QUIZ - 13

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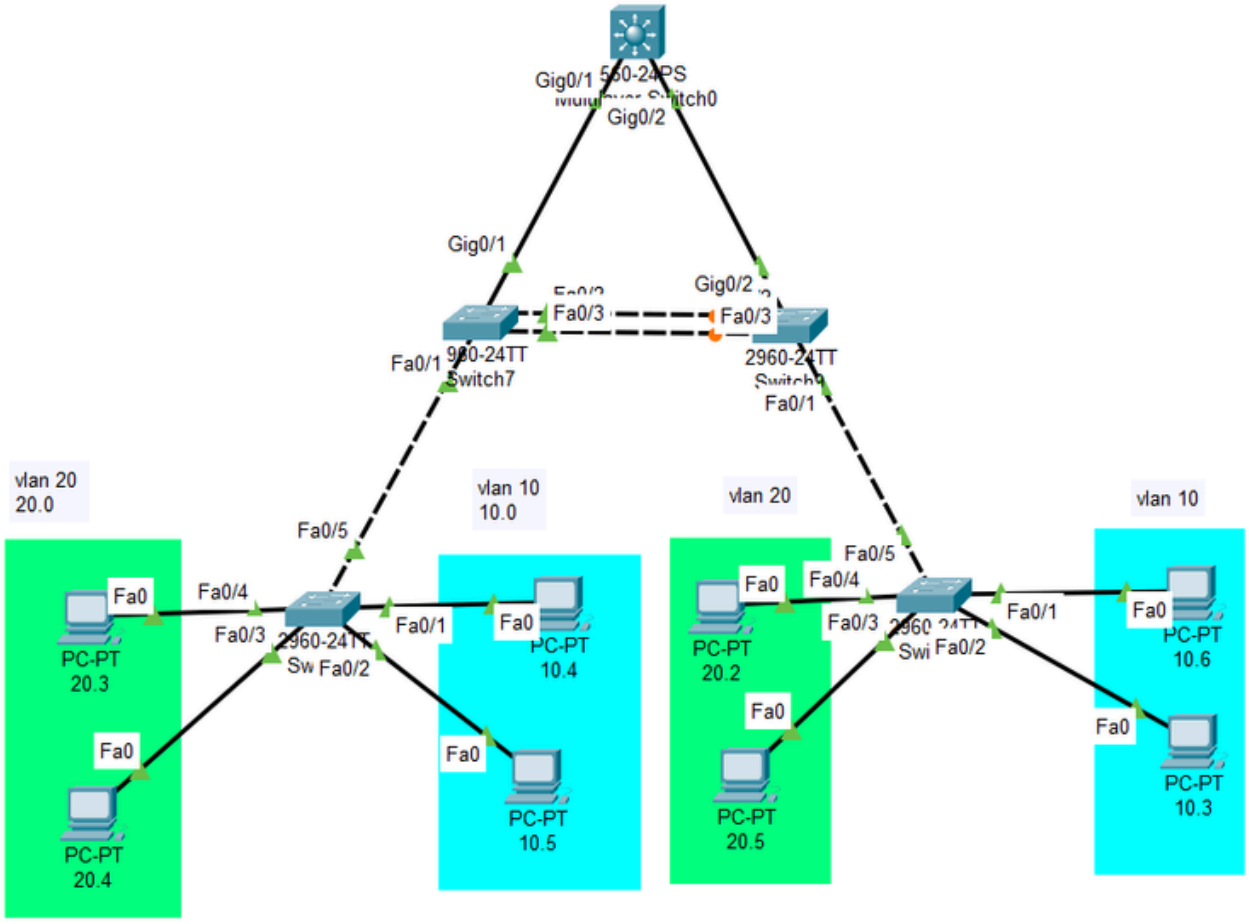
R3_DEPI3_ONL3_ISS8_S4 FORTINE CYBERSECURITY ENGINEER

