



Date: 31/08/2023

Lab Practical #06:

Study the concept of VLAN using packet tracer. **Practical**

Assignment #06:

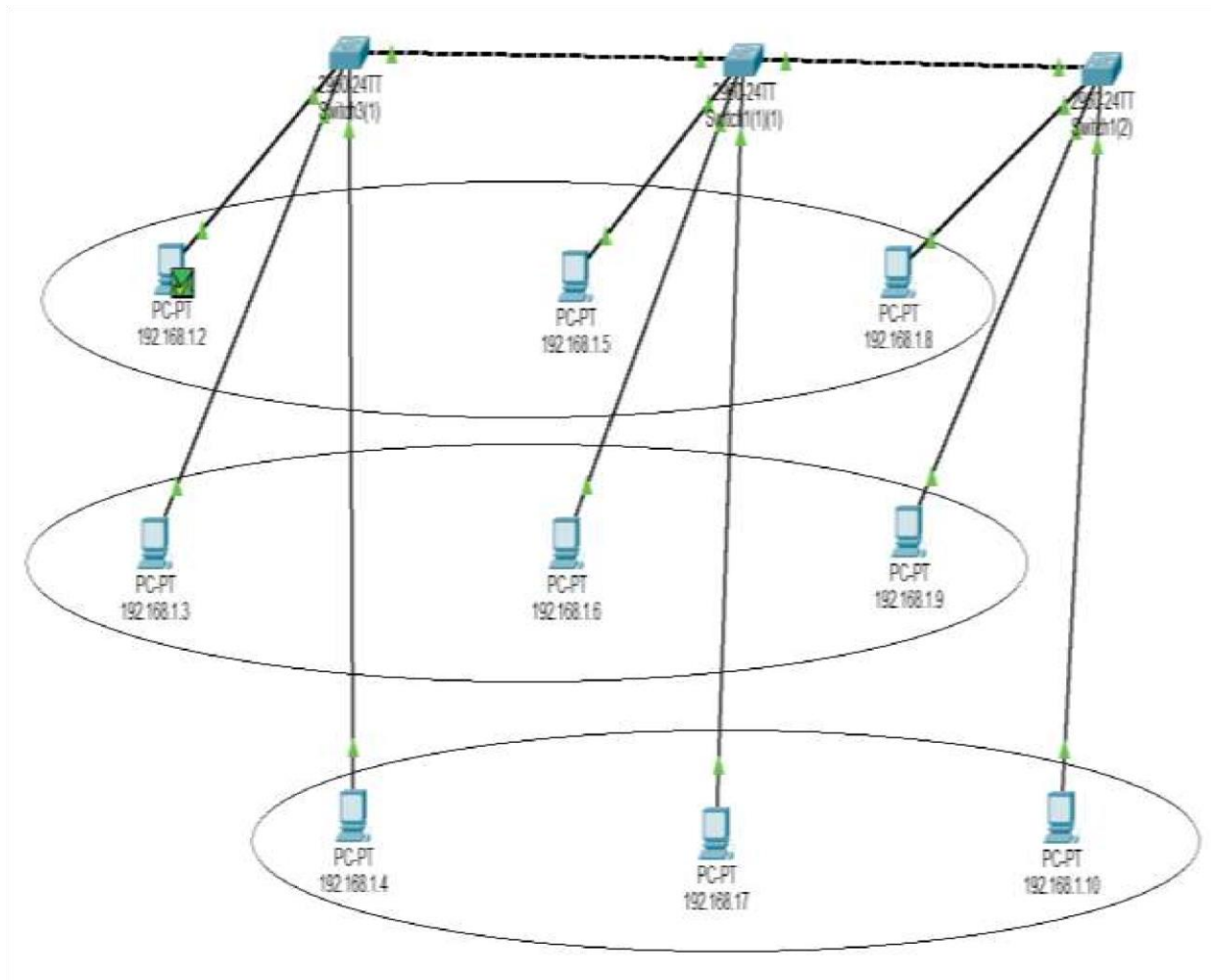
1. Implement the different network structures in VLAN and VLAN trunking. Also check connectivity between them using ping command or PDU utility.

