

# **Data Communication and Computer Networks**

**EEE314**

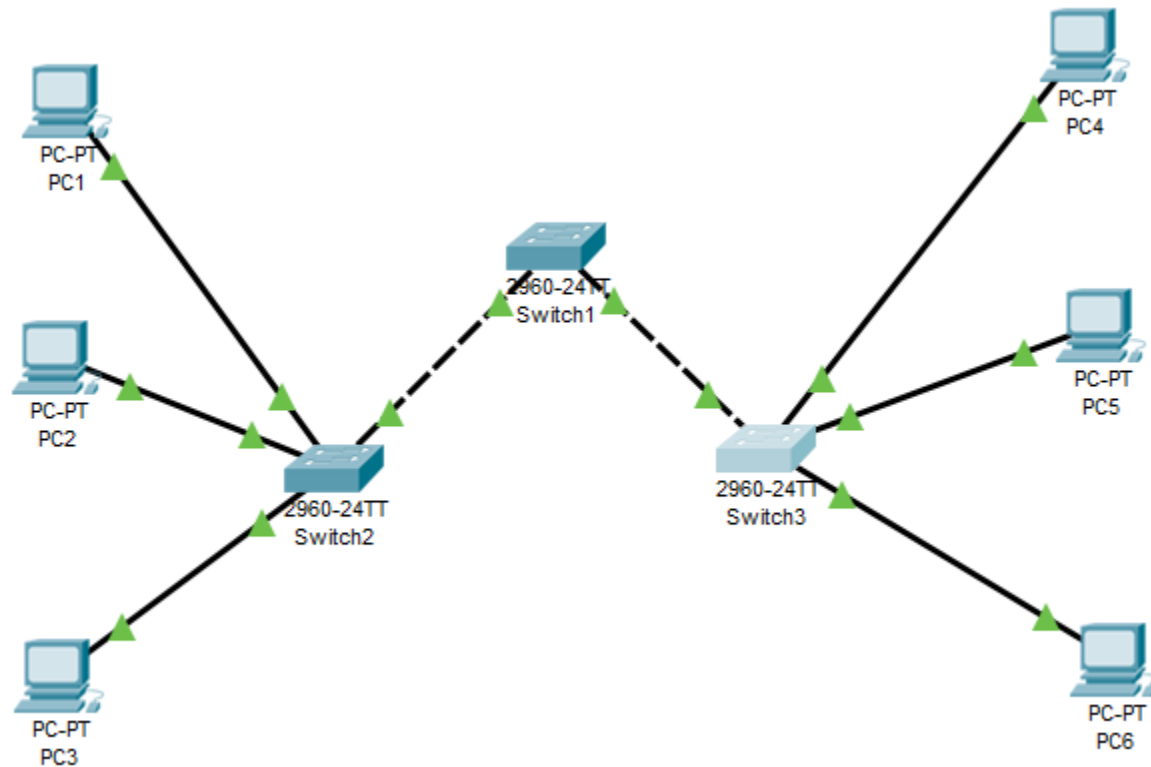
Lab # 09



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## Lab #09 VTP Configuration

### In-Lab Task









### Packet Switches

PDU List Window										
Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	Switch2	Switch1	ICMP		0.000	N	0	(edit)	
	Successful	Switch1	Switch2	ICMP		0.000	N	1	(edit)	
	Successful	Switch3	Switch1	ICMP		0.000	N	2	(edit)	
	Successful	Switch1	Switch3	ICMP		0.000	N	3	(edit)	
	Successful	Switch2	Switch3	ICMP		0.000	N	4	(edit)	
	Successful	Switch3	Switch2	ICMP		0.000	N	5	(edit)	







## Lab#08 VLAN Configuration

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




### Packet from VLAN10 to others

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	PC1	PC4	ICMP		0.000	N	0	(edit)	
	Failed	PC1	PC5	ICMP		0.000	N	1	(edit)	
	Failed	PC1	PC6	ICMP		0.000	N	2	(edit)	

