Packet Tracer – Home IoE Implementation

Scenario

In this Packet Tracer scenario, Bob has begun to implement the IoE in his home. You can explore the variety of devices and manipulate environmental factors to see the impact on sensors and actuators. You can also configure some basic settings including IP addressing for a sensor and security settings for the gateway router. Finally, you can verify that all the devices in the home have IP connectivity.

Note: This document is a supplement, but not a replacement, for the video demonstration. The video demonstration is the primary source for how to navigate this activity.

Tasks

- Open the **Packet Tracer – Home IoE Implementation.pkz** file.
  - Select the **Tools** menu to hide the toolbars to provide more room for navigating the activity.
  - There are three clusters to explore: **Home**, **ISP-Connection**, and **ISP-Internet**.
- Click **ISP-Internet** to open and explore the cluster.
  - Click **Fast Forward Time** to force the network to converge.
  - Click **Pda1** > **Desktop** > **Web Browser**.
  - Enter the **www.home.net** URL and click **Go**.
  - Click the **YOUR HOME SECURITY** link to see the Home Master Control page.
  - Click the floor plan to see the sensor control panel.
  - Close the **Web Browser** and the **Pda1** windows, and click **Back**.
- Click **Home** to open and explore the cluster.
  - Explore the wired and wireless devices.
  - Verify that each sensor has received IP addressing information. Click any sensor > **Desktop** > **IP Configuration**. Some devices may not have a **Desktop** tab. If so, click the **GUI** tab.
- Follow the instructions in the video demonstration to complete the following tasks:
  - View and cause a change to the **Thermostat** sensor.
  - View and cause a change to the **Sprinkler Actuator**.
  - View and cause a change to the **Light Actuator**.
  - View and cause a change to the **Garage-Smoke-Detector**.
- Configure wireless settings on the Home Gateway router.
  - Click **Home Gateway** > **GUI**.
  - The **Home Gateway** router requires the following settings:
    1) Change the **Router IP** address to **10.10.10.1**.
    2) Change the **Network Name (SSID)** to **MyHomeWLAN**.
    3) Change the **Security Mode** to **WPA2** and use the password **HomeWLAN**.
    4) Change the **Router Access** password to **myhomeonly**.

    Note: Scroll to the bottom of each page and click **Save Settings**.
- Verify that the devices received new IP addressing.

- Open a wired device, toggle its **DHCP** and **Static** setting, and then wait for the device to receive new IP addressing.
- Alternatively, you can click **Power Cycle Devices** to restart all devices. This is equivalent to turning off and turning on all devices.
- Click **Fast Forward Time** to accelerate the process.
- Configure the **BR.1 Smoke-Detector** sensor with static IP addressing.
  - Click **BR.1 Smoke-Detector** > **Desktop** > **IP Configuration**.
  - Set the **IP Configuration** to static and enter the following IP address settings:

    IP Address: 10.10.10.50

    Subnet Mask: 255.255.255.0

    Default Gateway: 10.10.10.1

- Configure each of the wireless devices with the appropriate security settings; for example:
  - Click **Wind and Water** > **Config** tab > **Wireless0** (on the left).
  - For the **SSID** value, enter **MyHomeWLAN**.
  - Under **Authentication**, click **WPA2-PSK** and enter **HomeWLAN** for the Pass Phrase.
  - Repeat the above process for all wireless devices.
  - Verify that all the wireless devices are now connected to **Home Gateway** and have received IP addressing.
- Investigate the **Packet Tracer - Home IoE Implementation.pkz** file on your own.