Using WinSCP

1. WinSCP. What is it?

WinSCP is a free Windows-based utility software which allows you transfer digital content like files and folders between computers which may be local (e.g. your lab computer or laptop) and remote (e.g. your deepblue account).

WinSCP works in much the same way as Windows Explorer in that you can select files and folders, then drag and drop them into their destination.

### 2. Obtaining the WinSCP software

If you are using your own laptop or desktop computer, make sure you have WinSCP (or equivalent) installed. You can get the free WinSCP software for Microsoft Windows from `www.winscp.net`.
Simply download the WinSCP software from that site and install it. If you are using an Apple or a Linux distro laptop, contact the instructor for alternatives.

For any CST lab computer in Tech 150 and Tech 151 the software WinSCP will have been installed.

3. Launching WinSCP

From the Windows Start button, select the WinSCP program group and the WinSCP client.
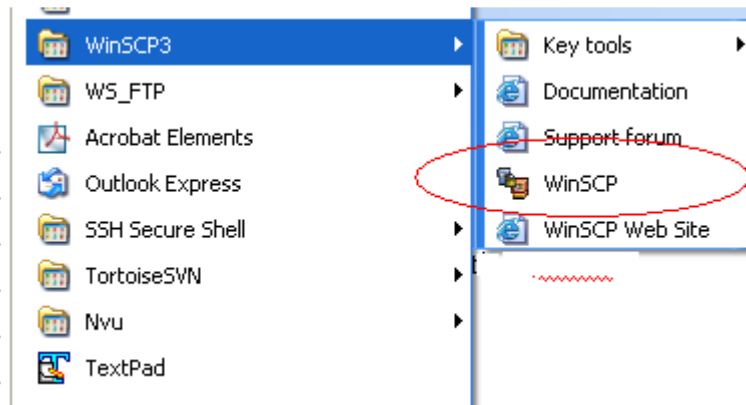
The WinSCP Login panel will appear. Fill in the Host name, your user name and password entries as shown. Upper case or lower case is fine.
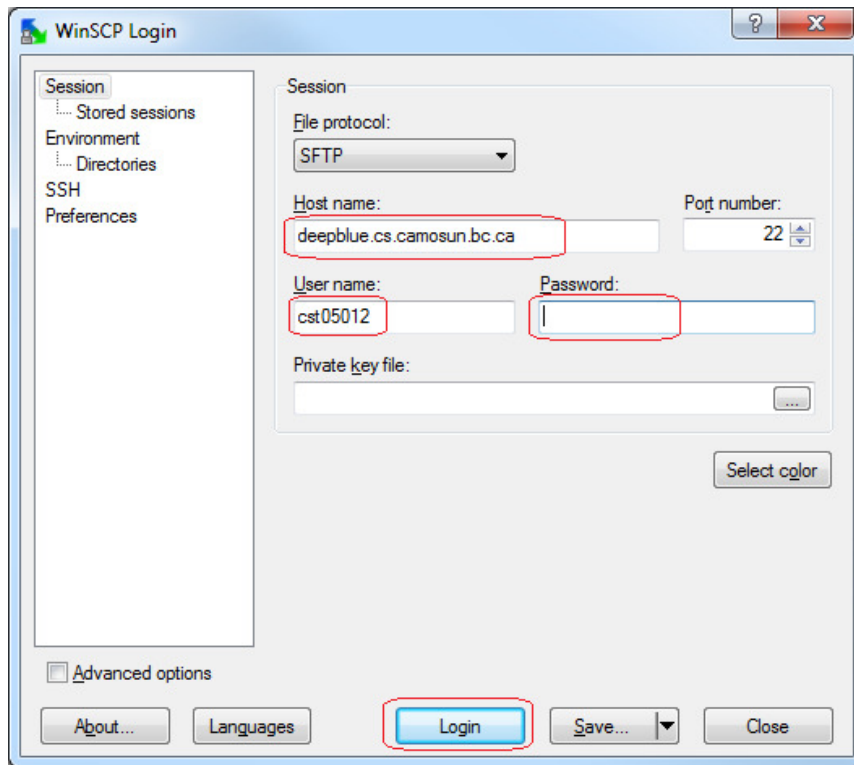
File protocol: SFTP (secure FTP) leave this as default
Host name: **deepblue.cs.camosun.bc.ca**

Port number: 22 (leave this as default)
User name: **cstxxxx** (your deepblue account)
Password: xxxxx (your deepblue password)
Private key file: (do not enter anything)

You will have your new deepblue cst account and its password sent to you as a confirmation email when you registered with DreamSpark:
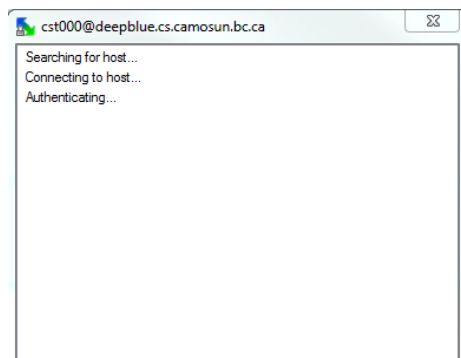
`http://hal.cs.camosun.bc.ca/mailman/listinfo/cst1`
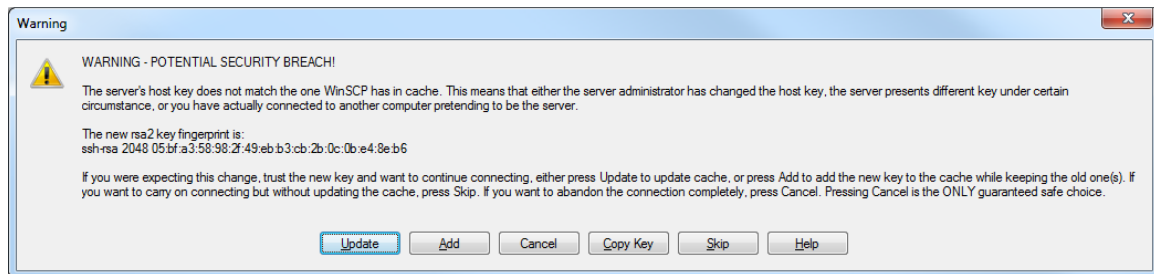

Click Login button to connect.

This connection dialog window will appear for a moment.

If this Warning panel pops up during the initial connection, just click on the Update button.

