TELE33324 ASSIGNMENT 4

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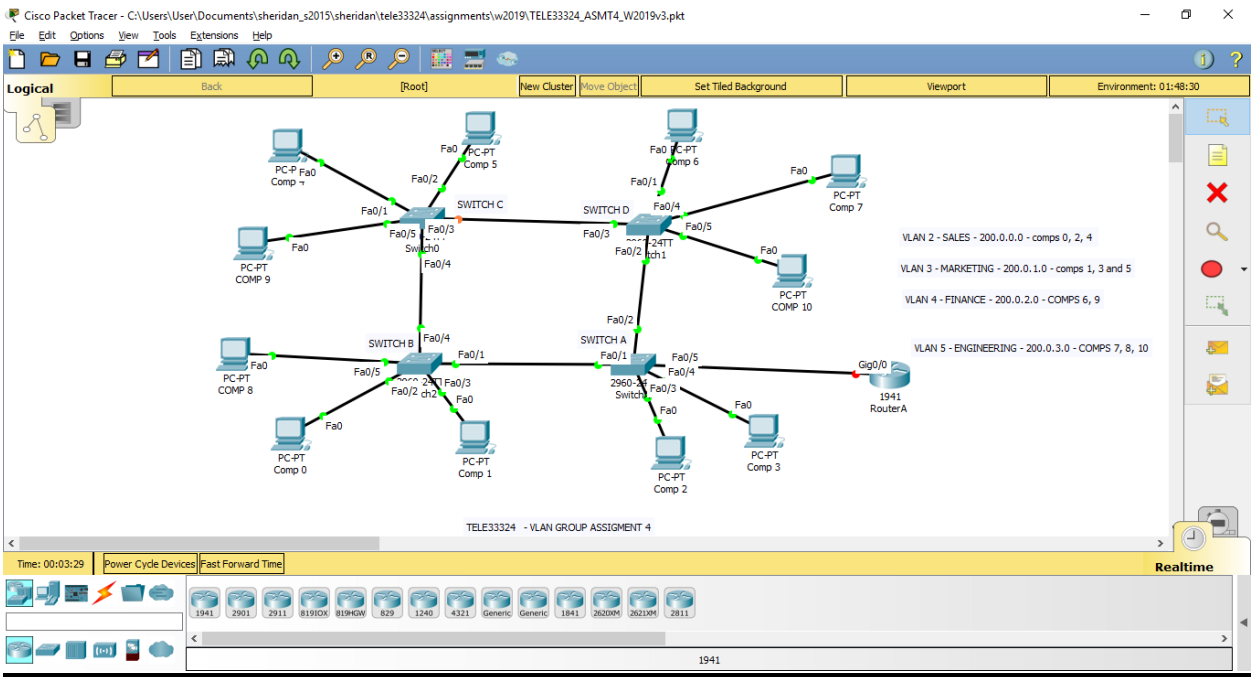
This assignment is based on chapter 9 of the textbook, and involves configuring switches with VLANs, and enabling inter-VLAN communication on a router.

*Note – The highlighted part are the solutions to the actions asked to perform.

Submission Details

1. Assignment is due in the assignment dropbox by the end of class in week 11.
2. Submit the following documents as part of your submission:
   - This document – complete with requested screenshots
   - the FIVE configuration files (FOUR SWITCHES PLUS THE ROUTER). In Packet Tracer click on the device, click on "config" and click "export" beside the running-config file **CLEARLY LABEL EACH CONFIGURATION FILE TO INDICATE THE SWITCH OR ROUTER**