### Packet from VLAN20 to others

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Failed	PC2	PC4	ICMP		0.000	N	0	(edit)	
	Successful	PC2	PC5	ICMP		0.000	N	1	(edit)	
	Failed	PC2	PC6	ICMP		0.000	N	2	(edit)	

### Packet from VLAN20 to VLAN10

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Failed	PC3	PC4	ICMP		0.000	N	0	(edit)	
	Failed	PC3	PC5	ICMP		0.000	N	1	(edit)	
	Successful	PC3	PC6	ICMP		0.000	N	2	(edit)	

## Home Task

### ➤ Switch 1:

#### show running-config:

```
S1# show running-config
Building configuration...

Current configuration : 1738 bytes
!
version 12.2
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname S1
!
enable secret 5 $1$mERr$lnG42Uzc.xuw88Y9qr3Qv0
!
!
!
!
!
spanning-tree mode pvst
spanning-tree extend system-id
!
interface FastEthernet0/1
switchport trunk native vlan 99
switchport mode trunk
!
interface FastEthernet0/2
switchport trunk native vlan 99
switchport mode trunk
!
interface FastEthernet0/3
switchport trunk native vlan 99
switchport mode trunk
!
interface FastEthernet0/4
```

## Lab#08 VLAN Configuration

---

```
switchport trunk native vlan 99
switchport mode trunk
!
interface FastEthernet0/5
switchport trunk native vlan 99
switchport mode trunk
!
interface FastEthernet0/6
shutdown
!
interface FastEthernet0/7
shutdown
!
interface FastEthernet0/8
shutdown
!
interface FastEthernet0/9
shutdown
!
interface FastEthernet0/10
shutdown
!
interface FastEthernet0/11
shutdown
!
interface FastEthernet0/12
shutdown
!
interface FastEthernet0/13
shutdown
!
interface FastEthernet0/14
shutdown
!
interface FastEthernet0/15
shutdown
!
interface FastEthernet0/16
shutdown
!
interface FastEthernet0/17
shutdown
!
interface FastEthernet0/18
shutdown
!
```

## Lab#08 VLAN Configuration

---

```
interface FastEthernet0/19
shutdown
!
interface FastEthernet0/20
shutdown
!
interface FastEthernet0/21
shutdown
!
interface FastEthernet0/22
shutdown
!
interface FastEthernet0/23
shutdown
!
interface FastEthernet0/24
shutdown
!
interface GigabitEthernet0/1
shutdown
!
interface GigabitEthernet0/2
shutdown
!
interface Vlan1
no ip address
shutdown
!
interface Vlan99
mac-address 000c.8559.4201
ip address 172.17.99.11 255.255.255.0
!
!
!
!
line con 0
login
!
line vty 0 4
password cisco
login
line vty 5 15
password cisco
login
!
!
```

!  
!  
End

## **Show vtp status:**

```
S3#show vtp status
VTP Version : 2
Configuration Revision : 0
Maximum VLANs supported locally : 255
Number of existing VLANs : 9
VTP Operating Mode : Transparent
VTP Domain Name : Lab4
VTP Pruning Mode : Disabled
VTP V2 Mode : Disabled
VTP Traps Generation : Disabled
MD5 digest : 0x57 0xF8 0xD2 0x5C 0x01 0x86 0xE7 0x6A
Configuration last modified by 0.0.0.0 at 3-1-93 00:13:12
```

## ➤ Switch 2:

### show running-config:

S2#show running-config

Building configuration...

Current configuration : 2705 bytes

!

version 12.2

no service timestamps log datetime msec

no service timestamps debug datetime msec

no service password-encryption

!

hostname S2

!

enable secret 5 \$1\$mERr\$y7z3zUygcvSzhHhTqWR3K1

!

!

!

!

