**TELE33324 ASMT4_V4**

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.

Submission Details

1.   Assignment is due, hard copy by the start of class in week 12.
2.   Submit the following documents as part of your submission:
   - This document – complete with requested screenshots
   - A print out of the FIVE configuration files (FOUR SWITCHES PLUS THE ROUTER). In Packet Tracer click on the device, click on "config" and click "export" beside the startup file **CLEARLY LABEL EACH CONFIGURATION FILE TO INDICATE THE SWITCH OR ROUTER**

3.   You will be configuring the following network:
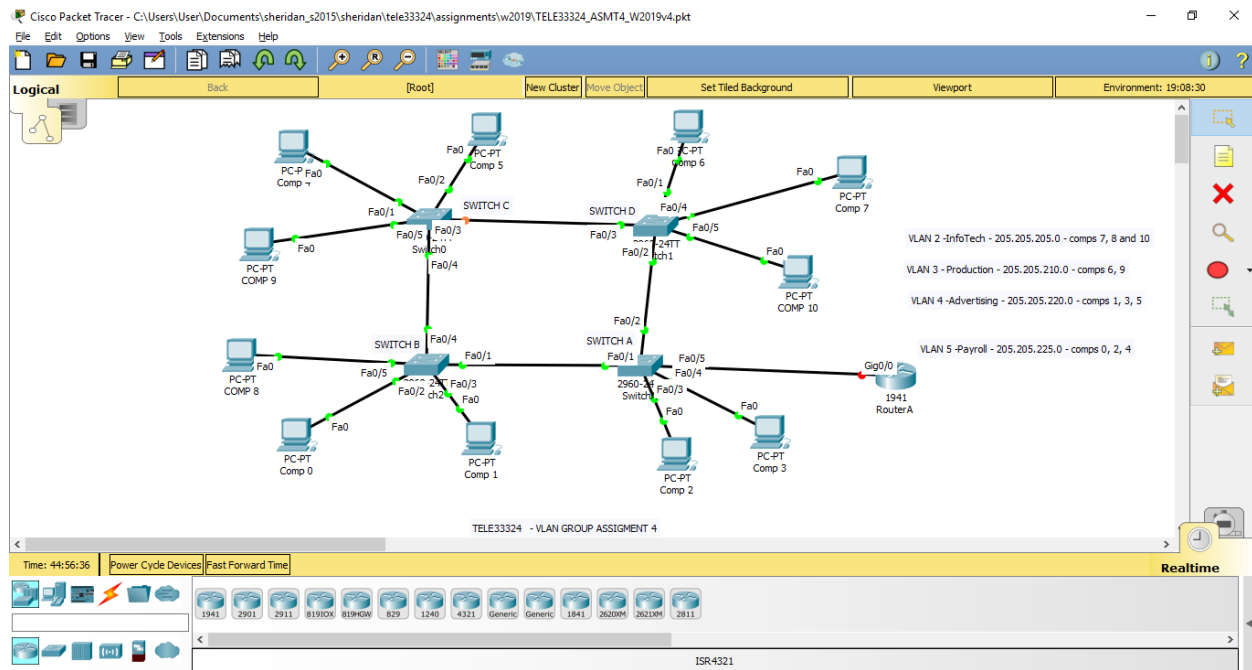
- Figure 1 -

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.

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.

