

Lab Assignment & Solution



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Cybersecurity Professional Program
Introductory Course

Network Fundamentals

IC-04-LS1
Network
Configuration
Panel

Note: Solutions for the instructor are shown inside the green box.

Lab Objective

Learn how to use an operating system's network configuration utility.

Lab Mission

Become familiar with the network configuration utility in Windows 10 (Task 1) or MacOS (Task 2).

IMPORTANT: This exercise should ideally be performed in a hosted VirtualBox VM to avoid modifying the existing (and presumably functioning) network configuration of your computer's base operating system. If you do not yet have a hosted VM installed on your computer and choose to perform the exercise using your base operating system, be careful not to make changes to your system (during Task 1, Steps 5 and 6 for Windows users, or during Task 2, Steps 4 and 5 for MacOS users). Changes may result in lost network connectivity for your computer until the exact previous settings are restored. To avoid saving any misconfigurations in your network settings, simply click the **Cancel** button in the appropriate window.

Lab Duration

5–10 minutes

Requirements

- Basic computer knowledge

Resources

- Environment & Tools
 - Windows 10 OS or Mac OS X

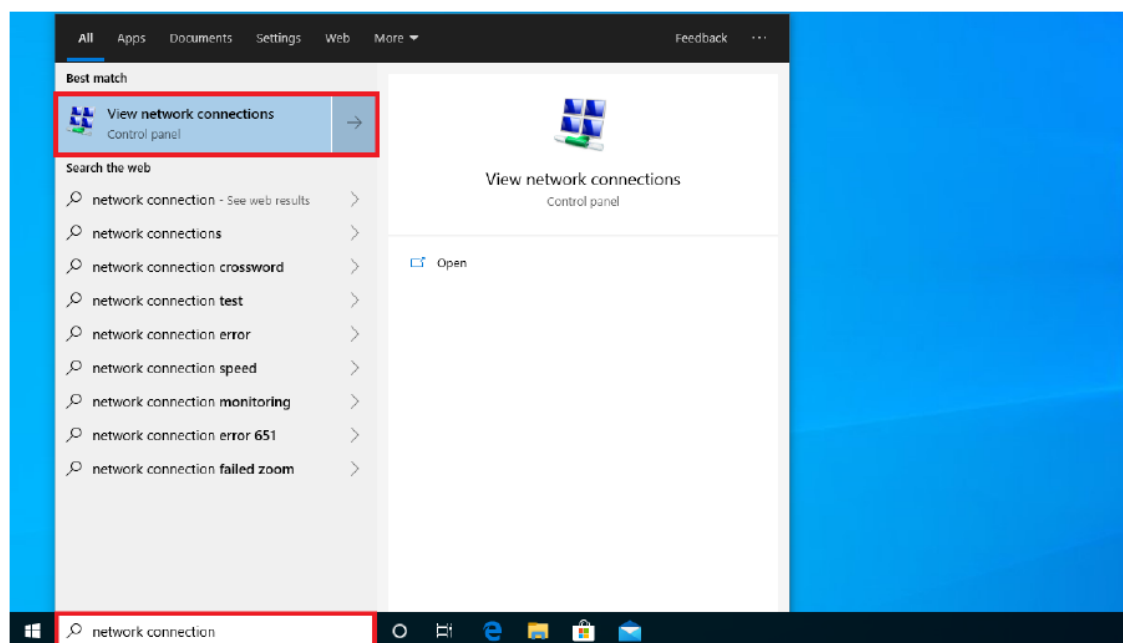
Textbook References

- Chapter 3: Network Fundamentals
 - Section 1: Introduction to Networking

Lab Task 1: Windows 10 Network Configuration Panel

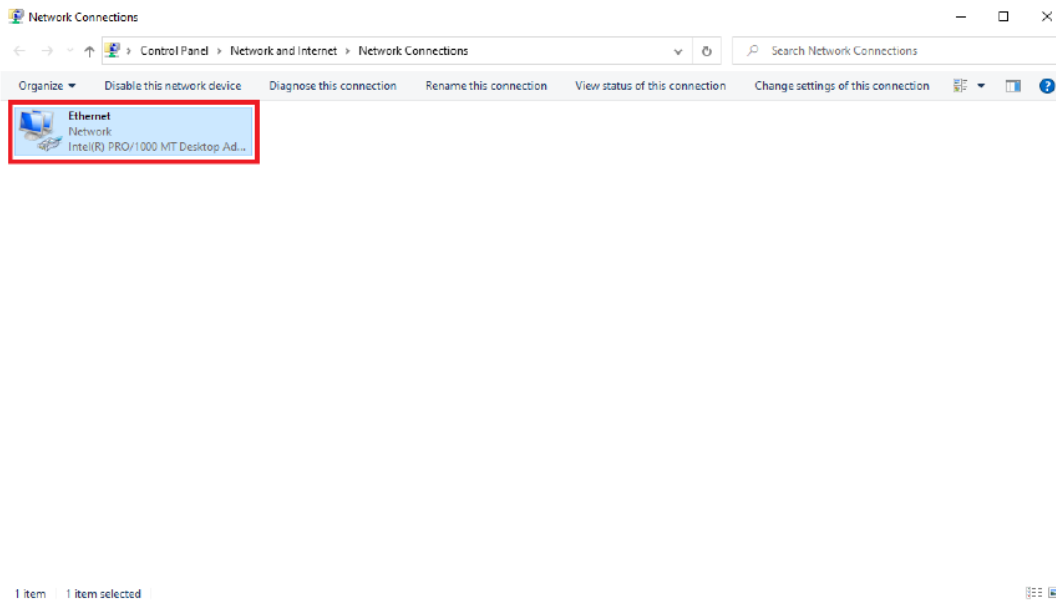
In this task, you will work with the Windows Network Configuration Panel, which allows you to change the network configuration.

- 1 In Windows 10, select the search function and type **network connections**. Then click **View network connections** as shown below.

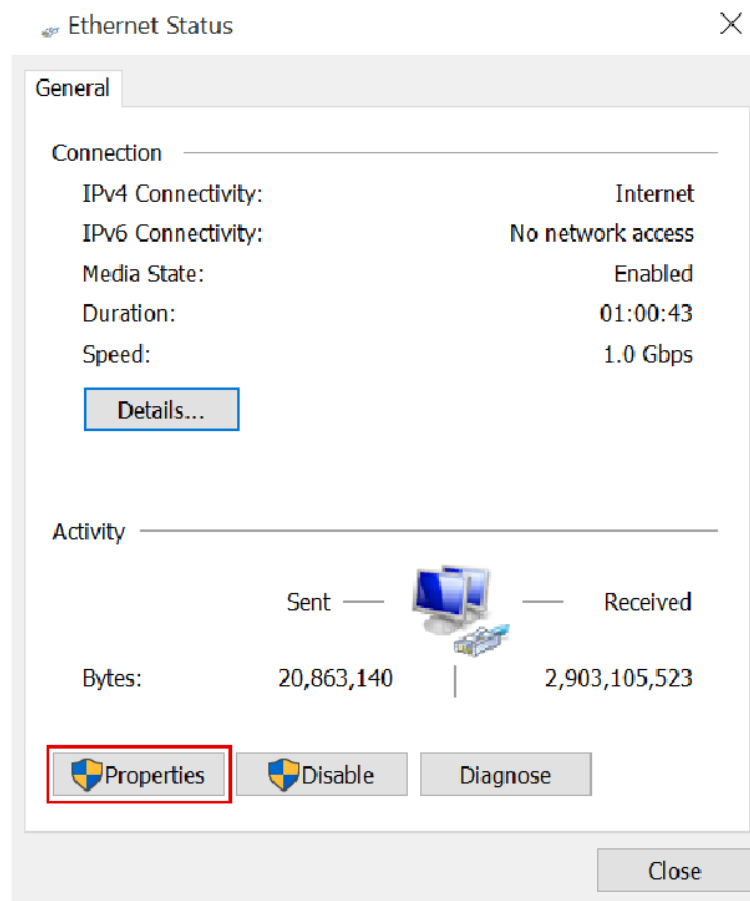


2 Double-click the Ethernet network interface.

Note: If the interface is disabled, double-click it twice. The first time will enable it and the second time will open the Ethernet status window.

