Intro to IoT and Packet Tracer

Name: Lidia Pascu

Course Date: 03/06/2025

Programme:

Contents

Task 1 - Logical and Physical Mode Exploration

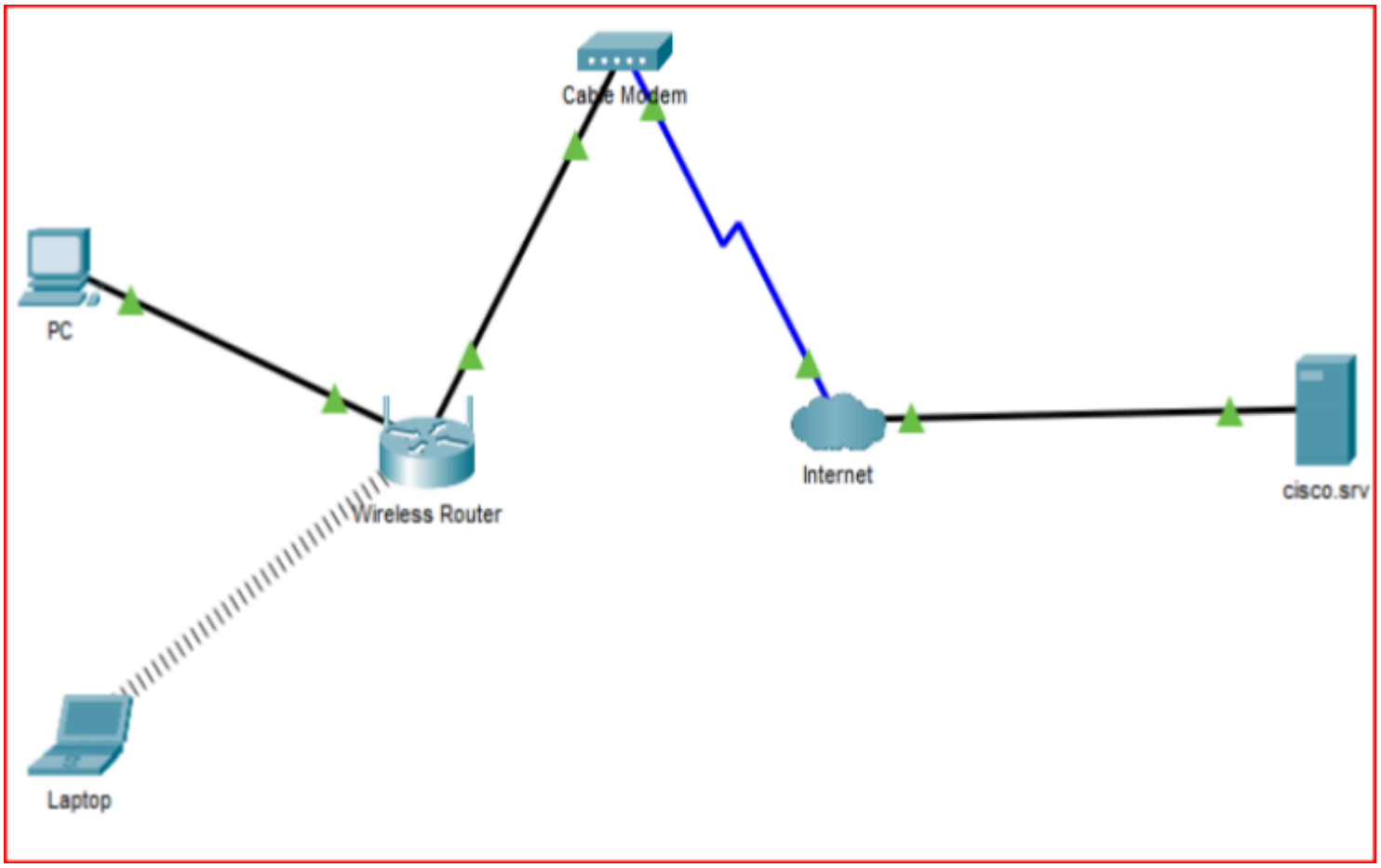
In this Packet Tracer Tutored Activity, you will explore logical and physical mode. This activity includes a hinting system and a built-in tutorial. It is recommended that you watch the video Packet Tracer Tutored Activity prior to doing this activity. You can also access the tutorial videos on the previous page of this course.

Task 2 - Create a Simple Network

In this Packet Tracer activity, you will complete the following objectives:

Part 1: Build a Simple Network
Part 2: Configure the End Devices and Verify Connectivity