***** Insert a screenshot of your topology here *****   [3]
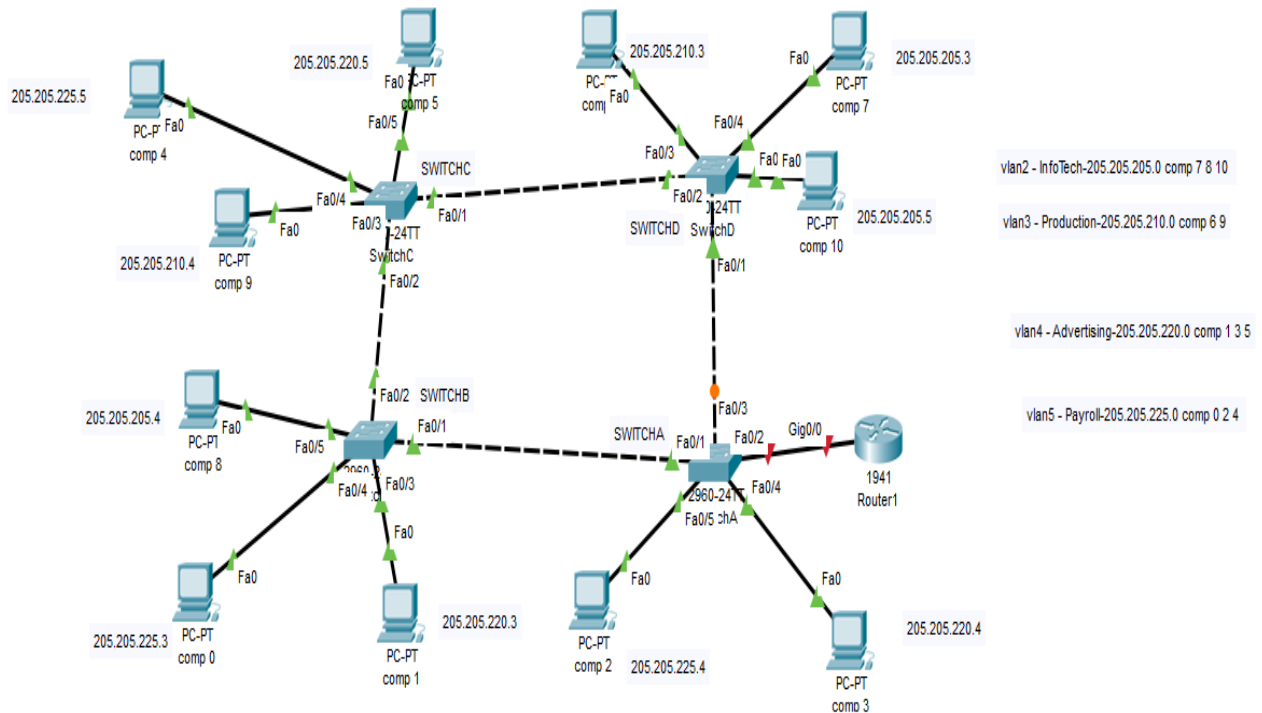
The marks for points 6 – 10 will be ascertained from the printouts of the config files for the FOUR switches and the Router.

6.   Create the four VLANs on switch A, with the names given in figure 1.   Set the domain name to TELE33324v4.   This will be your VTP server.

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

Switch A

```
Switch#show vlan brief

VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Fa0/1, Fa0/2, Fa0/3, Fa0/4
                                                 Fa0/5, 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    InfoTech                         active
3    Production                       active
4    Advertising                      active
5    Payroll                          active
1002 fddi-default                     active
1003 token-ring-default               active
1004 fddinet-default                  active
1005 trnet-default                    active
Switch#


Switch#show vtp status
VTP Version                     : 2
Configuration Revision          : 0
Maximum VLANs supported locally : 255
Number of existing VLANs        : 9
VTP Operating Mode              : Server
VTP Domain Name                 : TELE33324v4
VTP Pruning Mode                : Disabled
VTP V2 Mode                     : Disabled
VTP Traps Generation            : Disabled
MD5 digest                      : 0x71 0xA0 0x1D 0x5F 0x2C 0xC7 0xE9 0x51
Configuration last modified by 0.0.0.0 at 3-1-93 00:22:21
Local updater ID is 0.0.0.0 (no valid interface found)
Switch#
```

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 TELE33324v4.

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

Switch B

```
Switch#show vlan brief

VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Fa0/2, Fa0/3, Fa0/4, Fa0/5
                                                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    InfoTech                         active
3    Production                       active
4    Advertising                      active
5    Payroll                          active
1002 fddi-default                     active
1003 token-ring-default               active
1004 fddinet-default                  active
1005 trnet-default                    active
Switch#show vtp status
VTP Version                    : 2
Configuration Revision         : 0
Maximum VLANs supported locally : 255
Number of existing VLANs       : 9
VTP Operating Mode             : Client
VTP Domain Name                : TELE33324v4
VTP Pruning Mode               : Disabled
VTP V2 Mode                    : Disabled
VTP Traps Generation           : Disabled
MD5 digest                     : 0x71 0xA0 0x1D 0x5F 0x2C 0xC7 0xE9 0x51
Configuration last modified by 0.0.0.0 at 3-1-93 00:22:21
Switch#
```

