How to Use PuTTY and WinSCP
For UNT

PuTTY

WinSCP

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Introduction

Students taking beginner Computer Science courses at the University of North Texas must be able to connect to the CSE machines. The Computer Science department recommends using two free programs called PuTTY and WinSCP.

These programs come preinstalled on all the computers in the Discovery Park computer labs. They are also available to download for free.

Manual Overview

This manual will instruct you on how to:

- Use PuTTY to connect to the UNT machines
- Use PuTTY to navigate between directories
- Use PuTTY to create directories and files
- Use PuTTY to edit a file
- Use PuTTY to remove directories and files
- Use PuTTY to copy and rename files
- Use PuTTY to move files
- Use PuTTY to compile and run a C file
- Use WinSCP to transfer files

This manual will not teach you how to actually code in C, show how to fix bugs in programs, or show more advanced uses for PuTTY and WinSCP.

Installation

To download PuTTY
1. Go to “www.chiark.greenend.org.uk”
2. Click on “PuTTY”, under “Main Resources on this site:”
3. Click on “Download”
4. Click on “putty.exe”, which should be the first available link
5. Choose to save the file if you get a prompt

To download WinSCP
1. Go to winscp.net
2. Click on “Download”
3. Click on “Installation package”, under Download WinSCP
4. Choose to save the file if you get a prompt
5. Open the newly downloaded setup file
6. Click on “Next”
7. Click on “I accept the agreement”
8. Click on next two more times
9. Click Install
How to Use PuTTY
Using PuTTY

Connecting to UNT

1. Open PuTTY.exe
2. Click “Run” if you receive a warning prompt. You should see the following window

3. Type “cse01.cse.unt.edu” in the field labeled “Host Name (or IP address)”
4. Check that Connection Type is set to “SSH”
5. Click “Open”
6. Click “Yes” if you receive a warning prompt
7. Enter your EUID
8. Enter the same password you use to login into UNT computers. You should see the following window
The Computer Science department owns 6 separate machines that students can use. In step 2, you could alternately type:

- “cse02.cse.unt.edu”
- “cse03.cse.unt.edu”
- “cse04.cse.unt.edu”
- “cse05.cse.unt.edu”
- “cse06.cse.unt.edu”

**Navigation**

**Orientation**

Enter “ls”

This will display all of the files and directories in your current directory. You should see something similar to this screen:

![Screen shot showing directory list](image)

You will only have “NEW_USER_READ_ME_FIRST” and “public_html” initially. PuTTY uses colors to show what each label represents.

- Green is an executable that can be run
- Blue is a directory
- White is a file
- Aqua is a read-only file

**To Change Directories**

1. Enter “cd folder” to enter a directory called “folder”
2. Enter “cd ..” to move up a directory
3. Enter “cd” to return to your home directory
To Open a File
   Enter “vim filename”
This will open a file called “filename”, assuming that the file exists. If the file does not exist, it will create a new file called “filename”.

Creating Directories and Files
To Create a Directory
   Enter “mkdir name”
This will create a directory called name. For your own use, replace name with whatever you wish to name the directory.

To Create Multiple Directories at Once
   Enter “mkdir name1 name2”
This will create a directory called name1 and a directory called name2. Again, replace name1 and name2 with whatever label you wish. Spaces determine what is used as a directory name. Entering “mkdir thing one two” will result in three directories: “thing”, “one”, and “two”.

You cannot create duplicate directories. Entering “mkdir name name” will either result in name being created once (and displaying an error message afterwards), or not at all if a directory called “name” already existed.

To Create a New File Path
   Enter “mkdir –p outer/middle/inner”
This will create a directory called “outer”. Inside “outer” will be a directory named “middle”. Inside “middle” will be a directory called inner. This command can be extended indefinitely, and can also be used to create new directories outside of their parents.

For example, if you currently have a directory called “folder”, entering “mkdir –p folder/newfolder” will create a directory called “newfolder” inside of “folder”.