MultilayerSwitch as DHCP server



Configuration Steps

1. Created VLANs (VLAN 10, VLAN 20) on the multilayer switch.

2. Configured SVIs with IP addresses and enabled ip routing.

3. Set up DHCP Pools for automatic IP distribution.

4. Configured access ports for end devices and assigned them to the correct VLANs.

5. Configured trunk links between the multilayer switch and the other switches.

6. Built an EtherChannel between switches to increase bandwidth and redundancy.

7. Verified the configuration using commands like show vlan brief, show ip int brief, show ip dhcp binding.

8. Tested connectivity between devices using ping.

Show vlan brief

```
Switch#
Switch#show vlan brief

VLAN Name                              Status    Ports
---- --------------------------------- --------- -------------------------------
1    default                           active    Pol, Fa0/1, Fa0/2, Fa0/3
                                                 Fa0/4, Fa0/5, Fa0/6, Fa0/7
                                                 Fa0/8, Fa0/9, Fa0/10, Fa0/11
                                                 Fa0/12, Fa0/13, Fa0/14, Fa0/15
                                                 Fa0/16, Fa0/17, Fa0/18, Fa0/19
                                                 Fa0/20, Fa0/21, Fa0/22, Fa0/23
                                                 Fa0/24
10   HR                                active
20   IT                                active
1002 fddi-default                      active
1003 token-ring-default                active
1004 fddinet-default                   active
1005 trnet-default                     active
```

Show ip interface brief

```
GigabitEthernet0/1     unassigned      YES unset  up                    up
GigabitEthernet0/2     unassigned      YES unset  up                    up
Vlan1                  unassigned      YES unset  up                    down
Vlan10                 192.168.10.1    YES manual up                    up
Vlan20                 192.168.20.1    YES manual up                    up
Switch#
```

Show interfaces trunk

```
Switch#show interfaces trunk
Port        Mode         Encapsulation  Status        Native vlan
Pol         on           802.1q         trunking      1
Fa0/1       on           802.1q         trunking      1
Gig0/1      on           802.1q         trunking      1

Port        Vlans allowed on trunk
Pol         10,20
Fa0/1       10,20
Gig0/1      10,20

Port        Vlans allowed and active in management domain
Pol         10,20
Fa0/1       10,20
Gig0/1      10,20

Port        Vlans in spanning tree forwarding state and not pruned
Pol         10,20
Fa0/1       10,20
Gig0/1      10,20
```

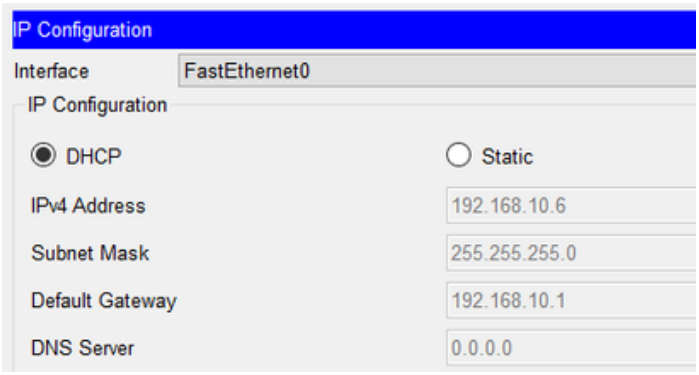
Show etherchannel summary

```
Switch#sh etherchannel summary
Flags:  D - down        P - in port-channel
        I - stand-alone s - suspended
        H - Hot-standby (LACP only)
        R - Layer3      S - Layer2
        U - in use      f - failed to allocate aggregator
        u - unsuitable for bundling
        w - waiting to be aggregated
        d - default port


Number of channel-groups in use: 1
Number of aggregators:           1

Group  Port-channel  Protocol    Ports
------+-------------+-----------+-------------------------------

1      Pol(SU)            PAgP    Fa0/2(P) Fa0/3(P)
```