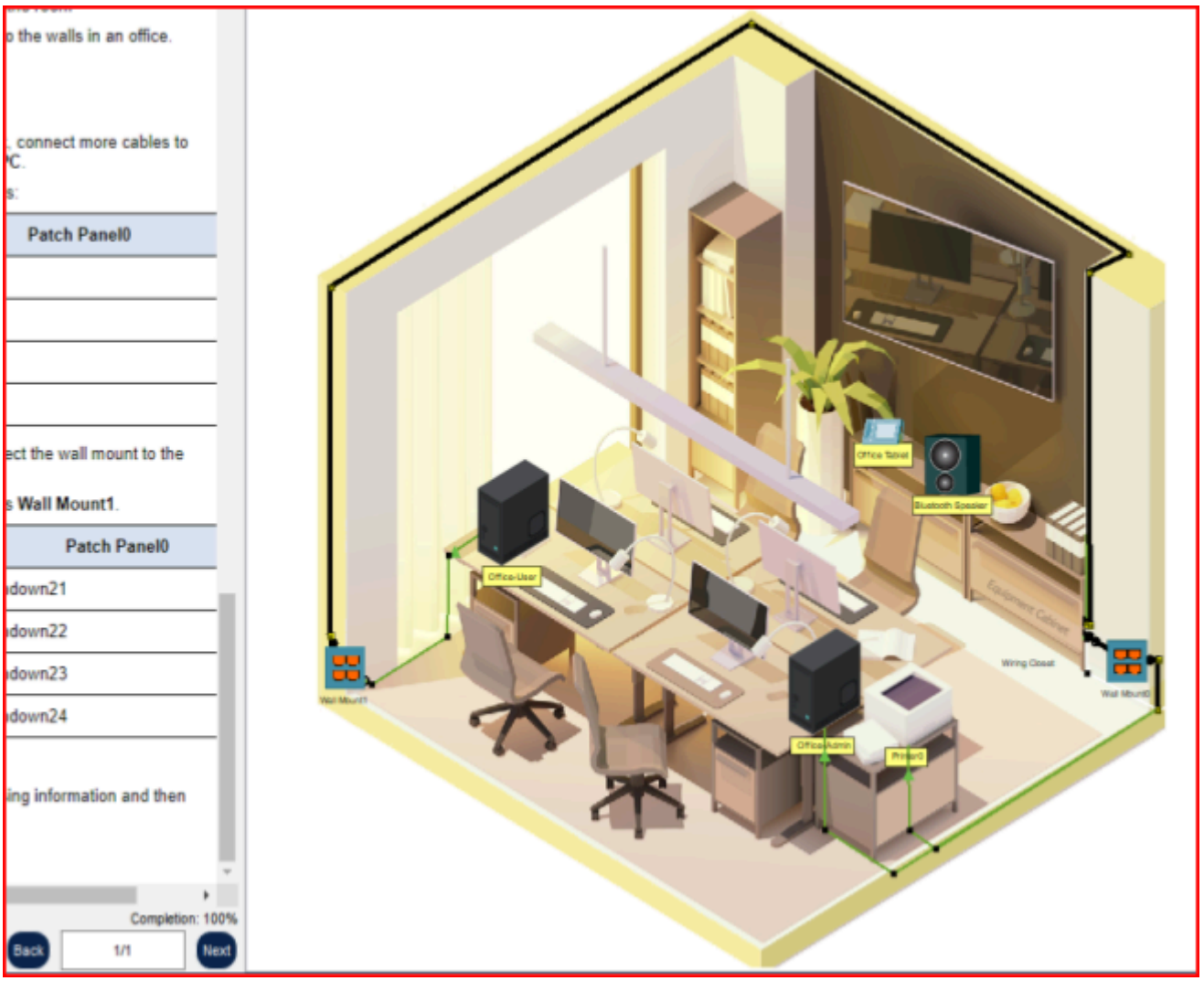
Copy your final network below



Task 3 - Packet Tracer - Create Realistic Structured Cabling in the Physical Workspace and Cabling Devices in a Rack

Objectives
In this activity, you will install a patch panel and a wall mount. You will then use these to connect network devices in the office to the equipment in the wiring closet.
Part 1: Install a Patch Panel in the Wiring Closet
Part 2: Attach a Wall Mount in the Office
Part 3: Connect an Additional Wall Mount and Cables

Copy your completed network from packet tracer in the box below



Task 4 - Connect Devices using Wireless Technologies

In this Packet Tracer activity, you will complete the following objectives:

- Part 1: Connect a Laptop to the Office WLAN
- Part 2: Connect Devices with Bluetooth Technology
- Part 3: Tether a Laptop to use a Cellular Network via the Smartphone

Instructions

Part 1: Connect a Laptop to the Office WLAN

Step 1: Install a wireless module to a Laptop.

a. Click the **Laptop** to open the configuration window.
b. Under the **Physical** tab, power off the **Laptop** by clicking the power button.
c. Remove the Ethernet module **PT-LAPTOP-NM-1CFE** from the laptop by dragging it from the **Laptop** to the list on the left.
d. Insert the wireless module **WPC300N** by dragging it from the list on the left to the **Laptop**.
e. Power on the **Laptop**.

Step 2: Connect Laptop to the office WLAN.

a. Click the **Desktop** tab and select the **PC Wireless** tool.
b. Click the **Connect** tab and wait until the **Employee SSID WLAN** is displayed. Note that you may have to click **Refresh**.
c. Click the **Employee SSID** to select it. Click **Connect**.
d. Enter **Cisco123** as the pre-shared key and click **Connect**.
e. After connecting to the wireless network, close the **PC Wireless** window.
f. Click the **Config** tab and select **Wireless0** in the left pane to verify in the **IP Configuration** section that the **Laptop** has been assigned an IP address.
g. Open the **Web Browser** from the **Desktop**. Navigate to **office.srv** to verify that the **Laptop** has

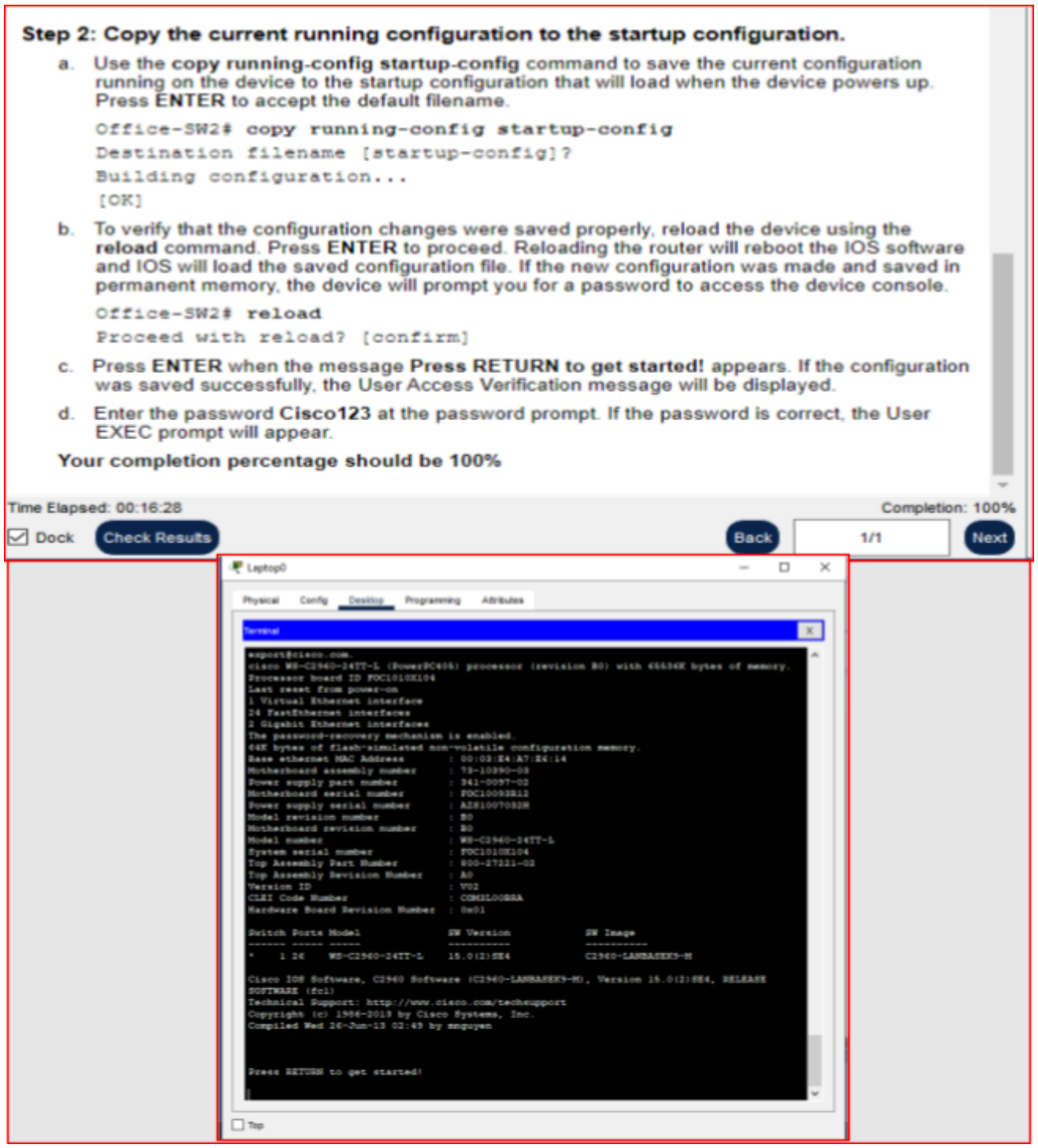
Time Elapsed: 03:24:20 Completion: 100%

Dock | Check Results | Back | 1/1 | Next

Task 5 - Explore Device Configuration Using the CLI (console)