3. You will be configuring the following network:

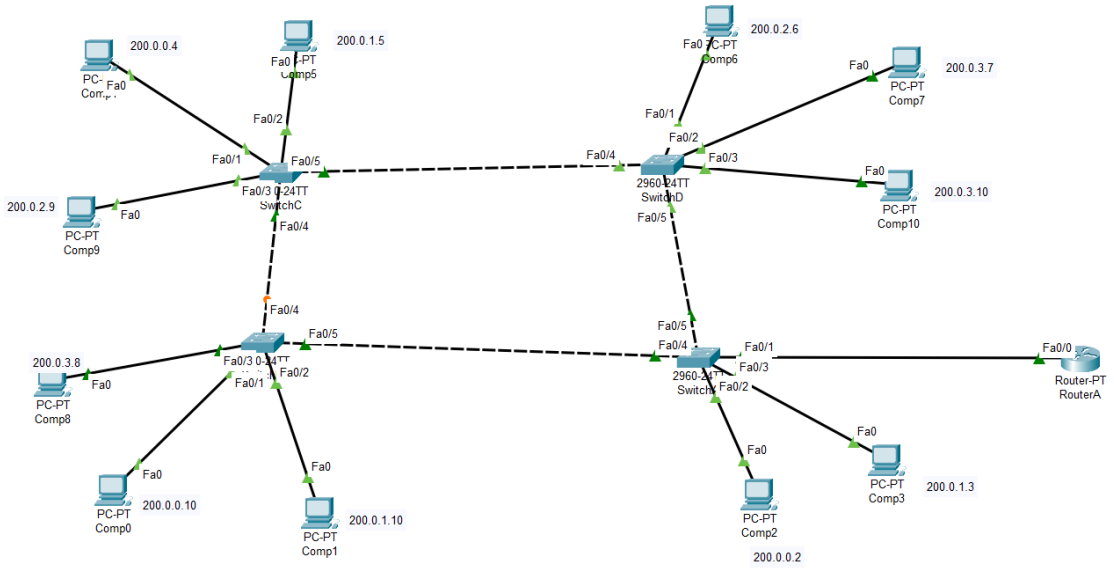


- Figure 1 -

4. Please note that the FOUR switches are 2960 (each with 16 FastEthernet ports) and the Router can be any model with a Fast Ethernet or higher interface. Use the PC-PT for the 11 computers. **PLEASE NOTE THAT YOUR INTERFACE NUMBERS DON'T HAVE TO MATCH MINE.**

5. Assign ip addresses and default gateways to each of the ELEVEN PCs. Use the text tool to indicate what ip address you are assigning to each of the eleven PCs.

My Topology



The marks for points 6 – 10 will be ascertained from the config files for the FOUR switches and the Router. **BE SURE TO <u>LABEL</u> EACH CONFIG FILE**

6. Create the four VLANs on switch A, with the names given in figure 1. Set the domain name to TELE33324v3. This will be your VTP server.

***** Insert a screenshot of "show vlan brief" and "show vtp status" ***** [2]

Switch A

```
SwitchA>
SwitchA>
SwitchA>
SwitchA>en
SwitchA#show vlan brief

VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Fa0/6, Fa0/7, Fa0/8, Fa0/9
                                                Fa0/10, Fa0/11, Fa0/12, Fa0/13
                                                Fa0/14, Fa0/15, Fa0/16, Fa0/17
                                                Fa0/18, Fa0/19, Fa0/20, Fa0/21
                                                Fa0/22, Fa0/23, Fa0/24, Gig0/1
                                                Gig0/2
2    SALES                            active    Fa0/2
3    MARKETING                        active    Fa0/3
4    FINANCE                          active
5    ENGINEERING                      active
1002 fddi-default                     active
1003 token-ring-default               active
1004 fddinet-default                  active
1005 trnet-default                    active
SwitchA#show vtp status
VTP Version                     : 2
Configuration Revision          : 8
Maximum VLANs supported locally : 255
Number of existing VLANs        : 9
VTP Operating Mode              : Server
VTP Domain Name                 : TELE33324v3
VTP Pruning Mode                : Disabled
VTP V2 Mode                     : Disabled
VTP Traps Generation            : Disabled
MD5 digest                      : 0x4D 0x24 0x87 0x42 0x5B 0x2D 0x58 0x16
Configuration last modified by 0.0.0.0 at 3-1-93 01:47:53
Local updater ID is 192.168.4.2 on interface Vl1 (lowest numbered VLAN interface found)
SwitchA#
```