Instructions:

1. Different VLANs configuration setup screenshot. (VLAN example given by lab faculty)
2. Write steps to create VLANs in packet tracer.
3. Mention IP address of each pc as label.
4. Ping command or PDU screenshot between two VLANs.

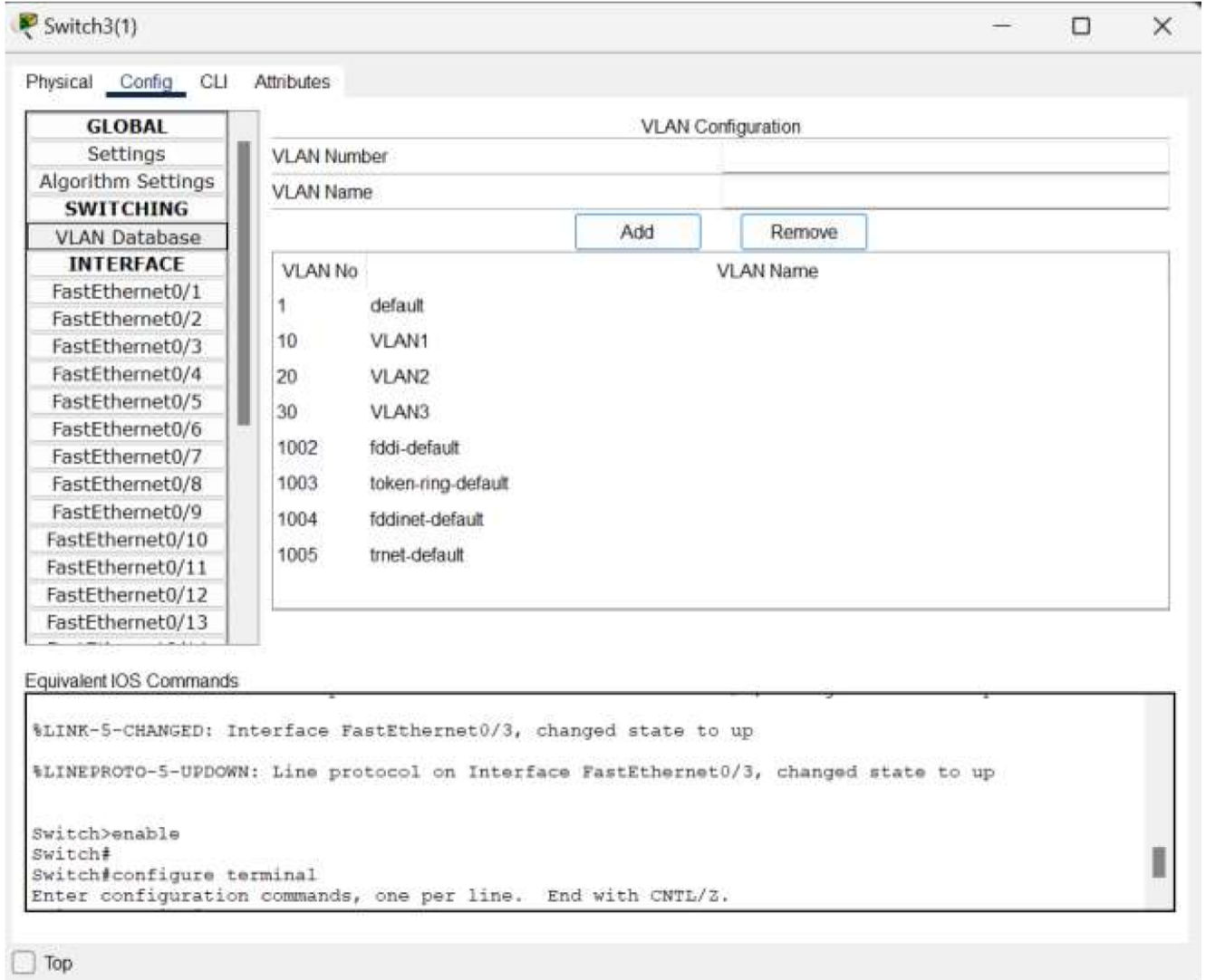
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VLAN 1



