Homework

Submission date: April 27

Submission: By Email only (A single PDF file).

Email subject: CN-E, Your student ID, Spring 2021 (Example: CN-E, 12-53421-2, Spring 2021)

Warning: You must send the Email from an Email ID which reflects your name.

Advice: Please follow the submission rule; otherwise, your submission may get rejected.

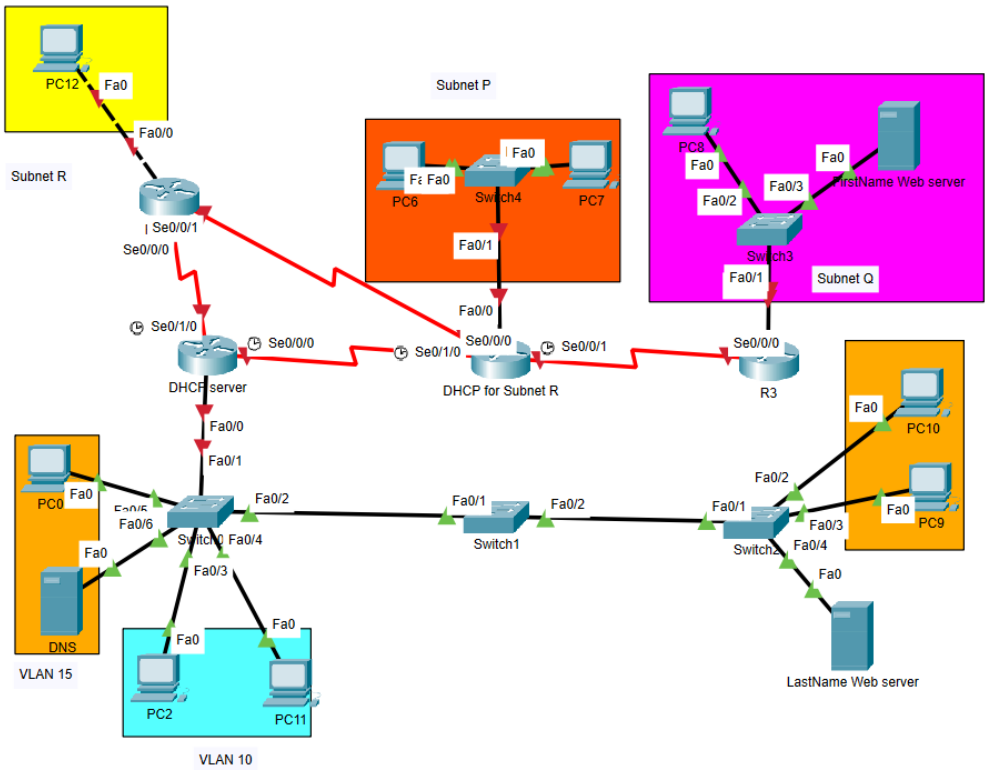

Fig. 1 Network Design

Fig. 1 shows a network which you have to configure.

Let us first consider that your student ID is ST-UVWXY-Z.

The IP requirement of each subnet (except the WAN Link) is given in Table I. For student ID: 12-87109-3 (consider your own student ID here), S=1, T=2, U=8, V=7, W=1, X=0, Y=9, and Z=3. The IP requirement of the network P is YX=90 as Y=9 and X=0. If any of the combination mentioned in column 2 in Table in is less than 4, the value of the combination will be replaced by 12. For example, the IP requirement the network Q is XW=01 which is les than 4 (XW<4). So XW will be 12. Thus, the IP requirement of the Q network is 12.

The IP requirement of each subnet (except the WAN Link) is given below:

Table 1: IP requirements

Subnet	IP requirement	If your IP address is 12-8738-3
P	YX	90
Q	XW	12 as XW=01<4.
VLAN 10	2WV	217

VLAN 15	ZS	31
VLAN which the LastName Web server connected to.	TX	20

Configure the network satisfying the following conditions:

1. The IP block is XW.1ZV.0.0/16.
2. Configure the 'DHCP for subnet R' router such that it acts as a DHCP server for the subnet R. This configuration must be done through Telnet protocol from PC 10. Thus, do at last after doing all other configuration.
3. Use EIGRP routing protocol.
4. The computers of the VLAN 10 will get IP addresses from the DHCP server.
5. There are two web servers: FirstName and LastName. Suppose that your name is Abu Bakr. Then the domain name of the FirstName and LastName servers will be www.abu.com and www.bakr.com. The first and second website's homepages show your Maternal grandfather's upzilla name and your father's name, respectively. Please note that you do not need to provide the real information.
6. Configure VTP in Switch 0, Switch 1 and Switch 2.
7. Configure the whole network in such a way that all devices are reachable from any of the devices of the whole network.

How to write the report?

1. First provide the problem statement (this homework).
2. Provide the network you have designed. Each device must be labelled with its IP unless it gets its IP from the DHCP server
3. Give the table of VLSM
4. A table for each connecting device and server to provide the command you have given in the device. Each command should be accompanied by the task of the command. An example is given below.

Table 2

Router(config-if)#exit Router(config)#ip dhcp pool mypool	Create a pool of IP, you can give any name to the pool
Router(dhcp-config)#network 192.168.1.0 255.255.255.0	Network IP from which IP address will be allocated to different clients. Do not forget to provide the subnet mask of the network
Router(dhcp-config)#dns-server 5.5.5.5	Provide DNS server's IP address. This is optional.
Router(dhcp-config)#default-router 192.168.1.254	Provide default gateway's IP address.
Router(dhcp-config)#ip dhcp excluded-address 192.168.1.2 192.168.1.5	The range of IP address which you do not allow DHCP server to allocate. This is optional.

5. Provide screenshot where it is necessary to properly explain the configuration.
6. Each Table must have a Table number and caption. While the caption of a figure is written below the figure, a table's caption is written just above the table.

Please note that you are free to decide if anything is not mentioned above or cannot be derived from the given information.

In case of any inconvenience, please let me know ASAP.