If the connection worked (no problem with user ID or password), then the WinSCP interface window will appear as shown below. If there was a connection problem, redo the login process or contact the instructor.
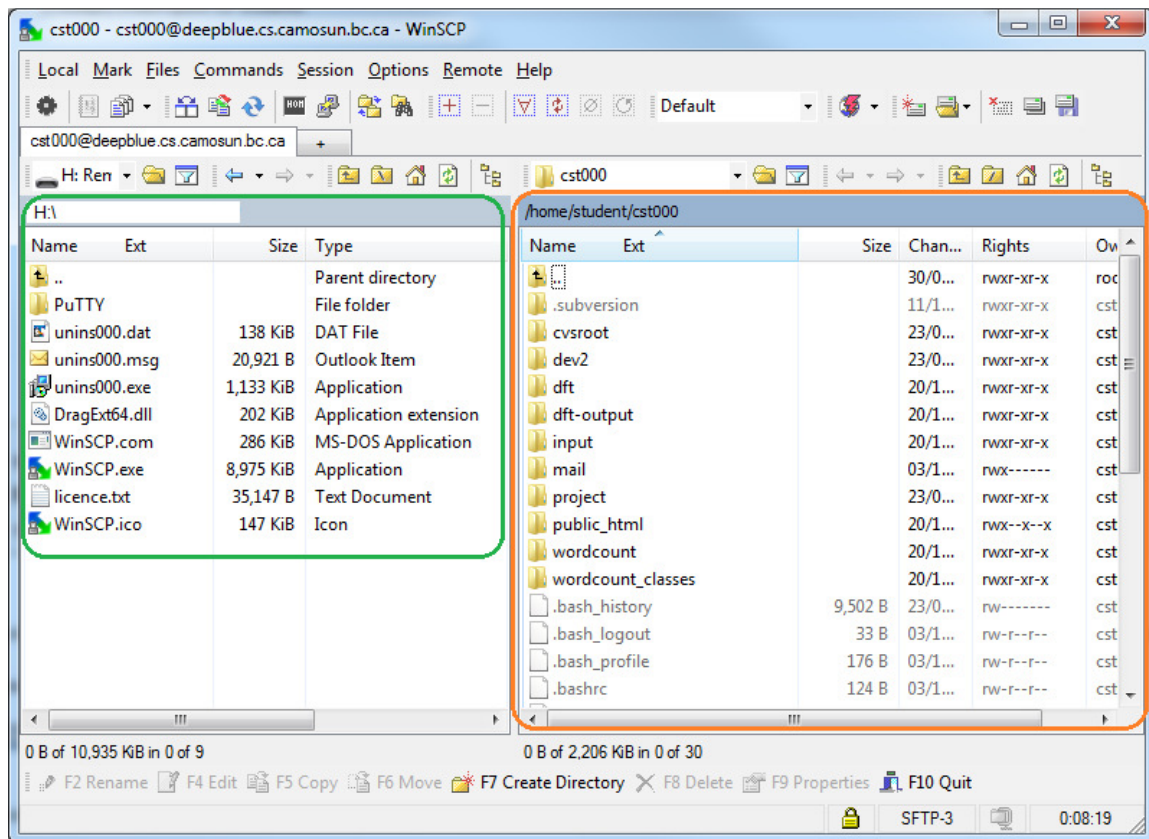
The left side highlighted by the green line shows the items on the selected local drive and folder (in this example, the H: drive).

The right side highlighted by the orange line shows the items on the deepblue account current working folder (in this example, the root folder for the account cst000).

Items which are folders have the folder icon next to them 📁 .

Items which are files will have the appropriate file icon next to them 📄 📄 📄
The folder containing an arrow pointing up is shown at the top of the list. It also has the two periods next to it. If you double click this folder, you will change the current working folder to this folder's parent.

4. Create a new file on deepblue

To create a new file on deepblue with WinSCP, just right-click in any empty space on the right panel (the deepblue account side) and select the New option.
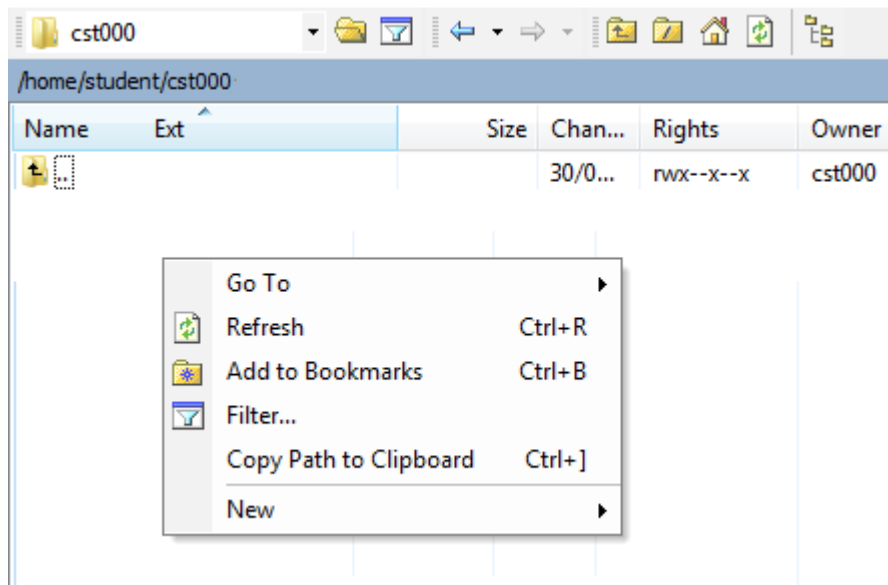
Then select the File… option (or press shift F4).
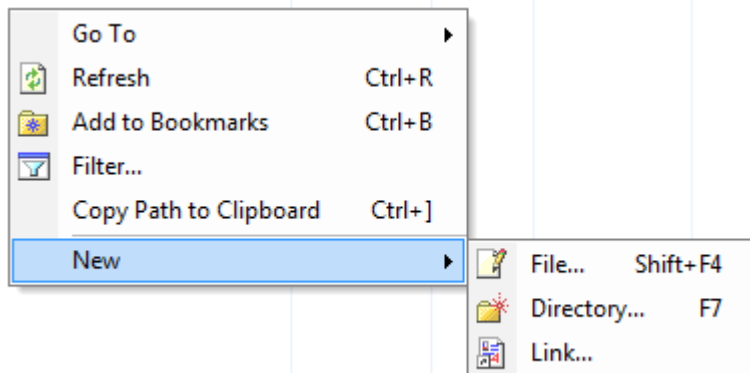
The Edit file dialog will appear prompting you for the new file's name.
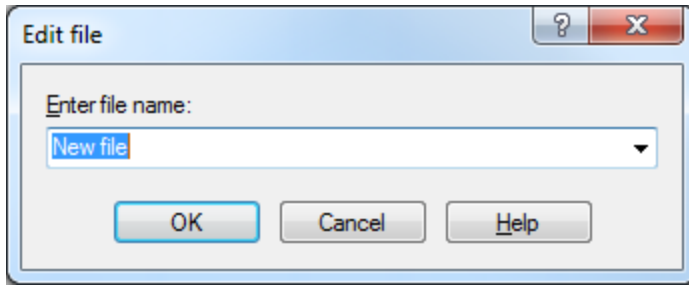
Enter the desired file name. Don't forget to provide a valid file extension like .txt for text files or .html for html files.
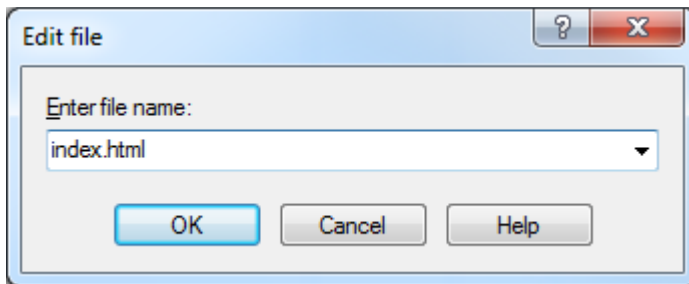
5. Creating a new folder on deepblue

