Programming Project: Getting Started and Useful Tips

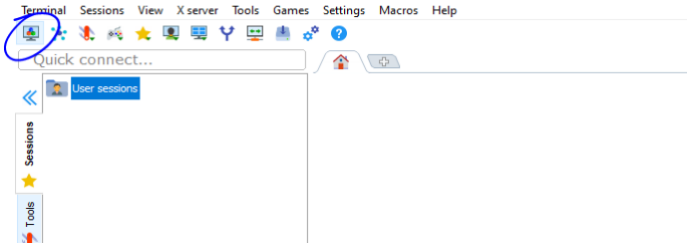
The followings are helpful tips for you to get started with the project. The followings are just one out of many possibilities, and there may be other platforms or tools you prefer while working on the project.

Accessing Eustis

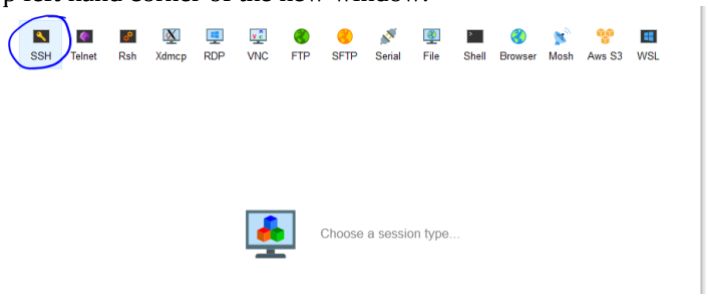
To access eustis you need a secure shell software that enables you to connect with a remote Linux machine like eustis. If you are using a MAC or Linux-based machine, you can use a terminal window to connect to eustis by simply using the native ssh command. But, for Windows machines, you need a software like MobaXterm or Putty. We provide the link and instructions for MobaXterm below. Further, to access Eustis off campus, you will need to download UCF's VPN client, which is provided by CISCO. To do so, please follow the instructions at this link:
https://ucf.service-now.com/ucfit?id=kb_article&sys_id=ff89f4764f45e200be64f0318110c763

MobaXterm
https://mobaxterm.mobatek.net/download.html

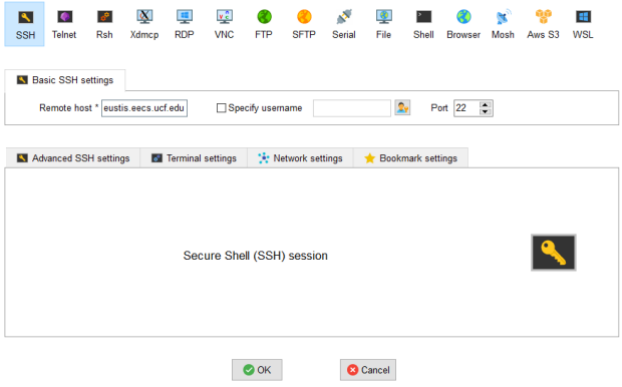
1. To test out eustis, open CISCO's VPC client and login into the UCF VPN with your UCF NID and password. Make sure to log in as UCF Student.
2. After that, open up MobaXterm. Choose the "Start a New Remote Session" button in the top left-hand corner of the screen.



3. Choose SSH in the top left hand corner of the new window.

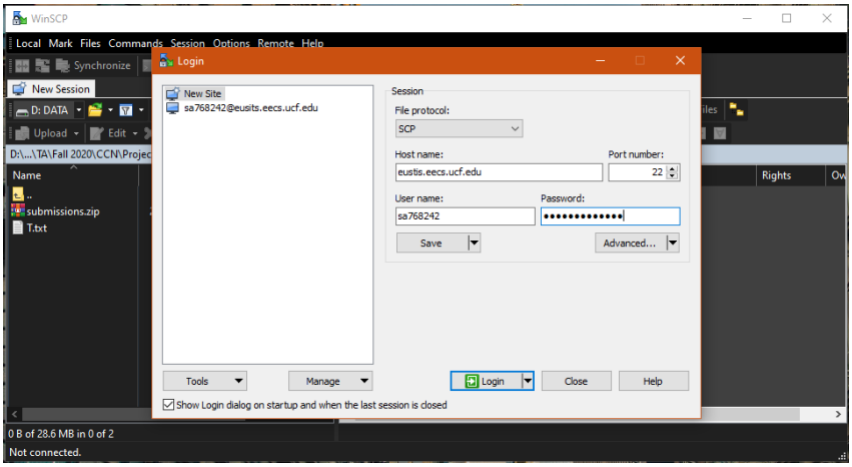


4. Enter eustis.eecs.ucf.edu into the section that says, "Remote Host*." Then click "specify username" and enter your UCF NID and press "OK." After that, you should be able to begin testing your code.



