CNT4703C – LAB 2

Create an Ethernet Patch Cable &

Connecting 2 Computers with a Switch

Objective:

For this assignment you will make an Ethernet patch cable and connect your computer to a network switch. The assignment will familiarize you with Layer 1 of the Open Systems Interconnection (OSI) Model. After completion of your network patch cable, you will use the resources provided in the lab to ensure connectivity. Prior to beginning this lab, you will need to model this assignment in CISCO Packet Tracer. Watch the video resources and utilize the web-links provided in Webcourses for guidance on how to complete this assignment.

The IP addresses for this assignment can be any address in the 192.168.5.0/24.

A teaching assistant will be available to assist you during the lab.

Credit for this assignment will require:

1) Packet Tracer File: CNT4703C-Lab2-[full-name-of-student]
2) Screenshots of Packet Tracer Model
    a. Network Topology (Logical)
    b. Successful Ping from PC-to-PC
3) Photos of Completed Patch Cable (if you are completing the labs ONLINE, then you can just take a screen shot of any CAT5e cable from the Internet or your home network if you have one).
    a. Both Connectors on CAT5e cabling
    b. Cable plugged in to equipment
    c. Successful Ping from PC-to-PC (Terminal or CMD) – in Packet Tracer if working Online.
4) Answers to LAB 2 Questions

LAB 2 Questions:

1) What are the Layers of the OSI Model?
2) Name 3 types of physical layer networking connections?
3) What type of pinout was used to create the Patch Cable for this exercise?
4) How do you create a crossover cable and why would you need one?
5) What is the Ping Command and how does the Ping Command verify connectivity?

Steps for Creating an Ethernet Patch Cable

1. Choose one of the pre-cut lengths of Category 5e (CAT5e) cable.

2. Utilizing the correct tool, remove the outer most shielding of the Cat5e cable.

    a. Take care to only cut the outer shielding. If you damage any of the 8 small wires, start again.

3. Un-twist and separate the 4 pairs of wires. Take care when handling these small wires.

4. Arrange the 8 small wires to match the RJ45 Pinout Diagram. (see Figure 1.0)

5. Cut the 8 small wires so when the connector is affixed, the blue outer shielding of the Cat5e cable will be within the RJ45 connector. (see Figure 1.0)

6. With the connector pins facing upward, insert the 8 small wires into the connector. Take care to maintain the Pinout arrangement.

7. Utilizing the correct tool, crimp the RJ45 connector and ensure it is secured to the Cat5e cable.

8. Repeat these steps for the second connector. Figure 1.0 - RJ45 Pinout Diagram (T-568B)

Figure 1.0 - RJ45 Pinout Diagram (T-568B)