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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.

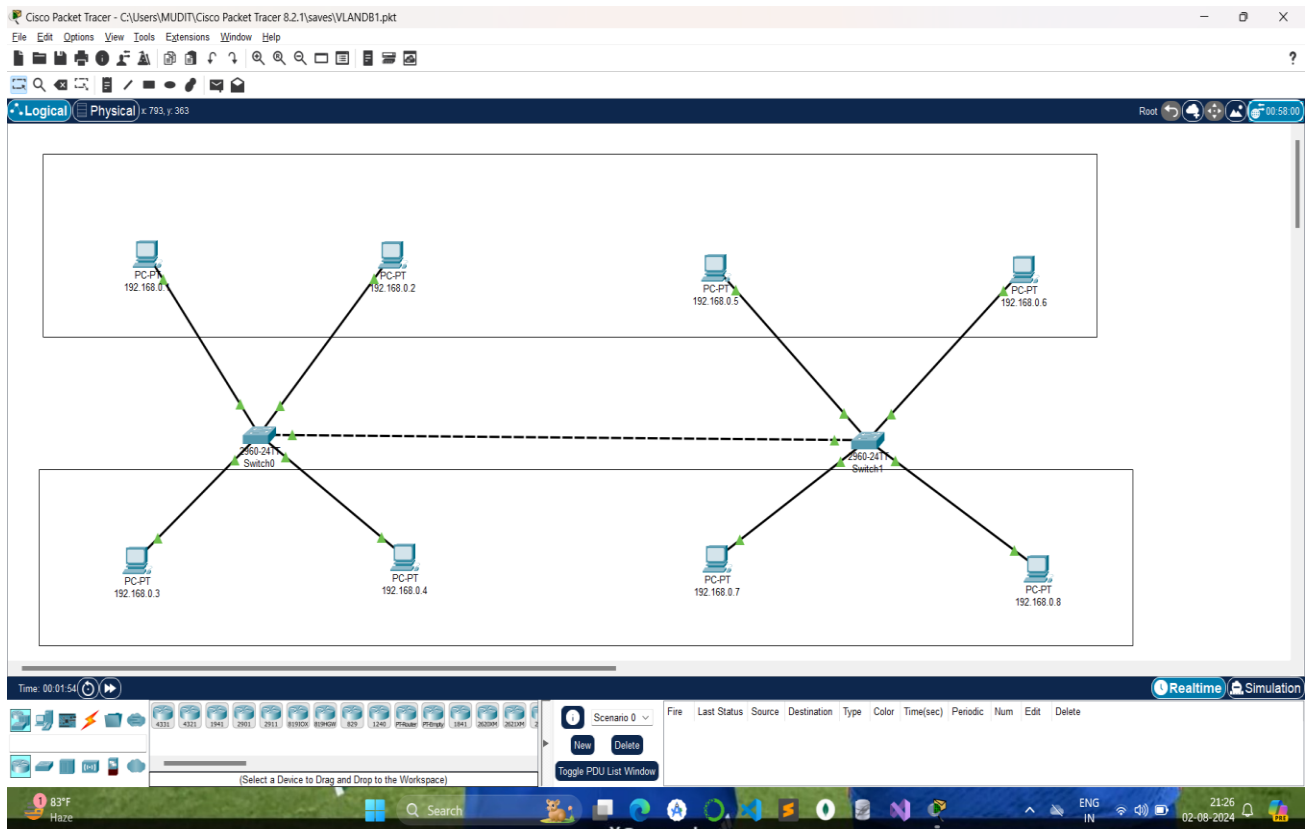
➤ Common steps to create VLANs in packet tracer.

1. Drag and drop the necessary network devices (e.g., switches, PCs) into the workspace.
2. Click on the switch to open its configuration window And Configure the switch.
3. Connect all pc's to the switch.
4. Click on switch and Config.
5. Set properties of VLAN Configuration (VLAN Number And VLAN Name).
6. And Then click on "Add".
7. Give all pcs as trunk to access type.
8. Set All pc's VLAN number as per Authorization.

