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#### LAB-6

IN SWITCH MODE- Construct a VLAN network where communication between the same VLAN should be possible and different VLANs should not be possible.

### **Initial Switch Setup**

#### **Step 1: Check the Current Mode**

The current operating mode of the switch was verified using the show version command

```
\sqcap \times
22-G4-S2#show version
 Copyright (c) Ruckus Networks, Inc. All rights reserved.
    UNIT 1: compiled on Jun 9 2023 at 06:37:44 labeled as SPR08095k (33554432 bytes) from Secondary SPR08095k.bin (UFI)
        SW: Version 08.0.95kT213
      Compressed Secondary Boot Code size = 786944, Version:10.1.26T225 (mnz1012
       Compiled on Tue Nov 29 12:43:26 2022
 HW: Stackable ICX7150-C12-POE
UNIT 1: SL 1: ICX7150-C12-2X1G POE 12-port Management Module
     Serial #:FEK3809V0K4
     Software Package: ICX7150_L3_SOFT_PACKAGE
Current License: 2X10GR
      P-ASIC 0: type B160, rev 11 Chip BCM56160_B0
UNIT 1: SL 2: ICX7150-2X1GC 2-port 2G Module
UNIT 1: SL 3: ICX7150-2X10GF 2-port 20G Module
1000 MHz ARM processor ARMv7 88 MHz bus
8 MB boot flash memory
```

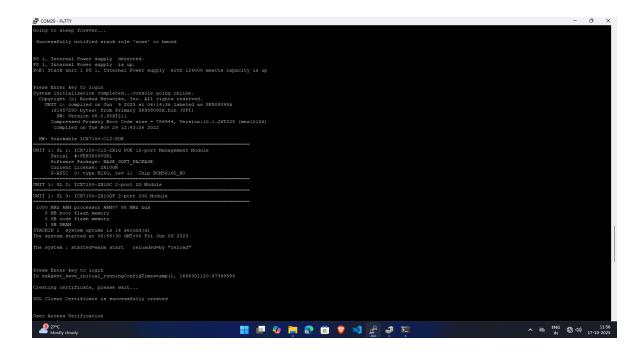
The output indicated that the switch was running on the **secondary image** (SPR08095k), which represents Layer 3 (router mode).

## **Step 2: Change to Switch Mode**

The system was changed to **Layer 2** (**switch mode**) by executing the boot system flash primary command followed by reload.

After the reboot, the show version command confirmed that the switch was now running on the **primary image (SPS08095k)**, indicating **Layer 2 mode**.

```
COM20 - PuTTY
 R2-G4-S1(config)#show version
     os-oi (CONIIIg/show version opyright (c) Ruckus Networks, Inc. All rights reserved.
UNIT 1: compiled on Jun 9 2023 at 06:37:44 labeled as SPR08095k
(33554432 bytes) from Secondary SPR08095k.bin (UFI)
SW: Version 08.0.95kT213
        Compressed Secondary Boot Code size = 786944, Version:10.1.26T225 (mnz10126) Compiled on Tue Nov 29 12:43:26 2022
   HW: Stackable ICX7150-C12-POE
 Software Package: ICX7150_L3_SOFT_PACKAGE Current License: 2X10GR
UNIT 1: SL 2: ICX7150-2X1GC 2-port 2G Module
UNIT 1: SL 3: ICX7150-2X10GF 2-port 20G Module
 1000 MHz ARM processor ARMv7 88 MHz bus
     8 MB boot flash memory
2 GB code flash memory
      1 GB DRAM
 STACKID 1 system uptime is 55 minute(s) 55 second(s)
The system started at 07:56:06 GMT+00 Fri Jun 09 2023
The system : started=warm start reloaded=by "reload"
R2-G4-S1(config)#exit
RZ-G4-S1#boot system flash primary
Are you sure? (enter 'y' or 'n'): y
Running Config data has been changed. Do you want to continue
the reload without saving the running config? (enter 'y' or 'n'): Error: Enter y/n or Y/N for confirmation
R2-G4-S1#Unmounting the External USB Copying Hmon Log files to flash..
 Copying PoE Log files to flash..
 Copying SZ log files to flash..
 Stopping File Manager daemon...
Stopped File Manager daemon
 /icx_dhcp_snoop.db -> /fast_iron/
/icx_dhcpv6_snoop.db -> /fast_iron/
stopping health monitor daemon...
     pped health monitor daemon pping poe daemon...
```



# **Step 3: Clear Previous Configuration**

Existing VLANs were cleared to start with a clean configuration.

