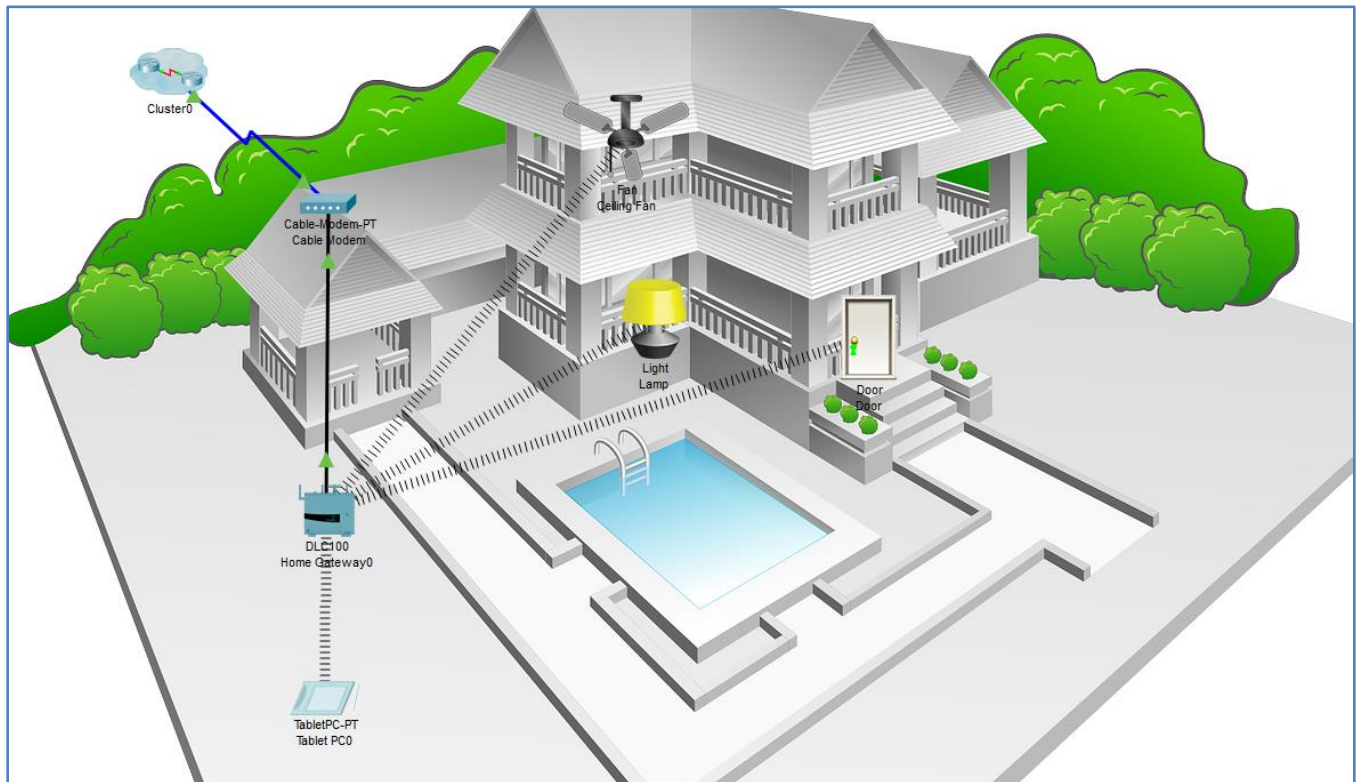# Packet Tracer – Connect and Monitor IoT Devices

The Smart Home Network

Objectives

Part 1: Add a Home Gateway to the Network

Part 2: Connect IoT Devices to the Wireless Network

Part 3: Add an End User Device to the Network

Background / Scenario

In this activity you will add a home gateway and several IoT devices to an existing home network and monitor those devices through the home gateway.

Part 1:   Connect a Home Gateway to the Network

Step 1:   Open the Smart_Home.pkt file and save the file to your computer

Step 2:   Adding a home gateway

   a.   Select the **Home Gateway** device.