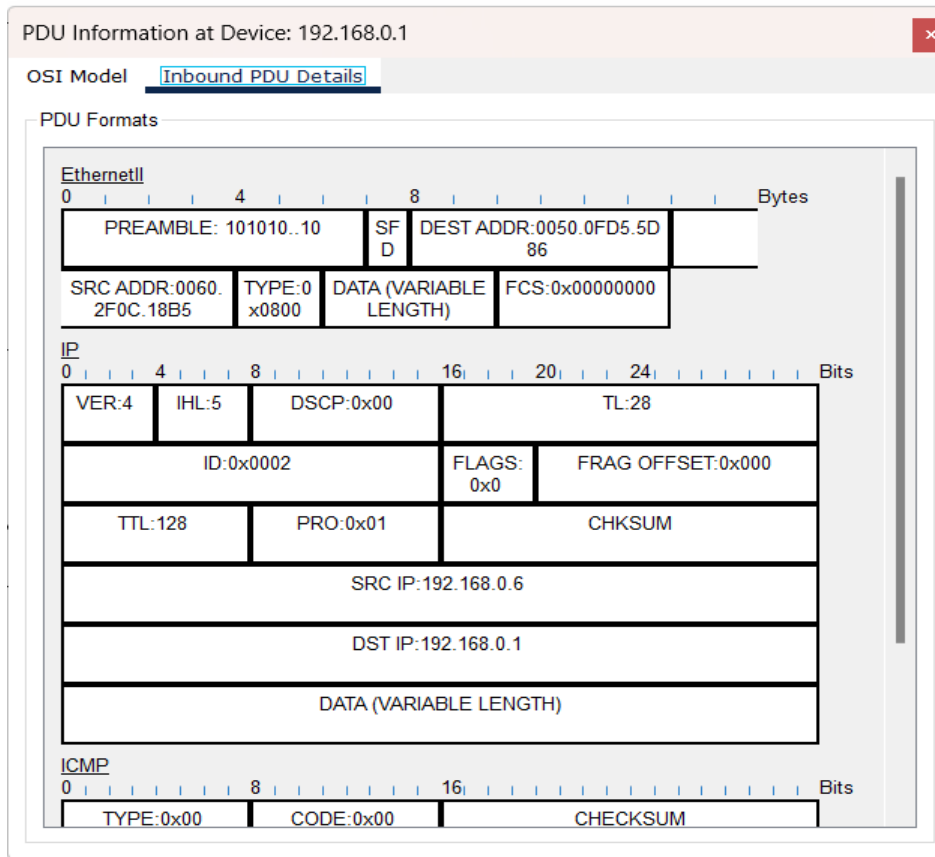
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1. VLANs configuration :

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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

VLAN No	VLAN Name
1	default
500	STUDENT
510	FACULTY
1002	fddi-default
1003	token-ring-default
1004	fddinet-default
1005	trnet-default

Equivalent IOS Commands

```
%LINK-5-CHANGED: Interface FastEthernet0/5, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/5, changed state to up

Switch>enable
Switch#
Switch#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#
Switch(config)#
```

