

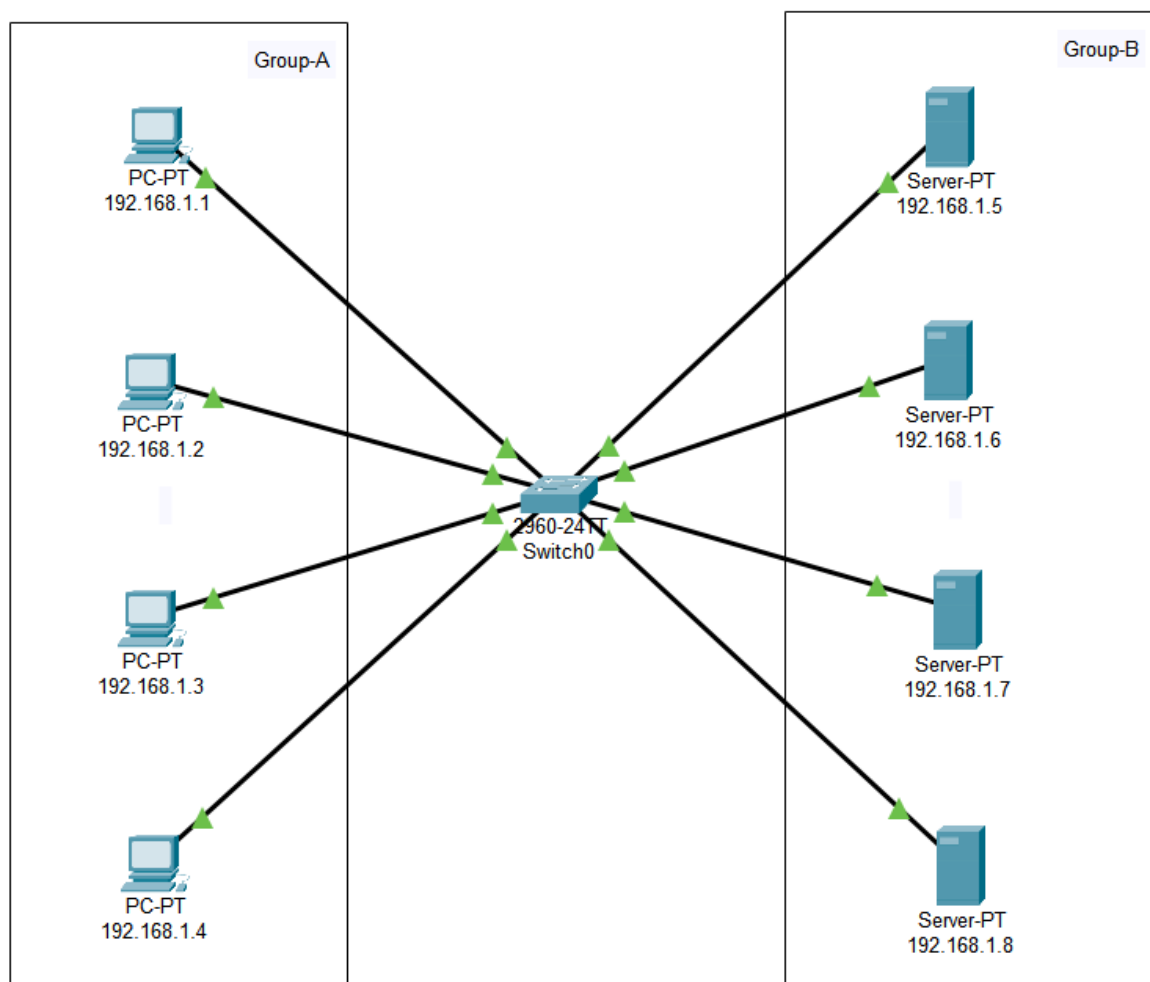
Date: 02/07/2025

Lab Practical #05:

Study the concept of VLAN using packet tracer.

Practical Assignment #05:

1. Implement the different network structures in VLAN and VLAN trunking. Also check connectivity between them using ping command or PDU utility.



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➤ **How to Create VLAN in packet tracer**

- Open Cisco Packet Tracer on your computer.
- First Create Network Topologies.
- After Creating Topologies, Click on a switch to open its configuration window. Go to the Config tab. In the Config tab, find the VLAN Database section. Here, you can add new VLANs by entering the VLAN number and name.
- To add Add Devices to Separate VLAN, Click on a switch to open its configuration window. Go to the Config tab and select the specific port that is connected to a device. In the port configuration section, set the port mode to Access and select the VLAN number .

