Lab 1: Connect to Virtual Workstation and Test Connectivity

The objective of the lab is to familiarize you with the CCI Virtual Lab environment and how to access the virtualized computer instances that you will be using throughout this course. This lab also establishes a starting point for all of the other labs in this course: you and your team will be building a working computer network.

- Connect to the CCI Virtual Lab environment
- Select your Microsoft Windows 10 virtual workstation
- Test connectivity to your own Microsoft Windows 10 virtual workstation
- Test connectivity to other resources

This is an individual assignment, and you must submit it as an individual, with all work being your own.

Actions

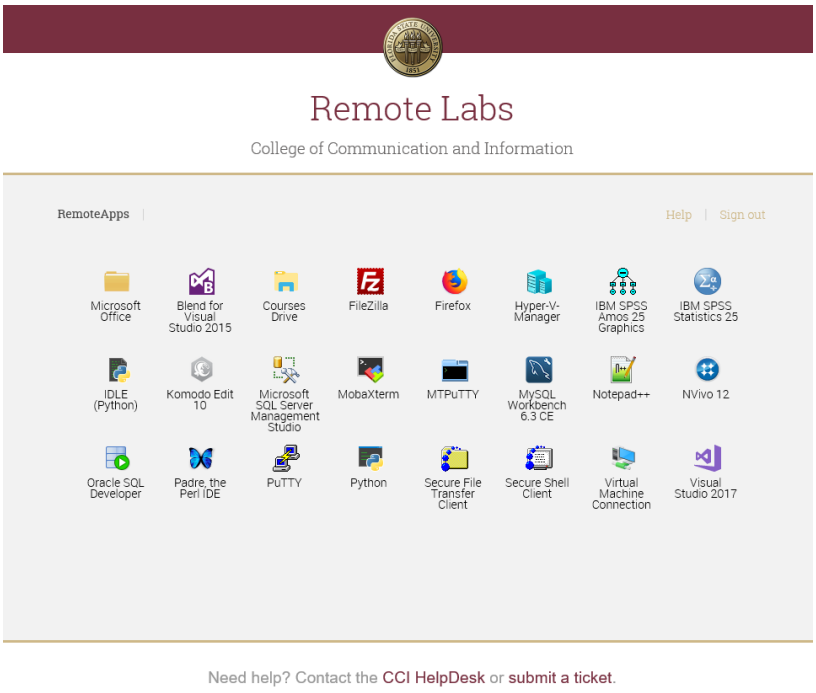
Action 1: For Deliverable #1, what is your name and the date.

Connect to the CCI Virtual Lab environment

Action 2: From your browser, open the *College of Communication & Information Remote Application Portal*

https://labs.cci.fsu.edu

Upon successful connection, you will see a web page similar to below:

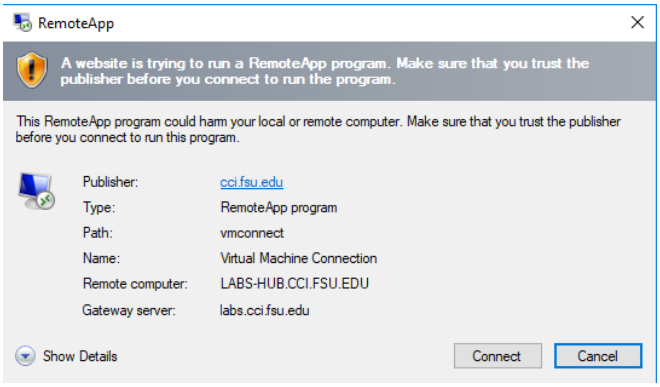


For *Security*, select "This is a public or shared computer"

