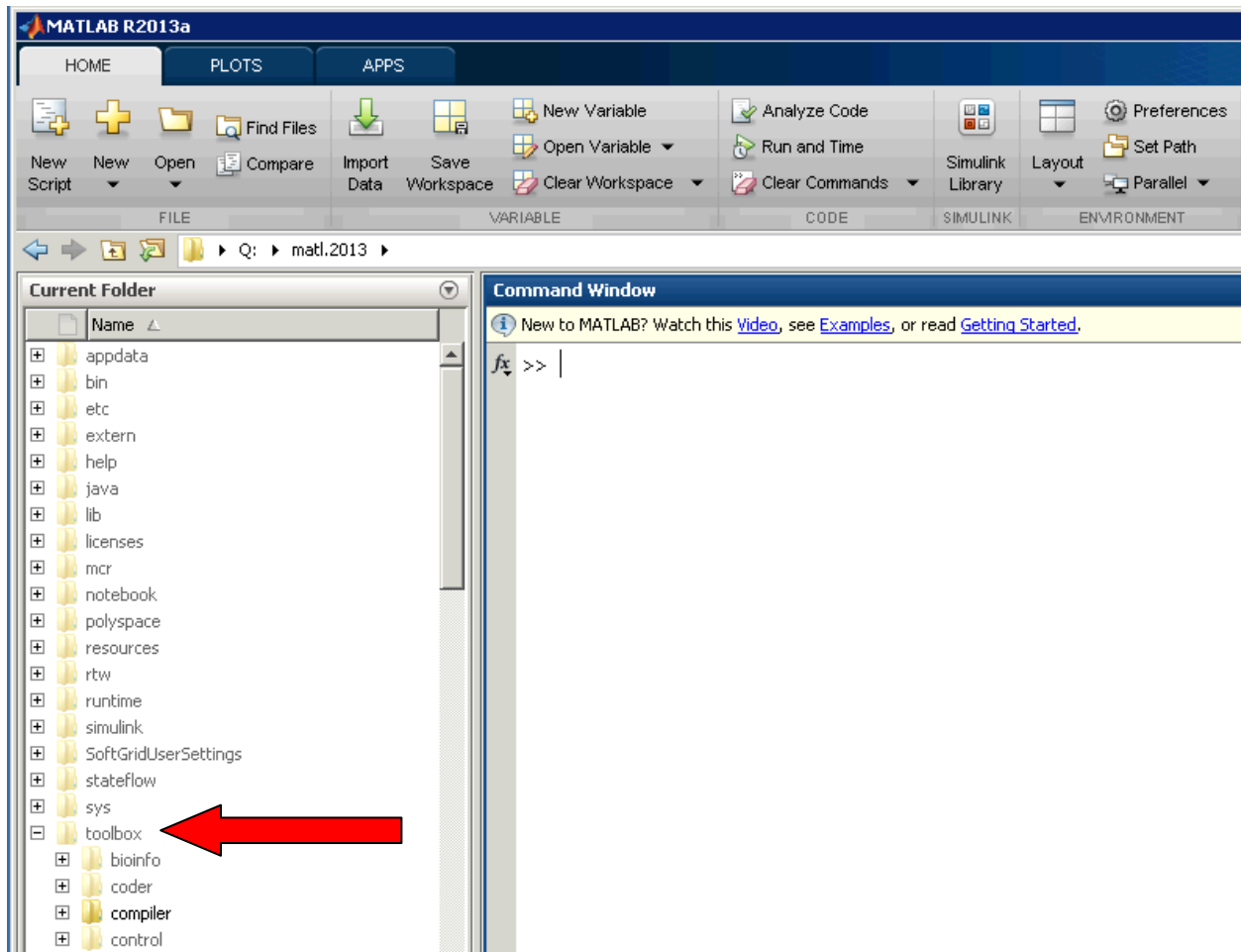


## How to use Matlab on the Virtual Labs

This document goes through a step by step process of how to access Matlab in the Virtual Lab for windows users (starting on PAGE 4). However, much of the information will also apply to Mac users. If you are a Mac user and can't get into the virtual labs after reading the information in the link above then contact IT at 325-HELP.

