Exercise: Network construction

Introduction

In computer networking, physical topology refers to the layout of devices and cables in a network. Designing a physical topology is crucial in building a network as it determines how devices are connected and how data is transmitted. By now, you know about different network types and the differences between logical and physical topologies, and in this activity, you will put this knowledge to work. By the end of this exercise, you will have created a basic physical topology and gained some insight into the considerations you have to make when constructing a topology.

Case study

Sam started an ice cream business from home, relying on her personal devices to keep track of her recipes and taking orders from friends and family. Despite the modest beginnings, Sam's ice cream soon gained a following in the local community, and she opened a storefront to meet the growing demand. Once the store is open, Sam hires one additional employee to help her. To facilitate the running of the business, she needs to set up the office to allow two employees to oversee the company's activities. These activities include: stock keeping, printing out menus and promotional materials, and keeping financial records. Sam has purchased a network switch, but she needs your advice about the additional infrastructure required and the network that needs to be set up to make it possible to conduct her business.

Instructions

Step 1: Identify the necessary equipment

Begin by making a list of the equipment Sam will need. Remember, they have already purchased a network switch, and the business has two employees who need access to the network.

Step 2: Construct a diagram

Once you've identified what equipment is needed, demonstrate how the equipment is connected by creating a physical network topology. You can use a mind-mapping tool or pen and paper if you prefer.

Conclusion

This exercise allowed you to think about the technology needs of a small business and what is required to establish a network from which to run it. For now, this network has a physical presence and, as such, is fixed to one location. As you progress through the course, you will gain greater insights into how to migrate these features to an online space and what security features it will require. As the business grows, the network topology will have to be updated to accommodate new users, devices, and applications. But, for now, you only needed to construct a physical topology diagram of the network Sam needs to run their ice cream store efficiently.