Click the **Wireless Devices** icon in the **Device-Type Selection** box. Click the **Home Gateway** device icon and then click in the **Logical** workspace to add the device.
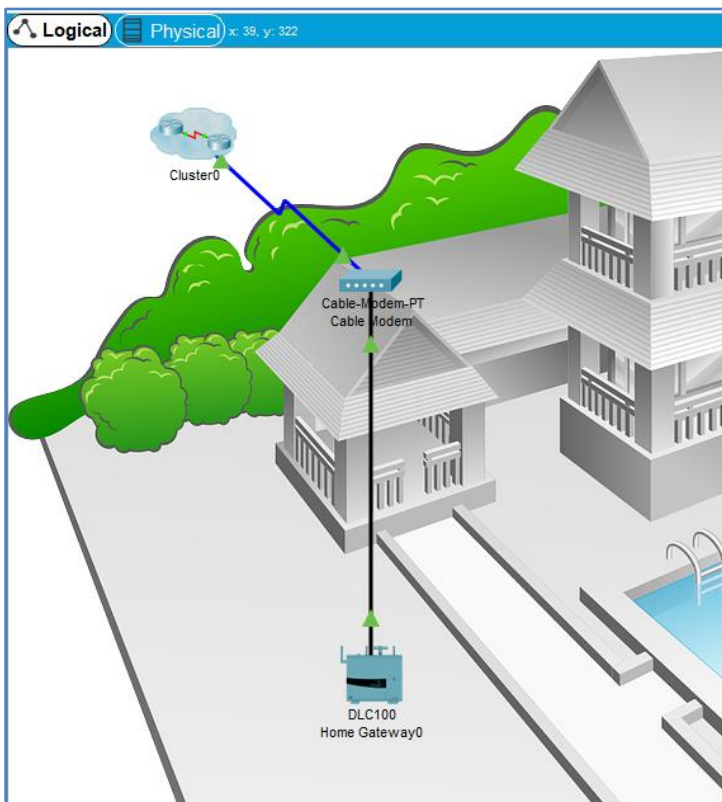

b. Connect the home gateway to the cable modem.

Click the **Copper Straight-Through** connector icon in the **Device-Type Selection** box, then click the **Home Gateway** to add one end of the cable to Port 1 of the gateway. Next, click the **Cable Modem** icon to connect the other end of the cable to the Internet port.
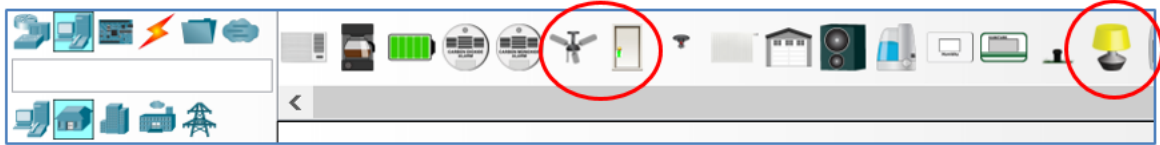

After a few seconds both ends of the cable should have green lights that indicate that the link is up.

Part 2: Connect IoT Devices to the Wireless Network

Step 1: Select wireless devices

    a.   Click the **End Devices** icon, then the **Home** device icon in the **Device-Type Selection** box and add the **Fan,** the **Door,** and the **Lamp** to the workspace.
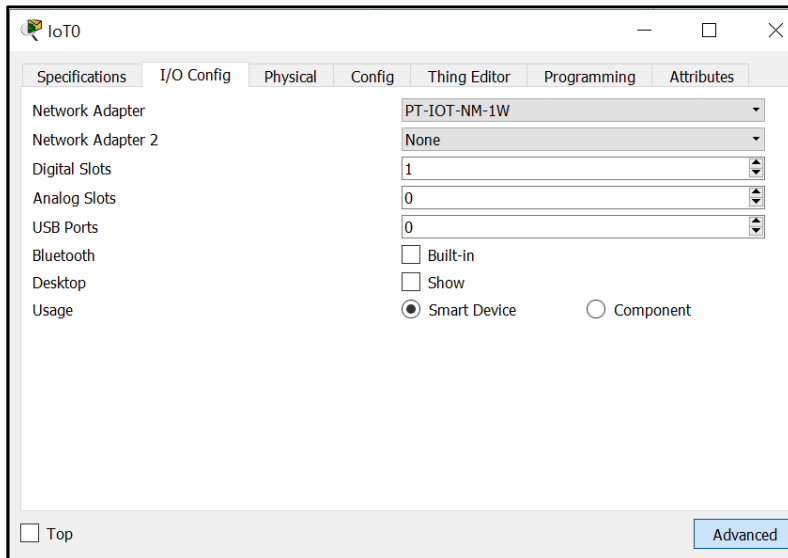