In this Packet Tracer activity, you will complete the following objectives:

- Part 1: Connect to the Device Using a Console Connection
- Part 2: Copy Configuration Information to the Device
- Part 3: Save the Updated Configuration to the Device

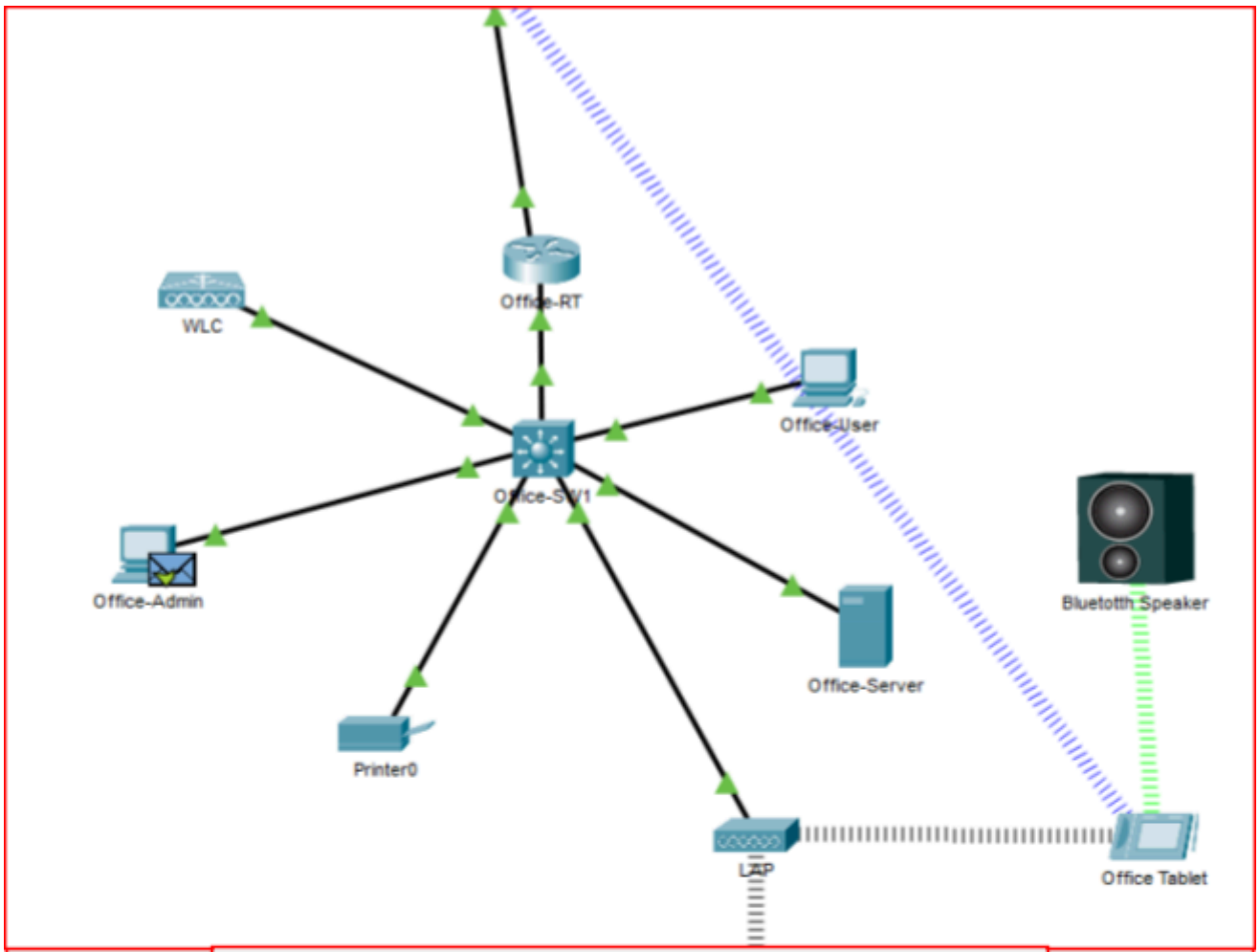


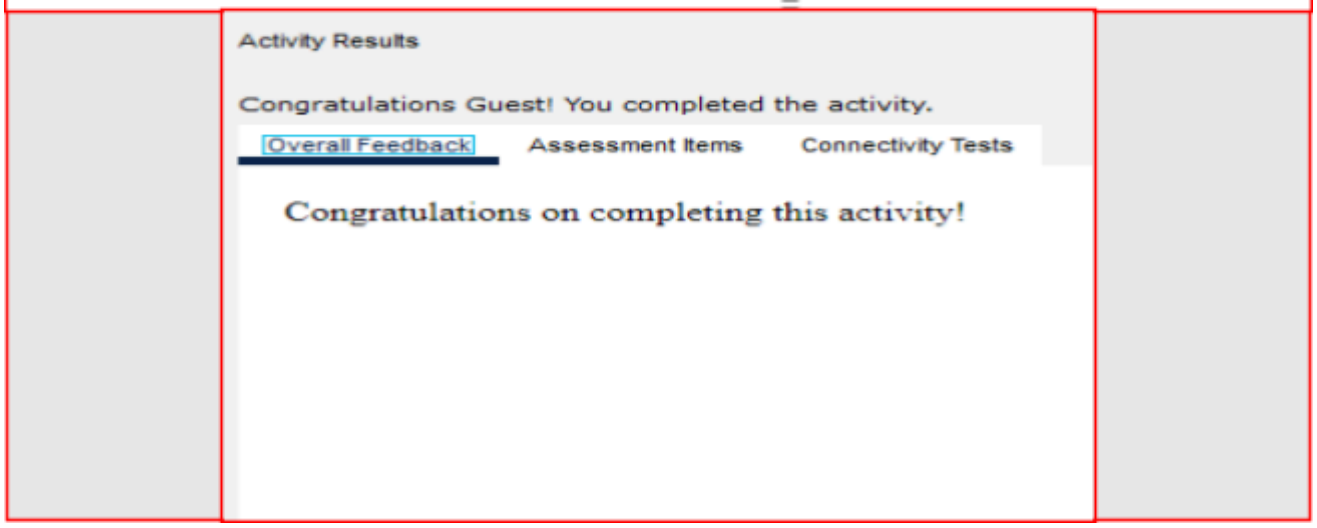
Task 6 - Examine Packets in the Small Office

