

Answers: 6.1.2.1 Packet Tracer - Add Computers to an Existing Network

Objectives

- Configure the computers to use DHCP
- Configure static addressing on the server
- 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 investigate the topology, configure DHCP and static addressing, and use commands to verify addressing and test connectivity.

Instructions

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

Note: There should be green triangles at both ends of each cable connection. If you do not see the green triangles 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**.
- b. In the **PC0** window, select the **Desktop** tab.
- c. Click **IP Configuration** and select **DHCP** 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. Repeat steps 2a - 2d for PC1.

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

- a. Click **PC0**. Click the **Desktop** tab.
- b. Click **Command Prompt**. At the **PC>** prompt, enter the **ipconfig /all** command. Press the space bar to see all the output.
- c. Record the IP address, subnet mask, default gateway, and DNS server address information that was dynamically assigned via DHCP to **PC0**.
- d. Repeat steps 3a - 3c for PC1.

- e. Using the **ping** command, test connectivity between the PCs and the default gateway (BranchOffice FastEthernet 0/0 interface IP address).
 - 1) At the **PC0>** prompt, enter **ping PC1's IP address**.
 - 2) At the **PC0>** prompt, enter **ping default gateway IP address**.
 - 3) At the **PC1>** prompt, enter **ping PC0's IP address**.
 - 4) At the **PC1>** prompt, enter **ping default gateway 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. Configure **Server0** to use static addressing.

- a. Click **Server0** to open the configuration window.
- b. Click the **Desktop** tab. Click **IP Configuration**.
- c. Verify that it is using static IP addressing.
Enter the IP information as follows:
IP Address: **172.16.1.100**
Subnet Mask: **255.255.255.0**
Default Gateway: **172.16.1.254**
DNS: **209.165.200.226**
- d. **Server0** is now configured with a static address. Close **IP Configuration**.
- e. Click **PC1** to open its configuration window.
- f. In the command prompt, ping **Server0**. The pings should be successful.
Check your score. It should be 100%.