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VLAN – 1 (Database)



Switch3(1)

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

VLAN Configuration

VLAN Number

VLAN Name

Add Remove

VLAN No	VLAN Name
1	default
10	VLAN1
20	VLAN2
30	VLAN3
1002	fdi-default
1003	token-ring-default
1004	fdinet-default
1005	trnet-default

Equivalent IOS Commands

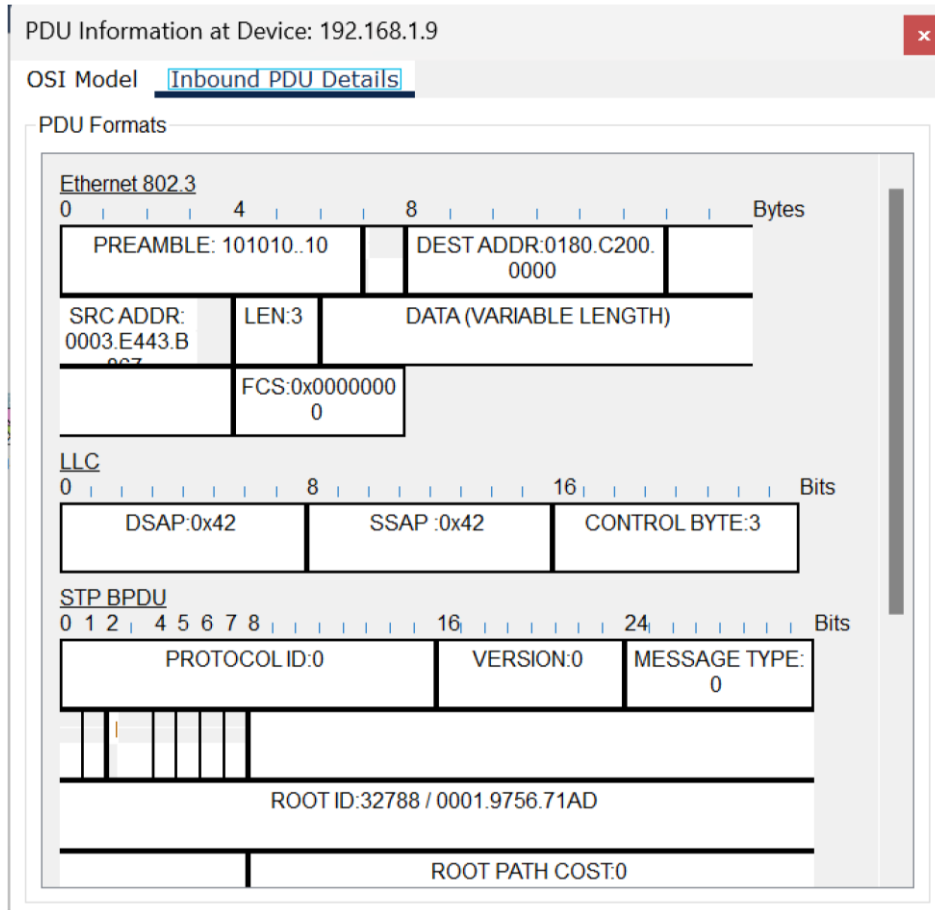
```
