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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.**

Solution :

Steps:

1. Open Packet Tracer.
2. Add 1 Switch + 4 PCs.
3. Assign IPs:
   - VLAN 10 → PC1: 192.168.10.1, PC2: 192.168.10.2
   - VLAN 20 → PC3: 192.168.20.1, PC4: 192.168.20.2
4. Go to Switch → CLI → Configure VLANs:

```
Switch> enable
Switch# configure terminal
Switch(config)# vlan 10
Switch(config-vlan)# name SALES
Switch(config-vlan)# exit
Switch(config)# vlan 20
Switch(config-vlan)# name HR
Switch(config-vlan)# exit
```

5. Assign VLANs to ports:

```
Switch(config)# interface fastEthernet 0/1
Switch(config-if)# switchport mode access
Switch(config-if)# switchport access vlan 10

Switch(config)# interface fastEthernet 0/2
Switch(config-if)# switchport mode access
Switch(config-if)# switchport access vlan 10

Switch(config)# interface fastEthernet 0/3
Switch(config-if)# switchport mode access
Switch(config-if)# switchport access vlan 20

Switch(config)# interface fastEthernet 0/4
Switch(config-if)# switchport mode access
Switch(config-if)# switchport access vlan 20
```

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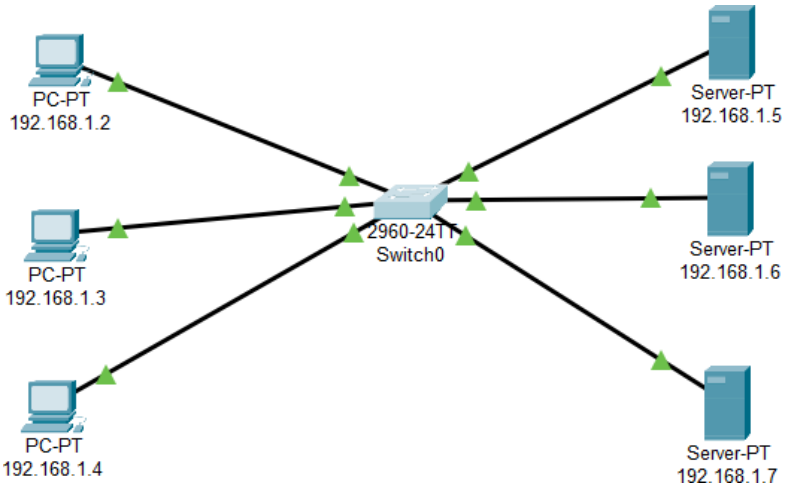
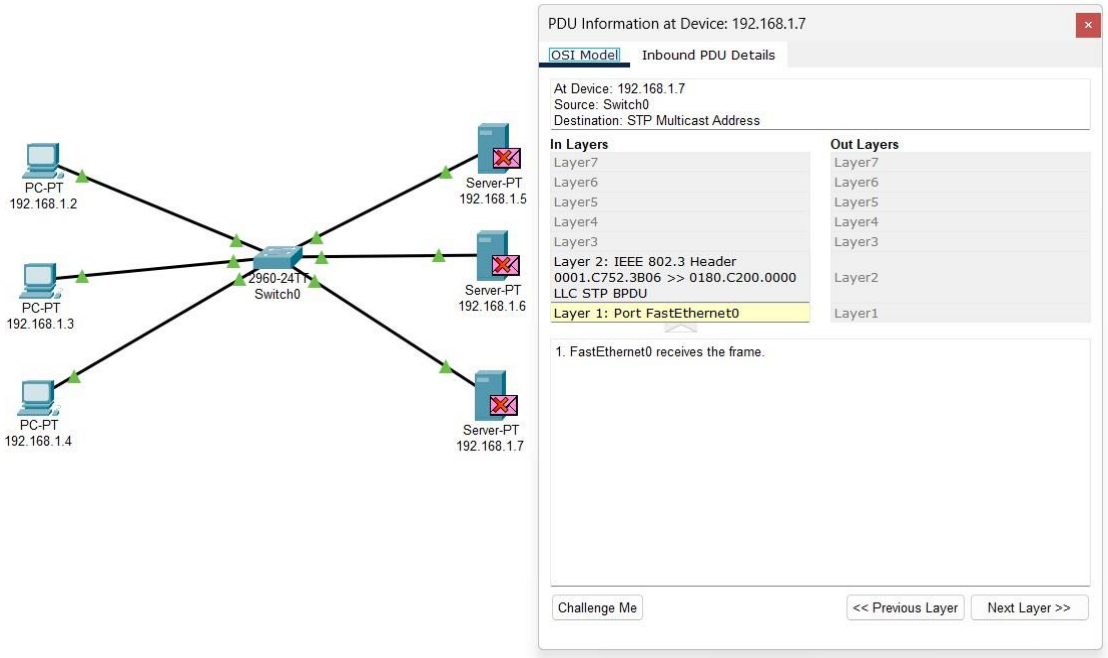
6. For VLAN trunking (between switches):

```
Switch(config)# interface fastEthernet 0/24
Switch(config-if)# switchport mode trunk
```