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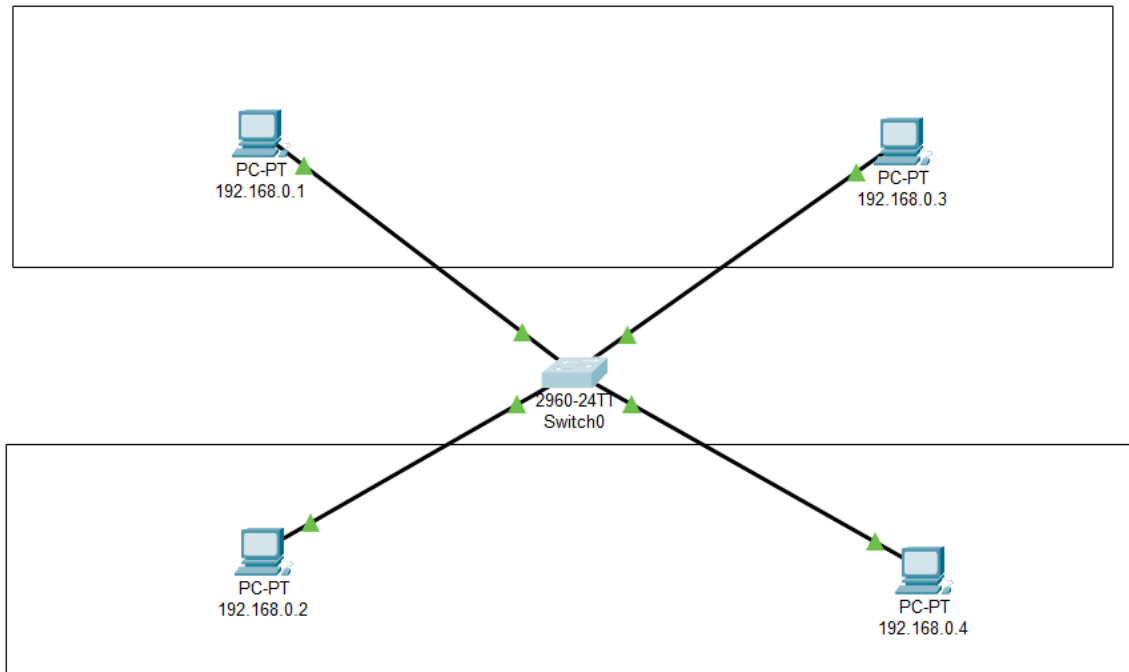
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Steps :-

- Create a 4 devices and each divides connect between switch.
- Each devices add IP Address and same name as Label.
- For example IP 192.168.0.1 same as all Ip.
- Two V-lan are created Name is Student and Faculty.
- Now Switch configuration .click switch and click Vlan_Database.
- In Vlan_Database Add Vlan Number and Vlan Name and click Add Button.
- In Switch click Fast Eathernet portnumber and config the portnumber of devices.
- To Pass Msg between Two vlan but it not be send because devices connect different lan.
- Two devices connect same vlan it will be sent msg one to another succesfully.

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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

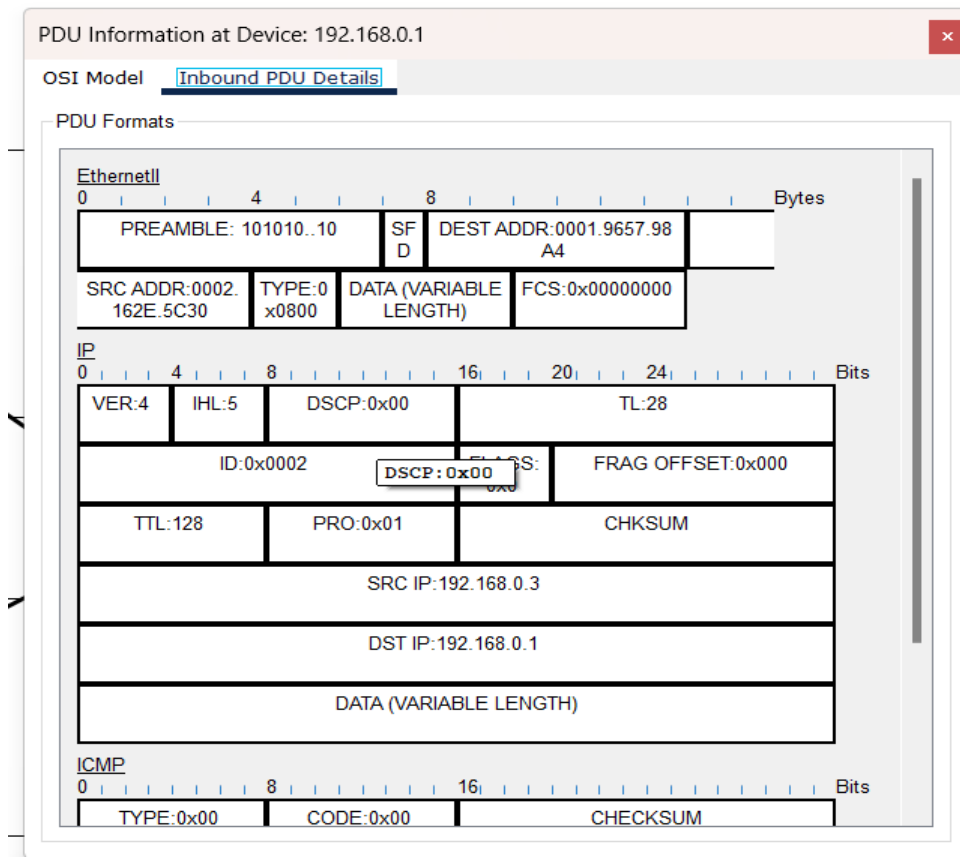
VLAN No	VLAN Name
1	default
500	STUDENT
510	FACULTY
1002	fdi-default
1003	token-ring-default
1004	fdinet-default
1005	trnet-default

