Laboratory Exercise for Semesters 3 and 4 of Cisco Networking Academy
Using 192 Addresses

This problem simulates a school system with an internet connection to all campus computers. The internet connection attaches to the campus from router 1 that is external to the school system. Router 1 will be configured for you. The internet will connect to the school system via router 2, serial port s1 on network 192.0.1.0. Router 2 is housed in the wiring closet in the library. Router 2 connects to two other networks 192.0.2.0 and 192.0.3.0. Router 2 is connected to network 192.0.2.0 via serial port s0. Router 2 is connected to a switch in a wiring closet in building one via Ethernet port e0 on network 192.0.3.0. Router 3 is connected to router 2 on network 192.0.2.0 via serial port s1. Router 3 is connected to the switch in a wiring closet in building one on network 192.0.4.0 via Ethernet port e0.

There is an ip address that is external to the campus and may be accessed at address 194.0.1.3. You may telnet and ping this address from any computer in the school. There is a web server at 192.0.3.2 in the library and it may be accessed only over port 80 from any computer internal or external to the school system. There is an administrative computer with address 192.0.4.2 in the administration building. It may not be accessed from any computers outside of the administrative building. You can access any of the other computers via telnet and ping from the administrative server. There are two lab computers at addresses 192.0.3.3 and 192.0.3.4 and these computers may NOT be accessed from any computers outside the network 192.0.3.0. They may be accessed via telnet and ping from any computers in network 192.0.3.0. You can access other computers in the campus and internet from the lab computers except for the administrative server that is off limits.

You are to configure router 2 and router 3 with ip addresses, routing information and accesses lists. The access lists will implement the restricted access described above. The diagrams show the connections between the routers, switches, hubs and computers.

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Using 193 Addresses

This problem simulates a school system with an internet connection to all campus computers. The internet connection attaches to the campus from router 1 that is external to the school system. Router 1 will be configured for you. The internet will connect to the school system via router 4, serial port s1 on network 193.0.1.0. Router 4 is housed in the wiring closet in the library. Router 4 connects to two other networks 193.0.2.0 and 193.0.3.0. Router 4 is connected to network 193.0.2.0 via serial port s0. Router 4 is connected to a switch in a wiring closet in building one via Ethernet port e0 on network 193.0.3.0. Router 5 is connected to router 4 on network 193.0.2.0 via serial port s1. Router 5 is connected to the switch in a wiring closet in building one on network 193.0.4.0 via Ethernet port e0.

There is an ip address that is external to the campus and may be accessed at address 194.0.1.3. You may telnet and ping this address from any computer in the school. There is a web server at 193.0.3.2 in the library and it may be accessed only over port 80 from any computer internal or external to the school system. There is an administrative computer with address 193.0.4.2 in the administration building. It may not be accessed from any computers outside of the administrative building. You can access any of the other computers via telnet and ping from the administrative server. There are two lab computers at addresses 193.0.3.3 and 193.0.3.4 and these computers may NOT be accessed from any computers outside the network 193.0.3.0. They may be accessed via telnet and ping from any computers in network 193.0.3.0. You can access other computers in the campus and internet from the lab computers except for the administrative server that is off limits.

You are to configure router 4 and router 5 with ip addresses, routing information and accesses lists. The access lists will implement the restricted access described above. The diagrams show the connections between the routers, switches, hubs and computers.