To create a new folder (also called a directory) on deepblue just right-click on any empty space on the right panel and select the New option. Select the Directory option (or press F7).
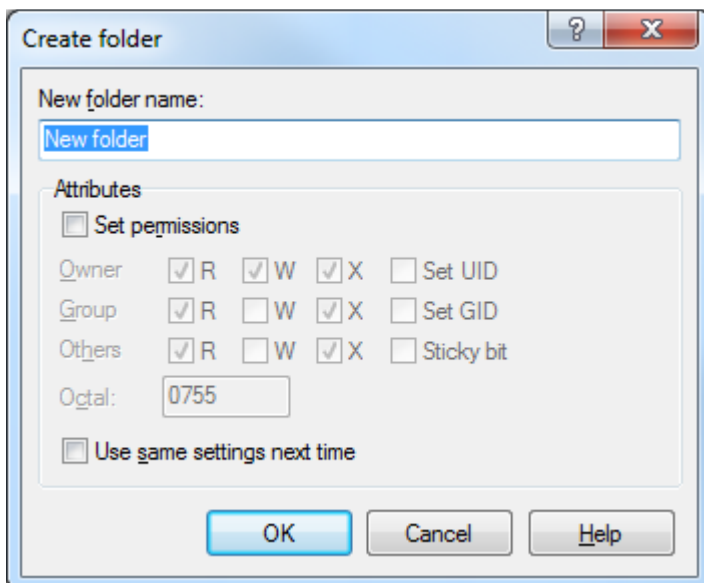
Enter the new directory name.

The folder attributes are permissions you can set to allow others to have read, write, or execute privileges to access this folder and its contents. Usually these attributes are left as default.

6. Delete file and folder

To delete a file, select it and press F8. You can select multiple files by pressing down the control key on the keyboard while you select files.

You can also right click on your selected files, and select the Delete option from the context menu.

A confirmation dialog will appear. Click OK to confirm the delete operation.
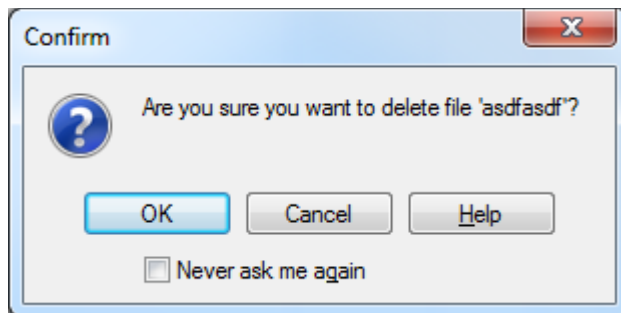
Deleting folders works the same way except that all items inside the selected folder(s) will also be deleted.

Note that your files and folders on deepblue are backed up nightly so if you accidentally delete content, you can only retrieve materials from backup the previous day…not the current day.

7. Copy files and folders

To copy files and folders from the local (H: drive) to the remote account (deepblue), simply select one or more of them in the left panel (hold the shift key down to do a range select or hold the control key down to do multiple select), then drag them over to the right panel.

WinSCP confirms the transfer with the dialogue
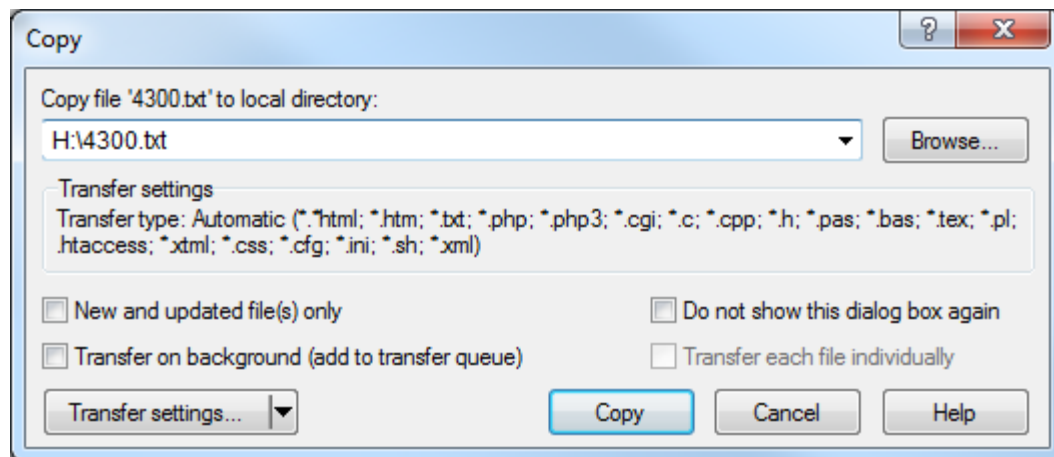
Click Copy to confirm the copy action.