7. Test connectivity:
   - PCs in the **same VLAN can ping each other**.
   - PCs in **different VLANs cannot ping** unless a router-on-a-stick or Layer 3 switch is configured.





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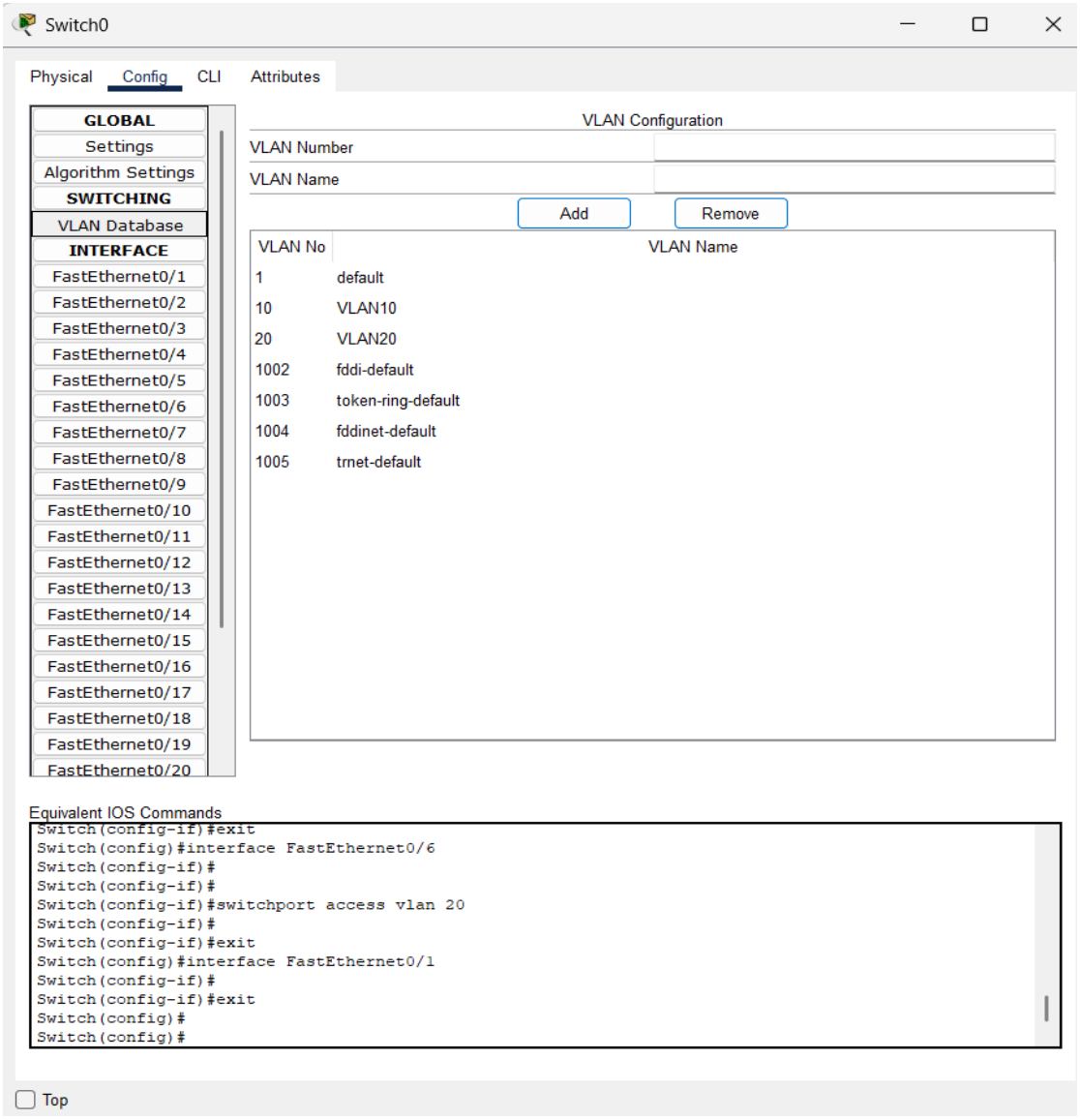

