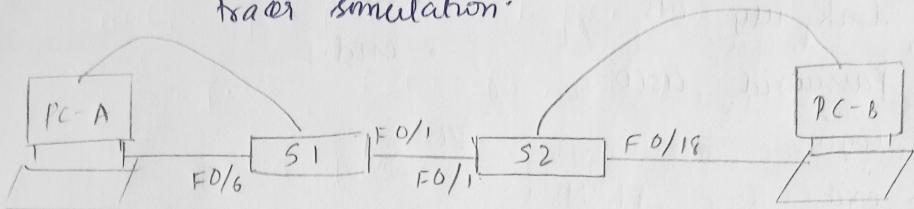


Ex: 8a SIMULATE VLAN CONFIGURATION USING CISCO PACKET TRACER
 Date: 10/9/24

AIM: a) Simulate virtual LAN configuration using Cisco packet tracer simulation.



Device	Interface	IP address	Subnet Mask	Default Gateway
S1	VLAN1	192.168.1.11	255.255.255.0	N/A
S2	VLAN2	192.168.1.12	255.255.255.0	N/A
PC-A	NIC	192.168.1.13	255.255.255.0	192.168.10.1
PC-B	NIC	192.168.1.14	255.255.255.0	192.168.10.2

Part - 1 : Build the network and configure Basic Device settings

Step 1. (Physical connection)

- Attach the devices as shown in the topology diagram and cable as necessary.
- Connect the PCs to the switch with copper straight cable and also connect the console to the PC

Step 2 : (Basic configuration)

- From Desktop tab, assign the IP's to the fast ethernet ports of the PCs as given in the table.

Enter the following commands:

```

Switch > enable
switch # configure
switch # switchname S1
switch # enable secretclass.
    
```

Switch # line con 0
 • password CISCO
 • login
 • exit
 • link uty OIS
 • password CISCO
 • login
 • exit
 • end

• interface VLAN1
 • ip address 192.168.1.11 255.255.255.0
 • exit
 • end.

Step 4: (Test)

→ Ping 192.168.1.11 } from PCA
 → Ping 192.168.10.4
 → Ping 192.168.1.12 } from PCB
 → Ping 192.168.10.3

Part 2: Create VLANs and Assign switch Ports

Step 1: (Create VLANs)

→ Open the CLI of SI and enter the following commands.
 → enable
 → configure
 → No shutdown
 → VLAN 10
 → Name operations
 → VLAN 20
 → name parking-lot
 → VLAN 99
 → name management
 → VLAN 1000
 → name Native

- Show VLAN brief (shows brief of all VLANs)

OUTPUT:

VLAN NAME	status	Ports
1. default	active	Fa 0/1, Fa 0/2, Fa 0/3, Fa 0/4, Fa 0/5, Fa 0/6, Fa 0/7, Fa 0/8, Fa 0/9, Fa 0/10, Fa 0/11, Fa 0/12, Fa 0/13, Fa 0/14, Fa 0/15, Fa 0/16, Fa 0/17, Fa 0/18, Fa 0/19, Fa 0/20, Fa 0/21, Fa 0/22, Fa 0/23, Fa 0/24, Gi 0/1, Gi 0/2
10. Operations	active	
20 parking lot	active	
99 Management	active	
10000 Native	active	
1002 fddi-default	active	
10002 featuring-default	active	
1004 Fddinet-default	active	
1005 token default	active	

Questions

1) What is default VLAN?

VLAN 1

2) What are default interfaces assigned to VLAN?

Fa 0/1, . . . , Fa 0/23, Gi 0/1, Gi 0/2

Step d: Assign VLANs to the correct switch interfaces
 → To assign VLAN to correct switch interface enter the following commands.

- configure
- interface f0/6
- switchport mode access
- switchport access VLAN 10
- interface VLAN 1
- no ip address
- Interface VLAN 99
- ip address 192.168.1.11 255.255.255.0
- end.

REPEAT ABOVE STEPS ON PC-B (S2)

USE "SHOW VLAN brief" command to verify changes

Questions:

1) Is S1 able to ping S2?

Yes, they have dynamic link in-between.

2) Is PC-A able to ping PC-B?

Yes, the switches transfer packets from PCA to PCB

PART 3: Maintain VLAN Port Assignments and VLAN Database

Step 1: (Assign VLAN to multiple Interfaces)

- Assign interface 11-24 to VLAN 99
- interface range F0/11 - 24
- switchport mode access
- switchport access VLAN 99
- end
- show vlan brief.

OUTPUT :

99 Management active F0/11, F0/12, F0/13, F0/14,
 F0/15, F0/16, F0/17, F0/18,
 F0/19, F0/20, F0/21, ~~F0/22~~,
 F0/23, F0/24.

Step 2: Remove switch port access:

- Use "no switch port access ulan" to remove access
- interface F0/24.
- no switchport access VLAN
- end

Question:

- 1) Which VLAN is F0/24 is now associated with ?
 It will be associated with default VLAN-1

Step 3: Remove VLAN ID from Database

- To remove interface from database enter following commands.

