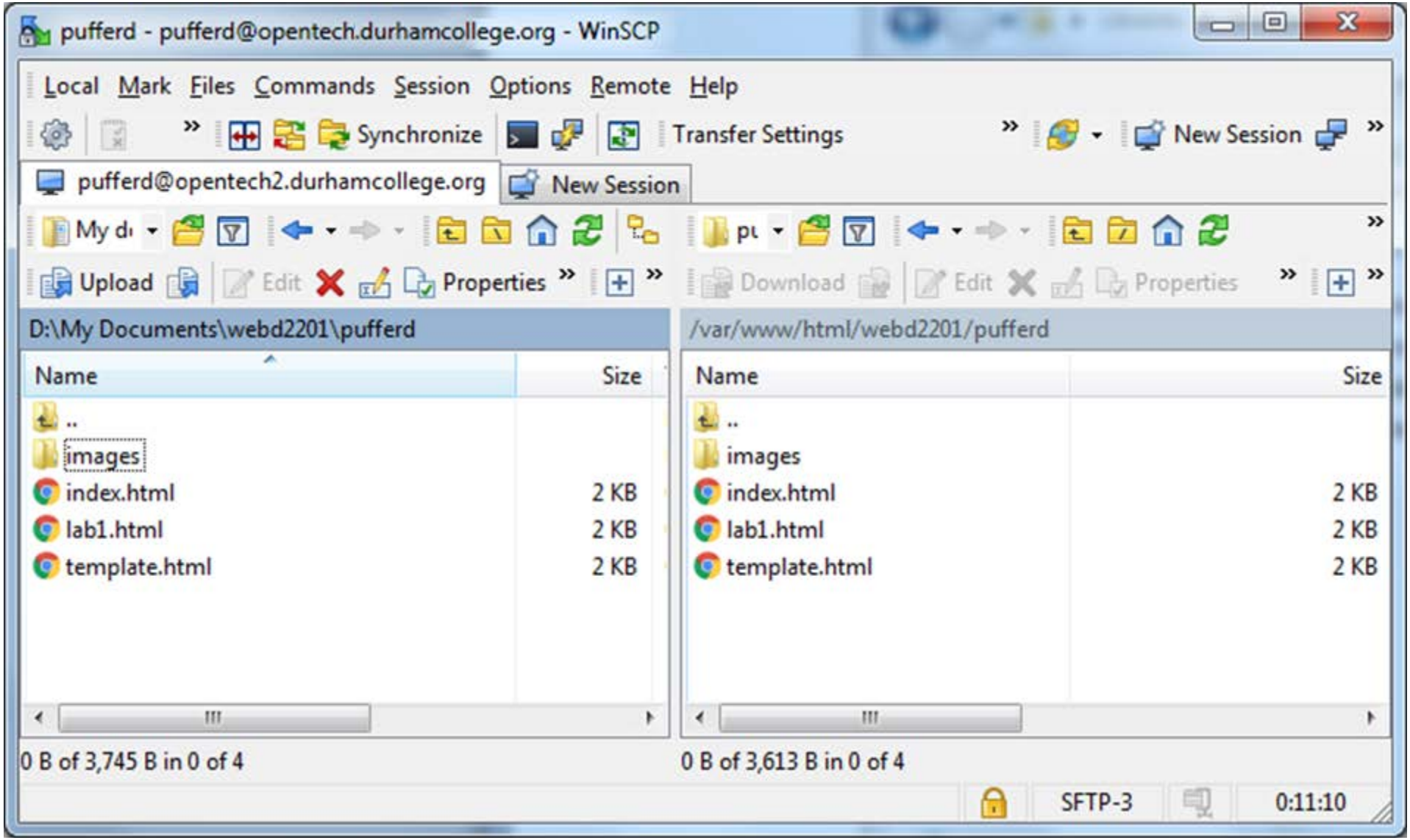
Synchronize
Transfer Settings
New Session
pufferd@opentech2.durhamcollege.org
New Session
Upload
Edit
Properties
Download
Edit
Properties
D:\My Documents\webd2201\pufferd
/var/www/html/webd2201/pufferd
Name
Size
images
index.html 2 KB
lab1.html 2 KB
template.html 2 KB
Name
Size
..
3,745 B of 3,745 B in 4 of 4
0 B of 0 B in 0 of 0
SFTP-3
0:09:55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New Session
Upload
Edit
Properties
Download
Edit
Properties
D:\My Documents\webd2201\pufferd
/var/www/html/webd2201/pufferd
Name
Size
..
images
index.html 2 KB
lab1.html 2 KB
template.html 2 KB
0 B of 3,745 B in 0 of 4
0 B of 3,613 B in 0 of 4
SFTP-3
0:11:10

Tips for Web Publishing

- When you are logged in and at the right locations click:

  `Session -> Save Workspace`

  - This means the next time you login (from the same computer) you will not have to redirect to the proper directories (you will already be there)
- UNIX and UNIX-like operating systems (e.g. Linux) are case sensitive, therefore if you have a file named "`logo.JPG`", your image that has a source of "`logo.jpg`" will not be found or rendered.
  - **NOTE: you are encouraged to make all of your files lowercase, then there should not be an issue of your images or links being "broken" based on case sensitivity issues**
- You should ***always*** check/test your webpages, once they are published on the server, to ensure none of your links/images are broken. If there are problems, make corrections to the file(s) and re-publish them on to the server

To check your Website

- Your files exist in the `/var/www/html/webd2201/userid` folder
- If you place http://opentech.durhamcollege.org/webd2201/userid

  in the address bar of your browser it will find the `index.html` file in your folder
- Click on all of your links to make sure your whole web site is there