In this Packet Tracer activity, you will complete the following objectives:

- Part 1: Create a Simple PDU in Simulation Mode
- Part 2: View Contents of PDUs
- Part 3: Create a Complex PDU in Simulation Mode

Copy and paste your completed network below



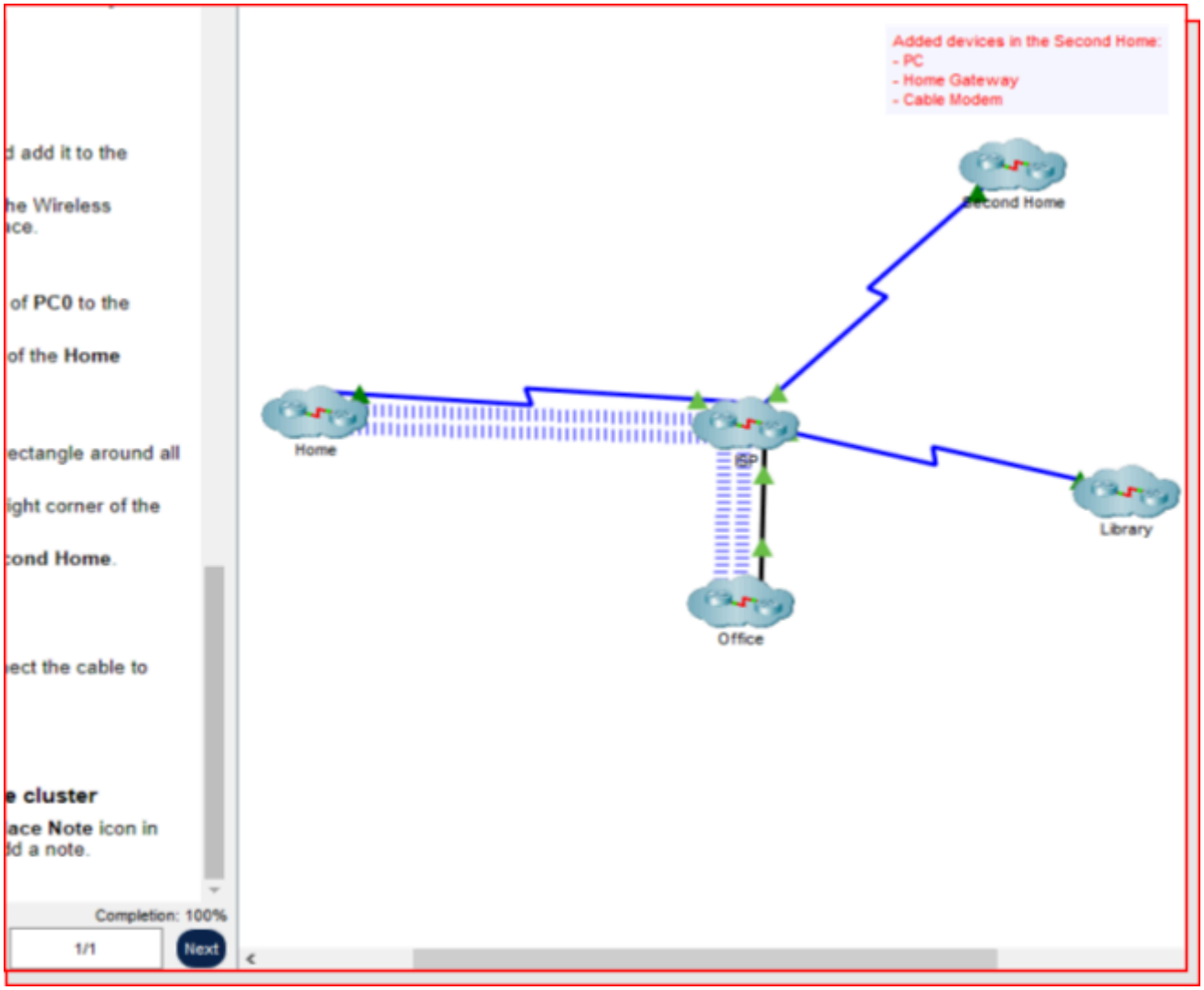


Task 7 - Edit Topologies

In this Packet Tracer activity, you will complete the following objectives:

Part 1: Add an Additional Switch to the Rack in the Office Network
Part 2: Connect a PC to the Office Network
Part 3: Work with Clusters
Part 4: Add a Second Home Cluster to the Network