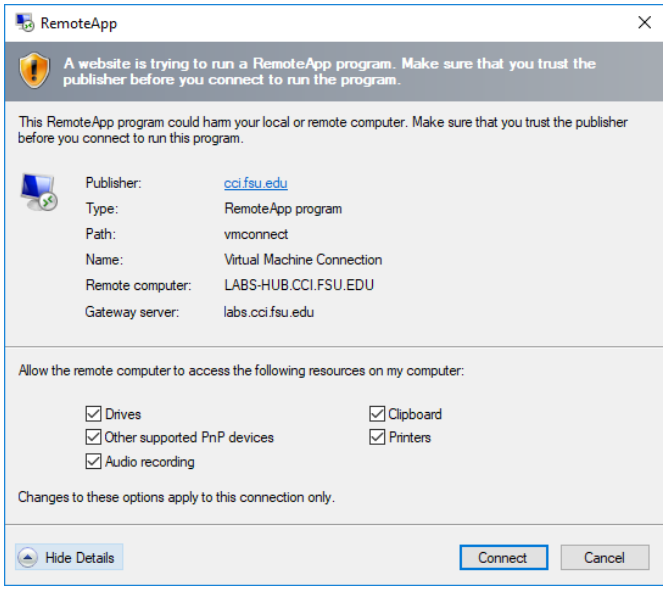
Connect to the CCI Virtual Environment (continued)

Click *Virtual Machine Connection*:

You will then see the following:



Click the *Show Details* down-arrow, located on the lower left corner of the RemoteApp box:

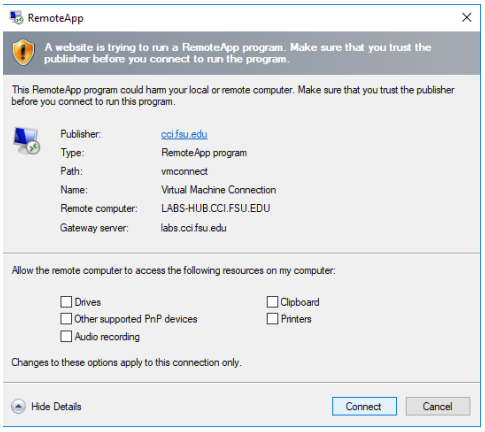


You will see several options under *Allow the remote computer to access the following resources on my computer*. These options allow you to share resources of the computer with which you are using to connect remotely, with the computer(s) with which you are connecting remotely.

For example, while sharing your local Clipboard can be very convenient in terms of copying-and-pasting content and commands to remote computers, if checked and selected, you also run the risk of inadvertently pasting unwanted content to the remote computers, e.g. personal information.

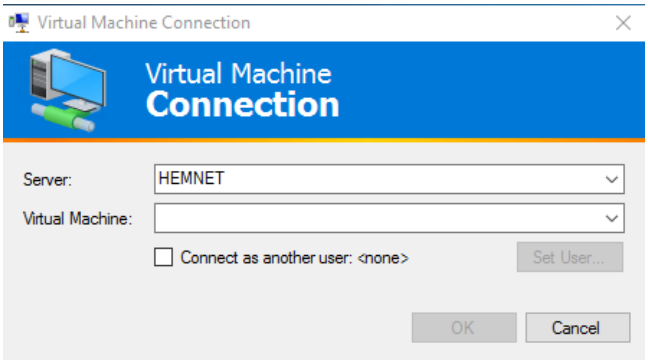
You also have the ability to share your local drives to the remote computer(s). This might expose you to the risk of accidentally uploading to these remote computers content you did not intend to upload.

Unchecking all of these boxes might be a more desirable option.



Connect to the CCI Virtual Environment (continued)

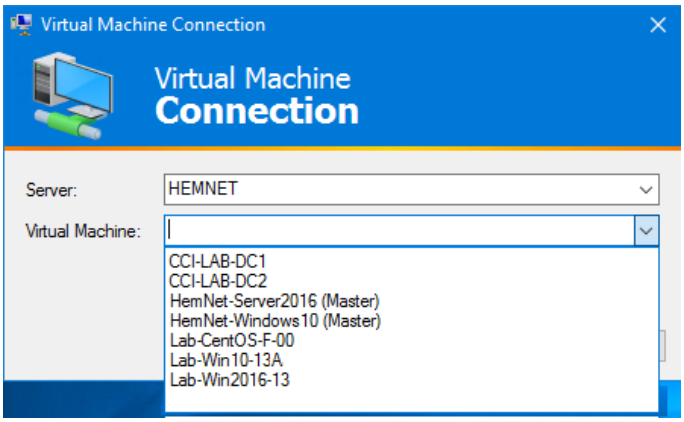
Click *Connect* when you are ready to connect.