Here we setup VLAN database add VLAN number and name

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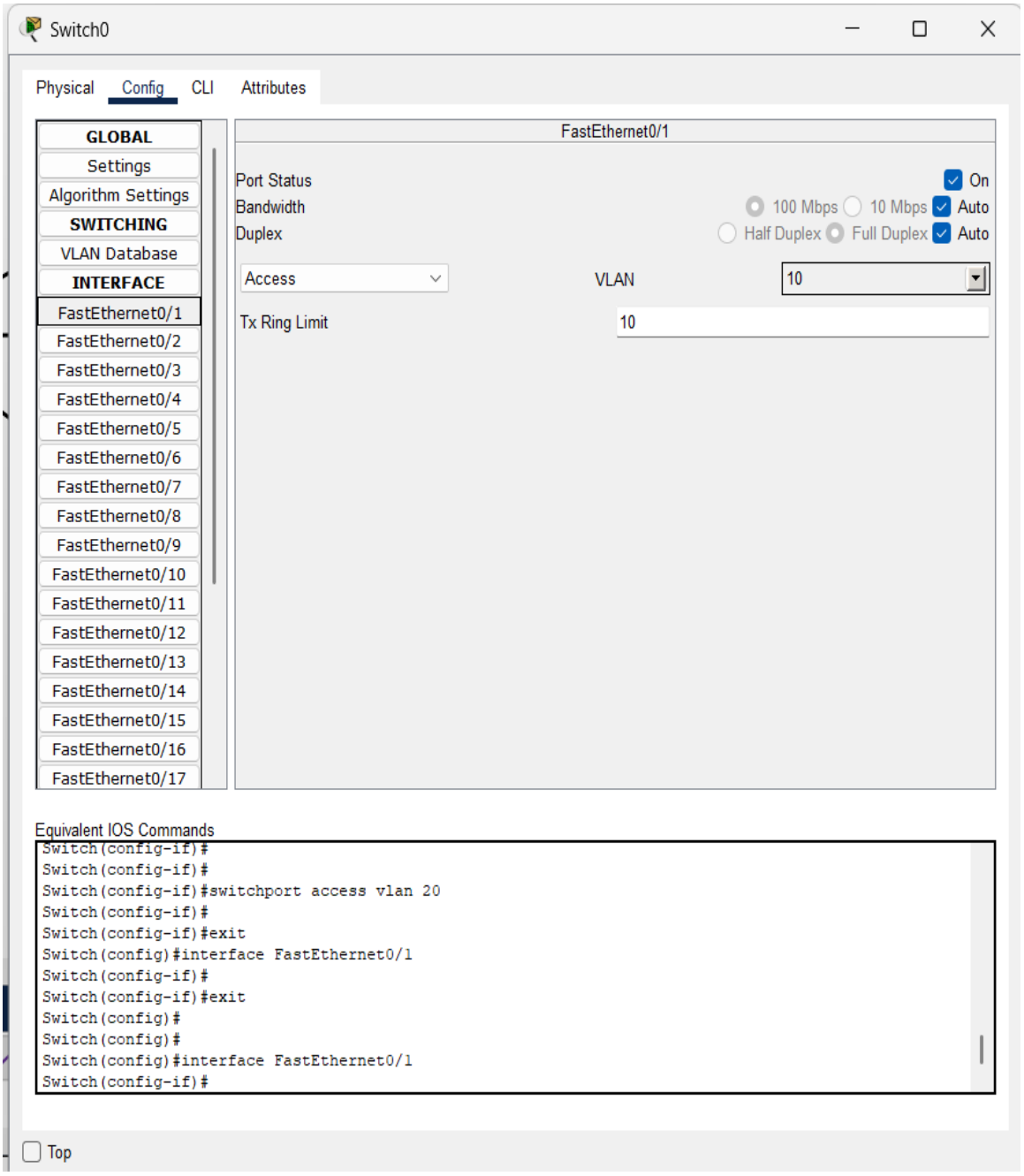