WinSCP displays the copy process in a window
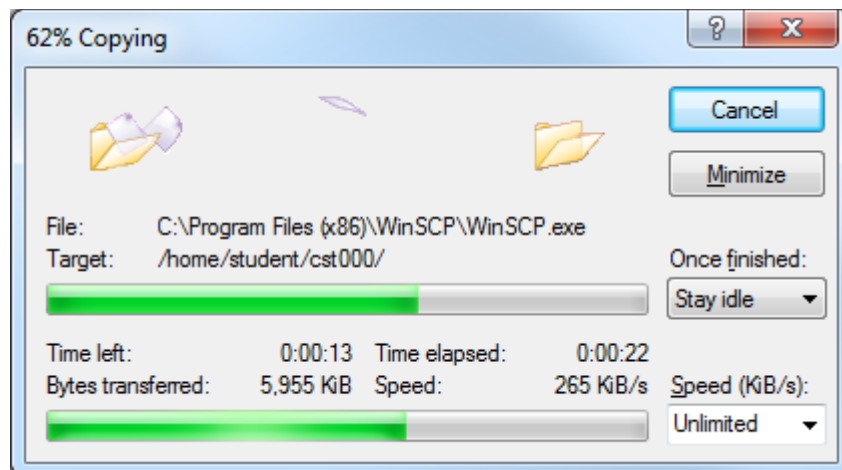
To copy files and folders from the remote account (deepblue) to the local folder (H:\), select those files and folders on the right panel and drag and drop them onto the left side.

8. Context menu

WinSCP supplies a context menu so you can select files in the right panel (deepblue) and act on them in some way (rename, delete, move or edit). The right mouse button provides the context menu.
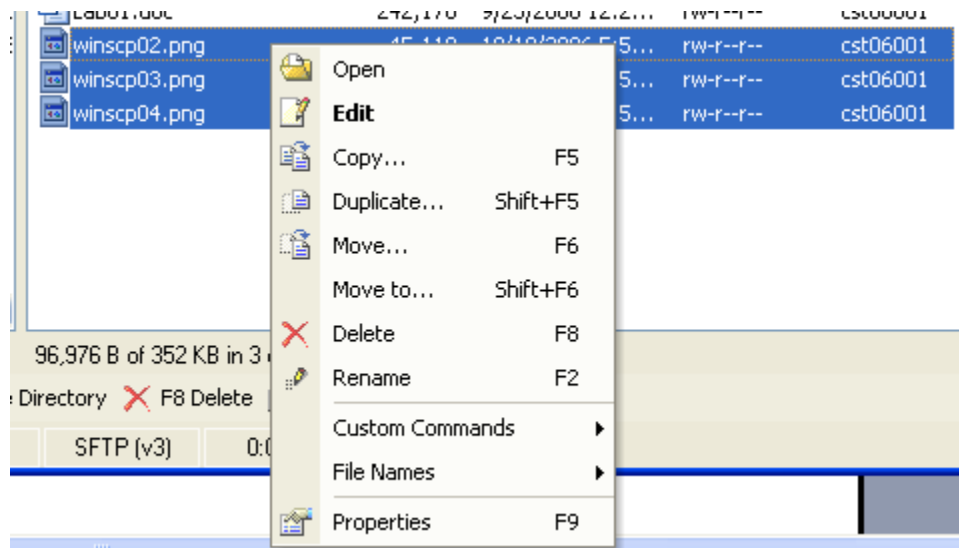
9. Quit WinSCP

When you are finished using WinSCP, click on Commands from the main menu and select Quit. The F10 key is a shortcut you can use as well.
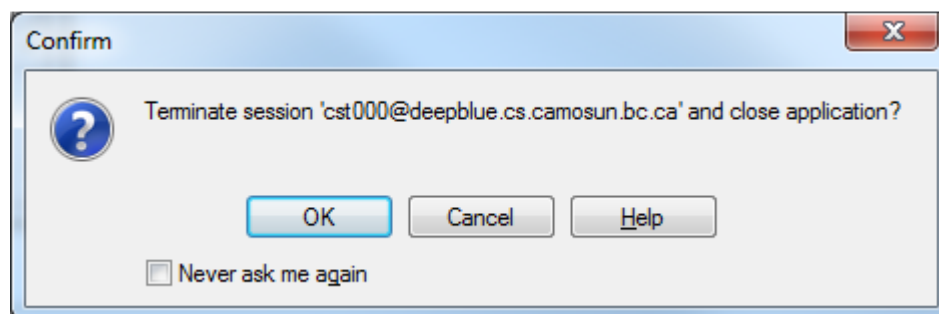
Click OK to confirm you want to end the WinSCP session.

10.   Enable Web server access to your deepblue public_html folder

Create the `public_html` folder if it doesn't exist at the home directory of your deepblue account.   Right click on the `public_html` folder and select the Properties option at the bottom of the context menu.   Check that the public_html folder has given "Others" execute permission. This permits the web server on deepblue to gain access to your internet material under the public_html folder. If "Others" do not have "execute" permission, then the web server will not be able to see your internet content.
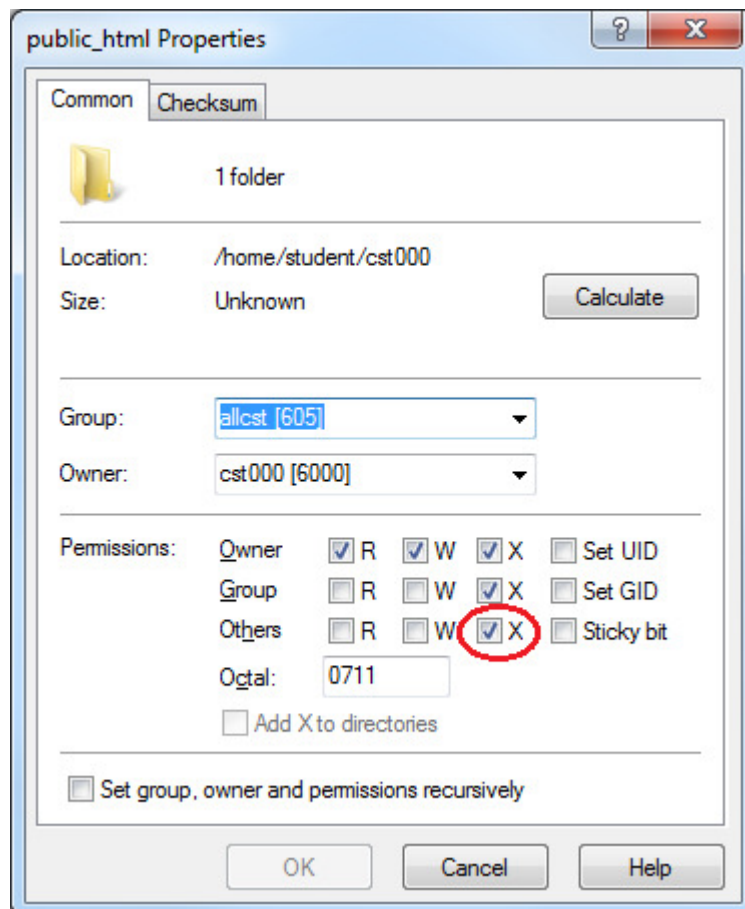
This makes the URL `http://deepblue.cs.camosun.bc.ca/~cst000`
accessible to the internet providing you have a file index.html in your `public_html`
folder.