#### Step 4: Create VLANs and Assign Ports

Two VLANs were created to separate the network into logical segments for intra-VLAN communication.

**VLAN 10:** Ports 1/1/1 to 1/1/4 (untagged) **VLAN 20:** Ports 1/1/8 to 1/1/12 (untagged)

```
R2-G4-S1(config-vlan-10) #untagged ethernet 1/1/1 to 1/1/4
Added untagged port(s) ethe 1/1/1 to 1/1/4 to port-vlan 10.
R2-G4-S1(config-vlan-10) #exit vlan 20
Invalid input -> vlan 20
Type ? for a list
R2-G4-S1(config-vlan-10)#exit
R2-G4-S1(config) #vlan 20
R2-G4-S1(config-vlan-20) #untagged ethernet 1/1/8 to 1/1/12
Added untagged port(s) ethe 1/1/8 to 1/1/12 to port-vlan 20.
R2-G4-S1(config-vlan-20)#exit
R2-G4-S1(config) #vlan 10
R2-G4-S1(config-vlan-10) #tagged eth 1/2/1 to 1/2/2
Added tagged port(s) ethe 1/2/1 to 1/2/2 to port-vlan 10.
R2-G4-S1(config-vlan-10)#exit
R2-G4-S1(config) #vlan 20
R2-G4-S1(config-vlan-20)#tagged eth 1/2/1 to 1/2/2
Added tagged port(s) ethe 1/2/1 to 1/2/2 to port-vlan 20.
R2-G4-S1(config-vlan-20) #exit
R2-G4-S1(config) #vlan 10
R2-G4-S1(config-vlan-10)#
```

## **Step 5: Save Configuration**

The configuration was saved using the command:write memory

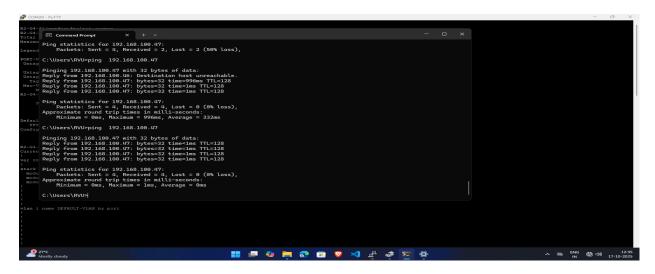
This ensures the VLAN settings remain after a reboot.

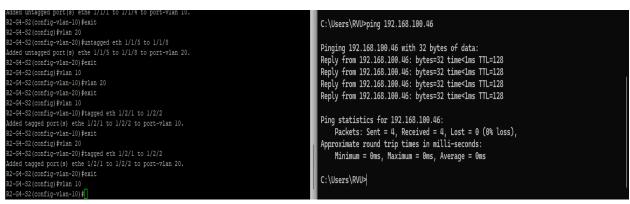
## Pinging the devices

```
C:\Users\RVU>ping 192.168.100.46

Pinging 192.168.100.46 with 32 bytes of data:
Reply from 192.168.100.47: Destination host unreachable.
Request timed out.
Reply from 192.168.100.46: bytes=32 time=1ms TTL=128
Reply from 192.168.100.46: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.100.46:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli—seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms</pre>
```





A Layer 2 switch forwards traffic within the same VLAN based on MAC addresses, but it can't route traffic between different VLANs. To enable inter-VLAN routing, you'd need a Layer 3 switch or a router