7. Set the ports on switch A to either ACCESS or TRUNK, as appropriate [2]

8. Set switches B, C and D to VTP clients, AFTER setting the domain name to TELE33324v3.

***** For each switch, B, C and D, insert a screenshot of “show vlan brief” and “show vtp status” ***** [2]

TELE33324 ASMT4_V3

Switch B

```
SwitchB>en
SwitchB#show vlan brief

VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Fa0/6, Fa0/7, Fa0/8, Fa0/9
                                                Fa0/10, Fa0/11, Fa0/12, Fa0/13
                                                Fa0/14, Fa0/15, Fa0/16, Fa0/17
                                                Fa0/18, Fa0/19, Fa0/20, Fa0/21
                                                Fa0/22, Fa0/23, Fa0/24, Gig0/1
                                                Gig0/2
2    SALES                            active    Fa0/1
3    MARKETING                        active    Fa0/2
4    FINANCE                          active
5    ENGINEERING                      active    Fa0/3
1002 fddi-default                     active
1003 token-ring-default               active
1004 fddinet-default                  active
1005 trnet-default                    active
SwitchB#show vtp status
VTP Version                     : 2
Configuration Revision          : 8
Maximum VLANs supported locally : 255
Number of existing VLANs        : 9
VTP Operating Mode              : Client
VTP Domain Name                 : TELE33324v3
VTP Pruning Mode                : Disabled
VTP V2 Mode                     : Disabled
VTP Traps Generation            : Disabled
MD5 digest                      : 0x4D 0x24 0x87 0x42 0x5B 0x2D 0x58 0x16
Configuration last modified by 0.0.0.0 at 3-1-93 01:47:53
SwitchB#
```

TELE33324 ASMT4_V3

Switch C

```
SwitchC>
SwitchC>
SwitchC>en
SwitchC#show vlan brief

VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Fa0/6, Fa0/7, Fa0/8, Fa0/9
                                                Fa0/10, Fa0/11, Fa0/12, Fa0/13
                                                Fa0/14, Fa0/15, Fa0/16, Fa0/17
                                                Fa0/18, Fa0/19, Fa0/20, Fa0/21
                                                Fa0/22, Fa0/23, Fa0/24, Gig0/1
                                                Gig0/2
2    SALES                            active    Fa0/1
3    MARKETING                        active    Fa0/2
4    FINANCE                          active    Fa0/3
5    ENGINEERING                      active
1002 fddi-default                     active
1003 token-ring-default               active
1004 fddinet-default                  active
1005 trnet-default                    active
SwitchC#show vtp status
VTP Version                     : 2
Configuration Revision          : 8
Maximum VLANs supported locally : 255
Number of existing VLANs        : 9
VTP Operating Mode              : Client
VTP Domain Name                 : TELE33324v3
VTP Pruning Mode                : Disabled
VTP V2 Mode                     : Disabled
VTP Traps Generation            : Disabled
MD5 digest                      : 0x4D 0x24 0x87 0x42 0x5B 0x2D 0x58 0x16
Configuration last modified by 0.0.0.0 at 3-1-93 01:47:53
SwitchC#
```

Switch D

```
SwitchD>en
SwitchD#show vlan brief

VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Fa0/6, Fa0/7, Fa0/8, Fa0/9
                                                Fa0/10, Fa0/11, Fa0/12, Fa0/13
                                                Fa0/14, Fa0/15, Fa0/16, Fa0/17
                                                Fa0/18, Fa0/19, Fa0/20, Fa0/21
                                                Fa0/22, Fa0/23, Fa0/24, Gig0/1
                                                Gig0/2
2    SALES                            active
3    MARKETING                        active
4    FINANCE                          active    Fa0/1
5    ENGINEERING                      active    Fa0/2, Fa0/3
1002 fddi-default                     active
1003 token-ring-default               active
1004 fddinet-default                  active
1005 trnet-default                    active
SwitchD#show vtp status
VTP Version                     : 2
Configuration Revision          : 8
Maximum VLANs supported locally : 255
Number of existing VLANs        : 9
VTP Operating Mode              : Client
VTP Domain Name                 : TELE33324v3
VTP Pruning Mode                : Disabled
VTP V2 Mode                     : Disabled
VTP Traps Generation            : Disabled
MD5 digest                      : 0x4D 0x24 0x87 0x42 0x5B 0x2D 0x58 0x16
Configuration last modified by 0.0.0.0 at 3-1-93 01:47:53
SwitchD#
```

9. Set the ports on switches B, C, and D to either ACCESS or TRUNK as appropriate [4]

10. Assign addresses from network 192.168.4.0 to the Vlan1 interface for each switch, and specify the default gateway as follows:

    Int vlan 1
    ip address 192.168.4.x 255.255.255.0
    no shut
    exit
    ip default-gateway 192.168.4.1