11.   Make the WinSCP panel start TextPad when you select Edit on a remote file

The default text editor with WinSCP lacks many of the handy features available with
TextPad, so we should substitute the default text editor for WinSCP with the TextPad
editor instead.

To determine the location folder where TextPad is installed on your computer, click on
the Start button, and in the bottom "Search programs and files" box, enter the term
TextPad. The TextPad should appear at the top of the search results box after a few
seconds. Right click on that TextPad entry and select the Properties option. The install
folder is revealed in the Target box. Either write this folder down, or simple copy it and
paste it onto a notepad file for a later step here.
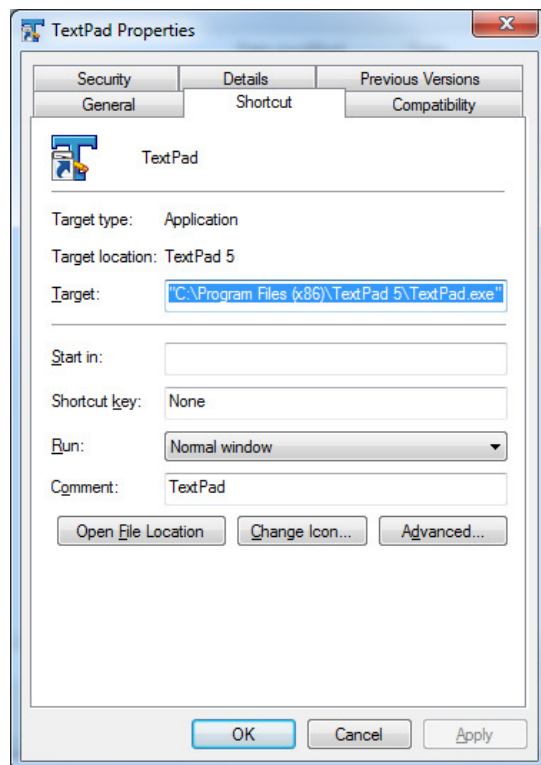
Now that you know where TextPad is installed on your computer, you can continue with the process of changing the default editor.

Click on Options in the main menu at the top and select Preferences, or press ctrl alt P.

In the Preferences window select the Editors option.
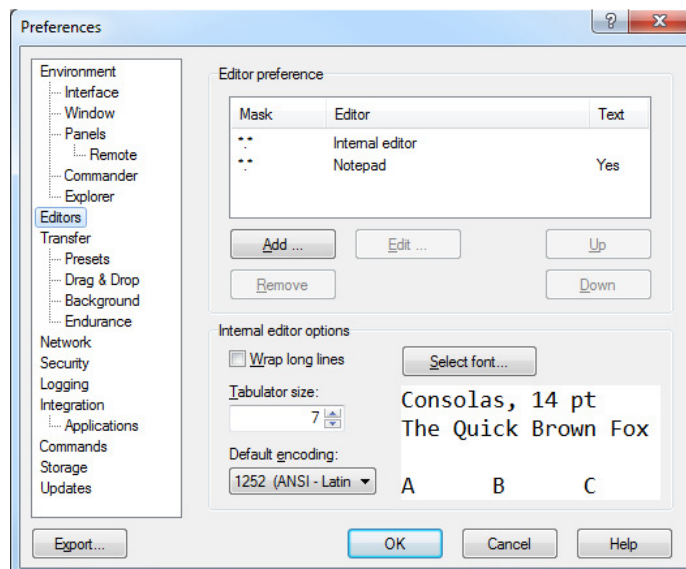
Click on the Add … button.
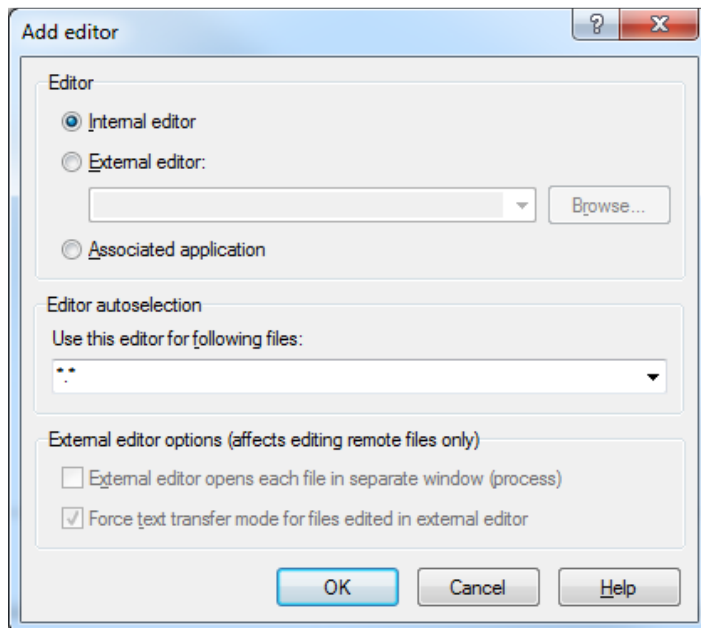
Click on the External editor radio button, then click on the now active Browse button.

Browse to "C:\Program Files (x86)\TextPad 5\TextPad.exe" folder location, and select the TextPad.exe application.

Click OK to confirm the new external editor selection.

Click on the Up button to move the highlighted TextPad entry on the editor list to the top of the list. This makes TextPad the default editor.

Click OK to confirm the change.

This process will work similarly for Notepad++ as the default editor instead of TextPad.

To test this process has worked, find and select a text file on your deepblue folder, then press F4 to bring up the editor. If TextPad is used, then the process worked.

12. Connect to an SSH client in terminal mode

If you are using your own laptop or desktop computer, make sure you have downloaded and installed SSH on your computer. Or you can download the PuTTY.exe program separately instead of installing SSH. If you download the PuTTY.exe program instead of SSH though, make a note of where you keep that file because later in the process you need to tell WinSCP where it is.