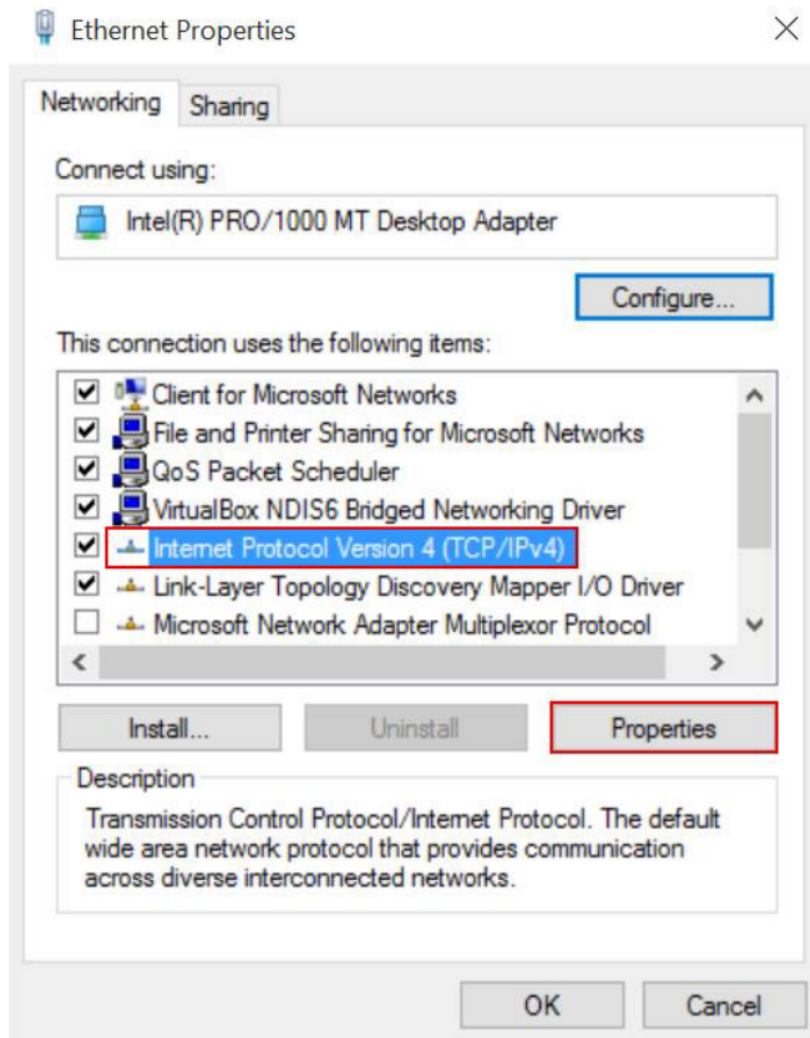


3 In the Ethernet status window, click **Properties**.



4 Click the text **Internet Protocol Version 4 (TCP/IPv4)**.

Note: Do not click the checkbox. Click the text, which will highlight the item. Then click **Properties**.



- 5 Note the options that are available for configuration. You can use DHCP to obtain an IP address by selecting ***Obtain an IP address automatically***, or manually configure the network interface by selecting ***Use the following IP address:*** and entering the IPv4 address, subnet mask, and default gateway.

Note: Manual configuration requires an understanding of the settings for the network you are connecting to. If you are performing a manual configuration in a corporate environment, you will likely need to consult with the network administrator for the proper setup. If you do not want your changes to be applied, remember to click **Cancel** at the bottom right of the window when you are done with this step.

Internet Protocol Version 4 (TCP/IPv4) Properties ✕

General Alternate Configuration

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

☒ Obtain an IP address automatically

☐ Use the following IP address:

IP address:

Subnet mask:

Default gateway:

☒ Obtain DNS server address automatically

☐ Use the following DNS server addresses:

Preferred DNS server:

Alternate DNS server:

☐ Validate settings upon exit

Advanced...

OK Cancel

- 6 Note the options that are available for configuration. You can use DHCP to obtain the IP address of DNS servers by selecting ***Obtain DNS server address automatically***, or manually configure DNS server IP addresses by selecting ***Use the following DNS server addresses*** and entering the IPv4 address for the DNS server.

Note: Manual configuration requires an understanding of the settings for the network you are connecting to. If you are performing a manual configuration in a corporate environment, you will likely need to consult with the network administrator for the proper setup. If you do not want your changes to be applied, remember to click **Cancel** at the bottom right of the window when you are done with this step.

