Configuring DHCP on a Multi-function Device

Objectives
- Connect three PCs to a Linksys-WRT300N, which is a multi-function device
- Change the DHCP setting to a specific network range
- Configure the clients to obtain an IP address via DHCP

Background/Preparation
- You need to have Packet Tracer 5.0 installed on your computer
- A home user wants to use a Linksys-WRT300N device to connect three PCs. All three PCs should obtain an IP address automatically from the Linksys device.

Step 1 - Set Up The Network Topology
- Add three PCs to the work area.
- Add a Linksys-WRT300N (from Wireless Devices) to the work area.
- Connect each PC to an Ethernet port on the Linksys device using a straight-through cable.
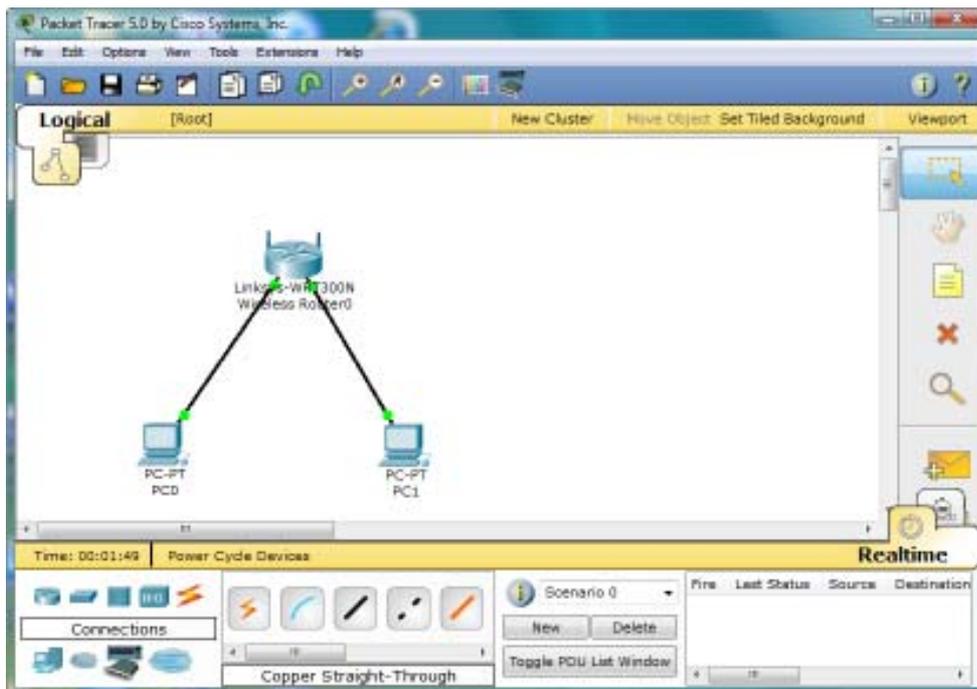
Step 2 - Observe The Default DHCP Settings

- Click the Linksys-WRT300N Router to open the configuration window.
- Click the Config tab and change the Display Name to DHCP Enabled Router.
  *Note: A popup window will appear when changing the Display Name warning that changing the Display Name may affect scoring. Proceed with changing the Display Name since it must match exactly for the activity to score correctly.
- Select the GUI tab.
  *This navigates to the Setup / Basic Setup page within the Linksys GUI.
- Scroll through the Basic Setup page to view default settings, including the default IP address of the Linksys device.
  *Note that DHCP is enabled, the starting address of the DHCP range and the range of addresses available to clients.

Step 3 - Change The Default IP Address Of The Linksys Device
- Within the Router IP section, change the IP address of the Linksys device to 192.168.5.1.
- Scroll to the bottom of the GUI page and click Save Settings.
- Scroll back up to the Router IP section to ensure the change is made.

Step 4 - Change The Default DHCP Range Of Addresses
- Notice the starting IP address in the DHCP Server Setting is updated to match the same network as the IP address set for the Linksys device: 192.168.5.100.
- Change the Starting IP Address from 192.168.5.100 to 192.168.5.25.
- Change the Maximum number of Users to: 75
- Scroll to the bottom of the GUI page and click Save Settings.
- Scroll back up to the DHCP Server Setting section to ensure the change is made.
  *Notice the range of addresses available to clients has updated to reflect the change.
- Close the Linksys configuration window.

Step 5 - Configure DHCP On The Client Workstations
- Enable DHCP on PC0.
  - Click PC0.
  - Click the Config tab. Go to the Interface FastEthernet sub-menu.
  - Enable DHCP by selecting the DHCP button in the IP Configuration panel.
    *Notice that an IP address and subnet mask is automatically assigned.
  - Close the configuration window.

- Observe the IP configuration of a client that does not have DHCP enabled.
  - Click PC1.
  - Click the Desktop tab > Command Prompt.
  - Type ipconfig and press enter.
    *Notice that all settings are set to 0.0.0.0. No IP address is assigned statically, and the PC has not obtained an address automatically from DHCP.

  - Enable DHCP on PC1 and PC2 using the Config tab as outlined for PC0
    *Notice that a different IP address and subnet mask from the one assigned to PC0 is automatically assigned to PC1 and PC2.

- Close the configuration window.

Step 6 - Verify Connectivity
- Click PC1 and select the Desktop tab > Command Prompt.
- Type **ipconfig /all** to view the IP configuration of PC1.
- Type **ping 192.168.5.1** to ping the Linksys device.
- Type **ping 192.168.5.26** to ping PC0.
  *You should receive a reply from both devices.
- Close the configuration window and click the Check Results button at the bottom of this instruction window to check your work.
- Choose the Assessment Items tab to view any configurations that were not correctly completed.

Step 7 - Present Your Solution
- Save your simulation by the name ***DHCP.pkt***.
- Send your file DHCP.pkt as an attachment in an email to your teacher.