By default and at this time, server HEMNET should appear.

If it does not, select it.

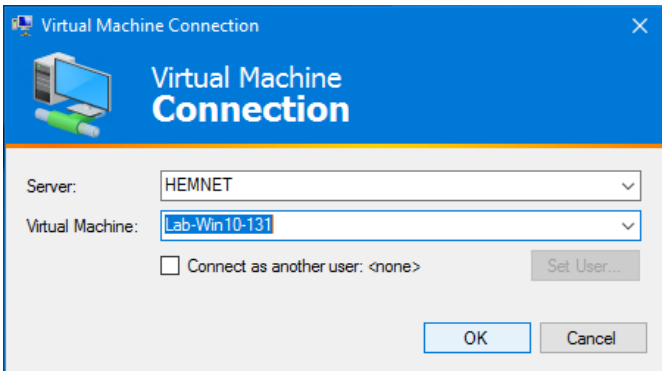
Select your Microsoft Windows 10 virtual workstation



Action 3: In the *Virtual Machine* drop-down box, select the desired server.

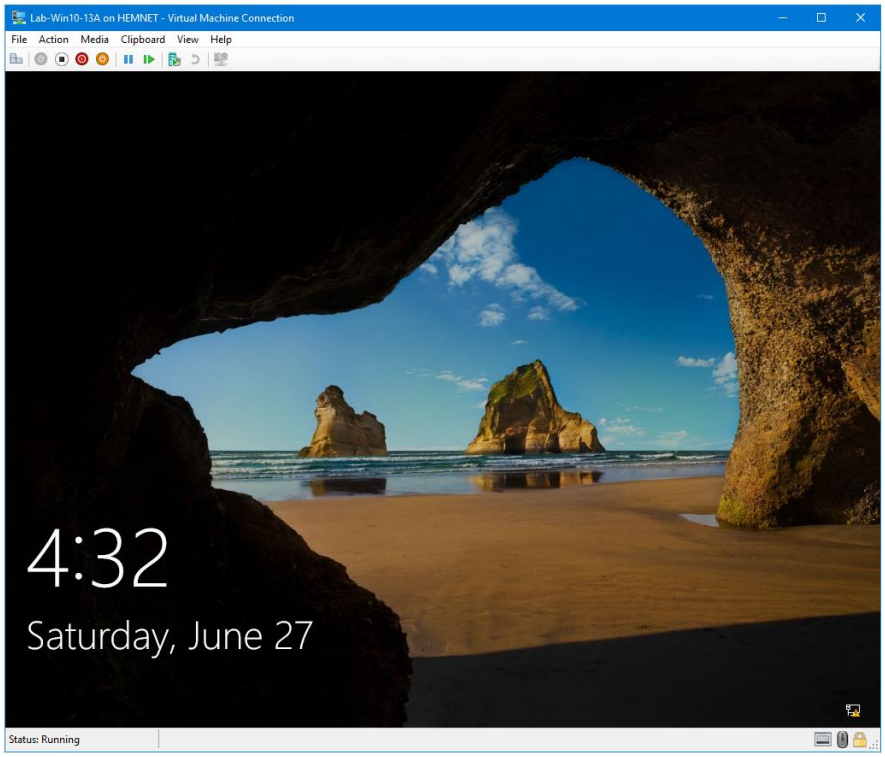
For the first lab, you will connect to the Microsoft Windows 10 computer that you were assigned. In subsequent labs, you will likely connect to different computers as well, such as your team server.

As the Instructor for this course is a member of Team 13, connection to the one of the Team 13 Microsoft Windows 10 computers, Lab-Win10-13A, will be demonstrated. Again, your computer will be different.