Switch C

```
Switch#show vlan brief

VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Fa0/1, Fa0/2, Fa0/3, Fa0/4
                                                Fa0/5, 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
1002 fddi-default                     active
1003 token-ring-default               active
1004 fddinet-default                  active
1005 trnet-default                    active
Switch#show vtp status
VTP Version                     : 2
Configuration Revision          : 0
Maximum VLANs supported locally : 255
Number of existing VLANs        : 5
VTP Operating Mode              : Client
VTP Domain Name                 : TELE33324v4
VTP Pruning Mode                : Disabled
VTP V2 Mode                     : Disabled
VTP Traps Generation            : Disabled
MD5 digest                      : 0x03 0x47 0x52 0x1D 0xE1 0x55 0x73 0xED
Configuration last modified by 0.0.0.0 at 0-0-00 00:00:00
Switch#
```

Switch D

```
Switch#show vlan brief

VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Fa0/2, Fa0/3, Fa0/4, Fa0/5
                                                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    InfoTech                         active
3    Production                       active
4    Advertising                      active
5    Payroll                          active
1002 fddi-default                     active
1003 token-ring-default               active
1004 fddinet-default                  active
1005 trnet-default                    active
Switch#show vtp status
VTP Version                   : 2
Configuration Revision        : 0
Maximum VLANs supported locally : 255
Number of existing VLANs      : 9
VTP Operating Mode            : Client
VTP Domain Name               : TELE33324v4
VTP Pruning Mode              : Disabled
VTP V2 Mode                   : Disabled
VTP Traps Generation          : Disabled
MD5 digest                    : 0x71 0xA0 0x1D 0x5F 0x2C 0xC7 0xE9 0x51
Configuration last modified by 0.0.0.0 at 3-1-93 00:22:21
Switch#
```

9.   Set the ports on switches B, C, and D to either ACCESS or TRUNK as appropriate, 2 marks each for a total of   [4]

10.   Enable inter-vlan communication between VLANs 2 and 3 by creating appropriate Subinterfaces on Router A on the connection to Switch A.   [3]

11.   Do screenshots of the following:
       IF SCREENSHOTS ARE NOT CLEAR, COPY AND PASTE TO WORD.
       Pick any computer on Vlan 2, and do successful pings to the other computers on Vlan 2
and Vlan 3

[2]

```
C:\>ping 205.205.205.4

Pinging 205.205.205.4 with 32 bytes of data:

Reply from 205.205.205.4: bytes=32 time<1ms TTL=128
Reply from 205.205.205.4: bytes=32 time<1ms TTL=128
Reply from 205.205.205.4: bytes=32 time<1ms TTL=128
Reply from 205.205.205.4: bytes=32 time=1ms TTL=128

Ping statistics for 205.205.205.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>ping 205.205.205.5

Pinging 205.205.205.5 with 32 bytes of data:

Reply from 205.205.205.5: bytes=32 time=1ms TTL=128
Reply from 205.205.205.5: bytes=32 time<1ms TTL=128
Reply from 205.205.205.5: bytes=32 time<1ms TTL=128
Reply from 205.205.205.5: bytes=32 time=1ms TTL=128

Ping statistics for 205.205.205.5:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms
```

```
C:\>ping 205.205.210.3

Pinging 205.205.210.3 with 32 bytes of data:

Request timed out.
Reply from 205.205.210.3: bytes=32 time=1ms TTL=127
Reply from 205.205.210.3: bytes=32 time<1ms TTL=127
Reply from 205.205.210.3: bytes=32 time<1ms TTL=127

Ping statistics for 205.205.210.3:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>ping 205.205.210.4

Pinging 205.205.210.4 with 32 bytes of data:

Request timed out.
Reply from 205.205.210.4: bytes=32 time=1ms TTL=127
Reply from 205.205.210.4: bytes=32 time<1ms TTL=127
Reply from 205.205.210.4: bytes=32 time<1ms TTL=127

Ping statistics for 205.205.210.4:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms
```