Here we setup the switch ,set vlan10->10 and vlan20->20

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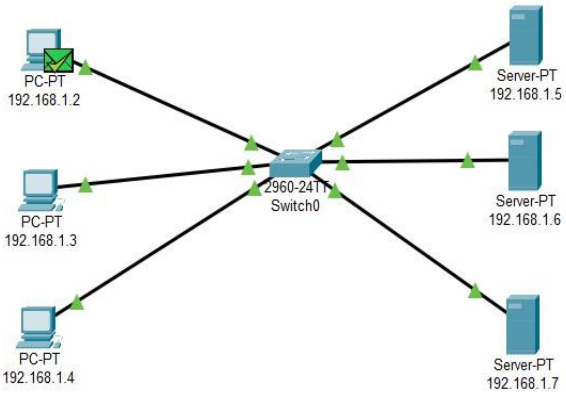

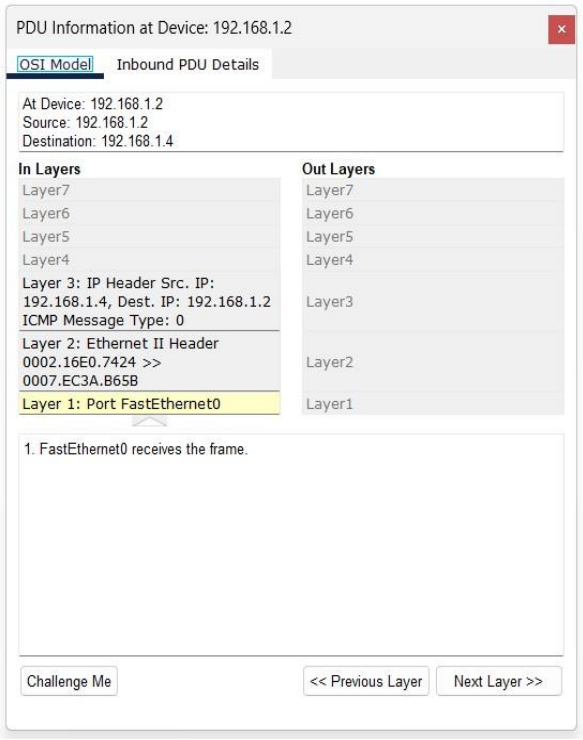

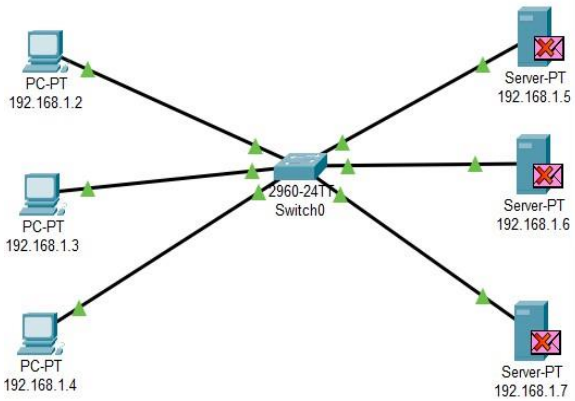

