Home Network Packet Tracer Activity Instructions

There are two parts to this activity, **Home-01** and **Home-02.**

Objectives of the Activity

Home 01

- Learn to set Network Name (SSID) of Access Points and End Devices.
- Identify different configurations with no authentication set and using WEP (Wired Equivalent Privacy) authentication.
- Configure static IP address configuration to the WAN interface.
- Enable the DHCP feature on the WRT300N Wireless Router

Home 02

- Learn to access the web based configuration page of a Wireless Router
- Learn to change basic wireless settings including Network Mode, Radio Band and Channel
- Learn to set WPA Personal in a Wireless Access point
- Learn to set WPA2 Personal in the WRT300N series Wireless Router
- Understand the MAC address filtering to control the wireless access

Topology
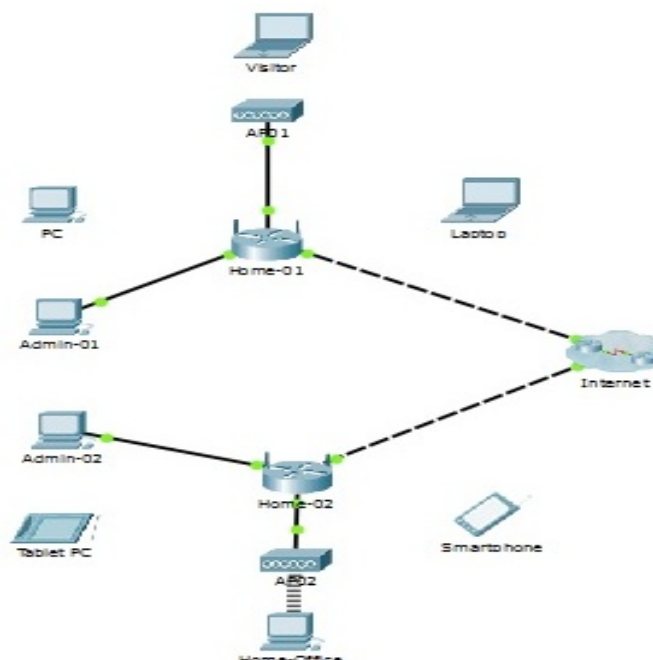
Part 1 Home-01

Step 1: Configure AP01

a. Click on the **AP01** and select **Config** tab.
b. Select **Port 1** and set the Network Name **(SSID)** to [[**AP01**]]**.**
c. Close the **Config** tab using the (X) symbol in the top right hand corner of the **Config** tab.

Step 2: Connect Visitor device to AP01

a. Click on **Visitor device** and select **PC Wireless** in the **Desktop** tab.
b. Click on **Connect** tab and select the [[**AP01**]] network from the available wireless network list then click **Connect** button in the bottom.
c. Close the wireless configuration window and click on the **IP Configuration** in the **Desktop** tab.
d. Verify the IP address assignment through DHCP Service. What is the IP address assigned?

Step 3: Login to Home-01 Wireless Router

a. Click on **Admin-01** PC, select the **Desktop tab** and go to the **Web Browser.**
b. Type **172.16.1.1** in the **URL** and click 'Go' to log in to the Home-01 Router Configuration page.
c. Use Default User name **admin** and password **admin** to log in.

Step 4: Configure Home-01 Wireless Router

Under the **Basic Setup** of the Home-01

a. In the **Internet Connection type**, under the **Internet Setup** select **Static IP** from the drop-down menu
b. Set the **Internet IP Address** to **10.0.1.254** , **Subnet Mask** to **255.255.255.0** , **Default Gateway** to **10.0.1.1** and **DNS** to **192.248.8.100 .**
c. Scroll down to the **Network Setup** configuration and change the Home-01 **Router IP** to **10.1.1.1,** Subnet Mask to **255.255.255.0 .**
d. Save Settings.
e. Close the **Web Browser.**

Note: You will be disconnected from the **Home-01** because now Admin-01 and Home-01 are in two different networks after the configuration. The earlier session was established with the previous IP configurations on the LAN side of **Home-01**.

Step 5: Re-Configure Admin-01

a. Click on the **IP Configuration** in the **Desktop** tab.
b. Set the IP Address of the Admin-01 PC to 10.1.1.10, Subnet Mask to 255.255.255.0 ,Default Gateway to 10.1.1.1, DNS to 192.248.8.100 .
c. Close the **IP Configuration** and click on **Command Prompt .**
d. Verify the connectivity with the Default Gateway by using 'ping 10.1.1.1' command.
e. Re-log in to the **Home-01** by entering 10.1.1.1 in the web browser of Admin-01 PC.

Step 6: Home-01 - Basic Settings

a. In the **Basic Setup** sub menu of the **Setup** main menu, Scroll down to **DHCP Server Settings .**
b. **Enable** DHCP Server, then Verify the DHCP Start IP Address as 10.1.1.100, Maximum number 50 and DNS Server 192.248.8.100 .
c. Save Settings and Click Continue link appear after the "Settings are successful." message.
d. Select 'Wireless' main menu and set the Network Mode to **Mixed .**
e. Change the Network Name (SSID) to **[[Home-01]].**
f. Disable the SSID Broadcasting.
g. Save Settings and Click on 'Continue' link which appears below the "Settings are successful." message.