Pick any computer on Vlan 3, and do successful pings to the other computers on Vlan 3 as well as Vlan 2   [2]

```
C:\>ping 205.205.210.3

Pinging 205.205.210.3 with 32 bytes of data:

Reply from 205.205.210.3: bytes=32 time=1ms TTL=128
Reply from 205.205.210.3: bytes=32 time<1ms TTL=128
Reply from 205.205.210.3: bytes=32 time<1ms TTL=128
Reply from 205.205.210.3: bytes=32 time<1ms TTL=128

Ping statistics for 205.205.210.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>ping 205.205.205.3

Pinging 205.205.205.3 with 32 bytes of data:

Reply from 205.205.205.3: bytes=32 time=1ms TTL=127
Reply from 205.205.205.3: bytes=32 time<1ms TTL=127
Reply from 205.205.205.3: bytes=32 time=1ms TTL=127
Reply from 205.205.205.3: bytes=32 time<1ms TTL=127

Ping statistics for 205.205.205.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms
```

```
C:\>ping 205.205.205.4

Pinging 205.205.205.4 with 32 bytes of data:

Request timed out.
Reply from 205.205.205.4: bytes=32 time<1ms TTL=127
Reply from 205.205.205.4: bytes=32 time<1ms TTL=127
Reply from 205.205.205.4: bytes=32 time<1ms TTL=127

Ping statistics for 205.205.205.4:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 205.205.205.5

Pinging 205.205.205.5 with 32 bytes of data:

Request timed out.
Reply from 205.205.205.5: bytes=32 time<1ms TTL=127
Reply from 205.205.205.5: bytes=32 time<1ms TTL=127
Reply from 205.205.205.5: bytes=32 time<1ms TTL=127

Ping statistics for 205.205.205.5:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

Router 1 config file

!
version 15.1
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname Router
!
!
!
!
!
!
!

```
!
ip cef
no ipv6 cef
!
!
!
!
license udi pid CISCO1941/K9 sn FTX15247ADE-
!
!
!
!
!
!
!
!
!
!
!
spanning-tree mode pvst
!
!
!
!
!
!
interface GigabitEthernet0/0
 no ip address
 duplex auto
 speed auto
!
interface GigabitEthernet0/0.2
 encapsulation dot1Q 2
 ip address 205.205.205.1 255.255.255.0
!
```

```
interface GigabitEthernet0/0.3
 encapsulation dot1Q 3
 ip address 205.205.210.1 255.255.255.0
!
interface GigabitEthernet0/1
 no ip address
 duplex auto
 speed auto
 shutdown
!
interface Vlan1
 no ip address
 shutdown
!
ip classless
!
ip flow-export version 9
!
!
!
!
!
!
!
!
line con 0
!
line aux 0
!
line vty 0 4
 login
!
!
!
end
```

Switch A config file

```
!
version 12.2
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname Switch
!
!
!
!
!
spanning-tree mode pvst
spanning-tree extend system-id
!
interface FastEthernet0/1
 switchport mode trunk
!
interface FastEthernet0/2
 switchport mode trunk
!
interface FastEthernet0/3
 switchport mode trunk
!
interface FastEthernet0/4
 switchport access vlan 4
!
interface FastEthernet0/5
 switchport access vlan 5
!
interface FastEthernet0/6
!
interface FastEthernet0/7
```

```
!
interface FastEthernet0/8
!
interface FastEthernet0/9
!
interface FastEthernet0/10
!
interface FastEthernet0/11
!
interface FastEthernet0/12
!
interface FastEthernet0/13
!
interface FastEthernet0/14
!
interface FastEthernet0/15
!
interface FastEthernet0/16
!
interface FastEthernet0/17
!
interface FastEthernet0/18
!
interface FastEthernet0/19
!
interface FastEthernet0/20
!
interface FastEthernet0/21
!
interface FastEthernet0/22
!
interface FastEthernet0/23
!
interface FastEthernet0/24
!
```

```
interface GigabitEthernet0/1
!
interface GigabitEthernet0/2
!
interface Vlan1
 no ip address
 shutdown
!
!
!
!
line con 0
!
line vty 0 4
 login
line vty 5 15
 login
!
!
!
!
end
```

Switch B config file

