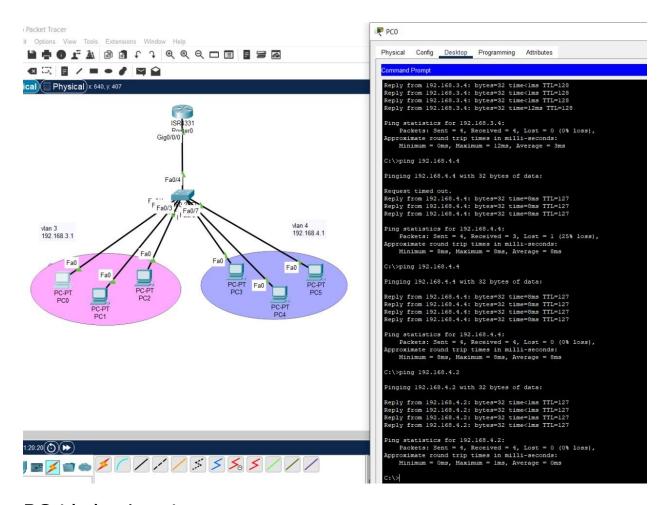# Router_on_stick with DHCP
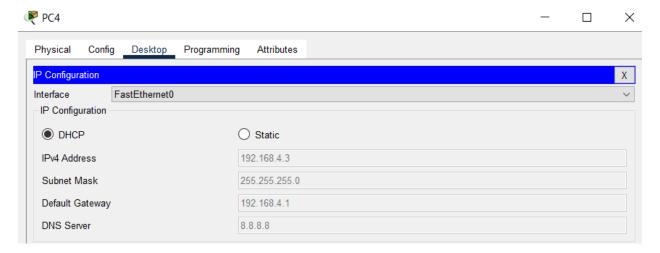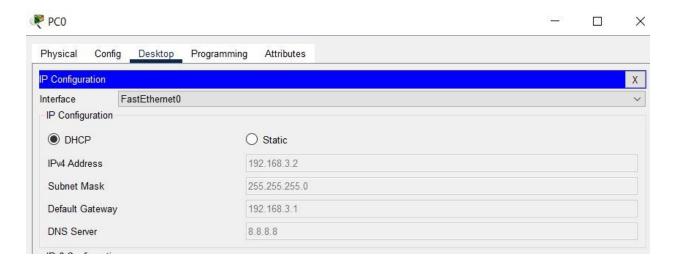
(router as DHCP server)
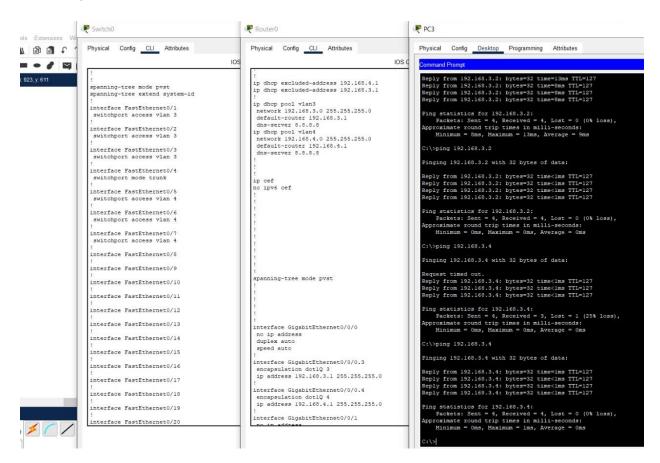

PC4 is in vlan 4

PC0 is in vlan 3

Configuration on switch and router and pinging PC3 (VLAN4) with VLAN 3

احنا قسمنا ال VLANS

علشان نقلل ال Broadcast

ليه بستخدم ال inter_vlan_routing
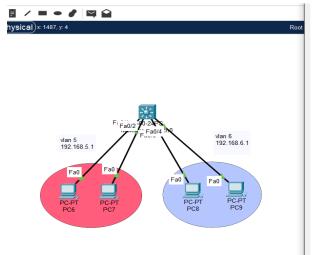
علشان نسمح لل vlans

تتكلم مع بعض في حدود القواعد اللي حاطينها

واستخدم multilayer switch هل ممكن اسنغني عن ال router , واستخدم

- **داخل الـ LAN : MLS** يغنيك عن الراوتر.

- **خروج للـ WAN / الإنترنت:** أو راوتر هتحتاج غالبًا Firewall.

