**Data Communication and Computer Networks**

**EEE314**

Lab # 08



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**Lab #08 VLAN Configuration**

**In-Lab Task**

**Chart, line chart

Description automatically generated**

**Packet from VLAN10 to VLAN10**

**Graphical user interface

Description automatically generated with medium confidence**

**Packet from VLAN10 to VLAN20**

**Graphical user interface

Description automatically generated**

**Packet from VLAN10 to VLAN30**

Graphical user interface, text, application

Description automatically generated

**Packet from VLAN20 to VLAN10**

**Graphical user interface, application

Description automatically generated**

**Packet from VLAN20 to VLAN20**

**Graphical user interface

Description automatically generated**

**Packet from VLAN20 to VLAN30**

Graphical user interface

Description automatically generated

**Packet from VLAN30 to VLAN10**

**Graphical user interface, application

Description automatically generated**

**Packet from VLAN30 to VLAN20**

**Graphical user interface, text, application

Description automatically generated**

**Packet from VLAN30 to VLAN30**

**Graphical user interface, application

Description automatically generated**

**Home Task**

* **Switch 1:**

**show running-config:**

Switch#show running-config

Building configuration...

Current configuration : 1444 bytes

!

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 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

switchport mode trunk

!

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

!

interface Vlan99

mac-address 000c.8559.4201

ip address 172.17.99.11 255.255.255.0

!

!

!

!

line con 0

!

line vty 0 4

login

line vty 5 15

login

!

!

!

!

End

* **Switch 2:**

**show running-config:**

Switch#show running-config

Building configuration...

Current configuration : 1957 bytes

!

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 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

switchport mode trunk

!

interface FastEthernet0/6

switchport access vlan 30

!

interface FastEthernet0/7

switchport access vlan 30

!

interface FastEthernet0/8

switchport access vlan 30

!

interface FastEthernet0/9

switchport access vlan 30

!

interface FastEthernet0/10

switchport access vlan 30

!

interface FastEthernet0/11

switchport access vlan 10

!

interface FastEthernet0/12

switchport access vlan 10

!

interface FastEthernet0/13

switchport access vlan 10

!

interface FastEthernet0/14

switchport access vlan 10

!

interface FastEthernet0/15

switchport access vlan 10

!

interface FastEthernet0/16

switchport access vlan 10

!

interface FastEthernet0/17

switchport access vlan 10

!

interface FastEthernet0/18

switchport access vlan 20

!

interface FastEthernet0/19

switchport access vlan 20

!

interface FastEthernet0/20

switchport access vlan 20

!

interface FastEthernet0/21

switchport access vlan 20

!

interface FastEthernet0/22

switchport access vlan 20

!

interface FastEthernet0/23

switchport access vlan 20

!

interface FastEthernet0/24

switchport access vlan 20

!

interface GigabitEthernet0/1

!

interface GigabitEthernet0/2

!

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

!

line vty 0 4

login

line vty 5 15

login

!

!

!

!

End

* **Switch 3:**

**Show running-config:**

Switch#show running-config

Building configuration...

Current configuration : 1957 bytes

!

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 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

switchport mode trunk

!

interface FastEthernet0/6

switchport access vlan 30

!

interface FastEthernet0/7

switchport access vlan 30

!

interface FastEthernet0/8

switchport access vlan 30

!

interface FastEthernet0/9

switchport access vlan 30

!

interface FastEthernet0/10

switchport access vlan 30

!

interface FastEthernet0/11

switchport access vlan 10

!

interface FastEthernet0/12

switchport access vlan 10

!

interface FastEthernet0/13

switchport access vlan 10

!

interface FastEthernet0/14

switchport access vlan 10

!

interface FastEthernet0/15

switchport access vlan 10

!

interface FastEthernet0/16

switchport access vlan 10

!

interface FastEthernet0/17

switchport access vlan 10

!

interface FastEthernet0/18

switchport access vlan 20

!

interface FastEthernet0/19

switchport access vlan 20

!

interface FastEthernet0/20

switchport access vlan 20

!

interface FastEthernet0/21

switchport access vlan 20

!

interface FastEthernet0/22

switchport access vlan 20

!

interface FastEthernet0/23

switchport access vlan 20

!

interface FastEthernet0/24

switchport access vlan 20

!

interface GigabitEthernet0/1

!

interface GigabitEthernet0/2

!

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

!

line vty 0 4

login

line vty 5 15

login

!

!

!

!

end

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

## Critical Analysis / Conclusion

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| --- |
| In this lab we learnt about Virtual Local Area Network (VLAN) configuration. It is a group of logically connected devices that function exactly like a Local Area Network (LAN), each VLAN acts as a subgroup of switchports.  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 |

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