### What is the virtual lab and why do I need to use it?

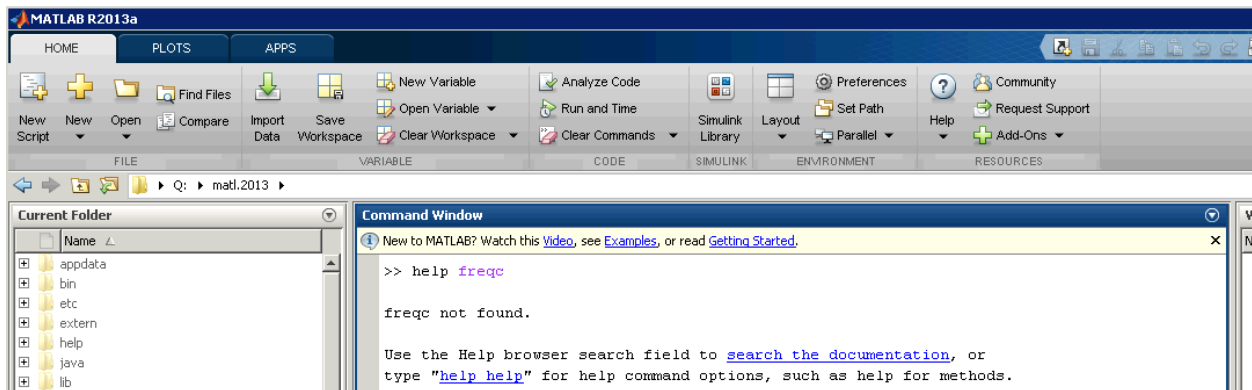
In 2010 OU changed its license agreement with Mathworks that requires undergraduates to use Matlab (and Simulink) on the virtual lab server instead of installing it on their own computer. This virtual lab also has many other software packages you might be interested in using at some point, such as: LabVIEW, MultiSim, AutoCad, OrCad, etc. As of August 2015, the current version of Matlab on the virtual lab server is R2014a, but is updated as new releases are available. Older versions of LabVIEW and Multisim are on the virtual lab so you will probably want to install those on your PC. For most of your classes in ECE any version of Matlab will work as long as it has the following toolboxes: control, signal, and symbolic. To see if these toolboxes are installed you can look in the toolbox folder as shown below.



Another way to see if your Matlab version has the toolboxes is to type help followed by a Matlab command that resides in the toolbox.

- To see if you have the Controls Tool box type the following: **help pid**
- To see if you have the Signal Tool box type the following: **help freqz**
- To see if you have the Symbolic Tool box type the following: **help syms**

If you don't have the toolbox you will get an error when you type the command. For example if I accidentally type in **help freqc** instead of **help freqz** I get the following response because freqc is not a function that is in the base version of Matlab or any of the add-on toolboxes:



Note: This is also a good way to make sure you don't create your own function that already exists in Matlab. Creating your own Matlab function for a code you might want to reuse is a good practice.

### **Purchasing Matlab:**

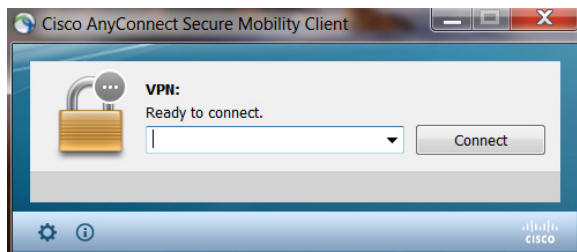
Some students prefer to purchase the student version of Matlab so they don't have to log into the OU network and use the virtual lab version. If you purchase Matlab make sure you get these toolboxes. As of July 2014, the Matlab and Simulink bundle including all required toolboxes was \$99. You could buy Matlab ONLY for \$50 and get the controls, signal, and symbolic toolboxes for \$10 each, but I would recommend purchasing the \$99 bundle because you will likely use Simulink and other Matlab toolboxes that are included during your time at OU. The following link takes you to the website to purchase the latest matlab software: [http://www.mathworks.com/academia/student\\_version/](http://www.mathworks.com/academia/student_version/)