Copy and paste your final network below

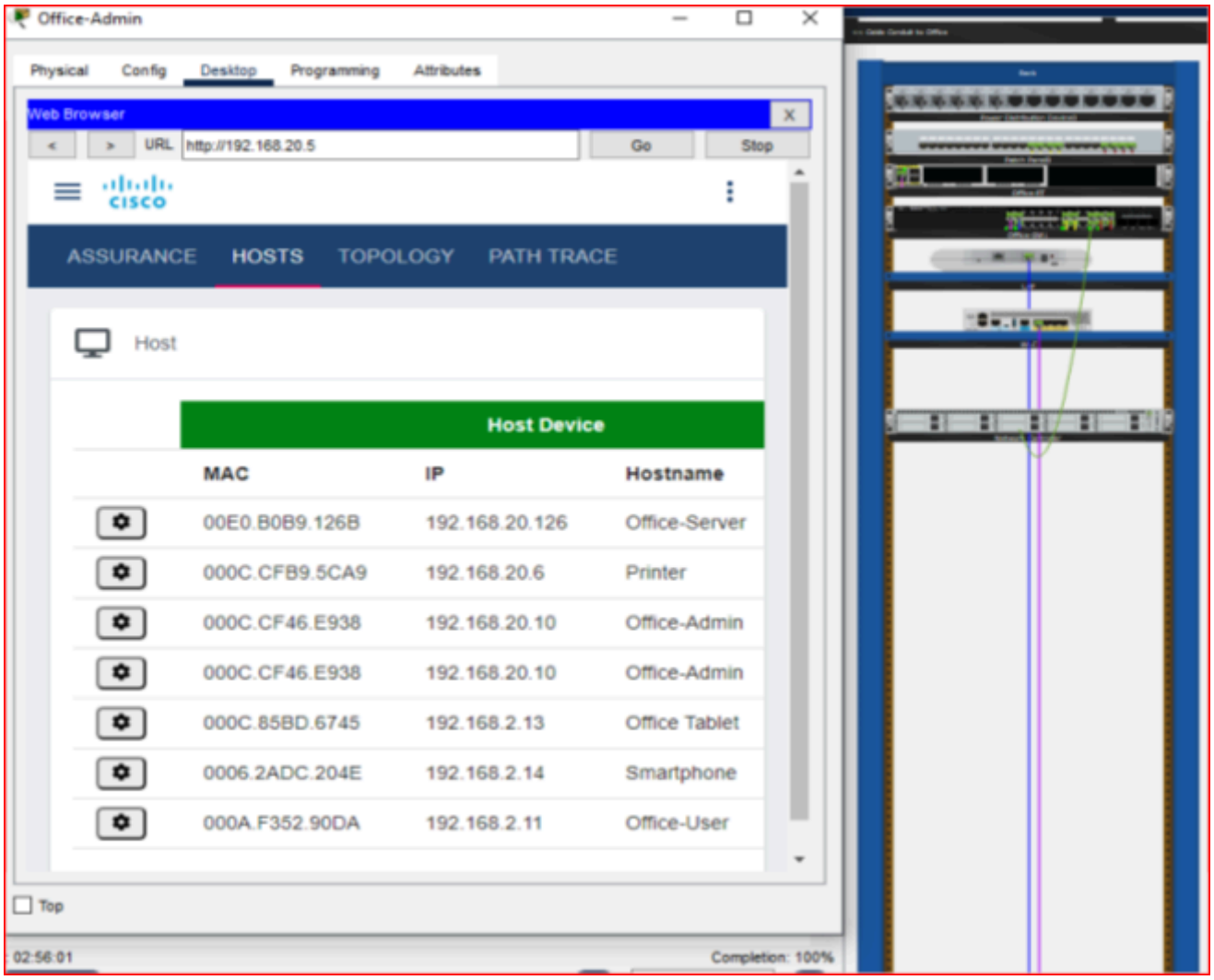


Task 8 - Monitor Your Network Using a Network Controller

In this Packet Tracer activity, you will complete the following objectives:

- Part 1: Implement a Network Controller
- Part 2: Monitor the Network

Copy and paste your completed network below

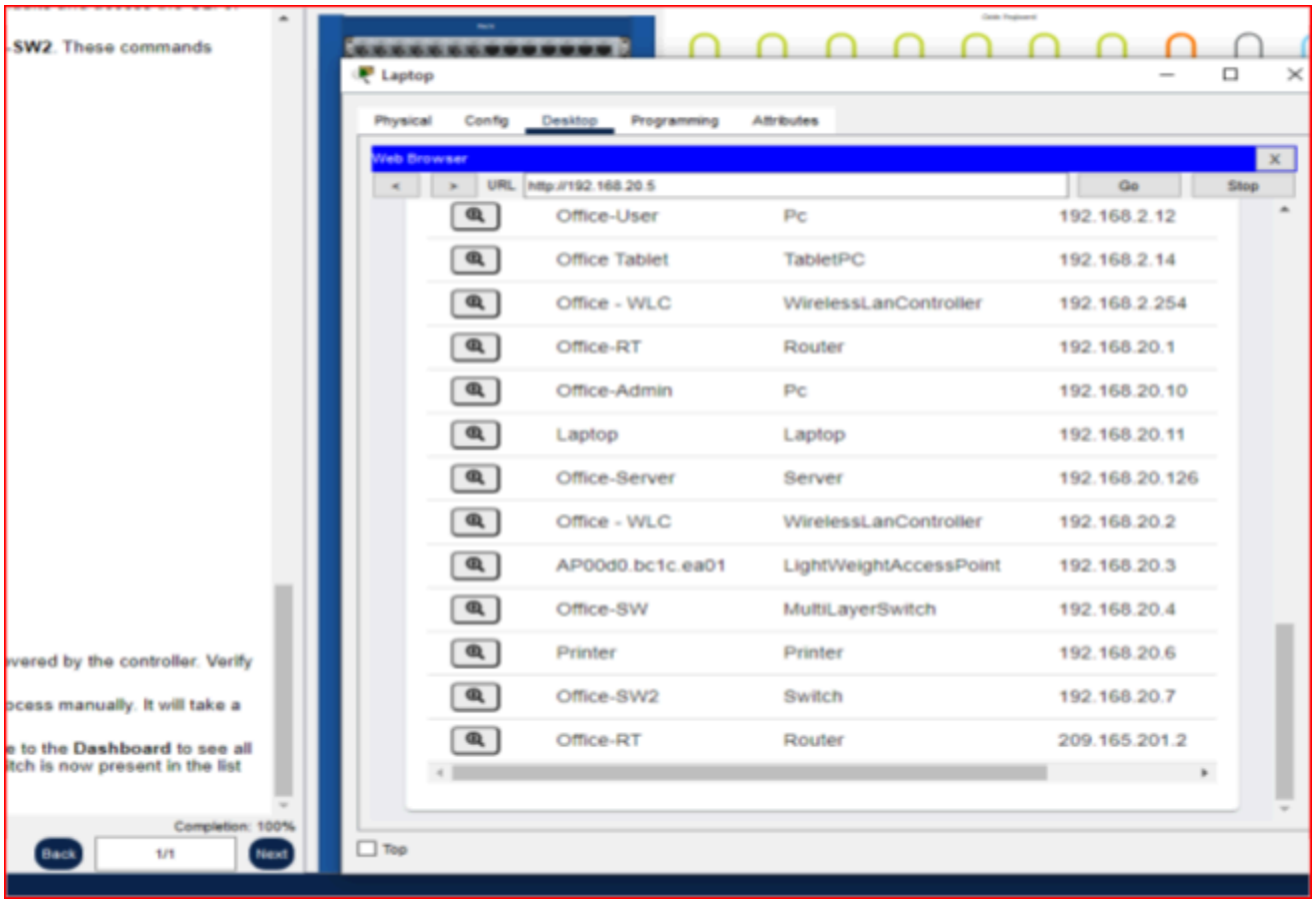


Task 9 - Manage and Configure your Network using a Network Controller

In this Packet Tracer activity, you will complete the following objectives:

- Part 1: Implement a Network Controller
- Part 2: Device Discovery
- Part 3: Add a New Network Device in the Office Network

Copy and paste your final network below



Task 10 – Troubleshoot a Wireless Connection

This Packet Tracer Tutored Activity (PTTA) has features that provide hints throughout the activity, at the level that you specify. You can practice your troubleshooting skills with minimal or as much guidance as you need.
In this activity, you will troubleshoot a wireless connection.

Copy and paste your final network below

The method that I used to determine which PC or laptop had connectivity issues is by testinging the connectivity to the internet and verify that hosts can reach a website.

How did you discover the IP address of the wireless router?

First I found out the Default Gateway for all devices 192.168.1.1
Initially from Laptop 1, I accessed 'PC Wireless' through 'Desktop'. In the Connect list, I found a network called 'Academy' with a signal strength of 30%. I connected to it using a pre-shared key: Cisco123. (which I honestly guessed it) Despite the weak signal, I was still able to connect to a website.

What is the difference between using the ping command and the tracert command? Which do you prefer?

The ping command is used to test whether a computer can communicate with another computer on the same network, while the tracert command is used to trace the route that the data takes when it is sent from one computer to another.
For quick connectivity checks, I prefer ping: it's fast and simple, and tells you immediately if a host is up. However, for diagnosing network issues, such as identifying where a connection is failing or slowing down, tracert is much more informative.