Multilayer Switch with DHCP
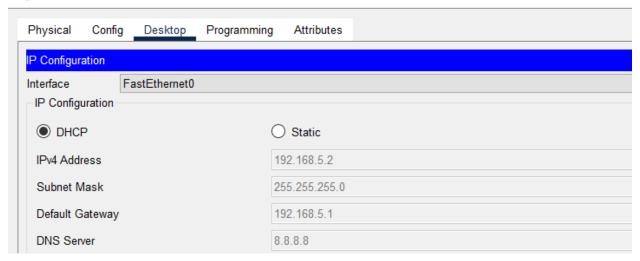

```
                                        IOS Command Line Interface
Switch(config)#hostname router
router(config)#ip routing
router(config)#int vlan5
router(config-if)#
%LINK-5-CHANGED: Interface Vlan5, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan5, changed state to up

router(config-if)#ip add 192.168.5.1 255.255.255.0
router(config-if)#no sh
router(config-if)#exit
router(config)#do wr
Building configuration...
[OK]
router(config)#int vlan6
router(config-if)#
%LINK-5-CHANGED: Interface Vlan6, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan6, changed state to up

router(config-if)#ip add 192.168.6.1 255.255.255.0
router(config-if)#no sh
router(config-if)#do wr
Building configuration...
[OK]
router(config-if)#exit
router(config)#ip dhcp pool vlan5
router(dhcp-config)#network 192.168.5.0 255.255.255.0
router(dhcp-config)#d
router(dhcp-config)#def
router(dhcp-config)#default-router 192.168.5.1
router(dhcp-config)#dns
router(dhcp-config)#dns-server 8.8.8.8
router(dhcp-config)#exit
router(config)#ip dhcp pool vlan6
router(dhcp-config)#network 192.168.6.0 255.255.255.0
router(dhcp-config)#default-router 192.168.6.1
router(dhcp-config)#dns-server 8.8.8.8
router(dhcp-config)#exit
router(config)#ip dhcp ex
router(config)#ip dhcp excluded-address 192.168.5.1
router(config)#ip dhcp excluded-address 192.168.6.1
router(config)#do wr
Building configuration...
[OK]
```

VLAN 5 DHCP

PC6

Physical	Config	Desktop	Programming	Attributes

IP Configuration

Interface   FastEthernet0

IP Configuration

◉ DHCP   ○ Static

IPv4 Address   192.168.5.2

Subnet Mask   255.255.255.0

Default Gateway   192.168.5.1

DNS Server   8.8.8.8

VLAN 6 DHCP

PC9

Physical	Config	Desktop	Programming	Attributes

IP Configuration

Interface   FastEthernet0

IP Configuration

◉ DHCP   ○ Static

IPv4 Address   192.168.6.3

Subnet Mask   255.255.255.0

Default Gateway   192.168.6.1

DNS Server   8.8.8.8

vlan 5
192.168.5.1

F: Fa0/2 0-24PS
Fa0/4
Fa0/3

vlan 6
192.168.6.1

Fa0   Fa0   Fa0   Fa0

PC-PT   PC-PT   PC-PT   PC-PT
PC6   PC7   PC8   PC9

PC8

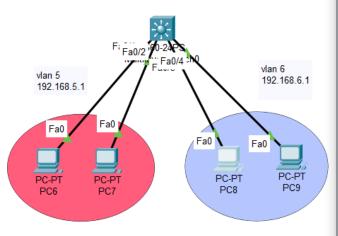Physical   Config   Desktop   Programming   Attributes

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.5.3

Pinging 192.168.5.3 with 32 bytes of data:

Request timed out.
Reply from 192.168.5.3: bytes=32 time<1ms TTL=127
Reply from 192.168.5.3: bytes=32 time<1ms TTL=127
Reply from 192.168.5.3: bytes=32 time=11ms TTL=127

Ping statistics for 192.168.5.3:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 11ms, Average = 3ms

C:\>ping 192.168.5.3

Pinging 192.168.5.3 with 32 bytes of data:

Reply from 192.168.5.3: bytes=32 time<1ms TTL=127
Reply from 192.168.5.3: bytes=32 time<1ms TTL=127
Reply from 192.168.5.3: bytes=32 time<1ms TTL=127
Reply from 192.168.5.3: bytes=32 time<1ms TTL=127

Ping statistics for 192.168.5.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```