Step 7: Home-01-Wireless Security

a. Select **Wireless Security** sub menu listed under Wireless Tab in the Configuration page.
b. Set the **Security Mode** to **WEP .**
c. Select the Encryption to **40/64 Bits (10Hex digits) .**
d. Enter [[**ABCDE54321**]] as the **Key 1.**
e. Save Settings and Click on 'Continue' link which appears below the "Settings are successful." message.
f. To improve the security of the Home-01, change the Admin password from the Management tab and save the settings.
g. Close the **Web Browser**

Step 8: Laptop connects to Home-01

a. Click on Laptop, go to Config tab and select Wireless0 under the INTERFACE.
b. Set the SSID name to **[[Home-01]].**
c. Under the Authentication select **WEP**, set **WEP Key** as [[**ABCDE54321**]] Use 40/64 Bits (10Hex digits) as the 'Encryption Type' .
d. Select DHCP option under the IP Configuration.
e. Verify the wireless connection between the Laptop and Home-01.
f. Repeat above tasks to connect **PC** to the Home-01.

Step 9: Access netacad.com : Access **netacad.com** from all the devices connected to Home-01 Wireless Router through their web browsers.

Part 2 Home-02

Step 1: Configure AP02

a. Click on the **AP02** and select **Config** tab.
b. Select **Port 1** and set the Network Name **(SSID)** to [[**AP02**]]**.**
c. Set the Authentication type to **WPA-PSK** and the Pre-shared to [[**netacad2015**]]**.**
d. Set the encryption as **TKIP.**
e. Close the **Config** tab using the (X) symbol in the top right hand corner of the **Config** tab.

Step 2: Connect Home-Office to AP02

a. Click on the **Home-Office PC** and select **PC Wireless** in the **Desktop tab.**
b. Click on **Connect** tab and select the [[**AP02**]] network from the available wireless network list then click **Connect** button in the bottom.
c. Under the **WPA-Personal Needed for Connection**, select **WPA-Personal** from the Security drop down menu.
d. Set the Encryption as TKIP and set the Pre-shared to [[**netacad2015**]] and click **Connect.**
e. Close the Wireless Configuration window and verify the **IP Configuration**. The DHCP server should assign the following settings to the PC : 10.1.2.xxx Subnet Mask: 255.255.255.0 Default Gateway:10.1.2.254 and DNS Server:192.168.8.101
f. Verify the connection between the Home-02 and **Home-Office** PC using 'ping' command .

Step 3: Login to Home-02 Wireless Router

a. Click on **Admin-02 PC** , Select the **Desktop tab** and go to the **Web Browser.**
b. Type **10.1.2.254** in the URL and click 'Go' to log in to the Home-02 Router Configuration page.
c. Use Default User name '**admin**' and password '**admin**' to log in.

Step 4: Basic Configurations on Home-02

a. Select **Wireless tab** in the configuration page of the Home-02.
b. Set the Network Mode to 'Wireless-N only'.
c. Change the Network Name **(SSID)** to [[**Home-02**]]**.**
d. Set **Radio Band** to **Wide - 40MHz Channel** , **Wide Channel** to **6 .**
e. **Save Settings** and Click on 'Continue' link which appears below the "Settings are successful." message.
f. Set **Standard Channel** to **6 - 2.437 GHz** then Save Settings and Continue.

Step 5: Configure Wireless Security on Home-02

a. Select **Wireless Security** sub menu listed under Wireless Tab in the Configuration page.

b. Set the **Security Mode** to **WPA2 Personal.**
c. Select the **Encryption** to **AES** (Advanced Encryption Standard).
d. Set the pass phrase to [[**ilovecisco]].**
e. **Save Settings** and Click on 'Continue' link which appears below the "Settings are successful." message.

Step 6: Get the Physical Addresses of the Tablet and Smart Phone

a. Click on the **Tablet PC** and select the **Desktop tab**
b. Click on the **Command Prompt** and type **ipconfig /all**
c. Note down the **physical address (Ex: 1234.ABCD.1234)** of the **Wireless Connection0**
d. Repeat above tasks and get the physical address of the wireless connection in the 'smartphone'

Step 7: Home-02-Wireless MAC Filter

a. Select the **Wireless MAC Filer** sub menu in the **Wireless** menu item of the configuration page in the Home-02.
b. **Enable** the Wireless MAC Filter feature.
c. Select **Permit PCs listed below to access wireless network.**
d. **Enter the Physical Address** of Tablet to MAC 01 and Smart Phone to MAC 02 in the **MAC Address filter list** according to the format (Ex: 12:34:AB:CD:12:34).
e. **Save Settings** and Click on 'Continue' link which appears below the "Settings are successful." message.
f. To improve the security of the Home-02, change the Admin password from the Management tab and save the settings.

Step 8: Connect Tablet and Smart Phone to the Home-02

a. Click on **Smart Phone** go to **Config tab** and select **Wireless0** under the **INTERFACE**
b. Set the **SSID** name to [[**Home-02]].**
c. Under the **Authentication** select **WPA2 PSK** and set the **same Pass Phrase in the Home-02.**
d. Use **AES** as the **Encryption Type.**
e. Select **DHCP** option under the **IP Configuration.**
f. Verify the wireless connection between the Tablet and Home-02 through PDU test.
g. Repeat above tasks to connect Tablet PC to the Home-02.Step 9: Access netacad.com

Step 9: Access netacad.com : Access **netacad.com** from all the devices connected to Home-02 Wireless Router through their web browser.