```
!
version 12.2
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname Switch
!
```

```
!
!
!
!
spanning-tree mode pvst
spanning-tree extend system-id
!
interface FastEthernet0/1
 switchport mode trunk
!
interface FastEthernet0/2
 switchport mode trunk
!
interface FastEthernet0/3
 switchport access vlan 4
!
interface FastEthernet0/4
 switchport access vlan 5
!
interface FastEthernet0/5
 switchport access vlan 2
!
interface FastEthernet0/6
!
interface FastEthernet0/7
!
interface FastEthernet0/8
!
interface FastEthernet0/9
!
interface FastEthernet0/10
!
interface FastEthernet0/11
!
interface FastEthernet0/12
```

```
!
interface FastEthernet0/13
!
interface FastEthernet0/14
!
interface FastEthernet0/15
!
interface FastEthernet0/16
!
interface FastEthernet0/17
!
interface FastEthernet0/18
!
interface FastEthernet0/19
!
interface FastEthernet0/20
!
interface FastEthernet0/21
!
interface FastEthernet0/22
!
interface FastEthernet0/23
!
interface FastEthernet0/24
!
interface GigabitEthernet0/1
!
interface GigabitEthernet0/2
!
interface Vlan1
 no ip address
 shutdown
!
!
!
```

```
!
line con 0
!
line vty 0 4
 login
line vty 5 15
 login
!
!
!
!
end
```

Switch C config file

```
!
version 12.2
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname Switch
!
!
!
!
!
spanning-tree mode pvst
spanning-tree extend system-id
!
interface FastEthernet0/1
 switchport mode trunk
!
```

```
interface FastEthernet0/2
 switchport mode trunk
!
interface FastEthernet0/3
 switchport access vlan 3
!
interface FastEthernet0/4
 switchport access vlan 5
!
interface FastEthernet0/5
 switchport access vlan 4
!
interface FastEthernet0/6
!
interface FastEthernet0/7
!
interface FastEthernet0/8
!
interface FastEthernet0/9
!
interface FastEthernet0/10
!
interface FastEthernet0/11
!
interface FastEthernet0/12
!
interface FastEthernet0/13
!
interface FastEthernet0/14
!
interface FastEthernet0/15
!
interface FastEthernet0/16
!
interface FastEthernet0/17
```

```
!
interface FastEthernet0/18
!
interface FastEthernet0/19
!
interface FastEthernet0/20
!
interface FastEthernet0/21
!
interface FastEthernet0/22
!
interface FastEthernet0/23
!
interface FastEthernet0/24
!
interface GigabitEthernet0/1
!
interface GigabitEthernet0/2
!
interface Vlan1
 no ip address
 shutdown
!
!
!
!
line con 0
!
line vty 0 4
 login
line vty 5 15
 login
!
!
!
```

```
!
end
```

Switch D config file

```
!
version 12.2
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname Switch
!
!
!
!
!
spanning-tree mode pvst
spanning-tree extend system-id
!
interface FastEthernet0/1
 switchport mode trunk
!
interface FastEthernet0/2
 switchport mode trunk
!
interface FastEthernet0/3
 switchport access vlan 3
!
interface FastEthernet0/4
 switchport access vlan 2
!
interface FastEthernet0/5
 switchport access vlan 2
```

```
!
interface FastEthernet0/6
!
interface FastEthernet0/7
!
interface FastEthernet0/8
!
interface FastEthernet0/9
!
interface FastEthernet0/10
!
interface FastEthernet0/11
!
interface FastEthernet0/12
!
interface FastEthernet0/13
!
interface FastEthernet0/14
!
interface FastEthernet0/15
!
interface FastEthernet0/16
!
interface FastEthernet0/17
!
interface FastEthernet0/18
!
interface FastEthernet0/19
!
interface FastEthernet0/20
!
interface FastEthernet0/21
!
interface FastEthernet0/22
!
```

```
interface FastEthernet0/23
!
interface FastEthernet0/24
!
interface GigabitEthernet0/1
!
interface GigabitEthernet0/2
!
interface Vlan1
 no ip address
 shutdown
!
!
!
!
line con 0
!
line vty 0 4
 login
line vty 5 15
 login
!
!
!
!
end
```

End of asssignment!