!

spanning-tree mode pvst

spanning-tree extend system-id

!

interface FastEthernet0/1

switchport trunk native vlan 99

switchport mode trunk

!

interface FastEthernet0/2

switchport trunk native vlan 99

switchport mode trunk

!

interface FastEthernet0/3

switchport trunk native vlan 99

switchport mode trunk

!

interface FastEthernet0/4

switchport trunk native vlan 99

switchport mode trunk

!

interface FastEthernet0/5

switchport trunk native vlan 99



## Lab#08 VLAN Configuration

---

```
switchport mode trunk
!
interface FastEthernet0/6
switchport access vlan 30
switchport mode access
switchport port-security
switchport port-security mac-address sticky
switchport port-security mac-address sticky 0060.47C1.AD9E
!
interface FastEthernet0/7
switchport access vlan 30
shutdown
!
interface FastEthernet0/8
switchport access vlan 30
shutdown
!
interface FastEthernet0/9
switchport access vlan 30
shutdown
!
interface FastEthernet0/10
switchport access vlan 30
shutdown
!
interface FastEthernet0/11
switchport access vlan 10
switchport mode access
switchport port-security
switchport port-security mac-address sticky
switchport port-security mac-address sticky 0009.7C30.BEC8
!
interface FastEthernet0/12
switchport access vlan 10
shutdown
!
interface FastEthernet0/13
switchport access vlan 10
shutdown
!
interface FastEthernet0/14
switchport access vlan 10
shutdown
!
interface FastEthernet0/15
switchport access vlan 10
```

## Lab#08 VLAN Configuration

---

```
shutdown
!
interface FastEthernet0/16
switchport access vlan 10
shutdown
!
interface FastEthernet0/17
switchport access vlan 10
shutdown
!
interface FastEthernet0/18
switchport access vlan 20
switchport mode access
switchport port-security
switchport port-security mac-address sticky
switchport port-security mac-address sticky 0090.0C6C.14D3
!
interface FastEthernet0/19
switchport access vlan 20
shutdown
!
interface FastEthernet0/20
switchport access vlan 20
shutdown
!
interface FastEthernet0/21
switchport access vlan 20
shutdown
!
interface FastEthernet0/22
switchport access vlan 20
shutdown
!
interface FastEthernet0/23
switchport access vlan 20
shutdown
!
interface FastEthernet0/24
switchport access vlan 20
shutdown
!
interface GigabitEthernet0/1
shutdown
!
interface GigabitEthernet0/2
shutdown
```

## Lab#08 VLAN Configuration

---

```
!  
interface Vlan1  
no ip address  
shutdown  
!  
interface Vlan99  
mac-address 0007.ece1.0b01  
ip address 172.17.99.12 255.255.255.0  
!  
!  
!  
!  
line con 0  
password cisco  
login  
!  
line vty 0 4  
password cisco  
login  
line vty 5 15  
password cisco  
login  
!  
!  
!  
!  
end
```

### **Show vtp status:**

```
S3#show vtp status  
VTP Version : 2  
Configuration Revision : 0  
Maximum VLANs supported locally : 255  
Number of existing VLANs : 9  
VTP Operating Mode : Transparent  
VTP Domain Name : Lab4  
VTP Pruning Mode : Disabled  
VTP V2 Mode : Disabled  
VTP Traps Generation : Disabled  
MD5 digest : 0x57 0xF8 0xD2 0x5C 0x01 0x86 0xE7 0x6A  
Configuration last modified by 0.0.0.0 at 3-1-93 00:13:12
```

## ➤ Switch 3:

### Show running-config:

```
S3#show running-config
Building configuration...
```

```
Current configuration : 2842 bytes
```

```
!
version 12.2
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname S3
!
enable secret 5 cisco
!
!
!
!
vtp domain Lab4
vtp mode transparent
vtp password cisco
!
!
spanning-tree mode pvst
spanning-tree extend system-id
!
vlan 10
name faculty/staff
!
vlan 20
name students
!
vlan 30
name guest
!
vlan 99
name management
!
interface FastEthernet0/1
switchport trunk native vlan 99
```