Click on Options in the main menu at the top and select Preferences, or press ctrl alt P.

In the Preferences window select the Integration | Applications option
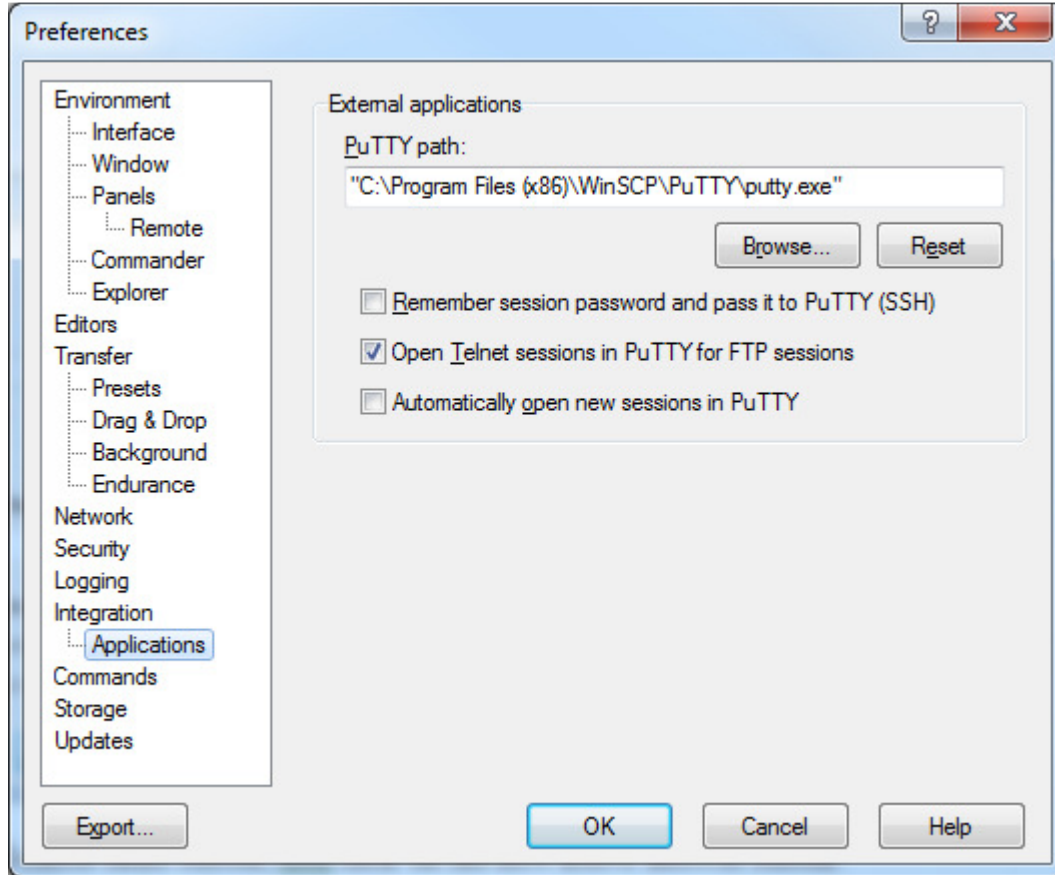
If the PuTTY path does not show a location as above, click on the Browse button

Change the "Files of type" from "PuTTY executable (putty.exe)" to "executable files"

Browse to

C:\Program Files (x86)\WinSCP\PuTTY

Double click on the putty.exe entry in the browse list to select it.

Click OK in Preferences window to confirm selection.

13.   Open a Command Window to Deepblue

Click on Commands and select the "Open in PuTTY" menu option. If this security alert panel appears, then click Yes to update the cache.
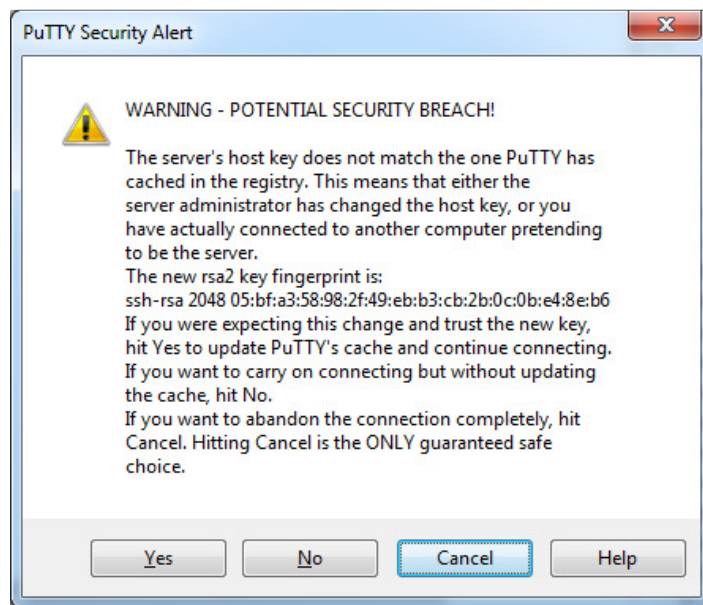
The Command window should appear:
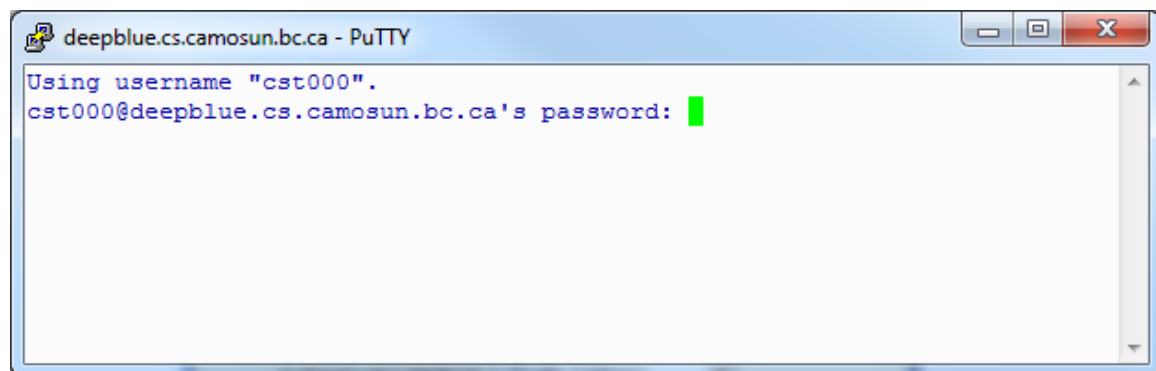
The colour scheme may not be as shown above. For example the background will be black and the text white. You can modify these settings by right clicking on the small computer icon in the window title bar and select Change Settings.