Internet Protocol Version 4 (TCP/IPv4) Properties ✕

General **Alternate Configuration**

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

☒ Obtain an IP address automatically:

☐ Use the following IP address:

IP address:

Subnet mask:

Default gateway:

☒ Obtain DNS server address automatically

☐ Use the following DNS server addresses:

Preferred DNS server:

Alternate DNS server:

☐ Validate settings upon exit Advanced...

OK Cancel

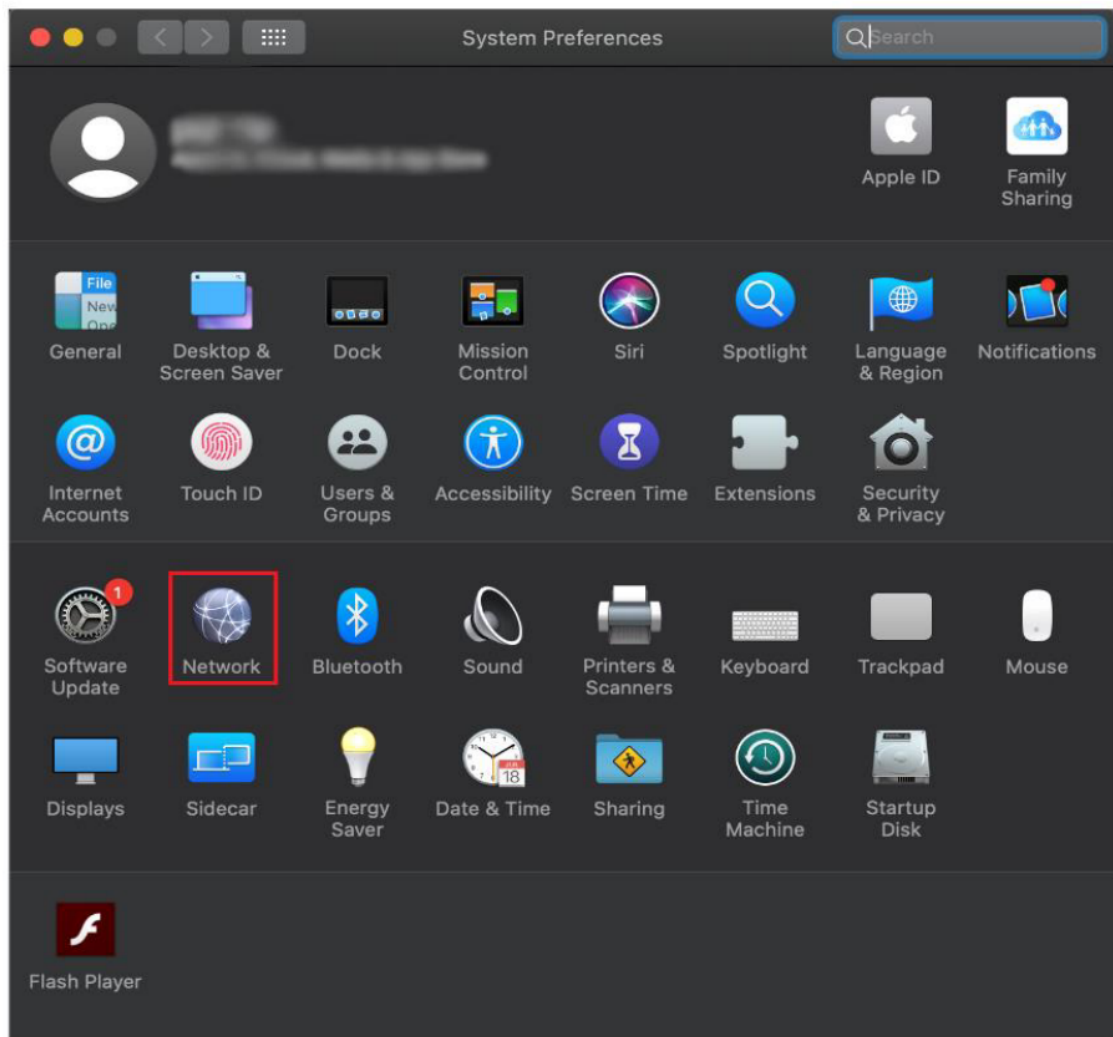
Lab Task 2: Mac OS X Network Configuration Panel

In this task, you will work with the Mac OS X Network Configuration Panel, which allows you to change the network configuration.

