Packet Tracer - Add Computers to an Existing Network

Objectives

- Configure the computers to use DHCP.
- Configure Static addressing.
- Use ipconfig to retrieve host IP information.
- Use ping to verify connectivity.

Hint: To ensure that the instructions always remain visible during an activity, click the **Top** check box in the lower left-hand corner of this instruction window.

Introduction

In this activity, you will configure two computers in the Branch Office network. The company uses DHCP for dynamic addressing of all PCs.

Step 1: Study the Topology.

The topology shows two PCs, a switch, a server, a router, and a cloud.

a. Notice the PCs are connected to BranchSwitch using straight-through cables.

b. Notice the green dots on each side of the straight-through links (next to each PC and next to BranchSwitch). Green dots on both sides of a link indicate the correct cable type was used to inter-connect those devices.

Note: There should be green dots at both ends of each cable connection. If you do not see the green dots navigate to **Options > Preferences** from Packet Tracer menu and check the **Show Link Lights** check box.

Step 2: Configure DHCP on the PCs.

a. Click **PC0**. A **PC0** window will open.

b. In the **PC0** window, select the **Desktop** tab.

c. Click **IP Configuration** and select the **DHCP** button to enable the PC to act as a DHCP client. You should see the following message after clicking the **DHCP** button: **DHCP request successful**.

d. Close the **PC0** configuration window by selecting the **X** in the upper right-hand corner.

e. Click **PC1**. A **PC1** window opens.

f. In the PC1 window, select the Desktop tab.

g. Click **IP Configuration** and select the **DHCP** button to enable the PC to act as a DHCP client.

h. Close the **PC1** configuration window.

Step 3: Observe the IP Configuration Information Assigned to Each PC.

a. Click **PC0**.

b. Click the **Desktop** tab.

c. Click **Command Prompt**.

d. At the **PC>** prompt, enter the **ipconfig /all** command.

e. Record the IP address, subnet mask, default gateway, and DNS server address information that was dynamically assigned via DHCP to **PC0**.

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f. Record the IP address, subnet mask, default gateway, and DNS server address information that was dynamically assigned via DHCP to **PC1**.

g. Using the **ping** command, test layer 3 connectivity between the PCs and their default router.

h. At the **PC0>** prompt, enter **ping *PC1's IP address***.

i. At the **PC0>** prompt, enter **ping *router's IP address.***

j. At the **PC1>** prompt, enter **ping *PC0's IP address***.

k. At the **PC1>** prompt, enter **ping 172.16.1.254** (BranchOffice FastEthernet 0/0 interface IP address).

Step 4: Switch to Static Addressing.

Despite all the benefits of dynamic addressing schemes such as DHCP, sometimes a static scheme is required. Change **PC1** from DHCP to static addressing.

a. Click **PC1** to open the configuration window.

b. Click the **Desktop** tab.

c. Click **IP Configuration**.

d. Click **Static**.

Enter the IP information as follows:

IP Address: **172.16.1.20**

Subnet Mask: **255.255.255.0**

Default Gateway: **172.16.1.254**

DNS: **209.165.200.226**

e. **PC1** is now configured with a static address. Close **IP Configuration**.

Step 5: Verify Connectivity.

Test connectivity by sending pings across the network.

a. Click **PC1** to open its configuration window.

b. Click **Desktop**.

c. Click **Command Prompt**.

d. Ping the default gateway by typing **ping 172.16.1.254**. The pings should be successful.

e. Ping **Server0** by typing **ping 172.16.1.100**. The pings should be successful.

f. Ping the router used as the entry point for **Corporate** cloud by typing **ping 172.16.200.1**. The pings should be successful.

g. Ping a server located inside the **Corporate** cloud by typing **ping 209.165.200.226**. The pings should be successful.

h. Full connectivity has been achieved within the network.

Check your score. It should be 100%.

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