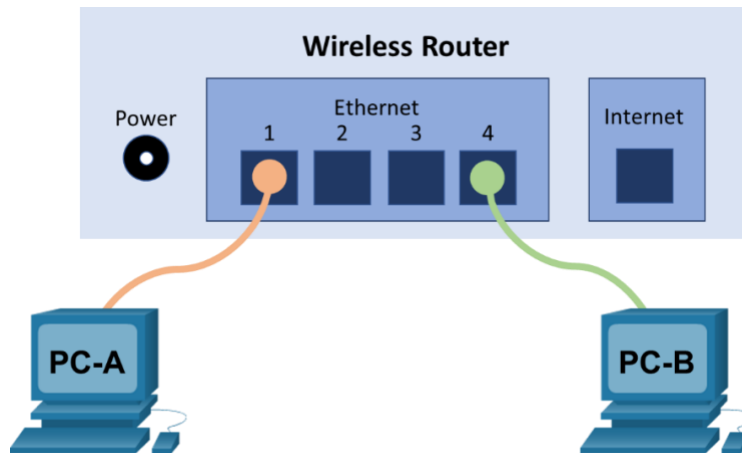


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**MÔN: NHẬP MÔN MẠNG MÁY TÍNH**

## Lab - Build a Simple Network

### Topology



### Addressing Table

Device	Interface	IP Address	Subnet Mask
PC-A	NIC	192.168.1.10	255.255.255.0
PC-B	NIC	192.168.1.11	255.255.255.0

### Objectives

#### Part 1: Set Up the Network Topology (Ethernet only)

- Identify cables and ports for use in the network.
- Cable a physical lab topology.

#### Part 2: Configure PC Hosts

- Enter static IP address information on the LAN interface of the hosts.
- Verify that PCs can communicate using the ping utility.

### Background / Scenario

Networks are constructed of three major components: hosts, switches, and routers. In this lab, you will build a simple network with two hosts and a wireless router with at least two switchports. You will apply IP addressing for this lab to the PCs to enable communication between these two devices. Use the **ping** utility to verify connectivity.

### Required Resources

- 1 wireless router with at least two switchports
- 2 PCs running Windows with wired network cards installed
- 2 Ethernet patch cables

### Instructions

#### Part 1: Set Up the Network Topology (Ethernet only)

In Part 1, you will cable the devices together according to the network topology.

##### Step 1: Power on the devices.

Power on all devices in the topology.

##### Step 2: Connect the PCs to the switch.

- Connect one end of an Ethernet cable to the NIC port on PC-A. Connect the other end of the cable to a switchport on the wireless router. After connecting the PC to the switchport, you should see the light for the switchport turn amber and then green, indicating that PC-A has been connected correctly.
- Repeat the same procedure for PC-B.

##### Step 3: Visually inspect network connections.

After cabling the network devices, take a moment to carefully verify the connections to minimize the time required to troubleshoot network connectivity issues later.

#### Part 2: Configure PC Hosts

In this lab, all the network configurations are done on a Windows 10 PC.

##### Step 1: Configure static IP address information on the PCs.

- To configure the Network Settings on PC-A, click **Start**, then click **Settings**.
- In the Settings window click **Network & Internet**.
- In the left pane select **Ethernet**, then click **Change adapter options**.
- The Network Connections window displays the available network interfaces on the PC. Right-click the **Ethernet0** interface and select **Properties**.
- Select the **Internet Protocol Version 4 (TCP/IPv4)** option and then click **Properties**.  
**Note:** You can also double-click **Internet Protocol Version 4 (TCP/IPv4)** to display the Properties window.
- Click the **Use the following IP address** radio button to manually enter an IP address, subnet mask, and default gateway. Type in the IP address 192.168.1.10 and the subnet mask 255.255.25.0  
**Note:** In the above example, the IP address and subnet mask have been entered for PC-A. The default gateway has not been entered because the router is not configured. Refer to the Addressing Table on page 1 for PC-B's IP address information.
- After all the IP information has been entered, click **OK**. Click **OK** on the Ethernet0 Properties window to assign the IP address to the LAN adapter. Click **Close** to close the Ethernet0 Status window.
- Repeat the previous steps to enter the IP address information on PC-B.

##### Step 2: Verify PC settings and connectivity.

Use the Command Prompt to verify the PC settings and connectivity.

- From PC-A, click **Start** and search for **Command Prompt**.

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- b. The Command Prompt window is where you can enter commands directly to the PC and view the results of those commands. Verify your PC settings by using the **ipconfig /all** command. This command displays the PC hostname and the IP address information.
- c. Type **ping 192.168.1.11**.

Were the ping results successful?

If the ping was unsuccessful, there is good chance that **Windows Firewall** is blocking ICMP echo requests (ping). Click **Start > Settings > Network & Internet > Ethernet > Windows Firewall** to turn it off. For security purpose, you should return the firewall back to the original state when you are finished with the lab.

**Note:** If you did not get a reply from PC-B, try to ping PC-B again. If you still do not get a reply from PC-B, try to ping PC-A from PC-B. If you are unable to get a reply from the remote PC, ask your instructor to help you troubleshoot the problem.