- Interface F0/24 ~~switchport~~
 access } Adding new VLAN 30
- VLAN 30
- no VLAN 30 } Remove VLAN 30 from table
 end
- show VLAN brief } verify changes

Question

- 1) Why is F0/24 no longer displayed ?
 After being deleted, all its ports are also removed hence F0/24 is next displayed
- 2) Which VLAN is F0/24 now assigned to ?
 F0/24 is now assigned to default VLAN 1

3) What happens to traffic sent to VLAN 30?
Traffic sent to VLAN 30 will be forwarded to VLAN 1.

Part 4: Configure 802.1Q Trunk Between Switches

Step 1: Use DTP to initiate trunking on F0/1

→ Enter following commands:

- interface F0/1
- switchport mode dynamic desirable
- show VLAN brief

S1 → desirable

S2 → auto.

Step 2: Manually configure trunk interface F0/1

→ To manually configure trunk interface enter

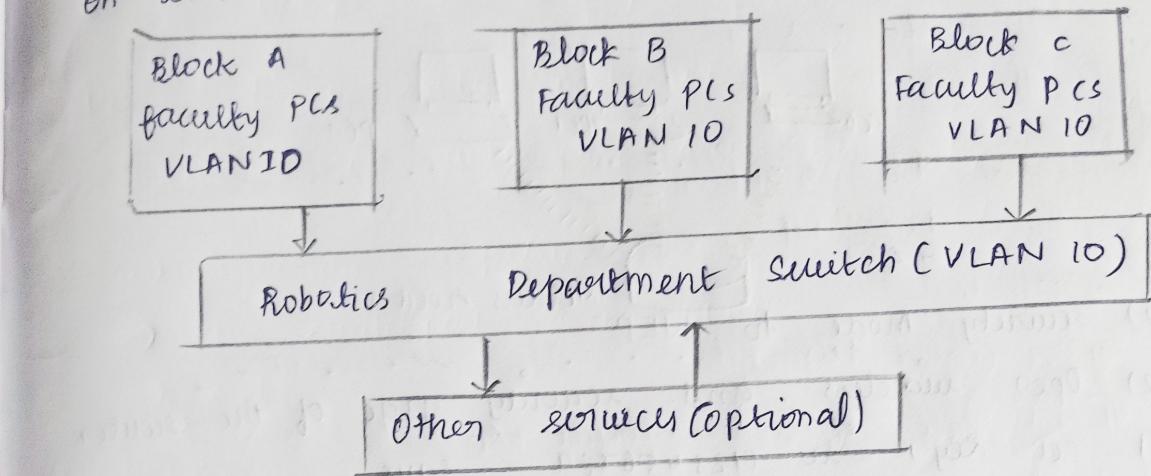
- interface F0/1
- switchport mode trunk
- show interface trunk
- Interface F0/1
- switchport trunk native VLAN 1000

RESULT:

Thus, the VLAN has been setup in the Cisco Router

✓ ✓

b) Design and configure VLAN from scenario
To visualise the VLAN setup imagine three
blocks (A, B, C) with its faculty members are stated
on it.

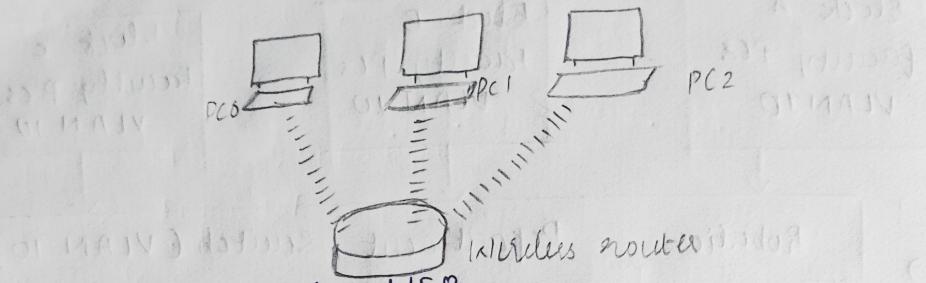


c) Commands:

- configure terminal
- vlan 10
- name Robotics-Vlan
- exit
- interface range F0/1-3
- switchport mode access
- exit
- Interface range F0/4 - 6
- switchport mode access
- switchport mode access
- exit
- interface range F0/7-10
- switchport mode access
- exit
- show VLAN brief

Ex: 8b CISCO PACKET TRACER ETHERNET AND
Date: 13/09/24 WIRELESS LAN

AIM: b) Configuration of wireless LAN using CISCO packet tracer.



- 1) Security mode to WEP
- 2) Open wireless and security page of the router
- 3) set Key 1 to 0123456789 save.
- 4) Set IPs to

PC	IP	Subnet Mask	Default Gateway
PC0	192.168.0.2	255.255.255.0	192.168.0.1
PC1	192.168.0.3	255.255.255.0	192.168.0.1
PC2	192.168.0.4	255.255.255.0	192.168.0.1

Student Observation:

- a) SSID is the unique name assigned to router
- b) The password used to connect to the router

SECURITY WEP

WEP 64 bit

Passphrase

WEPKEY 1 0123456789

RESULT:

Thus

wireless

asw.

connection has implemented in