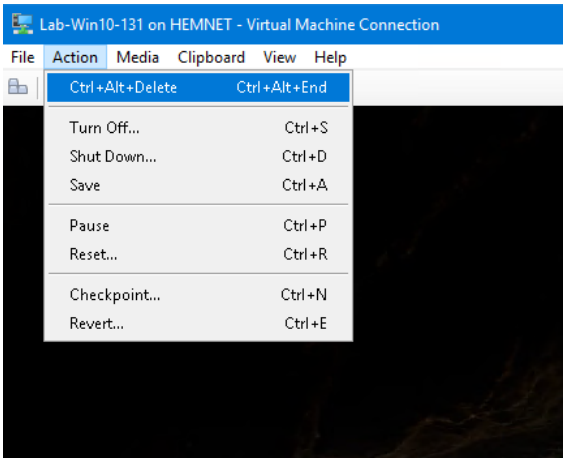


Click OK to connect.

Select your Microsoft Windows 10 virtual workstation (continued)



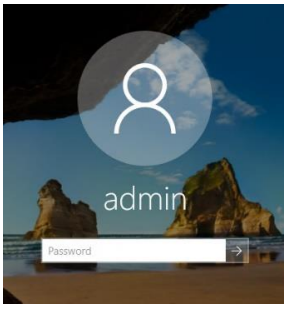
You will see a computer screen, as pictured above.



To log into a Microsoft Windows computer, you first need to send a *Control-Alt-Delete*. However, simply pressing those keys will execute the sequence on your local workstation. To send a *Control-Alt-Delete* to the remote computer, you will need to select, at the upper-left area of the window, Action → Ctrl-Alt-Delete.

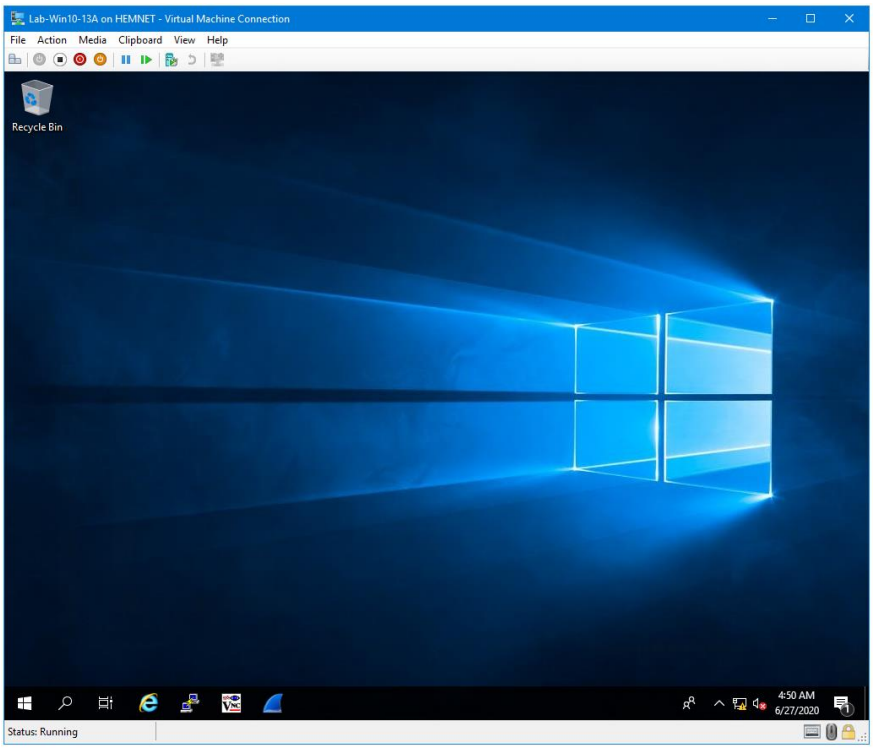
The pre-configured user account for your Microsoft Windows 10 computer is *admin*.

The password will be given to you in class. Log in at this time.



Select your Microsoft Windows 10 virtual workstation (continued)

You will see a Microsoft Windows 10 desktop similar to the one below:



In this course, you will complete exercises using a virtual instance of Microsoft Windows 10, as a user workstation.

WARNING: DO NOT USE YOUR LIS 4488 WINDOWS 10 VIRTUAL INSTANCE FOR NON-CLASS ACTIVITIES!

