Lab - Design and Build a Small Network

# Objectives

Explain how a small network of directly connected segments is created, configured, and verified.

# Background /Scenario

**Note**: This activity is best completed in groups of 2-3 students.

Design and build a network from scratch.

* Your design must include a minimum of one Cisco 4321 router, two Cisco 2960 switches, and two PCs.
* Fully configure the network and use IPv4 or IPv6 (subnetting must be included as a part of your addressing scheme).
* Verify the network using at least five show commands.
* Secure the network using SSH, secure passwords and console passwords (minimum).

Create a rubric to use for informal peer grading. Present your Capstone Project to the class and be able to answer questions from your peers and Instructor!

# Required Resources

* Packet Tracer
* Student/group-created rubric for assessment of the assignment

# Reflection

* 1. What was the most difficult portion of this activity?

Addressing and Subnetting: Designing an appropriate addressing scheme and subnetting the IP addresses can be complex, especially for those who are new to networking. It requires understanding IP addressing, subnet masks, and how to allocate IP addresses efficiently to each segment of the network.

* 1. Why do you think network documentation is so important to this activity and in the real world?

Documentation is imperative to good network management. Without it, network administrators have to recreate topologies, physically check addressing, etc. This takes time, which could be used elsewhere.

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