Step 2: Attach devices to the home wireless network

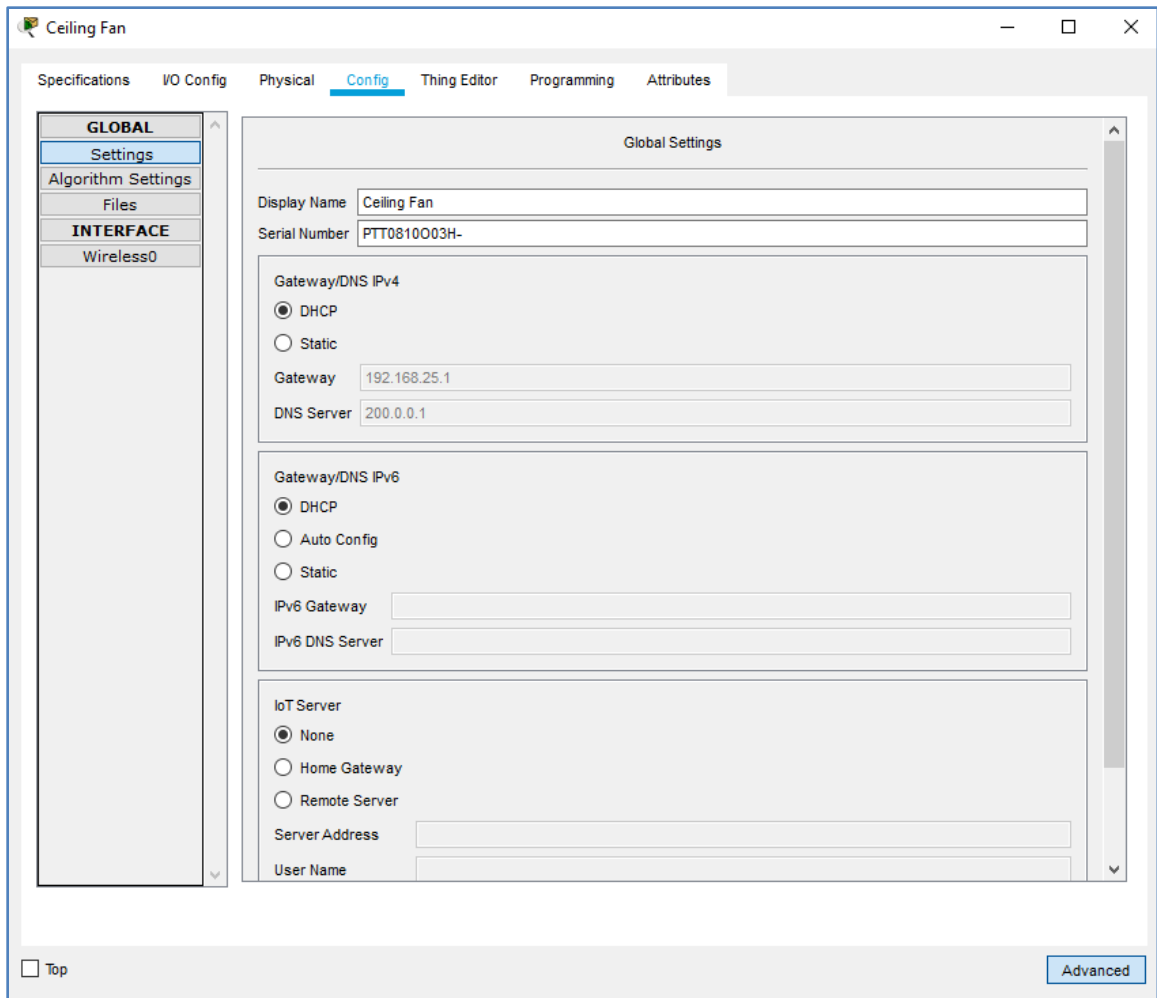   a.   Add a wireless adapter to the **Fan** device.

         Click the **Fan** icon in the workspace to open the **Config** tab and then click the **Advanced** button in the bottom right corner of the window. Notice that the tabs at the top of the configuration window change. There are now more tabs.