Under the Window category select the Colours option
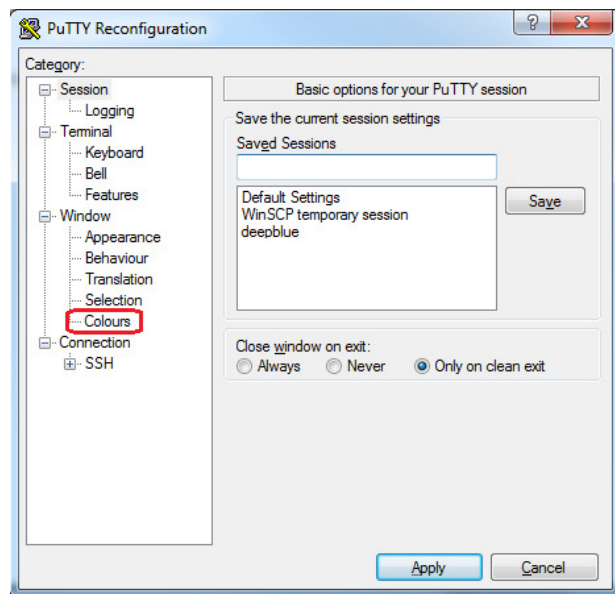
Select Default Foreground and change it to black (set red to 00, set green to 00, set blue to 00). Or click the Modify button and select what colour you want for the foreground.
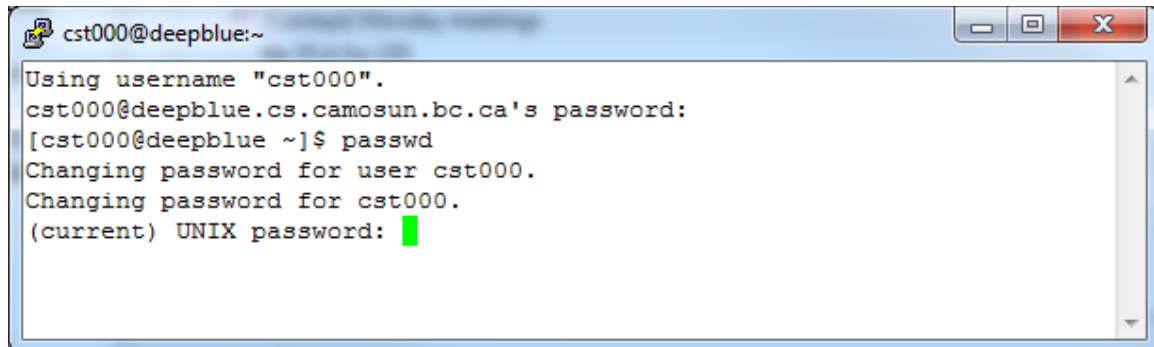
Select Default Background and change it to white (set red to 255, set green to 255, set blue to 255). Or click the Modify button and select what colour you want for the background.
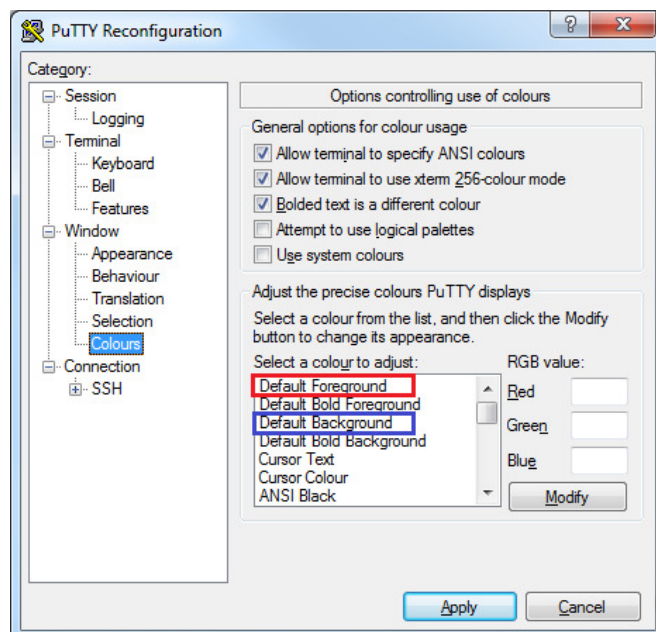
Enter your cst deepblue account password to sign on in command mode.

14.   Changing your Deepblue Account Password

In the command window enter the Unix command (in lower case) `passwd`

For security reasons the `passwd` command does not echo back the characters you type. The `passwd` command will check your new password for its "strength". Weak passwords are single English words, a repeating set of numbers or any word associated with you like your name. Weak passwords will not be accepted by `passwd`.

Examples of Weak Passwords (do not use)	Examples of Strong Passwords
1234	One#Flew@435T
qwerty	65&Win3+1
password	Sond+JFM&43
redblue	c@MZero$1M
May16	80v3rnM3*4

If you have a problem with your password or logging on, contact your instructor.

15. Listing files in Command Window

To list your files use the Unix `ls` command.

The `ls` command has options you may wish to use to see more details about your files and folders.