%LINK-5-CHANGED: Interface FastEthernet0/3, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3, changed state to up

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

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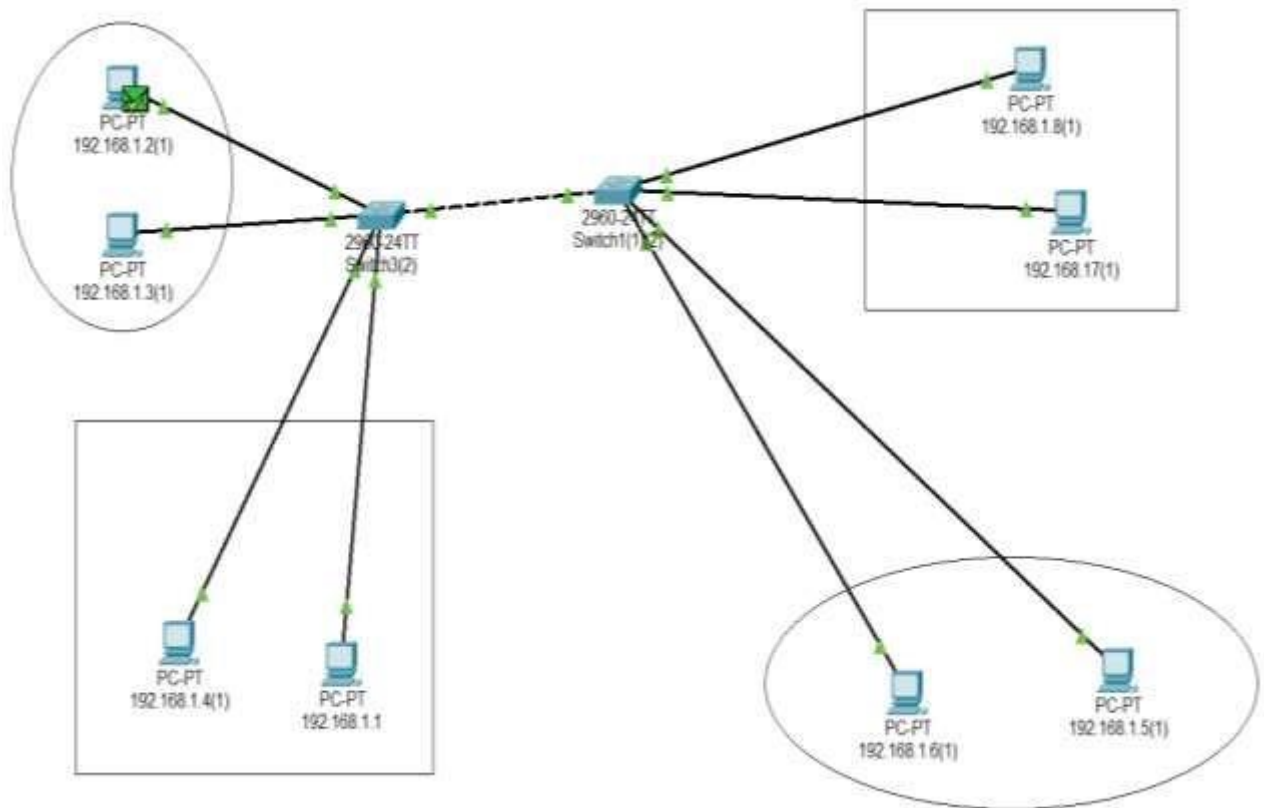
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VLAN – 1 (PDU Utility)



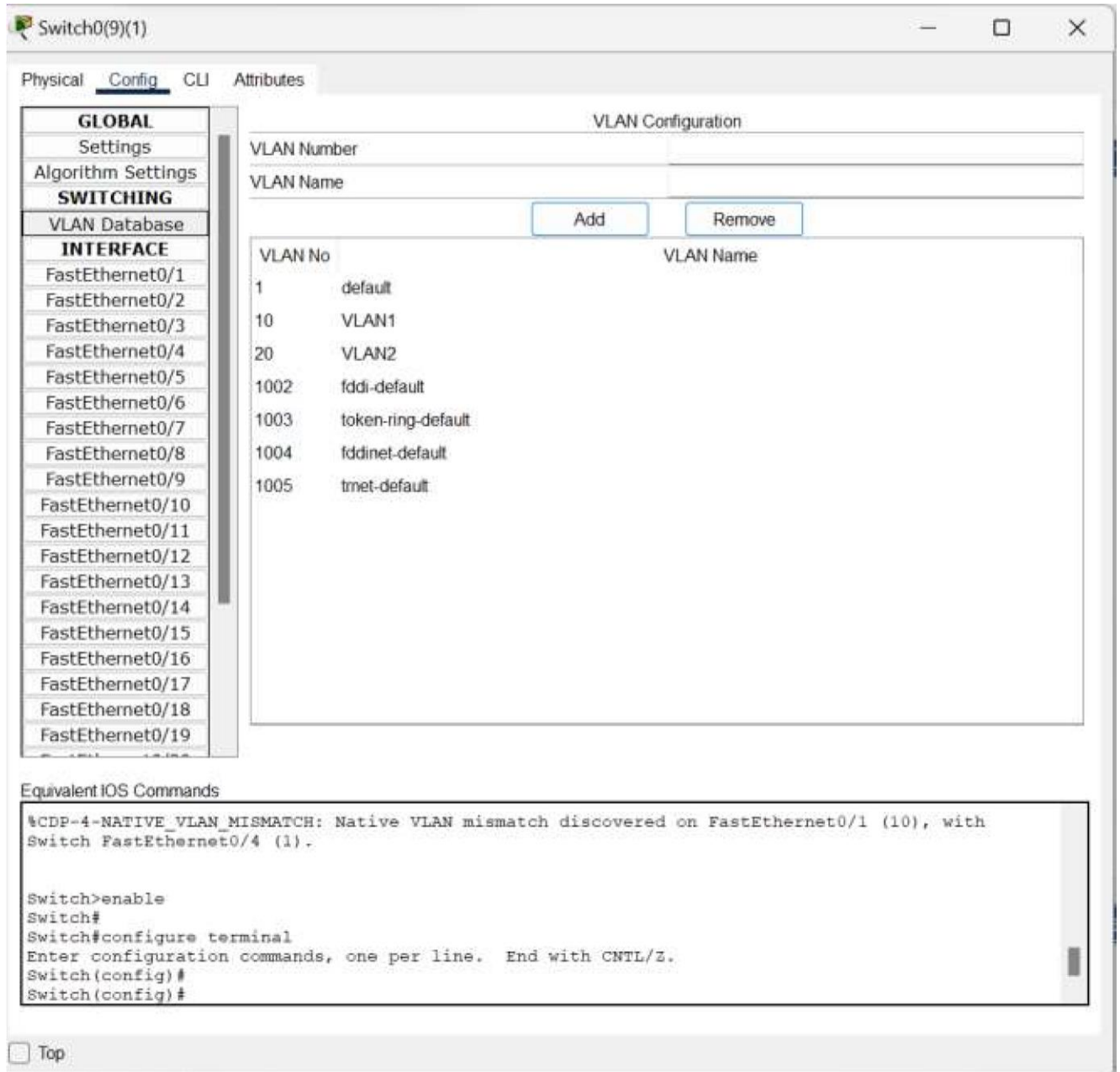
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VLAN – 2



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VLAN – 2 (Database)



Switch0(9)(1)

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
- FastEthernet0/18
- FastEthernet0/19

VLAN Configuration

VLAN Number

VLAN Name

VLAN No	VLAN Name
1	default
10	VLAN1
20	VLAN2
1002	fdi-default
1003	token-ring-default
1004	fdiinet-default
1005	trnet-default

Equivalent IOS Commands