         Click the **I/O Config** tab and change the **Network Adapter** type to the **PT-IOT-NM-1W** wireless adapter.

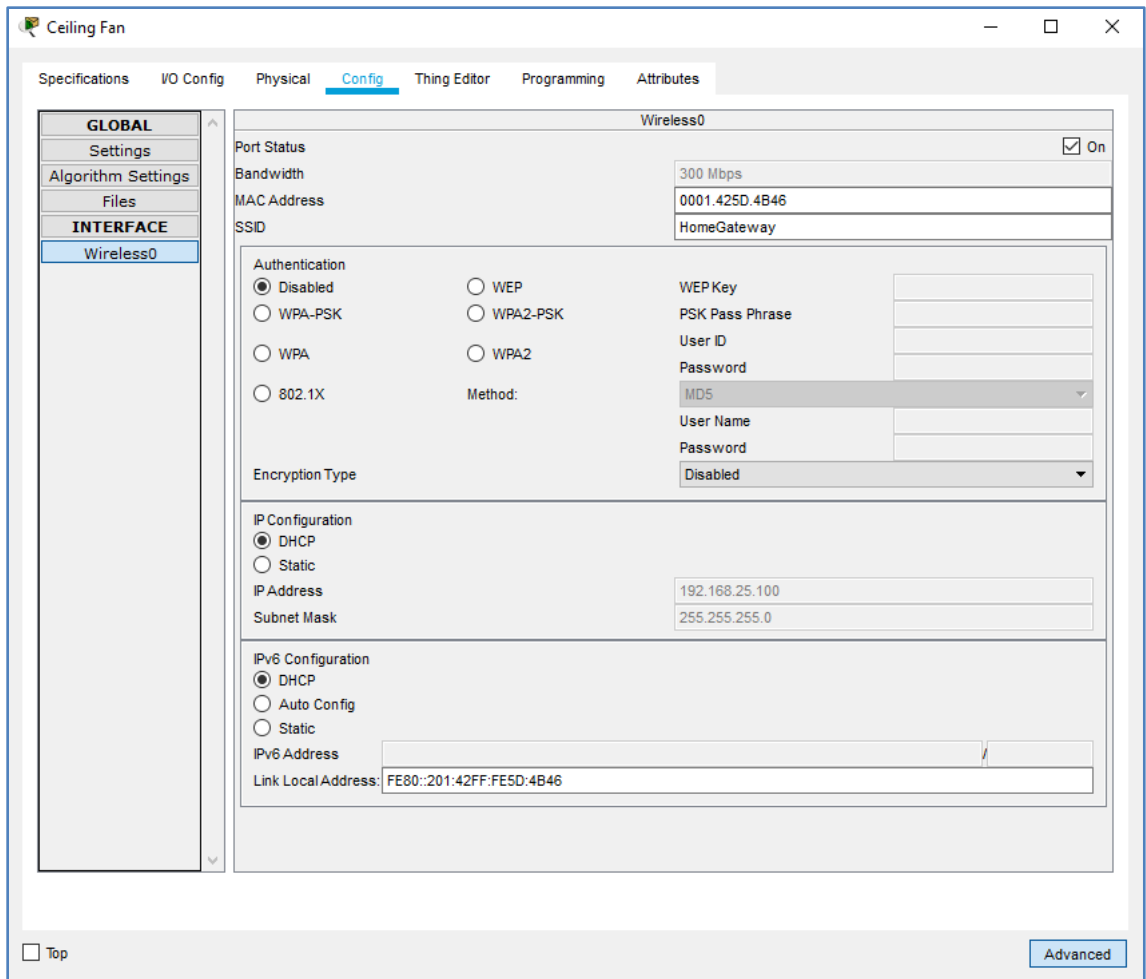   b.   Change the display name of the **Fan** device.

         Click the **Config** tab. Global settings options should be visible, if not, select **Settings** in the left pane. In the **Display Name** box, type **Ceiling Fan**.

c. Verify that the **Ceiling Fan** is connected to the wireless network.

While still in the **Config** tab, click the **Wireless0** interface in the left pane.

In the configuration settings, the **HomeGateway** network should be listed in the SSID box. Verify that the DHCP is selected in the **IP Configuration** settings, and that the IP address is 192.168.25.100. This indicates that the fan is connected to the network and is receiving IP configuration information from the home gateway.

