

EE4014 Activities on VLANs

A. Basic Switch Commands

1. Run the program "Nexus 7010 Simulator".
2. Enter your email address to register, if prompted.
3. Click the icon "Start".
4. If prompted with the message "Do you want to enforce secure password standard (yes/no) [y]:", answer no.
5. If prompted for admin password, enter the admin password "admin", and confirm it again.
6. If prompted with the message "Would you like to enter the basic configuration dialog (yes/no):", answer no.
7. Type "?". From the list of commands, guess which command can help you to find the information on network interfaces and vlans.
8. Type "show ?" to confirm your finding in 7.
9. Type "show module". How many modules are in used on this switch?
10. Type "show running-config". How many Ethernet ports are available? What are the names for these interfaces?
11. Type "show vlan". How many VLAN(s) is(are) there? All 48 ports are assigned to which VLAN? Why?
12. You can enter the configuration mode of the switch by typing "config terminal". Type "?" to find out the configuration commands. In this mode, you could change the switch setting. You could also enter this mode by simply typing "conf t".
13. You will first change the name of the switch. Type "hostname Nexus7K". Is the prompt changed? Type "exit" to exit the configuration mode.
14. Type "show run". Find out which line has just added because of step 13.
15. The running-configuration is the one that is used in the RAM. It will be lost if the switch is rebooted or powered off.
16. The configuration file startup-configuration is used when the switch is rebooted or powered on. Type "show startup-config" or simply "show start" to read its contents. What is the contents of this file?
17. To copy your running-configuration to startup-configuration, type "copy run start". Type "show start" to confirm it.
18. You can erase the contents of startup-config by typing "write erase". Try to confirm you have erased the startup-config. Note that when you later do your lab exercises in real switches, you need to erase the contents startup-config and then reboot the switches. Otherwise previous students' configurations will affect your lab exercises.
19. To reboot the switch, type "reload" and answer no then yes.

B. Commands on VLANs

1. Enter configuration mode and type "vlan ?".
2. Try to create a new vlan by typing "vlan 2". Then input the name of the vlan as Sales by typing "name Sales".
3. Try to create vlans 3 and 4 and name them as Marketing and Accounting.
4. Create vlans 2000, 2001 and 2002, and name them as Engineering1, Engineering2, and Engineering3.
5. Type "show vlan" and "show vlan summary" to confirm your creation.
6. Note that you have created some vlans but **none** of the ports is assigned to these new vlans.

7. To assign ports to new vlans, first change them to **switchport** first. To do this, go to configure mode and type "interface e3/20-22". Then type "switchport". Then change the switchport to **access** mode by typing "switchport mode access".
8. Assign port 20 to vlan 2 by entering: "interface e3/20", then "switchport access vlan 2".
9. Try to assign port 21 to vlan 3 and port 22 to vlan 4.
10. Verify your setting.
11. You can also change port e3/28 to trunk mode by the command "switchport mode trunk". Try to do that and verify your setting by "show vlan". Why port e3/28 is assigned to all configured vlans?
12. You can also verify your setting by "show run".
13. Type "show int e3/28 switchport". What is the encapsulation method for this trunk link?
14. What is the native vlan of e3/28. How do you know?
15. What is "access" mode?
16. What is "trunk" mode?
17. What is "native vlan"?