```
%CDP-4-NATIVE_VLAN_MISMATCH: Native VLAN mismatch discovered on FastEthernet0/1 (10), with Switch FastEthernet0/4 (1).

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

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VLAN – 2 (PDU Utility)

PDU Information at Device: Switch0(9)(1)

OSI Model Inbound PDU Details

PDU Formats

Ethernet 802.1q

0	4	8	Bytes
PREAMBLE: 101010..10		DEST ADDR: 0100.0CCC.CCCD	
SRC ADDR: 00E0.F912.6	TPID: 0x8100	TCI: 0x0014	Type: 0x1
DATA (VARIABLE LENGTH)		FCS: 0x00000000	

SNAP

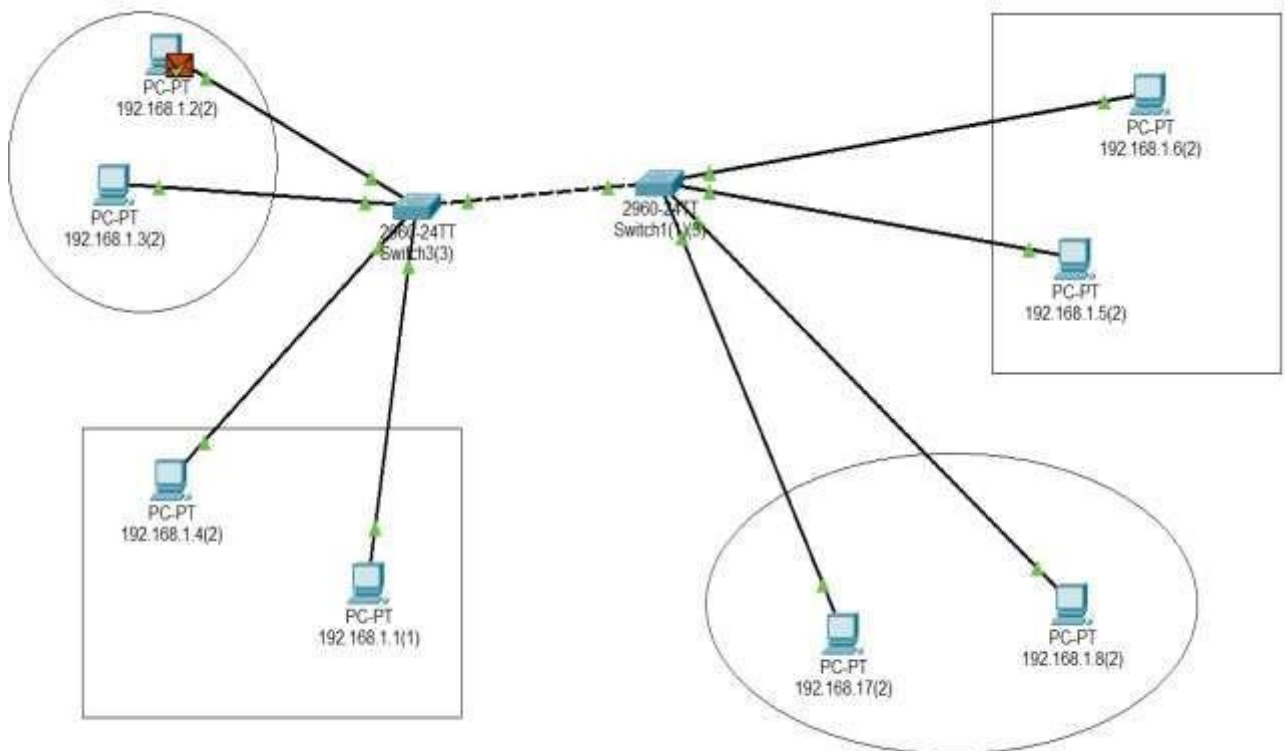
0	24	Bits
DSAP: 0x42	SSAP: 0x42	CONTROL BYTE: 3
OUI: 0x00000c		CONTROL BYTE: 3