## Lab#08 VLAN Configuration

---

```
switchport mode trunk
!
interface FastEthernet0/2
switchport trunk native vlan 99
switchport mode trunk
!
interface FastEthernet0/3
switchport trunk native vlan 99
switchport mode trunk
!
interface FastEthernet0/4
switchport trunk native vlan 99
switchport mode trunk
!
interface FastEthernet0/5
switchport trunk native vlan 99
switchport mode trunk
!
interface FastEthernet0/6
switchport access vlan 30
switchport mode access
switchport port-security
switchport port-security mac-address sticky
switchport port-security mac-address sticky 00E0.F94E.DD5D
!
interface FastEthernet0/7
switchport access vlan 30
shutdown
!
interface FastEthernet0/8
switchport access vlan 30
shutdown
!
interface FastEthernet0/9
switchport access vlan 30
shutdown
!
interface FastEthernet0/10
switchport access vlan 30
shutdown
!
interface FastEthernet0/11
switchport access vlan 10
switchport mode access
switchport port-security
switchport port-security mac-address sticky
```

## Lab#08 VLAN Configuration

---

```
switchport port-security mac-address sticky 0002.4A56.5D93
!
interface FastEthernet0/12
switchport access vlan 10
shutdown
!
interface FastEthernet0/13
switchport access vlan 10
shutdown
!
interface FastEthernet0/14
switchport access vlan 10
shutdown
!
interface FastEthernet0/15
switchport access vlan 10
shutdown
!
interface FastEthernet0/16
switchport access vlan 10
shutdown
!
interface FastEthernet0/17
switchport access vlan 10
shutdown
!
interface FastEthernet0/18
switchport access vlan 20
switchport mode access
switchport port-security
switchport port-security mac-address sticky
switchport port-security mac-address sticky 00D0.BA65.64D5
!
interface FastEthernet0/19
switchport access vlan 20
shutdown
!
interface FastEthernet0/20
switchport access vlan 20
shutdown
!
interface FastEthernet0/21
switchport access vlan 20
shutdown
!
interface FastEthernet0/22
```

## Lab#08 VLAN Configuration

---

```
switchport access vlan 20
shutdown
!
interface FastEthernet0/23
switchport access vlan 20
shutdown
!
interface FastEthernet0/24
switchport access vlan 20
shutdown
!
interface GigabitEthernet0/1
shutdown
!
interface GigabitEthernet0/2
shutdown
!
interface Vlan1
no ip address
shutdown
!
interface Vlan99
mac-address 000b.bea6.d701
ip address 172.17.99.13 255.255.255.0
!
!
!
!
line con 0
password cisco
login
!
line vty 0 4
password cisco
login
line vty 5 15
password cisco
login
!
!
!
!
end
```

## **Show vtp status:**

```
S3#show vtp status
VTP Version : 2
Configuration Revision : 0
Maximum VLANs supported locally : 255
Number of existing VLANs : 9
VTP Operating Mode : Transparent
VTP Domain Name : Lab4
VTP Pruning Mode : Disabled
VTP V2 Mode : Disabled
VTP Traps Generation : Disabled
MD5 digest : 0x57 0xF8 0xD2 0x5C 0x01 0x86 0xE7 0x6A
Configuration last modified by 0.0.0.0 at 3-1-93 00:13:12
```

---



## Critical Analysis / Conclusion

In this lab we learnt about VLAN Trunking Protocol (VTP) configuration. It is a protocol used to share VLAN configuration across the network, the main goal of this configuration is to manage all configured VLANs across the network.

Moreover, we implemented this on a topology given to us and successfully sent Packet between PC's connected to same VLAN's and we were unable to send packets between PC's connected to different VLAN's

Lab Assessment		
Pre Lab	/5	/25
Performance	/5	
Results	/5	
Viva	/5	
Critical Analysis	/5	
Instructor Signature and Comments		