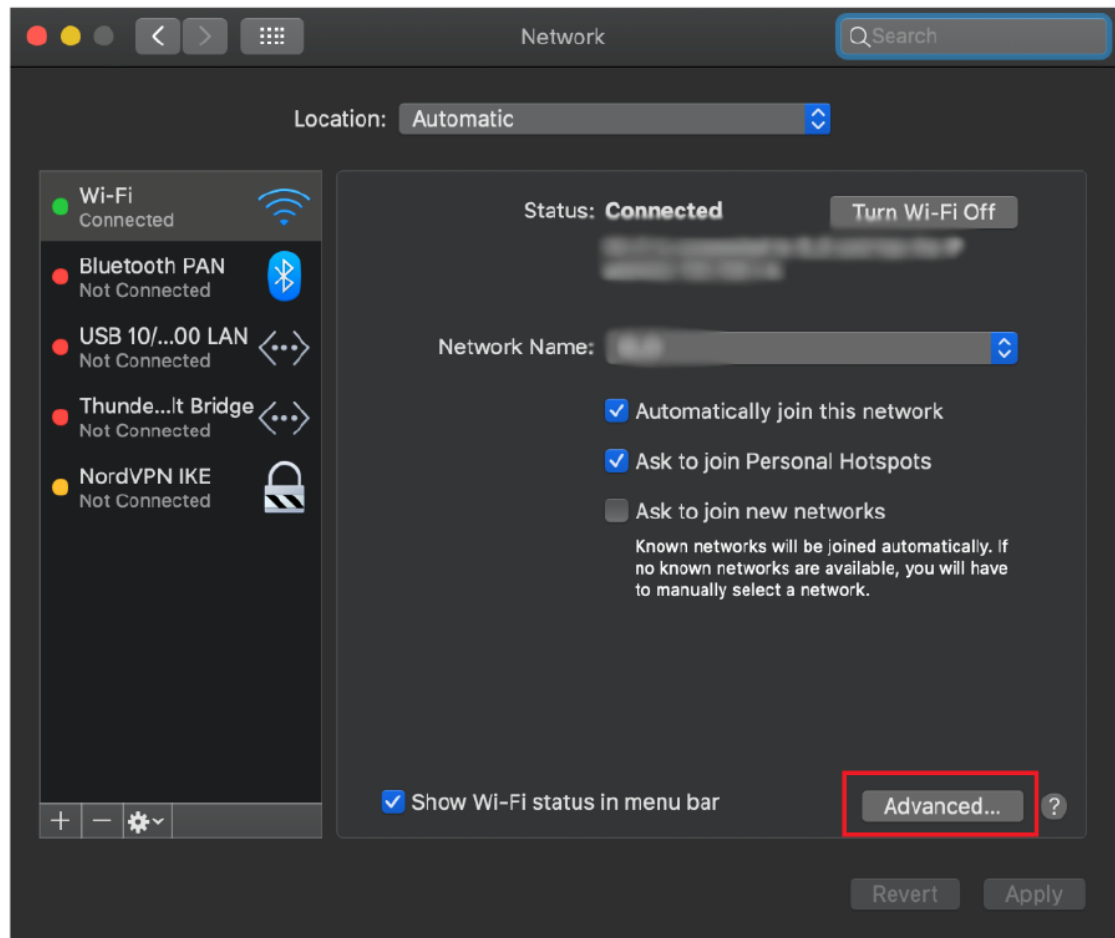
- 1 On the Mac machine, press **Command + Spacebar** to open the spotlight search, and search for *System Preferences*.



- 2 In the **System Preferences** window, select **Network** to enter the network management center.



- 3 In the **Network** configuration panel, on the left side of the window is a list of network interfaces. The active network interface has a solid green circle to the left of the interface. Select the active interface, then click **Advanced...** on the lower right side of the **Network** configuration panel window, as shown.



- 5 Click the **DNS** configuration area as shown below. To explore this area, click the plus (+) sign below the **DNS Servers** list, and note how you can add IPv4 and IPv6 addresses for DNS servers.

To explore further, click the plus sign below the **Search Domains** list and note how you can add search domains. If you do not want your changes to be applied, remember to click **Cancel** at the bottom right of the window when you are done with this step.