To Create a New C File
   Enter “vim filename.c”
This will create a new file called “filename” with a .c extension. The .c extension tells the computer to interpret the file as a C file, instead of a regular text file. When you enter this command, the screen will change to show an empty file. To exit the file:

   1. Press Esc
   2. Enter “:wq” to save and exit
   3. Enter “:q!” to exit without saving the file
Editing a C File

To Edit a C File
1. Enter “vim filename.c”, where filename.c is the .c file you wish to open. If the file does not exist, one will be created for you
2. Press “i”. This will allow you to type in the file using the on screen cursor
3. Use the arrow keys to move the cursor

Unlike word processors, PuTTY does not let users use the mouse to navigate a file. Clicking within an open file can only be used to highlight sections. The mouse wheel cannot be used to scroll through a file.

To save a C File and Continue Editing
1. Press Esc
2. Enter “:w”
3. Press “i” to resume editing

To save and exit a C File
1. Press Esc
2. Enter “:wq”

Exiting any file will bring you back to the directory the file is located in.

To exit a C File without saving
1. Press Esc
2. Enter “:q!”

Removing Directories and Files

To Remove a Directory
Enter “rm –r folder”

This will remove the directory called “folder”. If there are files located in the directory, they will be deleted as well.

To Remove a File
Enter “rm filename”

This will remove the file called “filename”.

Copying and Renaming Files

To Copy a File into the Same Directory
Enter “cp copyfile outputfile”

This will copy a file called “copyfile” into a file called “outputfile”. If “outputfile” did not exist, the computer creates a new file called “outputfile”, and copies the contents of “copyfile”. If “outputfile” did exist, “copyfile” will overwrite whatever was previously stored in “outputfile”.
To Rename a File
1. Enter “cp filename renamedfile”
2. Enter “rm filename”

The CSE machines do not have a command for renaming a file. Instead, the user is expected to create a copy of the file with the new name, and then delete the file with the old name.

Moving Files
To Move a File into a Sub-Directory
Enter “mv filename foldername”

This will move a file called “filename” into a directory called “foldername”, as long as “foldername” is a directory located inside the current directory.

To Move a File into a Parent Directory
Enter “mv filename ..”

This will move a file called “filename” up one directory, into the parent directory of the current directory.

Compiling and Running a C file
1. Enter “gcc filename.c”
2. Enter “./a.out”

This will compile a program from “filename.c” into an executable called “a.out”. Step 2 tells the computer to run “a.out”. You should use this sequence to test a program, as it is quicker than creating a new executable for every test. To input a custom name for your executable, compile, and run it:

1. Enter “gcc –o executable filename.c”
2. Enter “./executable

This will compile a program called “executable” from “filename.c”. Step 2 tells the computer to run “executable”.

How to use WinSCP
Using WinSCP

Connecting to UNT

1. Open winSCP.exe. You should see the following window

2. Type “cse01.cse.unt.edu” under “Host name”
3. Type your EUID under “User name”
4. Type the password you use to login to UNT computers under “Password”
5. Press enter
6. Click “Yes” if you receive a warning prompt. You should see the following window
The Computer Science department owns 6 separate machines that students can use. In step 2, you could alternately type:

- “cse02.cse.unt.edu”
- “cse03.cse.unt.edu”
- “cse04.cse.unt.edu”
- “cse05.cse.unt.edu”
- “cse06.cse.unt.edu”

### Navigation

The right window represents the files on your home directory on the CSE machines, while the left window represents the files on your own computer. To navigate the directories on both windows:

- Double-click directories to open them
- Click on the folder with an arrow pointing upwards to go up a directory
- Click on the home icon to go to your home directory
- Click on the document icon with a pair of green, circling arrows to refresh that window. If you change something in a directory while WinSCP is open, you will need to refresh the window to display those changes

### Transferring Files

1. Navigate to the file you wish to transfer, using the window for the machine you wish to transfer from
2. Navigate to the destination directory using the other window
3. Open the destination directory if you have not already
4. Click and drag the file you wish to transfer from one window to the other
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