Equivalent IOS Commands

```
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3, changed state to up

Switch>enable
Switch#
Switch#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
```

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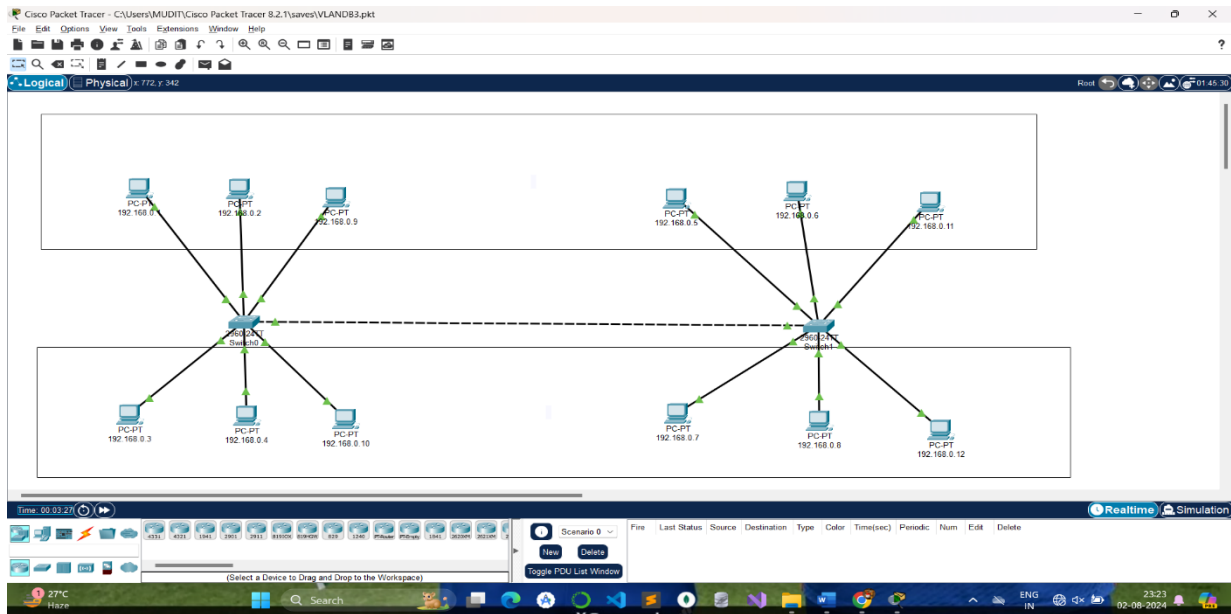
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Steps :-