11. Enable inter-vlan communication between VLANs 4 and 5 by creating appropriate Subinterfaces on Router A on the connection to Switch A. Also, assign ip address 192.168.4.1 to the main interface leaving router A going to switch A. [3]

11. Do screenshots of the following and LABEL THEM:
    IF SCREENSHOTS ARE NOT CLEAR, COPY AND PASTE TO WORD.

On Comp 6, show successful pings to computers 7, 8, 9 and 10 [2]

```
Packet Tracer PC Command Line 1.0
C:\>ping 200.0.3.7

Pinging 200.0.3.7 with 32 bytes of data:

Reply from 200.0.3.7: bytes=32 time<1ms TTL=127
Reply from 200.0.3.7: bytes=32 time=11ms TTL=127
Reply from 200.0.3.7: bytes=32 time=1ms TTL=127
Reply from 200.0.3.7: bytes=32 time=10ms TTL=127

Ping statistics for 200.0.3.7:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 11ms, Average = 5ms

C:\>ping 200.0.3.8

Pinging 200.0.3.8 with 32 bytes of data:

Request timed out.
Reply from 200.0.3.8: bytes=32 time=13ms TTL=127
Reply from 200.0.3.8: bytes=32 time=10ms TTL=127
Reply from 200.0.3.8: bytes=32 time=11ms TTL=127

Ping statistics for 200.0.3.8:
Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
Minimum = 10ms, Maximum = 13ms, Average = 11ms

C:\>ping 200.0.2.9

Pinging 200.0.2.9 with 32 bytes of data:

Reply from 200.0.2.9: bytes=32 time<1ms TTL=128
Reply from 200.0.2.9: bytes=32 time=11ms TTL=128
Reply from 200.0.2.9: bytes=32 time=2ms TTL=128
Reply from 200.0.2.9: bytes=32 time=4ms TTL=128

Ping statistics for 200.0.2.9:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
```

```
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 11ms, Average = 4ms

C:\>ping 200.0.3.10

Pinging 200.0.3.10 with 32 bytes of data:

Request timed out.
Reply from 200.0.3.10: bytes=32 time=1ms TTL=127
Reply from 200.0.3.10: bytes=32 time=11ms TTL=127
Reply from 200.0.3.10: bytes=32 time<1ms TTL=127

Ping statistics for 200.0.3.10:
Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 11ms, Average = 4ms

C:\>
```

On Comp 7, show successful pings to computers 6, 8, 9 and 10 [2]

```
C:\>ping 200.0.2.6

Pinging 200.0.2.6 with 32 bytes of data:

Request timed out.
Reply from 200.0.2.6: bytes=32 time=10ms TTL=127
Reply from 200.0.2.6: bytes=32 time=11ms TTL=127
Reply from 200.0.2.6: bytes=32 time=11ms TTL=127

Ping statistics for 200.0.2.6:
Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
Minimum = 10ms, Maximum = 11ms, Average = 10ms

C:\>ping 200.0.3.8

Pinging 200.0.3.8 with 32 bytes of data:

Reply from 200.0.3.8: bytes=32 time<1ms TTL=128
Reply from 200.0.3.8: bytes=32 time=1ms TTL=128
```

```
Reply from 200.0.3.8: bytes=32 time=1ms TTL=128
Reply from 200.0.3.8: bytes=32 time<1ms TTL=128

Ping statistics for 200.0.3.8:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>ping 200.0.2.9

Pinging 200.0.2.9 with 32 bytes of data:

Request timed out.
Reply from 200.0.2.9: bytes=32 time=12ms TTL=127
Reply from 200.0.2.9: bytes=32 time=10ms TTL=127
Reply from 200.0.2.9: bytes=32 time=12ms TTL=127

Ping statistics for 200.0.2.9:
Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
Minimum = 10ms, Maximum = 12ms, Average = 11ms

C:\>ping 200.0.3.10

Pinging 200.0.3.10 with 32 bytes of data:

Reply from 200.0.3.10: bytes=32 time<1ms TTL=128
Reply from 200.0.3.10: bytes=32 time<1ms TTL=128
Reply from 200.0.3.10: bytes=32 time<1ms TTL=128
Reply from 200.0.3.10: bytes=32 time<1ms TTL=128

Ping statistics for 200.0.3.10:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
```