Class Activity - Layered Network Design Simulation

Objectives

Explain the need to design a hierarchical network that is scalable.

Scenario

As the network administrator for a small network, you want to prepare a simulated-network presentation for your branch manager to explain how the network currently operates.

The small network includes the following equipment:

- One Cisco 2911 series router
- One Cisco 3560 switch
- One Cisco 2960 switch
- Four user workstations (PCs or laptops)
- One printer

Resources

- Packet Tracer software

Directions

Step 1: **Create a simple network topology using Packet Tracer software. Place the devices at the appropriate levels of the Cisco three-layer hierarchical model design, including:**

a. One Cisco 2911 series router

b. One Cisco 3560 switch

c. One Cisco 2960 switch

d. Four user workstations (PCs or laptops)

e. One printer

Step 2: **Using Packet Tracer's drawing tool (diagram shown below) and indicate the hierarchical layers with different color coding and labels:**

a. Access layer

b. Distribution layer

c. Core layer
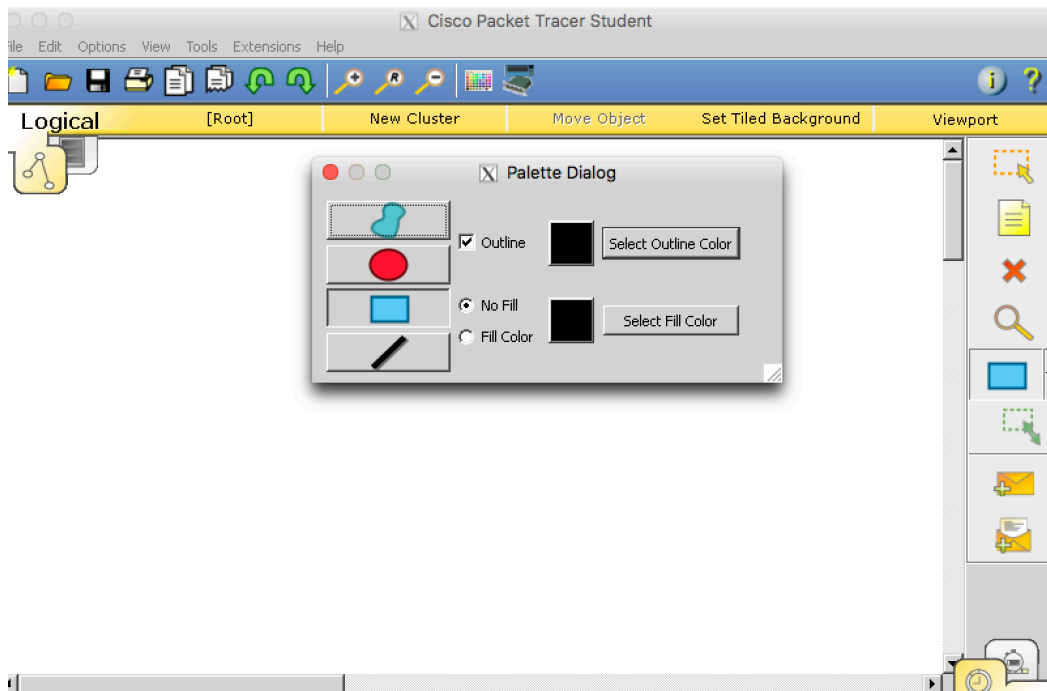
Step 3: **Configure the network and user devices. Check for end-to-end connectivity. (use the configuration tips from the diagram below to help!)**

Suggested Activity Example Solution:

Note: In the Packet Tracer simulation, a Cisco 2911 series router is used in the core layer of the network. Normally, a higher-capacity router, such as the Cisco 3800 series routers, would be used at the core layer.

EXTENSION TASK

Extend the network to include

2 more switches

2 Access Points

1 more distribution switch

1 more core router

Create a Data Centre module and connect 3 Servers

Connect them together however you feel is appropriate (connect them for high availability)