



NATIONAL UNIVERSITY OF MODERN LANGUAGES

Computer Networks lab Report - 6

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PROGRAM: BSSE (5th Semester)

COURSE: Computer Networks

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Lab Report – VLAN Configuration

1. Objective

To understand VLAN (Virtual Local Area Network) concepts and configure VLANs on a Cisco switch to divide one physical network into multiple logical networks for better security, efficiency, and management.

2. Tools and Equipment

- Cisco Packet Tracer
 - Cisco Switch (2960)
 - PCs with Ethernet cables
 - Console cable
 - Command Line Interface (CLI)

3. Description

A VLAN separates a single physical network into smaller logical networks. It is commonly used in organizations to isolate departments (e.g., HR, Accounts, IT) for improved security and reduced broadcast traffic. VLANs enable better control and cost-effective network management using the same hardware.

4. Working Summary

VLANs were created and specific ports were assigned using switch configuration commands. The `show vlan brief` command verified successful creation and activation of VLANs on their respective ports.

5. Conclusion

The lab demonstrated how VLANs enhance network organization, security, and performance by reducing broadcast domains and isolating traffic between departments.

```

Switch#configure t
Switch#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#in
Switch(config)#interface fa
Switch(config)#interface fastEthernet 0
Switch(config)#interface fastEthernet 0/1
Switch(config-if)#wsi
Switch(config-if)#swi
Switch(config-if)#switchport ac
Switch(config-if)#switchport access vl
Switch(config-if)#switchport access vlan 2
Switch(config-if)#exit
Switch(config)#interface fastE
Switch(config)#interface fastEthernet 0/2
Switch(config-if)#switch
Switch(config-if)#switchport acc
Switch(config-if)#switchport access vlan
Switch(config-if)#switchport access vlan 2
Switch(config-if)#exit
Switch(config)#interf
Switch(config)#interface fas
Switch(config)#interface fastEthernet 0/3
Switch(config-if)#sw
Switch(config-if)#switchport ac
Switch(config-if)#switchport access vl
Switch(config-if)#switchport access vlan 3
Switch(config-if)#exit
Switch(config)#int
Switch(config)#interface f
Switch(config)#interface fastEthernet 0/4
Switch(config-if)#sw
Switch(config-if)#switchport ac
Switch(config-if)#switchport access vl
Switch(config-if)#switchport access vlan 3
Switch(config-if)#exit
Switch(config)#

```

```
Switch#show vlan brief
```

VLAN	Name	Status	Ports
1	default	active	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	building1	active	Fa0/1, Fa0/2
3	building2	active	Fa0/3, Fa0/4
1002	fdci-default	active	
1003	token-ring-default	active	
1004	fdininet-default	active	
1005	trnet-default	active	

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
Successful	PC0	PC1	ICMP	■	0.000	N	0	(edit)		
Failed	PC1	PC2	ICMP	■	0.000	N	1	(edit)		
Successful	PC3	PC2	ICMP	■	0.000	N	2	(edit)		