STP BPDU

0	1	2	4	5	6	7	8	16	24	Bits
PROTOCOL ID: 0								VERSION: 0		MESSAGE TYPE: 0
ROOT ID: 32788 / 0001.97C0.3E22										

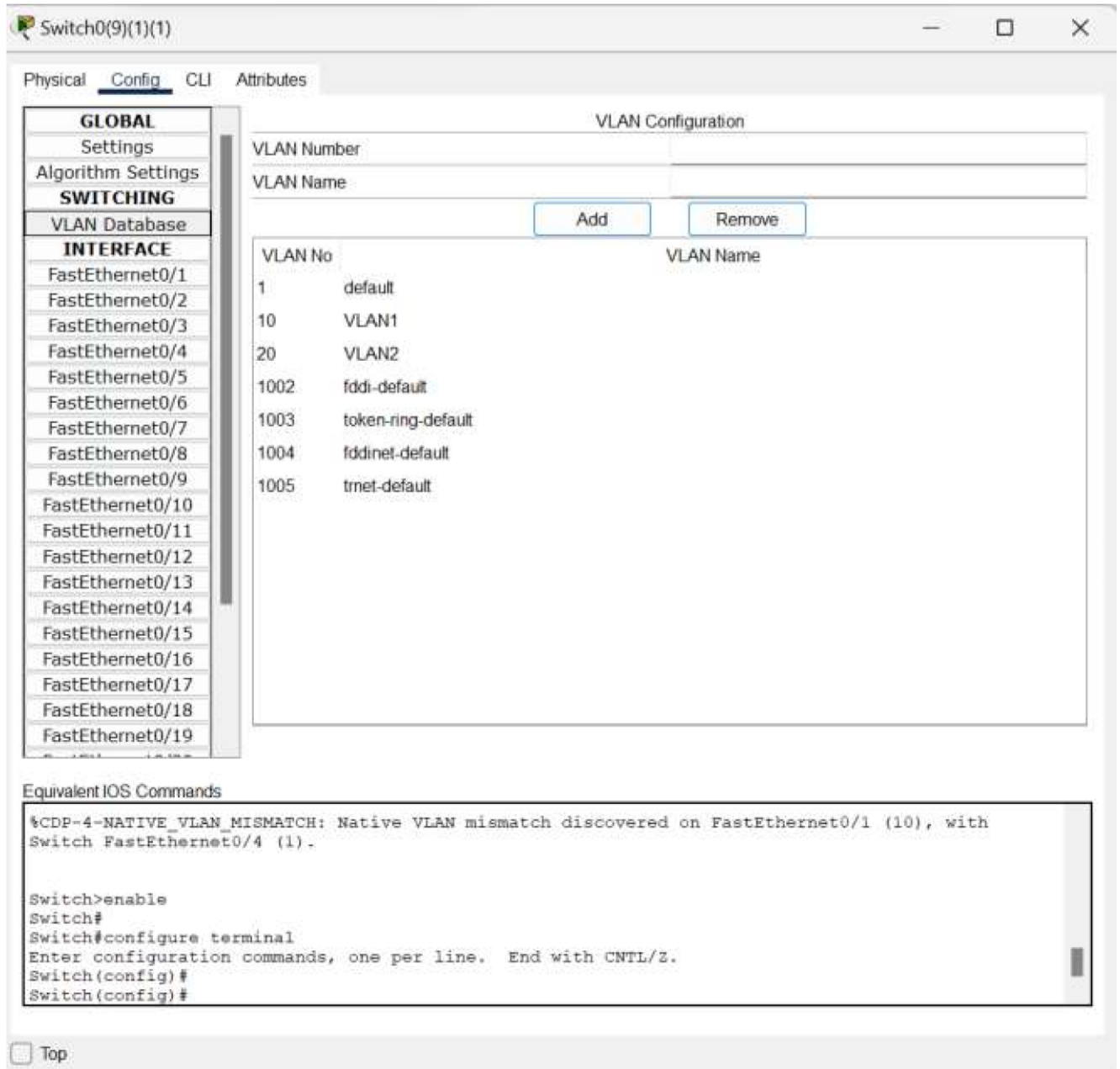
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VLAN – 3



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VLAN – 3 (Database)



Switch0(9)(1)(1)

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
- FastEthernet0/18
- FastEthernet0/19

VLAN Configuration

VLAN Number

VLAN Name

Add Remove

VLAN No	VLAN Name
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1003	token-ring-default
1004	fdiinet-default
1005	trnet-default

Equivalent IOS Commands

```
%CDP-4-NATIVE_VLAN_MISMATCH: Native VLAN mismatch discovered on FastEthernet0/1 (10), with Switch FastEthernet0/4 (1).

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

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VLAN – 3 (PDU Utility)

