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IT315 Hands on #7
4/17/2022

Hands-On #7

Instructions:

Imagine that you are working for a company that wants to separate its network of 100 workstations into two separate subnets. Right now, they have a single router (A) that connects their internal network to the Internet. They have purchased a second router (B), which will serve as an internal router. Approximately half of their workstations will connect to the internal (LAN) port on Router A, and the other half will connect to the internal (LAN) port on Router B.

Configure Router A so that a machine attached to an internal (LAN) port on Router A can connect to another machine connected to the internal (LAN) port on Router B. The WAN port of Router B and the LAN port of Router A will connect to the same switch. Use the subnet part 10.0.1.x for the subnet connected to LAN on Router A, and the subnet part 10.0.2.x for the subnet connected to LAN on Router B. Submit: 1) a diagram of the network that you have formed, 2) the IP address and subnet mask configuration of each port on Routers A and B, and 3) the routing table of Routers A and B.

Task A: Diagram

The following is a diagram of what the updated network will look like for the company. The diagram includes the new router (router B) and the layout of the workstations.
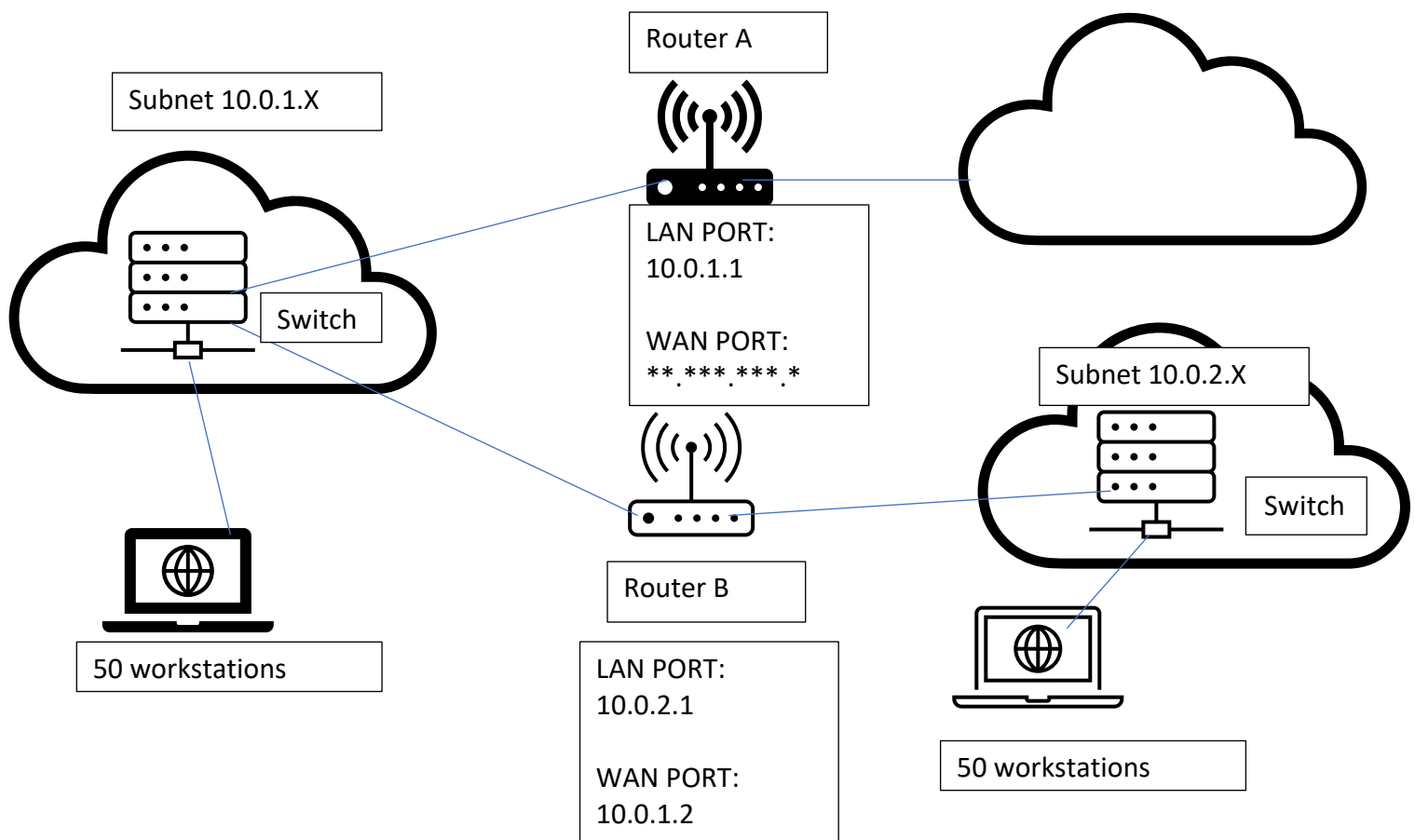
Task B: Routing Table

We needed to add the gateway router entry once the router B is added to the network. One the network is properly configured; this will be the new routing table.

ID	Destination Network	Subnet Mask	Gateway	Interface
1	10.0.2.1	255.255.255.0	0.0.0.0	LAN
2	10.0.1.2	255.255.248.0	0.0.0.0	WAN
3	0.0.0.0	10.0.2.1	10.0.1.x	WAN

Task C: Budget sheet for new equipment

To add the tools we need, the company will need to purchase, another router and another office switch.

Item	Quantity	Price	Source of Item
Motorola MG8702 | DOCSIS 3.1 Cable Modem + Wi-Fi Router (High Speed Combo) with Intelligent Power Boost | AC3200 Wi-Fi Speed | Approved for Comcast Xfinity, Cox, and Charter Spectrum	1	$299.97	Amazon.com
Cisco SF350-08 Managed Switch with 8 10/100 Ports, Limited Lifetime Protection (SF350-08-K9-NA), 8 port	1	$69.00	Amazon.com