In Unix the hyphen character signals that the command is using an option. For example the command `ls -l` is using the "l" option indicating that you want to see more details about the directory contents.

```
deepblue - WinSCP temporary session - SSH Secure Shell

File   Edit   View   Window   Help

[cst06001@deepblue cst06001]$ ls          ls  by itself shows the current files and
abc.html   dd.html    mail       winscp01.png  winscp03.png    directories in the current directory.
comp140    Lab01.doc  public_html  winscp02.png
[cst06001@deepblue cst06001]$ ls -l        The -l option in ls means you
total 364                                   want to see more detailed
-rw-r--r--   1 cst06001 allcst       219 Oct 11 13:25 abc.html    information about the files
drwxr-xr-x   2 cst06001 allcst      4096 Oct  4 13:57 comp140     and directories. Details such
-rw-r--r--   1 cst06001 allcst       292 Oct 11 11:10 dd.html     as permissions, ownership,
-rw-r--r--   1 cst06001 allcst    242176 Sep 25 11:26 Lab01.doc   file size and modified date
drwx------   2 cst06001 allcst      4096 Oct  5 00:05 mail        are shown.
drwx--x--x   3 cst06001 allcst      4096 Oct 12 20:57 public_html
-rw-r--r--   1 cst06001 allcst     19421 Oct 18 16:49 winscp01.png
-rw-r--r--   1 cst06001 allcst     45119 Oct 18 16:51 winscp02.png
-rw-r--r--   1 cst06001 allcst     29263 Oct 18 16:58 winscp03.png
[cst06001@deepblue cst06001]$ ls -a
.          .bash_history  .bashrc   Lab01.doc  public_html   winscp02.png    The -a option in ls means
..         .bash_logout   comp140   mail       .viminfo      winscp03.png    you want to include any
abc.html   .bash_profile  dd.html   .pinerc    winscp01.png                  file having a name
[cst06001@deepblue cst06001]$ ls -al                                         starting with a period.
total 412                                                                    By default, these files are
drwx--x--x   5 cst06001 allcst      4096 Oct 18 19:22 .                      not shown when you
drwxr-xr-x  53 root     allcst      4096 Oct  2 15:33 ..                      enter  ls  alone.
-rw-r--r--   1 cst06001 allcst       219 Oct 11 13:25 abc.html
-rw-------   1 cst06001 allcst      2048 Oct 18 19:16 .bash_history
-rw-r--r--   1 cst06001 allcst        24 Oct  2 15:32 .bash_logout    With some Unix
-rw-r--r--   1 cst06001 allcst       191 Oct  2 15:32 .bash_profile   commands you can use
-rw-r--r--   1 cst06001 allcst       124 Oct  2 15:32 .bashrc         the options in any order.
drwxr-xr-x   2 cst06001 allcst      4096 Oct  4 13:57 comp140
-rw-r--r--   1 cst06001 allcst       292 Oct 11 11:10 dd.html         ls -la  is the same as ls -al
-rw-r--r--   1 cst06001 allcst    242176 Sep 25 11:26 Lab01.doc
drwx------   2 cst06001 allcst      4096 Oct  5 00:05 mail
-rw-------   1 cst06001 allcst     14673 Oct  5 00:05 .pinerc
drwx--x--x   3 cst06001 allcst      4096 Oct 12 20:57 public_html
-rw-------   1 cst06001 allcst      4311 Oct 12 20:57 .viminfo
-rw-r--r--   1 cst06001 allcst     19421 Oct 18 16:49 winscp01.png
-rw-r--r--   1 cst06001 allcst     45119 Oct 18 16:51 winscp02.png
-rw-r--r--   1 cst06001 allcst     29263 Oct 18 16:58 winscp03.png
[cst06001@deepblue cst06001]$
```

16.   Using Wildcards in Unix

The asterisk (*) and question mark (?) are called meta-characters because they act as place-holders or "wildcards". The asterisk is used to match zero or more characters while the ? will match only a single character.

```
[cst06001@deepblue cst06001]$ ls a*          In this directory list the file names starting with "a"
abc.html
[cst06001@deepblue cst06001]$ ls *.html          In this directory list the file names ending with .html
abc.html   dd.html
[cst06001@deepblue cst06001]$ ls ??.html          In this directory list the file names starting with any 2
dd.html                                           characters but ending with .html
[cst06001@deepblue cst06001]$ ls z*          In this directory list the file names starting with "z"
ls: z*: No such file or directory
[cst06001@deepblue cst06001]$ ls a*.???          In this directory list the file names starting with "a" and end with a
ls: a*.???: No such file or directory          period followed by any 3 characters
[cst06001@deepblue cst06001]$ ls *.*                          Show all file names
abc.html   dd.html   Lab01.doc  winscp01.png  winscp02.png  winscp03.png   containing a period.
[cst06001@deepblue cst06001]$ ls *
abc.html   dd.html   Lab01.doc  winscp01.png  winscp02.png  winscp03.png   Show contents of all
                                                           files and directories and
                                                           their subdirectories.
comp140:

mail:
saved-messages   sent-mail
                                                  Show contents of the subdirectory
                                                  public_html.
public_html:
abc.html   comp140   dd.html   dragon.jpg   index.html  myget.txt   showHTTP.sh   test140.html
[cst06001@deepblue cst06001]$ ls public_html
abc.html   comp140   dd.html   dragon.jpg   index.html   myget.txt   showHTTP.sh   test140.html
[cst06001@deepblue cst06001]$ ls .
abc.html   dd.html   mail           winscp01.png   winscp03.png
comp140    Lab01.doc  public_html   winscp02.png            Show contents of the current
[cst06001@deepblue cst06001]$                                   directory.
```

17.   Changing working directory in Deepblue

The Unix command cd allows you to change the current working directory.

```
[cst06001@deepblue cst06001]$ cd public_html      Make public_html the current working directory
[cst06001@deepblue public_html]$
[cst06001@deepblue public_html]$                   The prompt shows the current working directory.
[cst06001@deepblue public_html]$ cd ..             Make the parent directory the current working directory.
[cst06001@deepblue cst06001]$
[cst06001@deepblue cst06001]$
[cst06001@deepblue cst06001]$ cd ..                Parent directory of cst06001 is 2006
[cst06001@deepblue 2006]$
[cst06001@deepblue 2006]$
[cst06001@deepblue 2006]$ cd ..                    Parent directory of 2006 is student
[cst06001@deepblue student]$
[cst06001@deepblue student]$
[cst06001@deepblue student]$ cd ..
[cst06001@deepblue home]$                          Parent directory of student is home
[cst06001@deepblue home]$
[cst06001@deepblue home]$ cd ..
[cst06001@deepblue /]$                             Parent directory of home is / (server root)
[cst06001@deepblue /]$
[cst06001@deepblue /]$ cd ..
[cst06001@deepblue /]$                             No more parents left
[cst06001@deepblue /]$
[cst06001@deepblue /]$ cd ..
[cst06001@deepblue /]$                             change working directory to /home/student/2006
[cst06001@deepblue /]$ cd /home/student/2006
[cst06001@deepblue 2006]$ cd cst06001
[cst06001@deepblue cst06001]$ pwd                  what is the present working directory ?
/home/student/2006/cst06001
[cst06001@deepblue cst06001]$ cd public_html
[cst06001@deepblue public_html]$ cd /
[cst06001@deepblue /]$                             / is the root directory of the computer
[cst06001@deepblue /]$ cd ~                         ~ (tilde) is the alias for your home directory
[cst06001@deepblue cst06001]$ █
```

You can use wildcards in the cd command as in cd p* which will make the first
subdirectory name starting with "p" in the current directory the new working directory.

18.   To logout of Deepblue in the Command Window

Enter the command `logout` to disconnect your Deepblue terminal session.