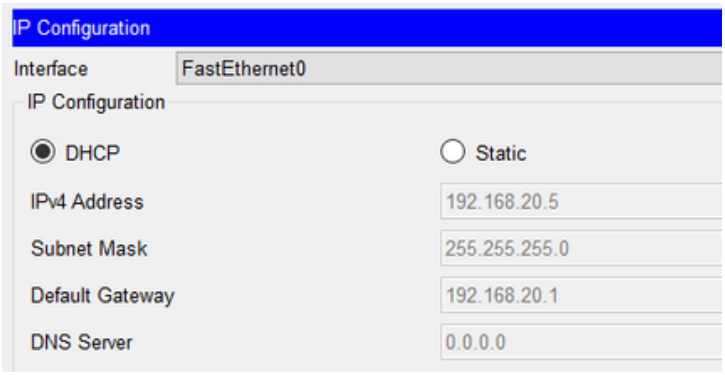
Show ip dhcp binding

```
Switch#show ip dhcp binding
IP address       Client-ID/              Lease expiration        Type
                 Hardware address
192.168.10.3     0001.43DD.0A59           --                     Automatic
192.168.10.4     0009.7C16.310C           --                     Automatic
192.168.10.5     0001.631C.E648           --                     Automatic
192.168.10.6     000C.852E.B9E4           --                     Automatic
192.168.20.2     0006.2A07.B517           --                     Automatic
192.168.20.3     00E0.F71B.0790           --                     Automatic
192.168.20.4     0090.2196.57C4           --                     Automatic
192.168.20.5     0001.426A.1039           --                     Automatic
```

PC from VLAN 10



PC from VLAN 20



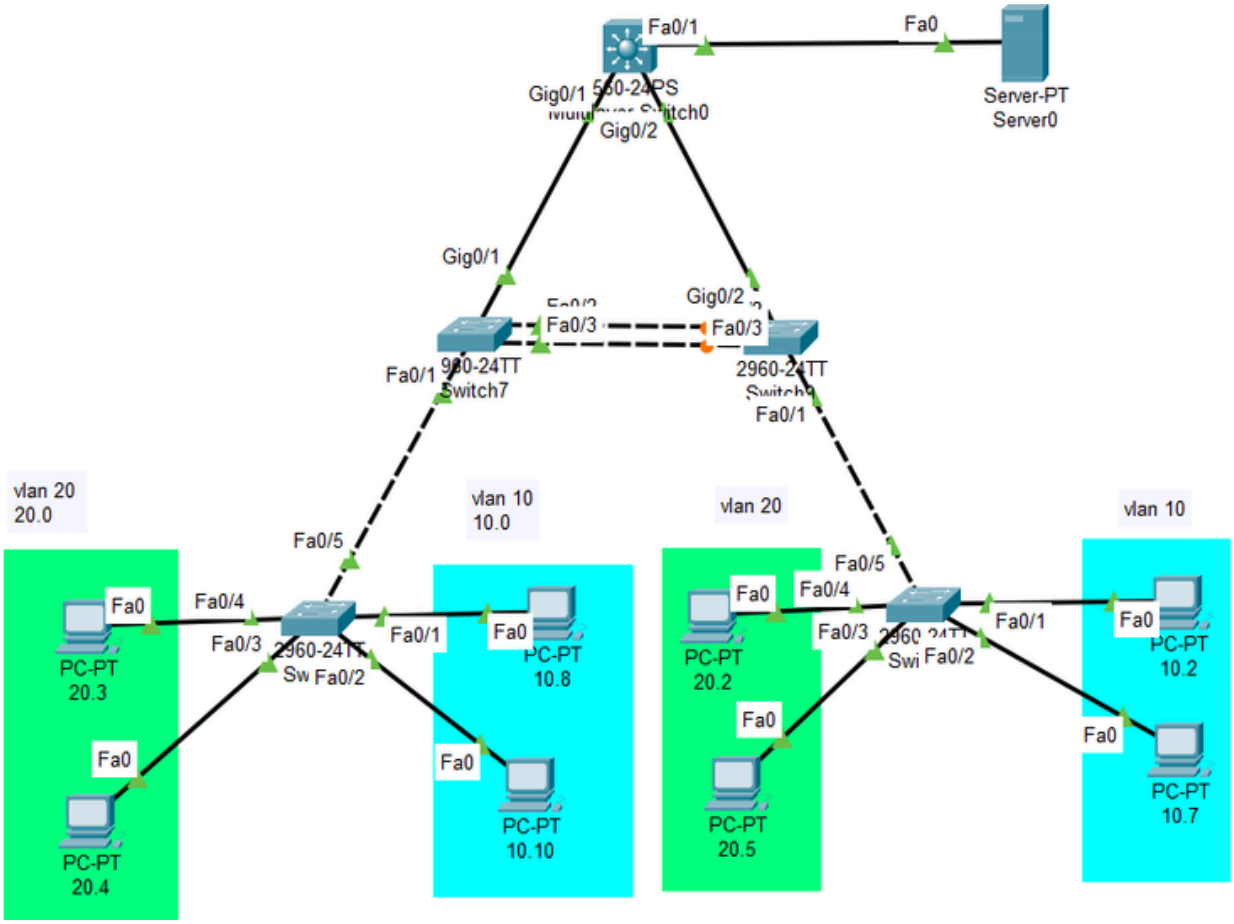
Ping VLAN 10 from diff switches:

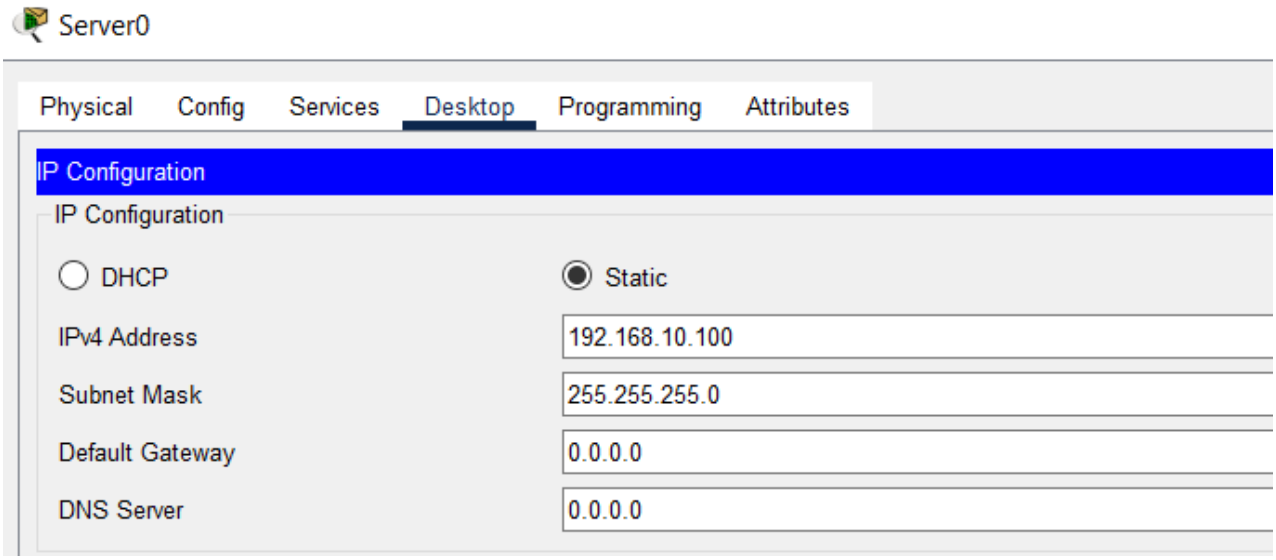
```
C:\>ping 192.168.10.3

Pinging 192.168.10.3 with 32 bytes of data:

Reply from 192.168.10.3: bytes=32 time<1ms TTL=128
Reply from 192.168.10.3: bytes=32 time<1ms TTL=128
Reply from 192.168.10.3: bytes=32 time<1ms TTL=128
Reply from 192.168.10.3: bytes=32 time=10ms TTL=128

Ping statistics for 192.168.10.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 10ms, Average = 2ms
```