## Using Matlab OFF CAMPUS:

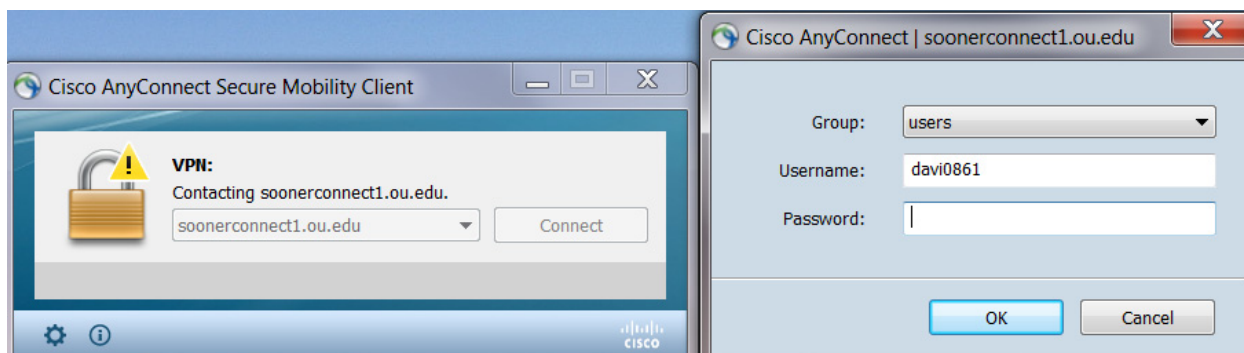
If you are off campus you will have to “VPN” into OU before you can access the virtual labs. The required Cisco VPN client can be downloaded for free from [itstore.ou.edu](http://itstore.ou.edu). Here is the link:

<https://itstore.ou.edu/Download/SWType/10>

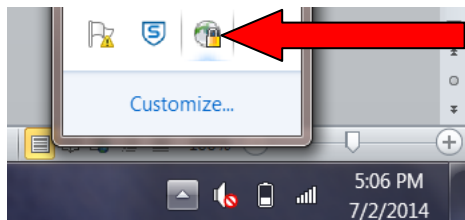
After installing the VPN virtual client click on its executable and the following window will appear:



Type in **soonerconnect1.ou.edu** and click connect. After you type this the first time it will stay in the history and you won't have to enter it next time. Once you click on Connect you will have to enter your OU 4x4 login and your password and Click OK as shown below:

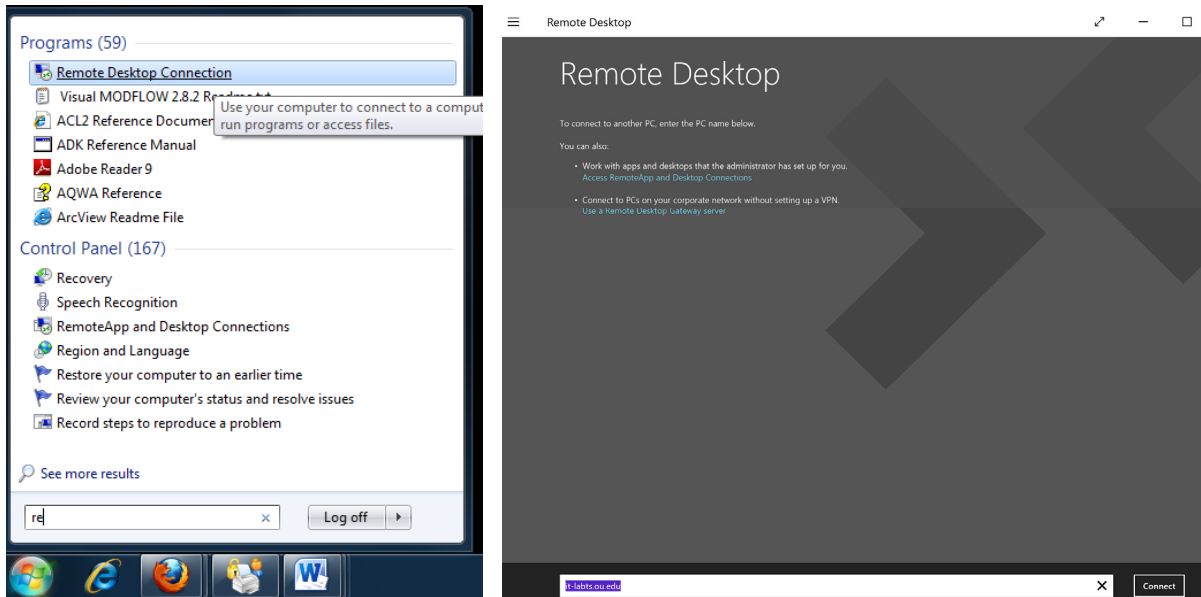


Once you log in you should see a virtual client icon in your taskbar. Click on it to disconnect.