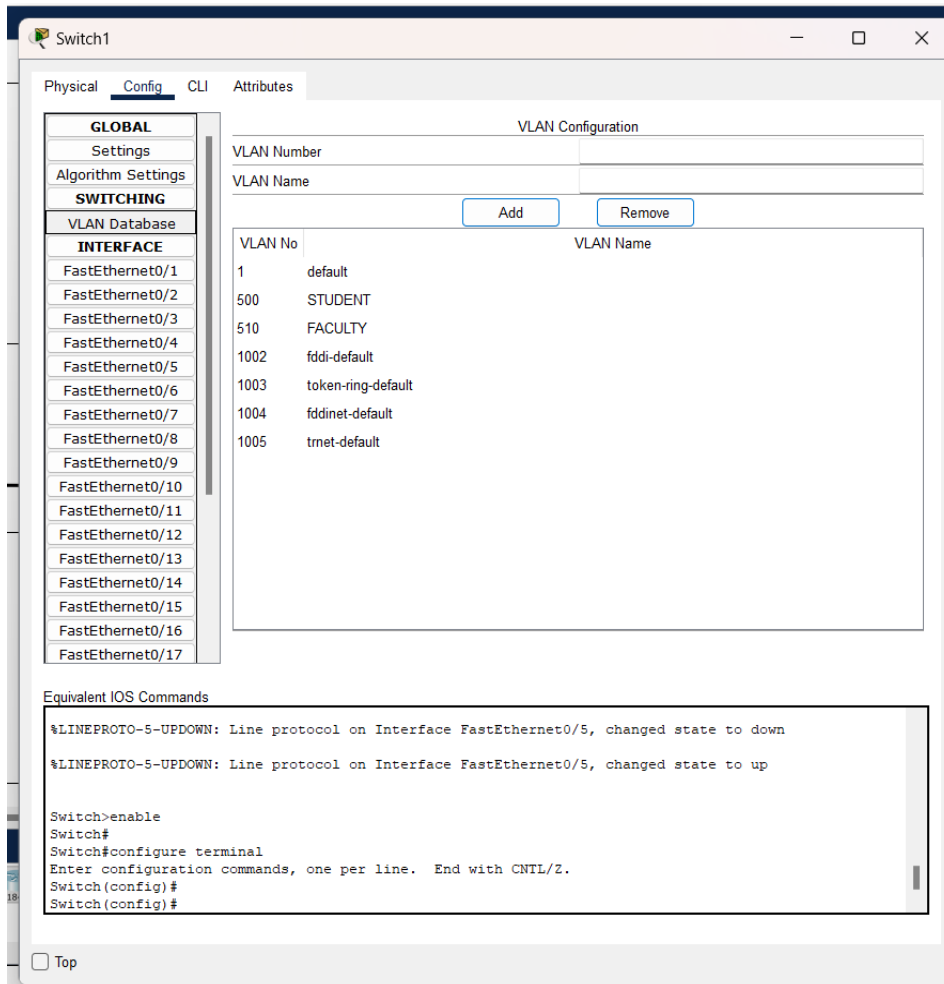
- Take 8 pc and assign Ip address and label to each pc.
- Take 2 Switch and Make 2 Lan with 4 pc each.
- Now there is local area network but We need to implement Virtual Lan database for implement Virtual Lan we need to configure Virtual Lan database in configure Section in switch.
- Make 2 New Virtual Lan configuration with unique Virtual Lan number and name.
- Now check the Port where the pc is connected and open that port configuration in switch and set Virtual Lan to access mode and select your Virtual Lan database name in dropdown.
- Now we need to connect both Switch but here we need to give Virtual Lan mode to trunk because there are number different Virtual Lan signal travel threw it.
- Now you configure two Virtual Lan in different local area network.