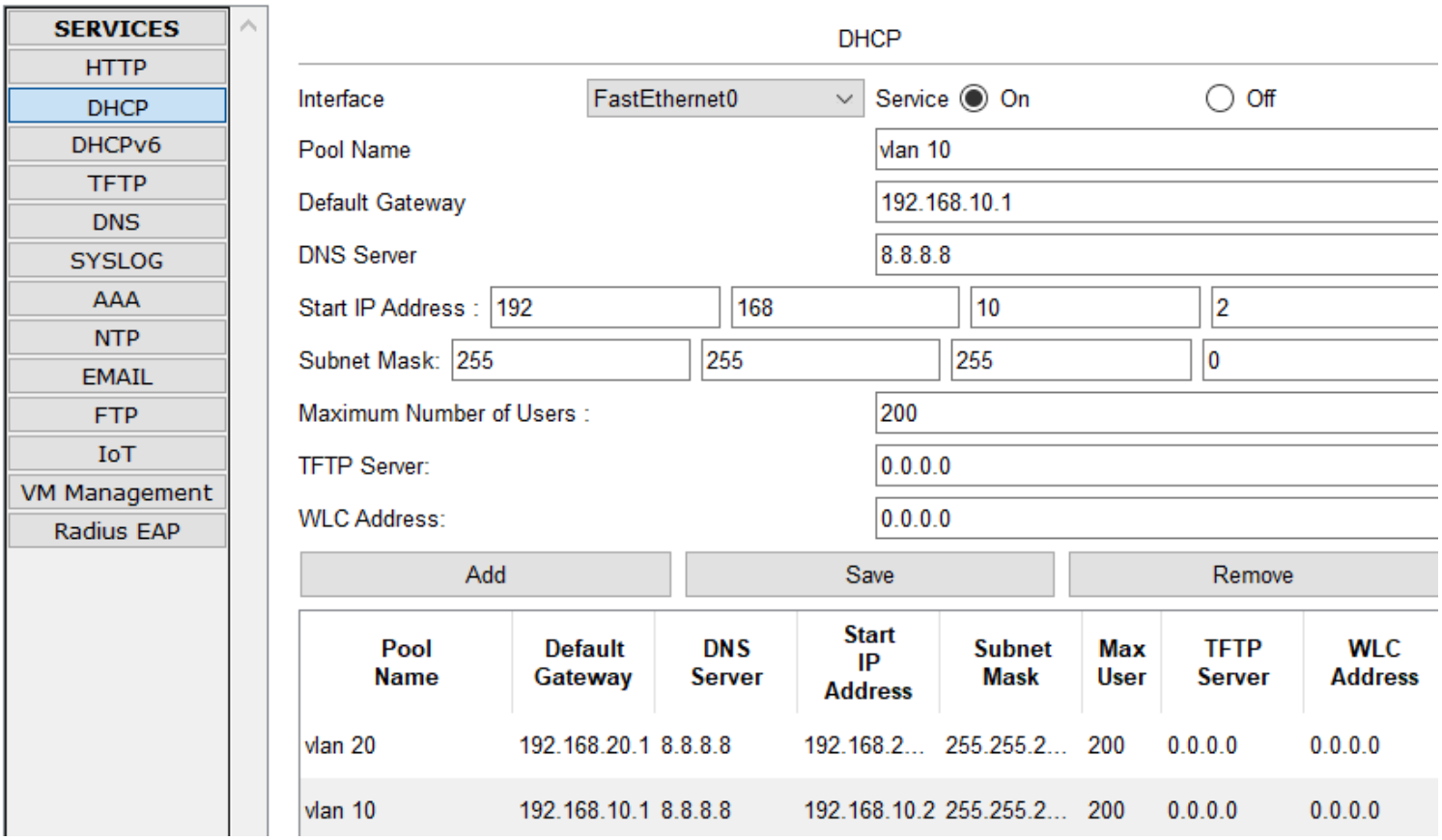
Ping VLAN 20 from diff switches:

```
C:\>ping 192.168.20.3

Pinging 192.168.20.3 with 32 bytes of data:

Reply from 192.168.20.3: bytes=32 time<1ms TTL=128
Reply from 192.168.20.3: bytes=32 time<1ms TTL=128
Reply from 192.168.20.3: bytes=32 time<1ms TTL=128
Reply from 192.168.20.3: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.20.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

Using DHCP server



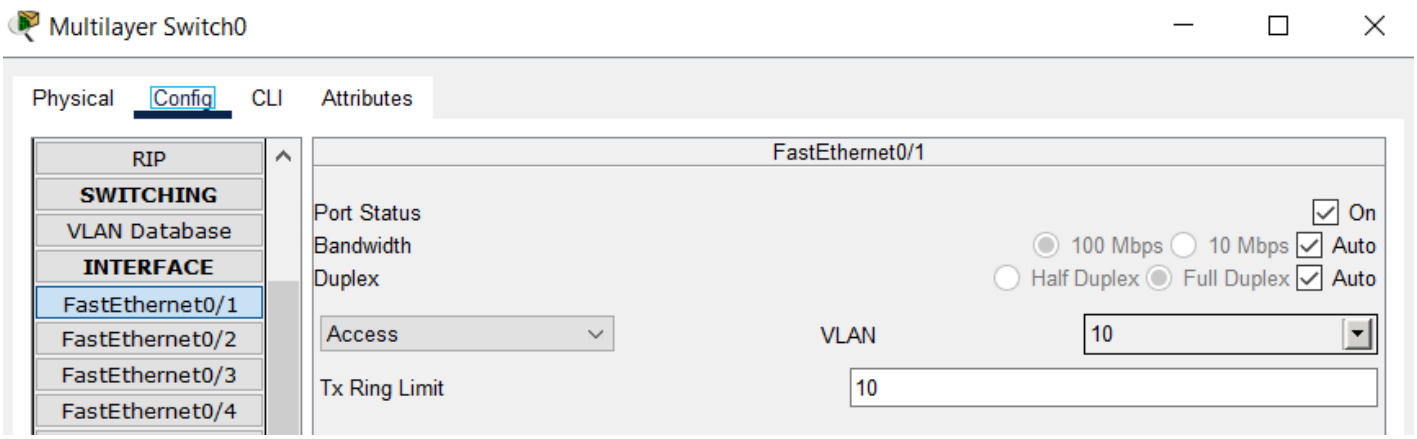




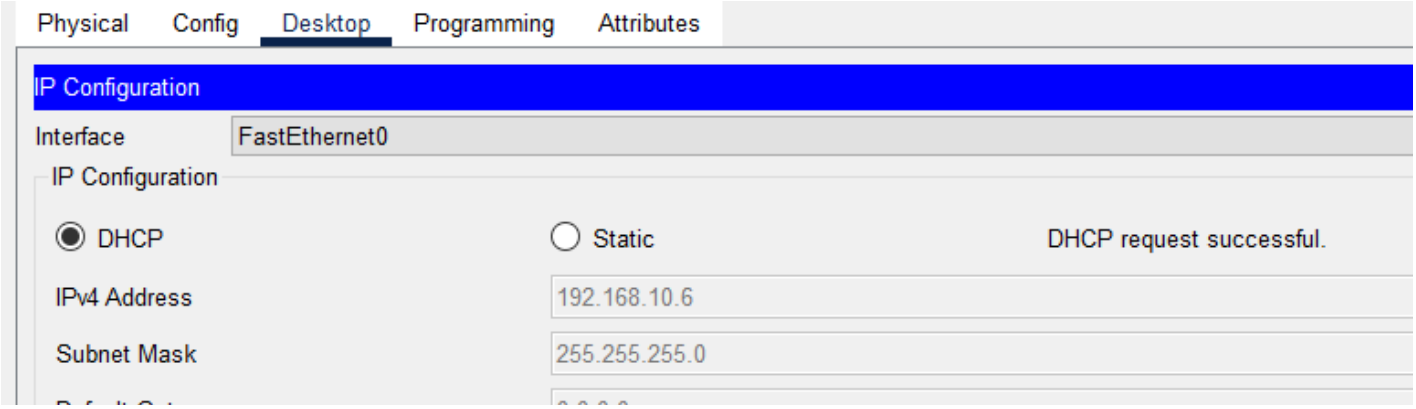
Remove ip dhcp service from multilayer sw and use ip helper-address 192.168.10.100 in vlan 20

```
Switch(config)#no ip dhcp pool vlan10
Switch(config)#no ip dhcp pool vlan20
Switch(config)#no serv
Switch(config)#no service dh
Switch(config)#no service dhcp
Switch(config)#int vlan 10
Switch(config-if)#no sh
Switch(config-if)#e
Switch(config)#int vlan 20
Switch(config-if)#no sh
Switch(config-if)#e
Switch(config)#int vlan 20
Switch(config-if)#ip hel
Switch(config-if)#ip helper
Switch(config-if)#ip helper-address 192.168.10.100
Switch(config-if)#e
Switch(config)#int vlan 10
Switch(config-if)#ip helper-address 192.168.10.100
```

I HAVE QUESTION HERE????



When i allowed access mode vlan 10
it disrtibute ips 10.2 , 10.3 and so on to vlan 10



But if i allow access mode to vlan 20
it take dhcp ip from server as 10.10 , 10.11 ans so no from the same network as vlan 10
network of server 10.100

what is the solution ??????

20.2

this is pc from vlan 20