Close the **Ceiling Fan** configuration window.

d. Connect the **Door** and the **Lamp** to the wireless network following the same steps used for the fan.

Part 3: Add a Wireless Tablet to the Network

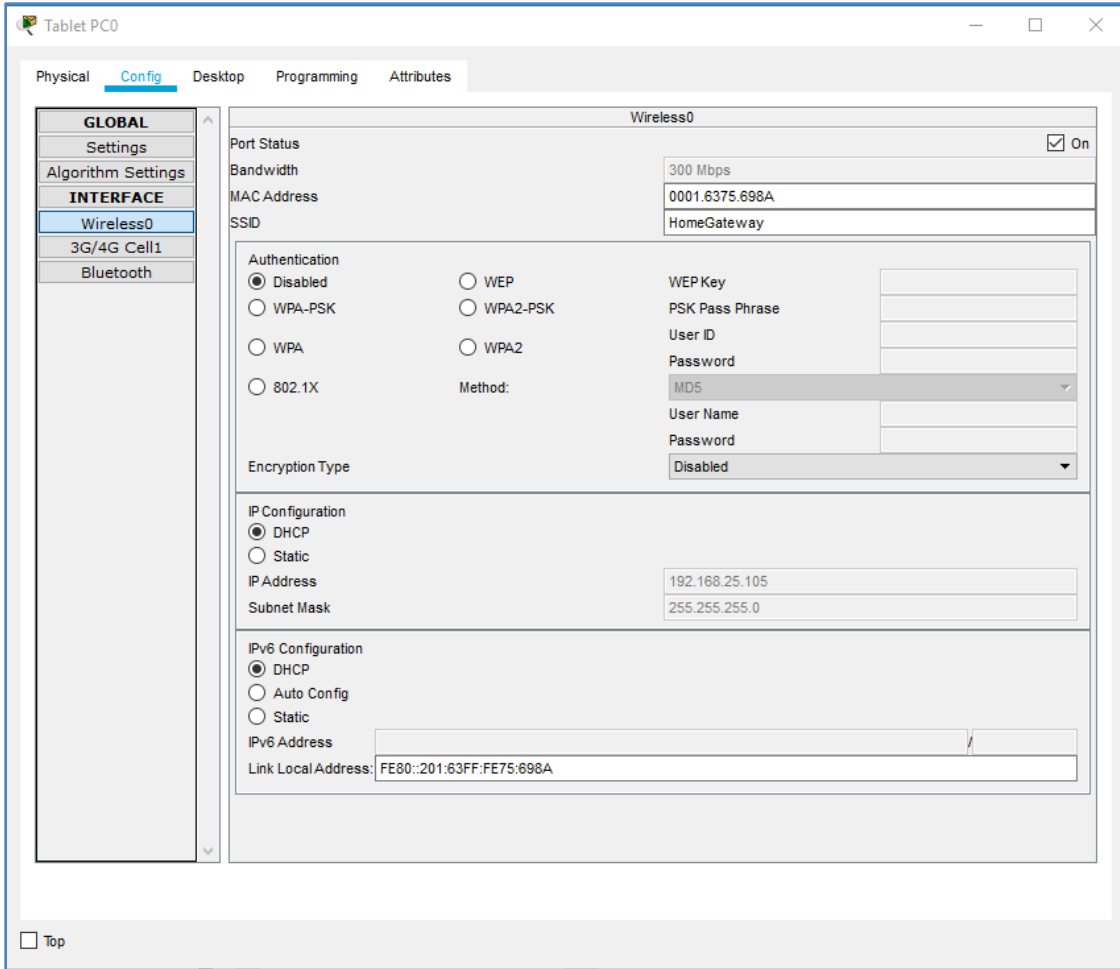### Step 1: Add a wireless tablet to the workspace

a. Click the **End Devices** icon in the **Device-Type Selection** box and add the **Wireless Tablet** to the workspace.

Step 2: Connect the wireless tablet to the HomeGateway network

a. Change the wireless tablet network settings.

Click the **Wireless Tablet** icon to open the tablet configuration window.