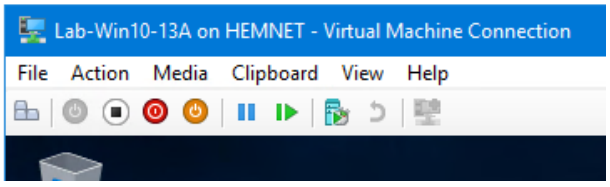
As these are training instances, there is no expectation of privacy.

For Deliverable #2, what is the name of your Microsoft Windows 10 virtual workstation?

You will find this information in the upper-left corner of your opened virtual instance, as in the example below.

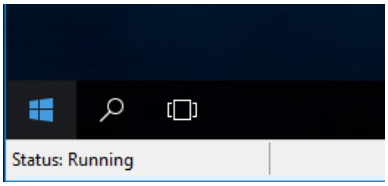
For example, the Windows 10 virtual workstation instance used to write this document is *Lab-Win10-13A*.

The Instructor is in Team 13, which consists of four virtual workstations *Lab-Win10-13A – D*.

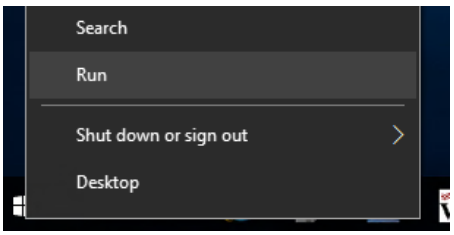


Test network connectivity for your Microsoft Windows 10 virtual workstation

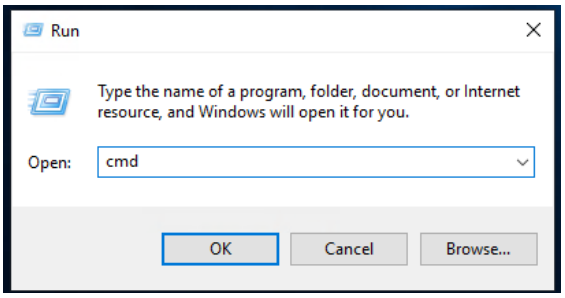
Action 4: Right-click the Start button on the lower-left corner of the screen;



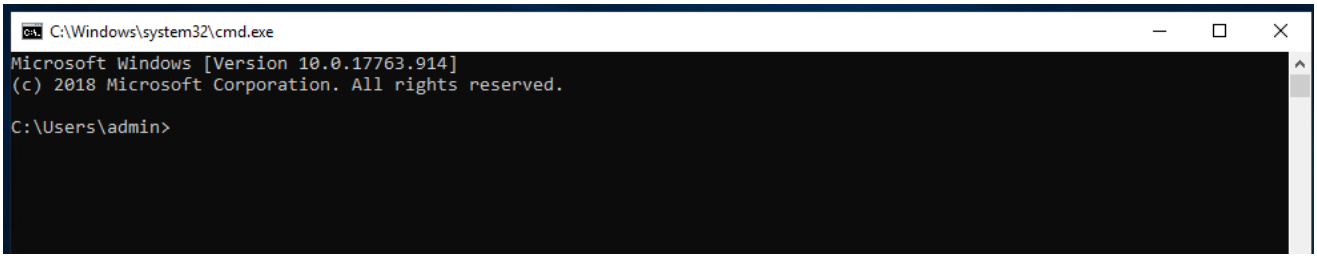
The pop-up box that will appear will contain *Run*. Click on *Run*.



Type cmd in the *Open*: box:



You will now see a command box that looks like the one below:



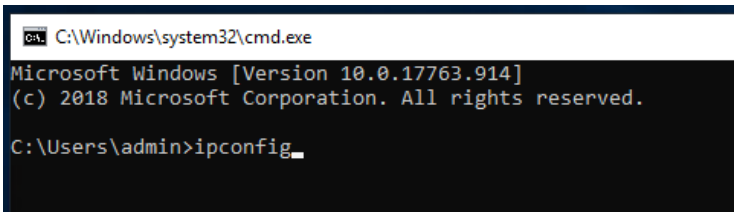
You will be using Windows command lines quite a bit in this course, so remember how to open a command box:
Start Button → *Run* → enter *cmd*

ipconfig is a powerful tool that allows you to check and refresh various aspects of your Windows 10 workstation's network address. We will soon cover IP addresses in great detail: for now, though, know that every node on a TCP/IP network has to have a unique IP address, that your Windows 10 virtual workstation is no different.