Why is it important to change the default username and password for administrative access to a wireless router?

For security reasons, to prevent unathorised access to the router.

How do you feel about the process of troubleshooting a wireless network as a result of completing this activity?

I think I might be able to configure a wireless network.

What did you learn about your own troubleshooting process during this activity?

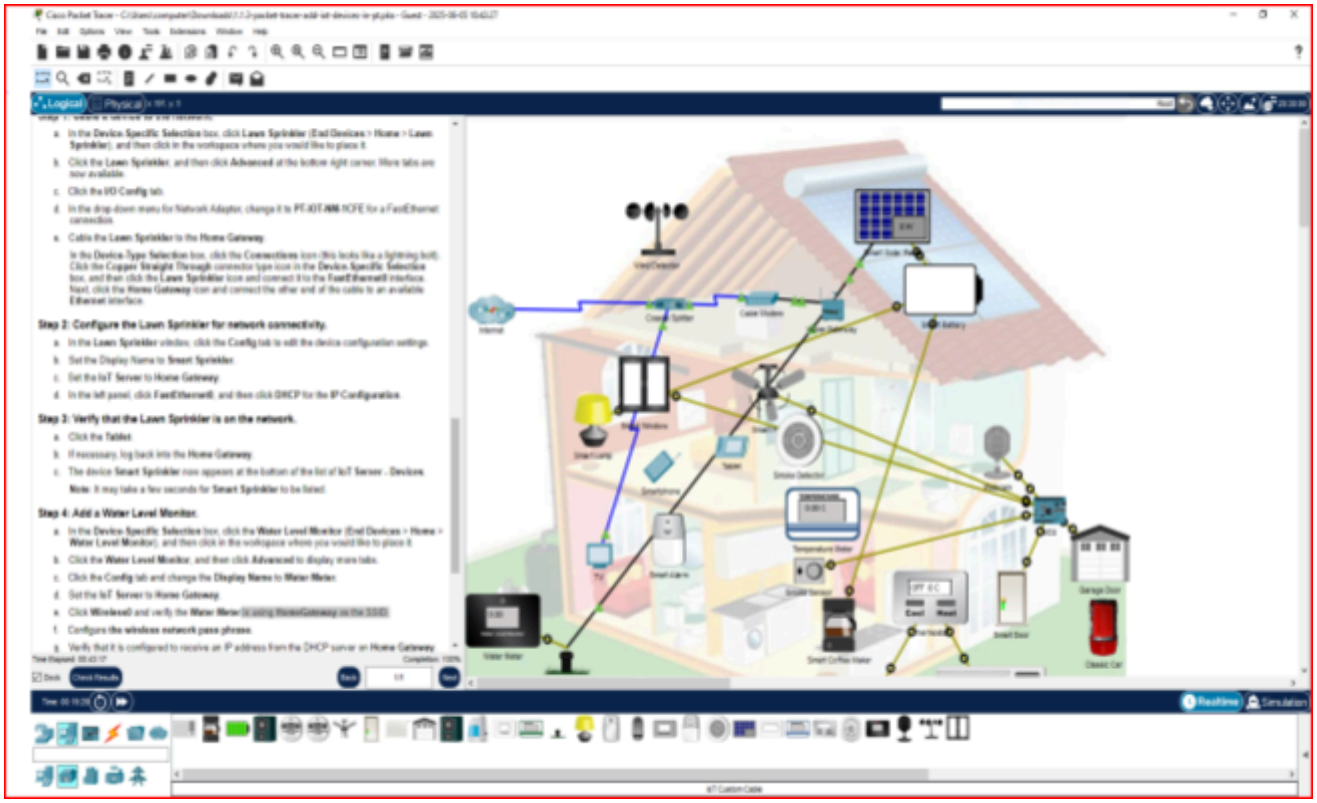
I think it's an easy task, but it first requires identifying the problem and then finding the most suitable solution.

Task 11 - Add IoT Devices in PT

In this Packet Tracer activity, you will complete the following objectives:

- Part 1: Explore the Existing Smart Home Network
- Part 2: Add Wireless IoT Devices to the Smart Home Network
- Part 3: Add Wired IoT Devices to the Smart Home Network