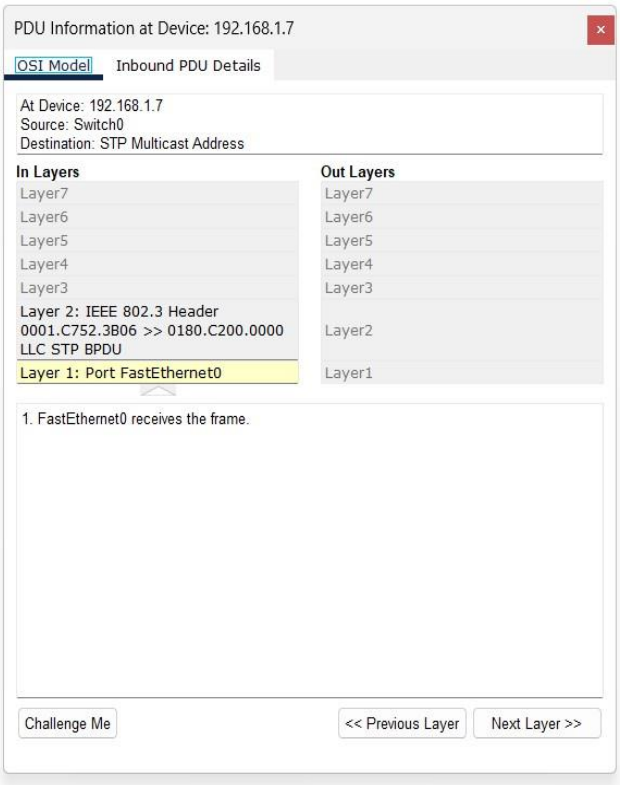

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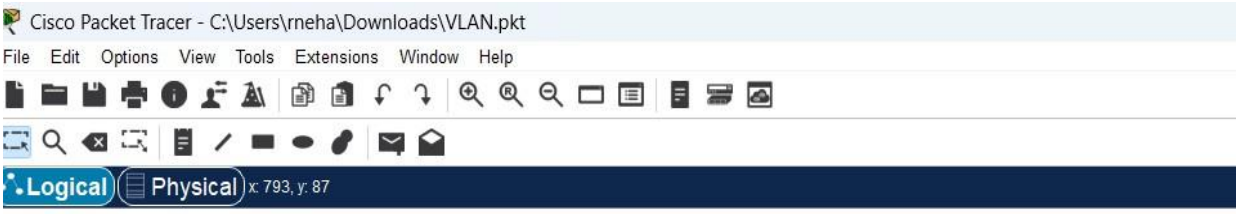
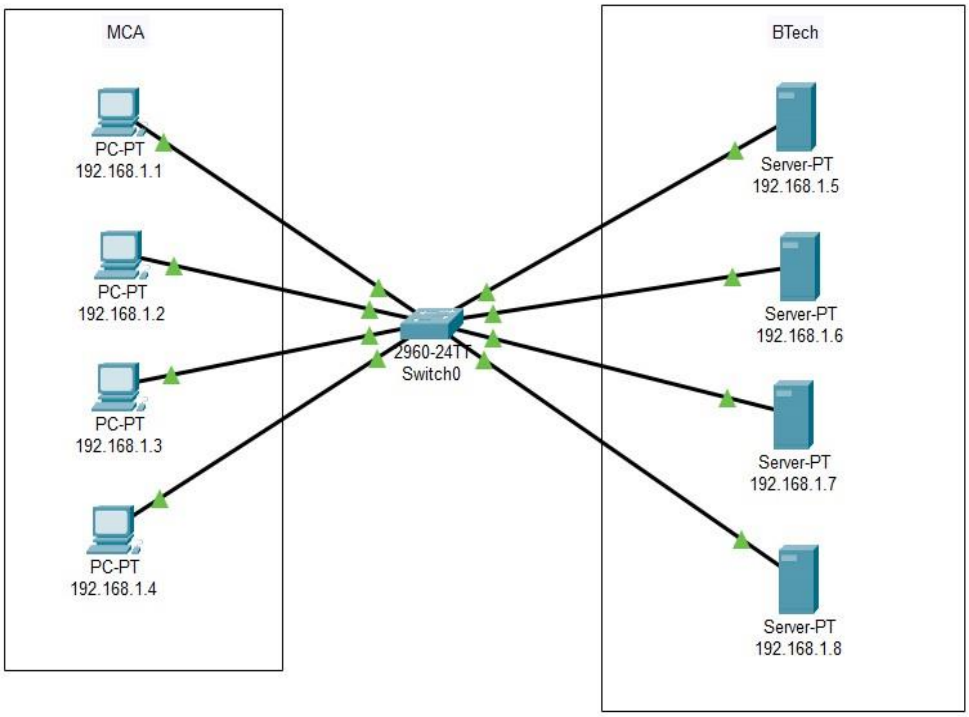
Other VLAN NETWORK SCREENSHOTS OR LABWORK





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