Click the **Config** tab and then click the **Wireless0** Interface. Change the SSID from **Default** to **HomeGateway**. After the network SSID is changed the tablet should learn an IP address through DHCP within a few seconds.
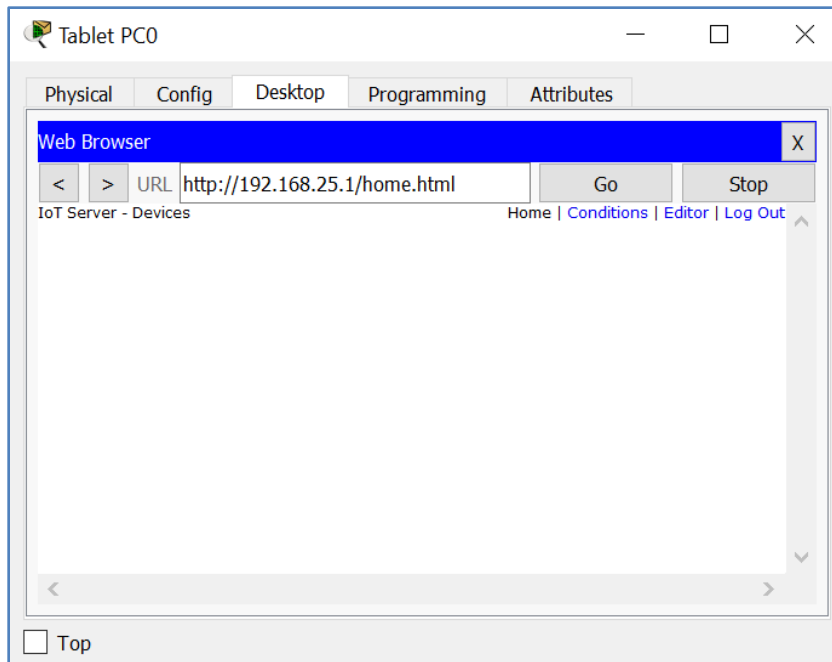

b. Access the **home gateway** from the **tablet**.

Click the **Desktop** tab and then click the **Web Browser** icon to open a web browser. Type 192.168.25.1 (the address of the home gateway) in the URL box and click **Go**.

At the **Home Gateway Login** page, enter **admin** as the username and **admin** as the password and click the **Submit** button to connect to the Home Gateway server.

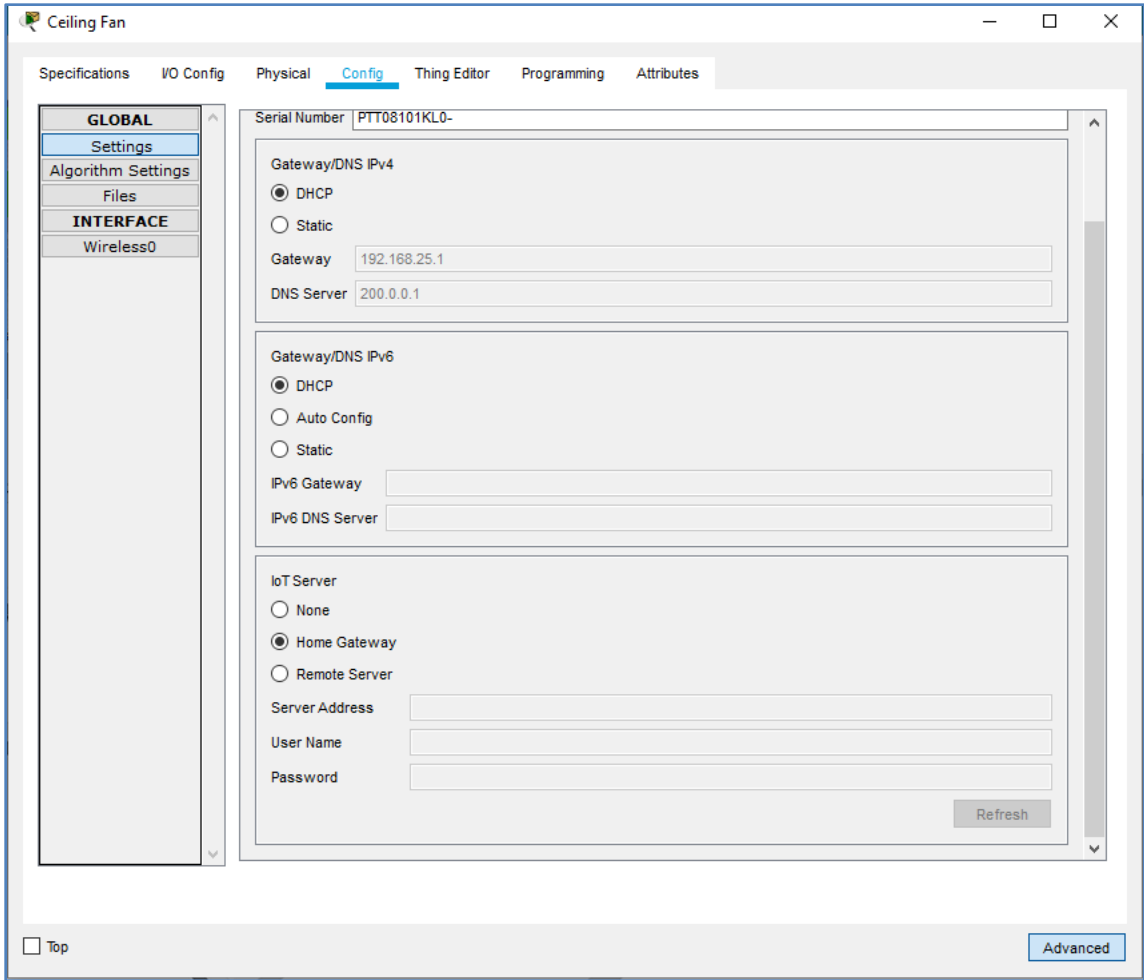Note that no devices appear in the **Home Gateway IoT Server - Devices** list.