Copy and paste your completed network below

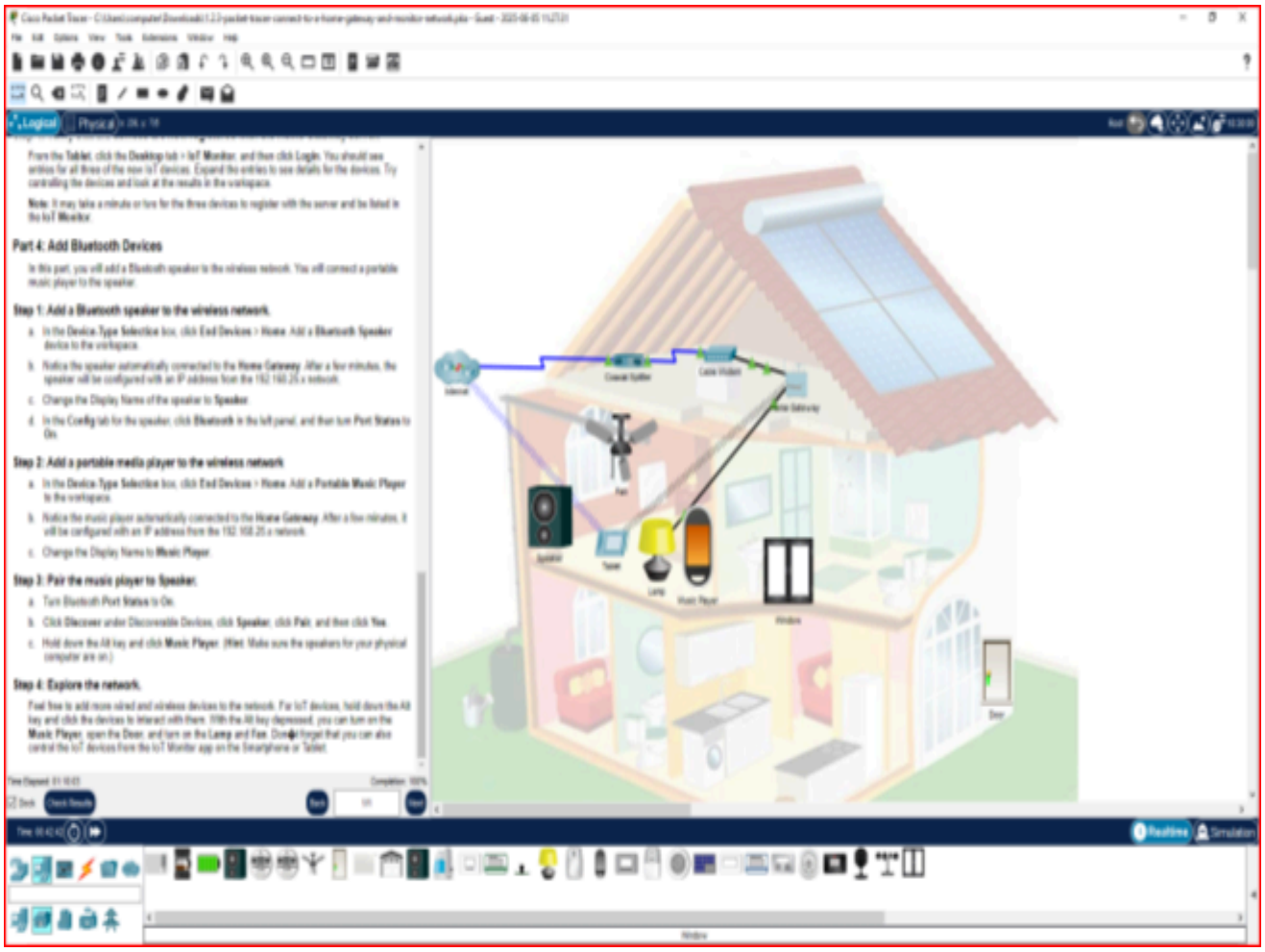


Task 12 - Connect Devices to a Home Gateway and Monitor Network

In this Packet Tracer activity, you will complete the following objectives:

- Part 1: Connect a Home Gateway to the Network
- Part 2: Add End User Devices to the Network
- Part 3: Connect IoT Devices to the Network
- Part 4: Add Bluetooth Devices

Copy and paste your completed network below



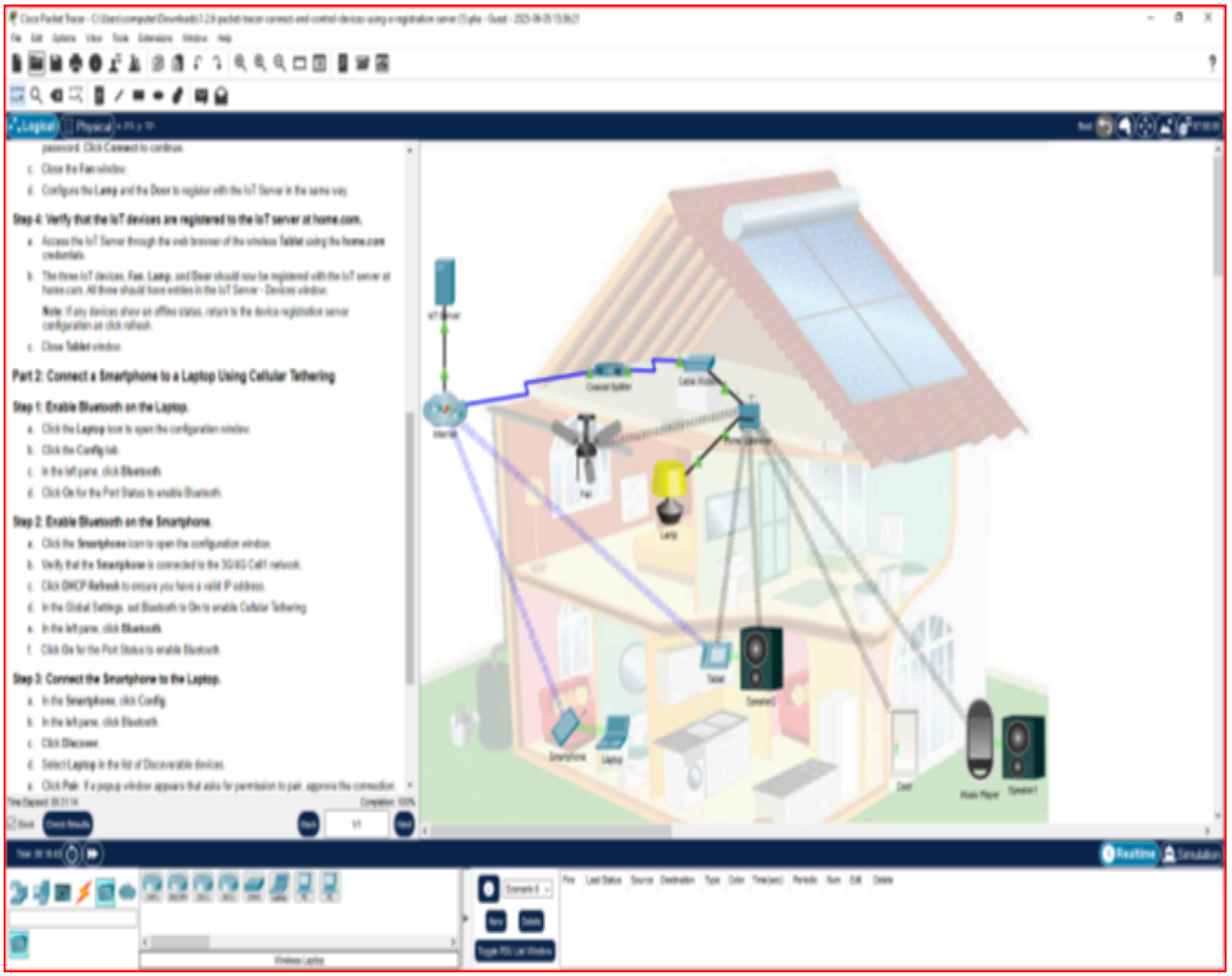
Task 13 - Connect and Control Devices Using a Registration Server

In this Packet Tracer activity, you will complete the following objectives:

- Part 1: Add a Registration Server to the Network
- Part 2: Connect a Smartphone to a Laptop Using Tethering

Note: The instructions in Step 3 part B are incorrect you need to enter in an IP address, *not* home.com.