Using WinSCP on Windows to Copy Files to and from Eustis

If you are using Windows, then a very user-friendly software called WinSCP can be used to securely copy files between Eustis server and your personal system. Please note that you are free to choose between WinSCP and MobaXterm, or any other similar software.



WinSCP landing page

Steps to use WinSCP:

1. Connect to UCF VPN service using the steps mentioned above.
2. Refer to "Fig: WinSCP landing page".
3. From File Protocol drop down box, select SCP.
4. Under Host Name, type in "eustis.eecs.ucf.edu".
5. Do not change the port number.
6. Type in your NID and password.
7. Click login button.
8. Refer to "Fig: WinSCP interface".
9. On the left-hand side, you will be able to see your local directory and, on the right, will be the server directory. From there, you can drag and drop files between the two directories.

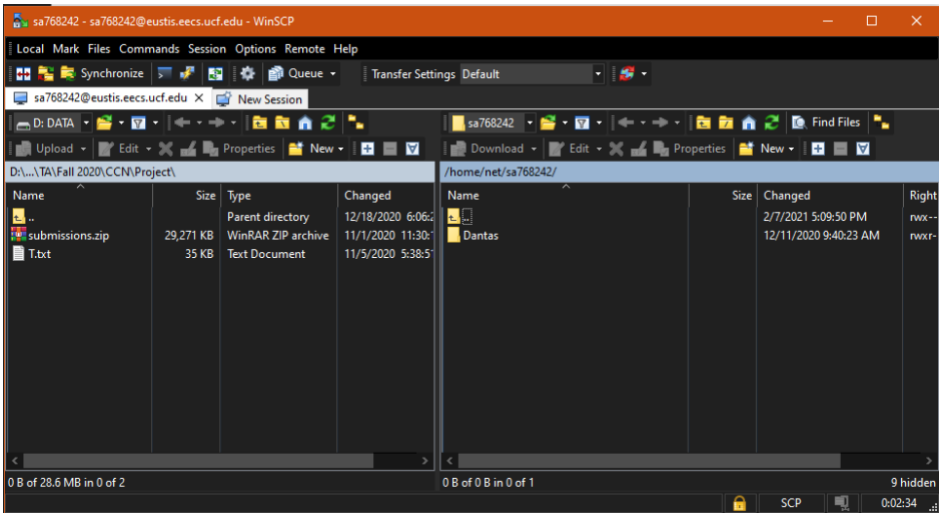


Fig: WinSCP interface

Please note: It might not connect to the server right away, if you face error, please try again and the connection will be established.

Basic Tips

- It is suggested to use a text editor to write the code instead of attempting to write the code within Eustis. Atom is an example of a text editor that allows you to write your project in the specific coding language. The link to check it out is: https://atom.io

- If you use the C language, you will most likely utilize many system-level functions. The website listed below is an excellent resource for understanding those functions.
  https://www.man7.org/linux/man-pages/man2/write.2.html

- If you're seeking to understand a little more about socket programming in C. The YouTube link below is an excellent starting point to understand how it works.
  https://www.youtube.com/watch?v=LtXEMwSG5-8

- You can attempt to test out your code with other Linux systems such as Ubuntu, but your work will be graded based off of how it works on eustis machines, so test it there before submission to ensure it functions correctly.

- Make sure to test out downloading and uploading files with large files including binary files, such as a Word or Excel.

- Try to choose a random port # when testing out your code, because if two people are using Eustis at the same time with the same Port #, then Eustis will not allow your server process to run.

- Keep in mind with error detection, that a user could input a command in any order, so keep that in mind when implementing error detection.

- To understand the parameters of the assignment, it is suggested to read the grading rubric which contains a brief explanation of each step in the project.