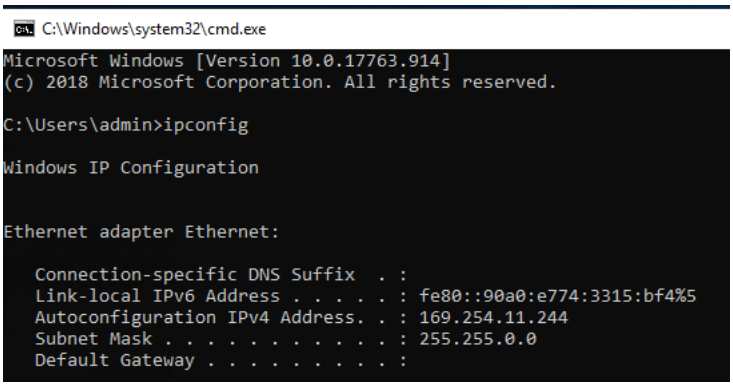
You will now use ipconfig to view the IP address that your Windows 10 virtual workstation is presently using.

Test connectivity for your Microsoft Windows 10 virtual workstation (continued)

In the Windows command box, enter the command ipconfig



When this document was being written, the Instructor's lab instance produced the output below. Be advised that yours will almost certainly be different, for reasons we will discuss in class:



In the above example, the *ipconfig* command produced the following:

An IPv6 address:	fe00::90a0:e774:3315:bf4%e
An IPv4 address:	169.254.11.244
A subnet mask:	255.255.0.0
A default gateway:	<blank>

For Deliverable #3, what is the IP address(es) produced by you having run the *ipconfig* command on your own Windows 10 virtual workstation. What is your subnet mask? What is your default gateway?

Action 5: Now that you have ascertained the IP address of your own Windows 10 virtual workstation, you will now use the *ping* command line utility to test various aspects of that workstation's connectivity.

ping (networking utility)
https://en.wikipedia.org/wiki/Ping_(networking_utility)

The *ping* command is one of the most-used in real-world network administration: it sends an ICMP packet to a selected host or device, and in many instances, the host or device will send back a reply, This allows network administrators to 1) confirm that the node is "up" and operational and b) that sufficient network pathway exists such that the ICMP packet was able to travel to the targeted node and back.

The ping command, when run, will send four ICMP packets to the targeted host: the ICMP packets will either reach the targeted node, which will or will not respond to them, and they will return successfully – or not.

Test connectivity for your Microsoft Windows 10 virtual workstation (continued)

In this course, we use a special server called a Domain Controller. You will become very familiar with it and the concept of Domain Controllers in the weeks to come.

In the command box, enter the command ping 192.168.50.10

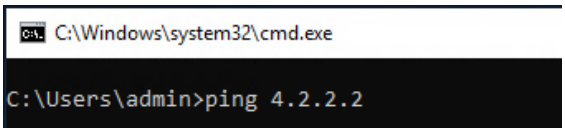
For Deliverable #4, are you able to successfully ping the class Domain Controller?

Test Internet connectivity

Action 6: You are almost finished with this lab!

See if you can communicate with a node situated on the Internet.

From the command box, enter the command ping 4.2.2.2



For Deliverable #5, are you able to successfully ping node 4.2.2.2?

This concludes *Lab 1: Connect to Virtual Workstation and Test Connectivity*.

You have

- Established the ability for you to connect to and use your Microsoft Windows 10 virtual instance
- Tested your virtual workstation's ability to connect to network resources
- Established a starting point from which you and your team will build an actual computer network

Deliverables

Deliverable 1: From Action 1, write your name and the date.

Deliverable 2: From Action 3, what is the name of your Microsoft Windows 10 virtual workstation?

Deliverable 3: From Action 4, what is the IP address(es) produced by you having run the *ipconfig* command on your own Windows 10 virtual workstation. What is your subnet mask? What is your default gateway?

Deliverable 4: From Action 5, were you able to successfully ping the class Domain Controller?

Deliverable 5: From Action 6, were you able to successfully ping node 4.2.2.2?