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Switch1

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
500	STUDENT
510	FACULTY
1002	fdi-default
1003	token-ring-default
1004	fdinet-default
1005	trnet-default

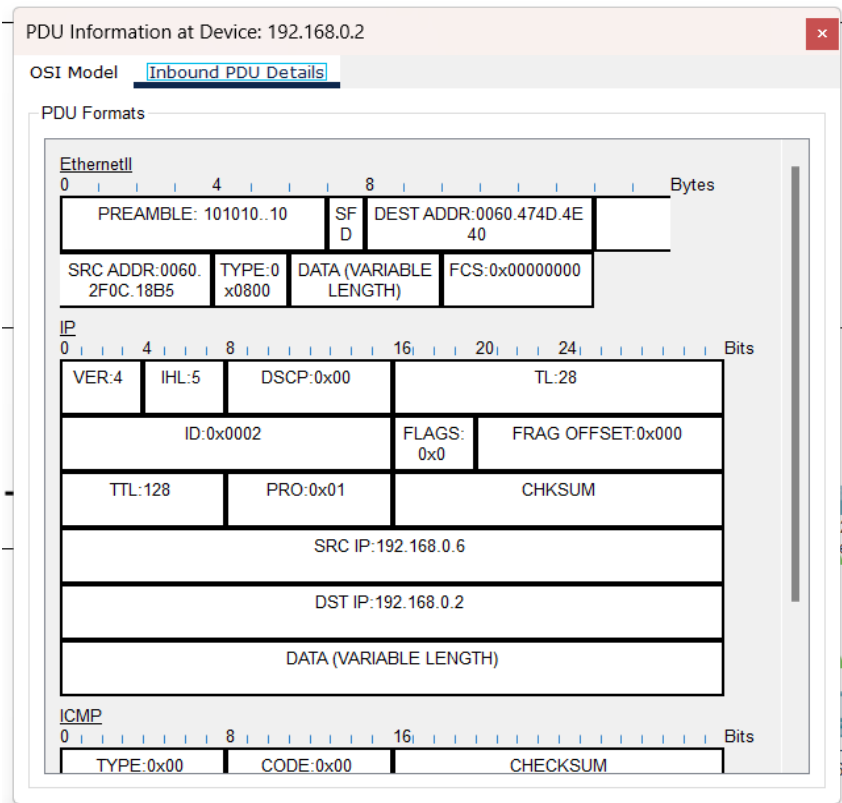
Equivalent IOS Commands

```
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/5, changed state to down
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/5, changed state to up

Switch>enable
Switch#
Switch#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#
Switch(config)#
```

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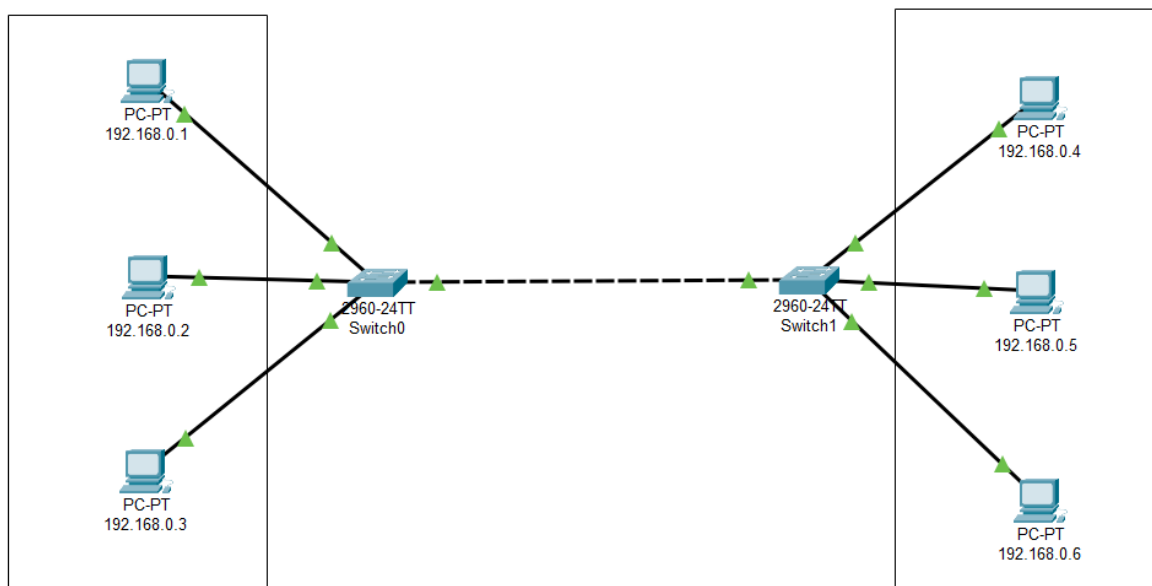
Steps :-