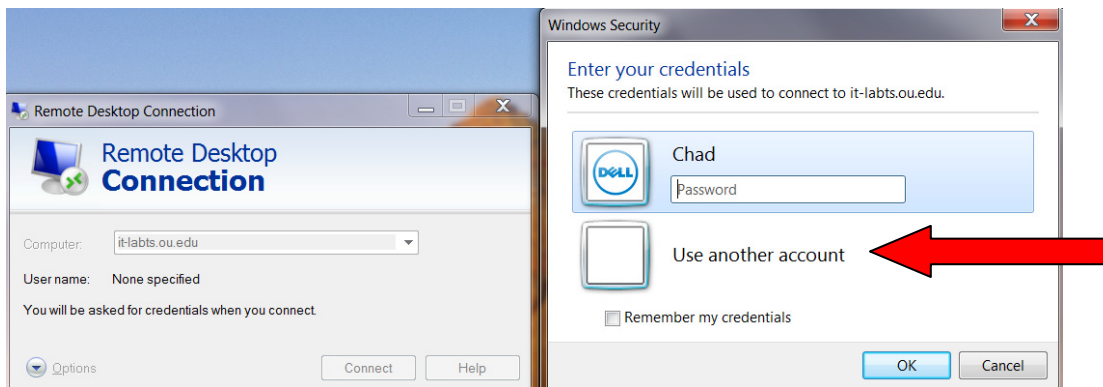


**Connecting to the Virtual Labs using Windows (If you are connecting OFF Campus go to page 3):**

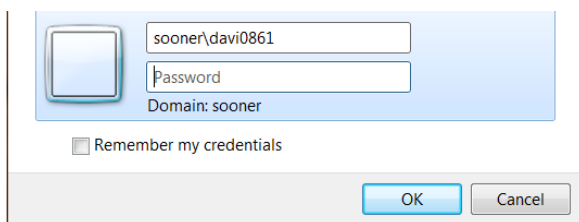
1. Open Remote Desktop. For Windows 7 you can type "remote desktop" in the search menu.
2. Open Remote Desktop (Windows 7 – left below, and Windows 10 – right below).



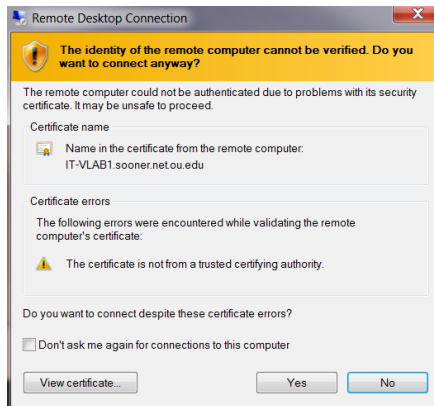
3. Type in "it-labts.ou.edu" and click on Connect. (For Windows 10 you can see it is typed in above). You will see the following window appear (it will look a little different for Windows 10. It will ask you if you want to "connect anyway" – Click Yes):



4. Click on "use another account" and Type "sooner\4x4" in the user name and enter your password and click OK. For my unique 4x4 the login field would be as follows:



- Once you click OK you might get the window that is shown on the following page. If you get this message Click Yes.



- Next the following Window will appear (You might have to change your screen resolution to see it).



There is a tab at the top of this window that allows you to minimize or resize it.

- Matlab can be found by clicking on Start and navigating to the Engineering Folder under “All Programs”. Or you can just type in Matlab into the search field after clicking on the Start button.
- Once you are logged in and have Matlab open you will need to use your H:\Drive for any files you are saving or copying. Every OU student has an H:\Drive that they can use to store data. Your H:\Drive will be automatically mapped when you log into the virtual labs. Some students that don't use their H-Drive frequently like to email themselves their files before logging out of the virtual labs. The network location of your H-Drive is at [\\washington.ou.edu](http://\\washington.ou.edu)

## CAUTION:

In the past if you closed your remote desktop connection without logging out of that computer then you would not be able to connect to virtual labs again for about 30 minutes. I am not sure if that problem still exists, but try to remember to log off before you close the remote desktop connection. One thing many people don't realize is that you can minimize or resize your remote desktop connection window and work on your own computer without logging out.

## ECE MATLAB Trainer:

Learning Matlab will be an intimidating adventure for some of you. The School of ECE is trying to help with this learning curve by employing a highly skilled Matlab Trainer each semester to help you get up to speed. I encourage you to take advantage of this service.