* **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**
* **Study the Topology.**

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

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

* **Configure DHCP on the PCs.**
* Click **PC0**.
* In the **PC0** window, select the **Desktop** tab.
* 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**.
* Close the **PC0** configuration window by selecting the **X** in the upper right-hand corner.
* Repeat the steps for **PC1**.
* **Observe the IP Configuration Information Assigned to Each PC.**
* Click **PC0**. Click the **Desktop** tab.
* Click **Command Prompt**. At the prompt, enter the **ipconfig /all** command. Press the space bar to see all the output.
* Record the IP address, subnet mask, default gateway, and DNS server address information that was dynamically assigned via DHCP to **PC0**.

PC0:

IP: 172.16.1.1

Subnet Mask: 255.255.255.0

Default Gateway: 172.16.1.254

DNS: Server: 209.165.200.226

* Repeat the steps for **PC1**.

PC1:

IP: 172.16.1.2

Subnet Mask: 255.255.255.0

Default Gateway: 172.16.1.254

DNS: Server: 209.165.200.226

* Using the **ping** command, test connectivity between the PCs and the default gateway (**BranchOffice** FastEthernet 0/0 interface IP address).
* At the prompt for **PC0**, enter **ping *PC1’s IP address***.
* At the prompt for **PC0**, enter **ping *default gateway IP address****.*
* At the prompt for **PC1**, enter **ping *PC0’s IP address***.
* At the prompt for **PC1**, enter **ping *default gateway IP address***.
* **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.

* Click **Server0** to open the configuration window.
* Click the **Desktop** tab. Click **IP Configuration**.
* 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**

* **Server0** is now configured with a static address. Close **IP Configuration**.
* Click **PC1** to open its configuration window.
* In the command prompt, ping **Server0**. The pings should be successful.

Check your score. It should be 100%.