- Take 8 pc and assign Ip address and label to each pc.
- Take 2 Switch and Make 2 Lan with 4 pc each.
- Now there is local area network but We need to implement Virtual Lan database for implement Virtual Lan we need to configure Virtual Lan database in configure Section in switch.
- Make 2 New Virtual Lan configuration with unique Virtual Lan number and name.
- Now check the Port where the pc is connected and open that port configuration in switch and set Virtual Lan to access mode and select your Virtual Lan database name in dropdown.

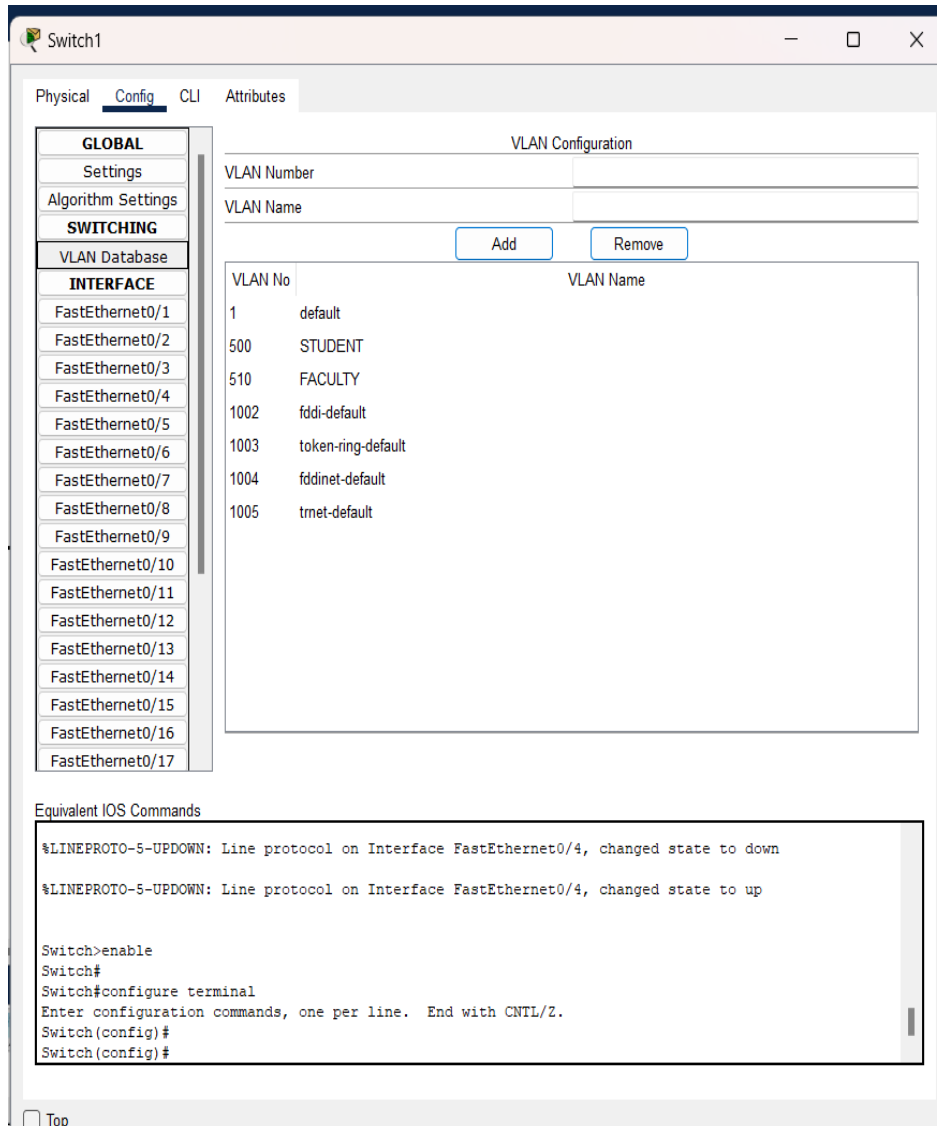
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- Now we need to connect both Switch but here we need to give Virtual Lan mode to trunk because there are number different Virtual Lan signal travel threw it.
- Now you configure two Virtual Lan in different local area network.