Close the **Tablet PC0** window.

Step 3: Configure IoT devices to register with the Home Gateway server

a. Register the ceiling fan to the home gateway server.

Click the **Fan** icon in the workspace, click the **Config** tab, and then click **Settings** in the left pane. At the **IoT Server** options list, click the **Home Gateway** button.
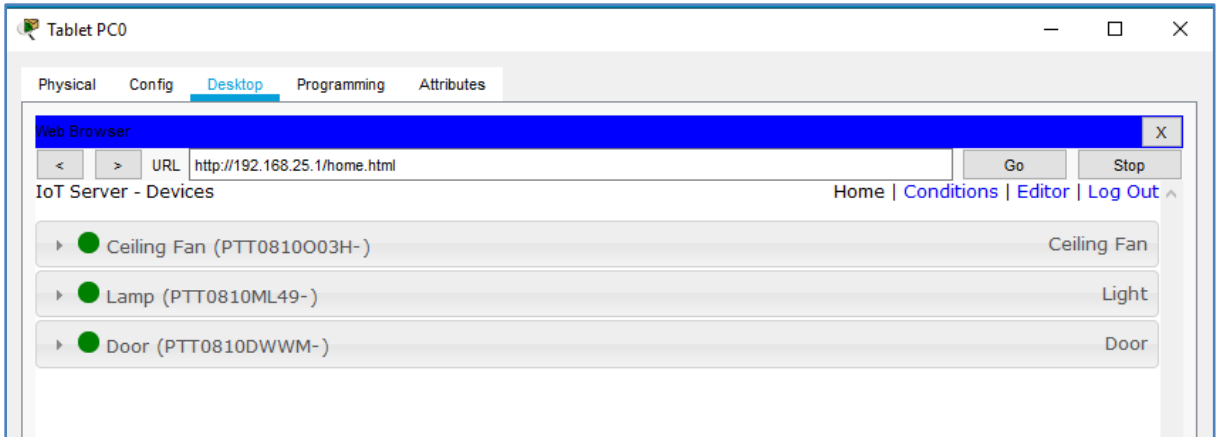
Close the **Ceiling Fan** window.

Repeat the steps in 3a to register the **Door** and the **Lamp** devices to the home gateway.

b. Verify that the devices are now registered with the Home Gateway server.

Click the **Tablet** icon in the workspace and open the web browser. Connect to the home gateway by typing **192.168.25.1** in the URL box and then click **Go**. Enter **admin** as the username and password and click **Submit**.

After a few seconds all three devices should be listed in the **Home Gateway IoT Server - Devices** list.

Close the **Tablet PC0** window.

Step 4: Close Packet Tracer