Lab 11.10.2b – Configure A Switch

# Objectives

Part 1: Complete the Subnet information

Part 2: Configure PCs and Switches

# Background / Scenario

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In this lab, you will configure the Switches from Lab 11.10.2.

I recommend completing it in PT before you start on the physical equipment, but if you feel brave, go for it!

# Instructions

## Complete the subnet information.

Use the information that you obtained in Part 1 to fill in the following table.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Subnet Description** | **Number of Hosts Needed** | **Network Address /CIDR** | **First Usable**  **Host Address** | **Last Usable**  **Host Address** |
| BR1 LAN | 40 | 192.168.33.128/26 | 192.168.33.129 | 192.168.33.190 |
| BR2 LAN | 25 | 192.168.33.192 /27 | 192.168.33.193 | 192.168.33.222 |
| BR2 IoT LAN | 5 | 192.168.33.224/29 | 192.168.33.225 | 192.168.33.230 |
| BR2 CCTV LAN | 4 | 192.168.33.232/29 | 192.168.33.233 | 192.168.33.238 |
| BR2 HVAC C2LAN | 4 | 192.168.33.240/29 | 192.168.33.241 | 192.168.33.246 |
| BR1-BR2 Link | 2 | 192.168.33.248/30 | 192.168.33.249 | 192.168.33.254 |

## Configure PCs and Switches

Set up the switch topologies and configure basic settings. Refer to Part 1 for Network Information.

### PC Addressing Assign the last 2 (usable) static IP addresses to two PC interfaces on each subnet. You do not have to configure any PCs, just indicate the addresses you would assign. (One subnet does not have any PCs.)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Subnet Description** | **Network Address/CIDR** | **Default Gateway** | **First PC**  **Address** | **Second PC Address** |
| BR1 LAN | 192.168.33.128/26 | 192.168.33.129 | 192.168.33.190 | 192.168.33.189 |
| BR2 LAN | 192.168.33.192/27 | 192.168.33.193 | 192.168.33.222 | 192.168.33.221 |
| BR2 IoT LAN | 192.168.33.224/29 | 192.168.33.225 | 192.168.33.230 | 192.168.33.229 |
| BR2 CCTV LAN | 192.168.33.232/29 | 192.168.33.233 | 192.168.33.238 | 192.168.33.237 |
| BR2 HVAC C2LAN | 192.168.33.240/29 | 192.168.33.241 | 192.168.33.246 | 192.168.33.245 |

### Configure the Switches Use the console connection to configure the initial settings for both Switches.

**Assign the VLAN IP to the switch using the next address after the Default Gateway. Add it to the table.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Subnet Description** | **Device Name** | **VLAN IP Address** | **All Line Passwords** | **Enable Secret** |
| BR1 LAN | S1 | 192.168.33.130 | **cisco** | **cisco** |
| BR2 LAN | S2 | 192.168.33.194 | **cisco** | **cisco** |

Open configuration window

* + - 1. Console into the switch and assign a device name of your choice to the switch. (Not Switch)
      2. Disable DNS lookup to prevent the router from attempting to translate incorrectly entered commands as though they were host names.
      3. Configure the default gateway for the switch.
      4. Configure and activate the VLAN interface on the switch, using the address you added to the table.
      5. Create a banner that will warn anyone accessing the device that unauthorized access is prohibited.
      6. Configure and Encrypt all passwords. Use the passwords in the table above.
      7. Save the configuration file.
      8. Repeat for the other switch.

### Verify connectivity

* + - 1. From each switch:
         1. Ping the other switch
         2. Ping both routers
      2. From each router:
         1. Ping the other router
         2. Ping both switches

All the pings should be successful; if they aren’t successful, how did you fix them?

They were successful. But double checking the Vlan default gateway is nice.

Close configuration window

## Display Device Information

**Use show commands to retrieve interface and routing information on both routers and switches.**

### Display the routing table on both routers.

Use the **show ip route** command on the router R1 to answer the following questions.

Open configuration window

#### Questions:

What code is used in the routing table to indicate a directly connected network?

C and L

How many route entries are coded with a C code in the routing table?

2 route entries

What interface types are associated to the C coded routes?

GigabitEthernet interfaces

### Display interface information on the routers.

Use the **show ip interface g0/0/1** to answer the following questions.

#### Questions:

What is the operational status of the G0/0/1 interface?

Line protocol is up

What is the Media Access Control (MAC) address of the G0/1 interface?

Ac7a.56fd.8eb1

How is the Internet address displayed in this command?

It is displayed in CIDER notation 192.168.33.129/30

Close configuration window

# Reflection

Complete a 2-page, double-spaced reflection paper on this experience, including creating the lab in PT and using that information to configure the physical equipment. Include the people you worked with and the roles of each person. **Submit it to the Assignment Folder for In Class Lab 11.10.2**