Copy and paste your completed network below

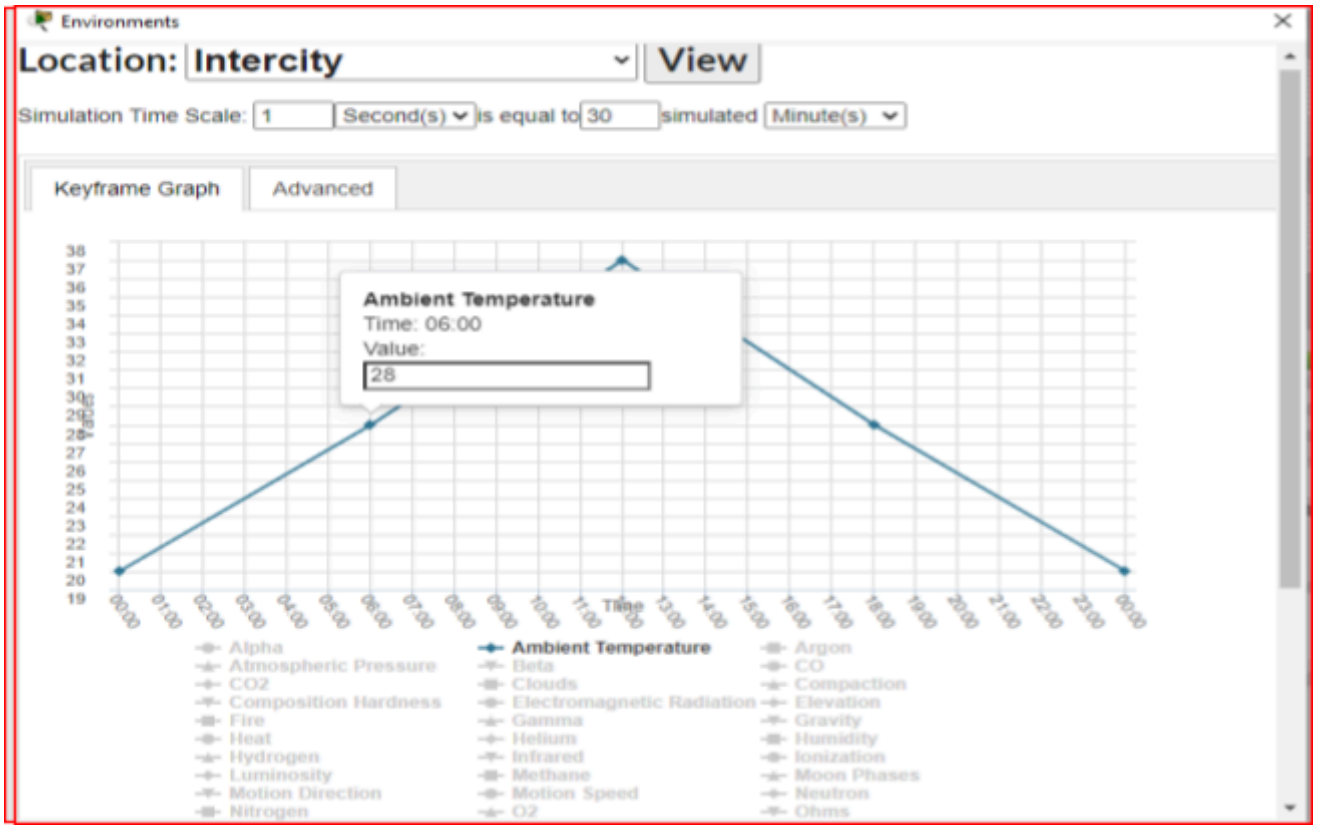


Task 14 - Modify and Monitor Environmental Controls in Packet Tracer

In this Packet Tracer activity, you will complete the following objectives:

- Part 1: Explore Environmental Controls
- Part 2: Edit Environment Elements

Copy and paste your completed network below

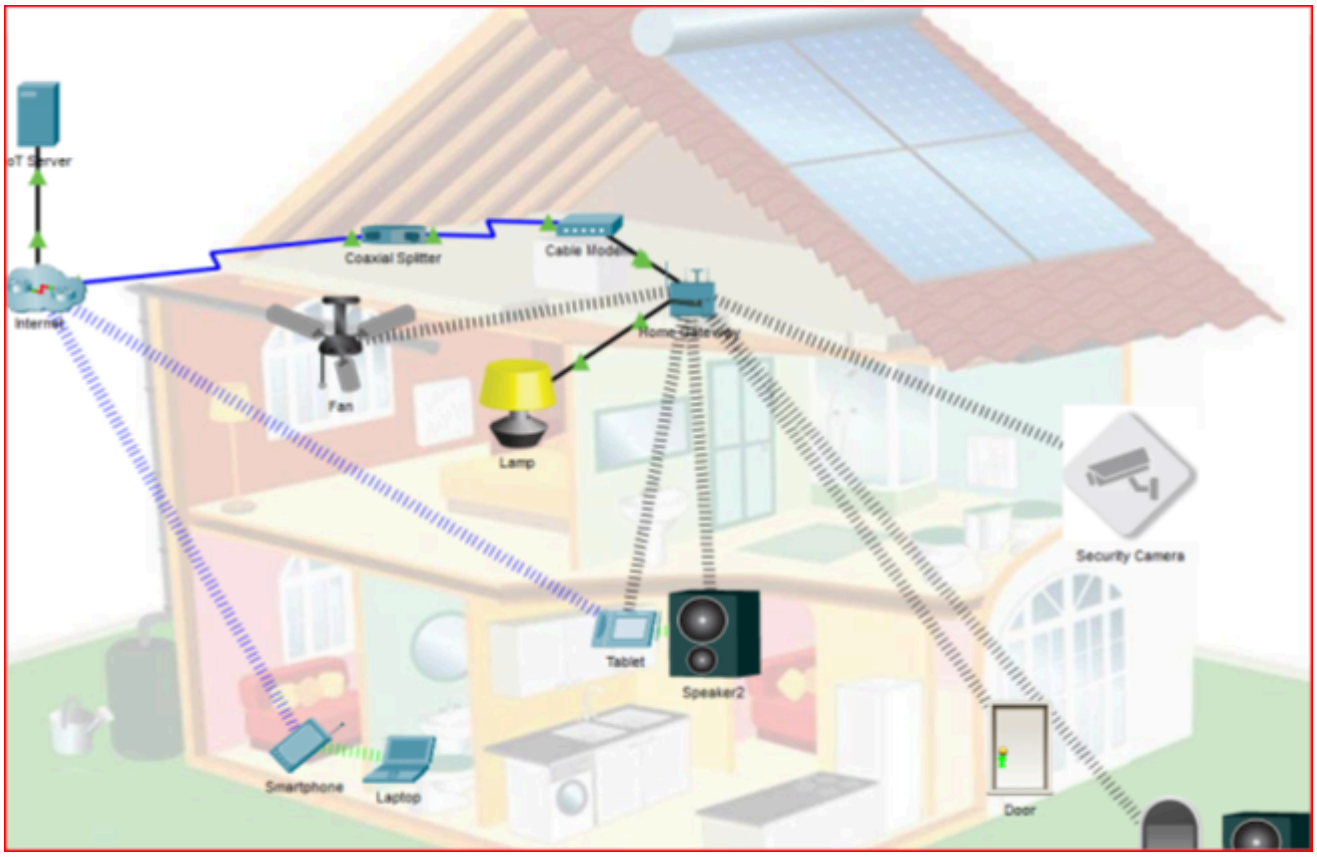


Task 15 - Create Your Own IoT Thing

In this Packet Tracer activity, you will complete the following objectives:

- Part 1: Create Your Own Thing
- Part 2: Save Your New Thing

Copy and paste your thing below



Task 16 - Modify an Existing Script for an IoT Thing

In this Packet Tracer activity, you will complete the following objectives:

- Part 1: Modify Your Thing
- Part 2: Test Modified Thing

Copy and paste your completed work below