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Switch1

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
500	STUDENT
510	FACULTY
1002	fdi-default
1003	token-ring-default
1004	fdinet-default
1005	trnet-default

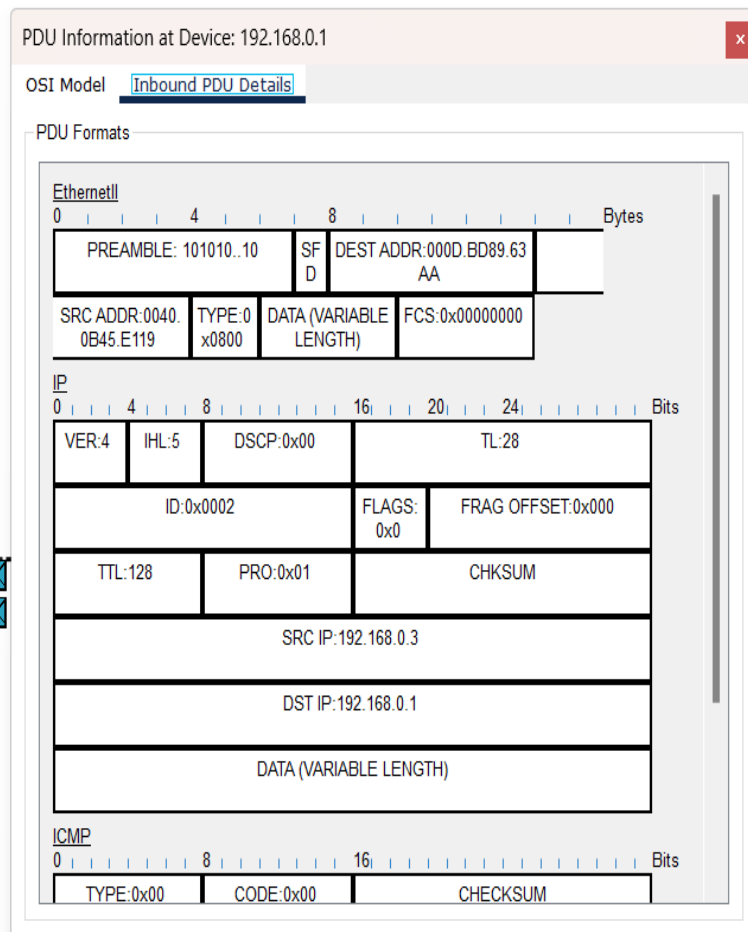
Equivalent IOS Commands

```
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/4, changed state to down
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/4, changed state to up

Switch>enable
Switch#
Switch#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#
Switch(config)#
```

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Steps :-

- Take 8 pc and assign Ip address and label to each pc.
- Take 2 Switch and Make 2 Lan with 4 pc each.
- Now there is local area network but We need to implement Virtual Lan database for implement Virtual Lan we need to configure Virtual Lan database in configure Section in switch.
- Make 4 New Virtual Lan configuration with unique Virtual Lan number and name.



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- Now check the Port where the pc is connected and open that port configuration in switch and set Virtual Lan to access mode and select your Virtual Lan database name in dropdown.
- Now we need to connect both Switch but here we need to give Virtual Lan mode to trunk because there are number different Virtual Lan signal travel threw it.

Now you configure two Virtual Lan in different local area network