PDU Information at Device: 192.168.1.1

OSI Model
Inbound PDU Details

PDU Formats

EthernetII

0	4	8	12	16	20	24	28	32	Bytes
PREAMBLE: 101010..10				SF D	DEST ADDR: 0040.0B4B.C6 E8				
SRC ADDR: 000C.8 524.E81C			TYPE: 0 x0800		DATA (VARIABLE LENGTH)		FCS: 0x00000000		

IP

0	4	8	12	16	20	24	28	32	Bits
VER: 4		IHL: 5		DSCP: 0x00		TL: 28			
ID: 0x0007				FLAGS: 0x0		FRAG OFFSET: 0x000			
TTL: 128			PRO: 0x01			CHKSUM			
SRC IP: 192.168.1.4									
DST IP: 192.168.1.1									
DATA (VARIABLE LENGTH)									

ICMP

0	4	8	12	16	20	24	28	32	Bits
TYPE: 0x00			CODE: 0x00			CHECKSUM			
ID: 0x0008					SEQ NUMBER: 7				

Variable Size PDU

0	4	8	12	16	20	24	28	32	Bytes
DATA (VARIABLE LENGTH)									

2 | Enrollment No: - 23010101089

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Switch0

Physical

Config

CLI

Attributes

GLOBAL

Settings

Algorithm Settings

SWITCHING

VLAN Database

INTERFACE

FastEthernet0/1

FastEthernet0/2

FastEthernet0/3

FastEthernet0/4

FastEthernet0/5

FastEthernet0/6

FastEthernet0/7

FastEthernet0/8

FastEthernet0/9

FastEthernet0/10

FastEthernet0/11

FastEthernet0/12

FastEthernet0/13

FastEthernet0/14

FastEthernet0/15

FastEthernet0/16

FastEthernet0/17

VLAN Configuration

VLAN Number

VLAN Name

Add

Remove

VLAN No	VLAN Name
1	default
10	Group-A
20	Group-B
1002	fddi-default
1003	token-ring-default
1004	fddinet-default
1005	trnet-default

Equivalent IOS Commands

```
Switch(config-if)#exit
Switch(config)#interface FastEthernet0/2
Switch(config-if)#
Switch(config-if)#exit
Switch(config)#interface FastEthernet0/1
Switch(config-if)#
Switch(config-if)#exit
Switch(config)#interface FastEthernet0/1
Switch(config-if)#
Switch(config-if)#exit
Switch(config)#
Switch(config)#
```

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PDU Information at Device: 192.168.1.1



OSI Model Inbound PDU Details

At Device: 192.168.1.1
Source: 192.168.1.1
Destination: 192.168.1.4

In Layers

Layer7
Layer6
Layer5
Layer4
Layer 3: IP Header Src. IP: 192.168.1.4,
Dest. IP: 192.168.1.1 ICMP Message Type:
0
Layer 2: Ethernet II Header 000C.
8524.E81C >> 0040.0B4B.C6E8
Layer 1: Port FastEthernet0

Out Layers

Layer7
Layer6
Layer5
Layer4
Layer3
Layer2
Layer1

1. FastEthernet0 receives the frame.

Challenge Me

<< Previous Layer

Next Layer >>



Switch0

Physical **Config** CLI Attributes

GLOBAL

Settings

Algorithm Settings

SWITCHING

INTERFACE

FastEthernet0/1

FastEthernet0/2

FastEthernet0/3

FastEthernet0/4

FastEthernet0/5

FastEthernet0/6

FastEthernet0/7

FastEthernet0/8

FastEthernet0/9

FastEthernet0/10

FastEthernet0/11

FastEthernet0/12

FastEthernet0/13

FastEthernet0/14

FastEthernet0/15

FastEthernet0/16

FastEthernet0/17

FastEthernet0/18

FastEthernet0/1

Port Status ☒ On

Bandwidth ☒ 100 Mbps ☐ 10 Mbps ☒ Auto

Duplex ☐ Half Duplex ☒ Full Duplex ☒ Auto

Access VLAN

Tx Ring Limit

Equivalent IOS Commands

```
Switch(config-if)#exit
Switch(config)#interface FastEthernet0/3
Switch(config-if)#
Switch(config-if)#exit
Switch(config)#interface FastEthernet0/2
Switch(config-if)#
Switch(config-if)#exit
Switch(config)#interface FastEthernet0/1
Switch(config-if)#
Switch(config-if)#exit
Switch(config)#interface FastEthernet0/1
Switch(config-if)#
```

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