

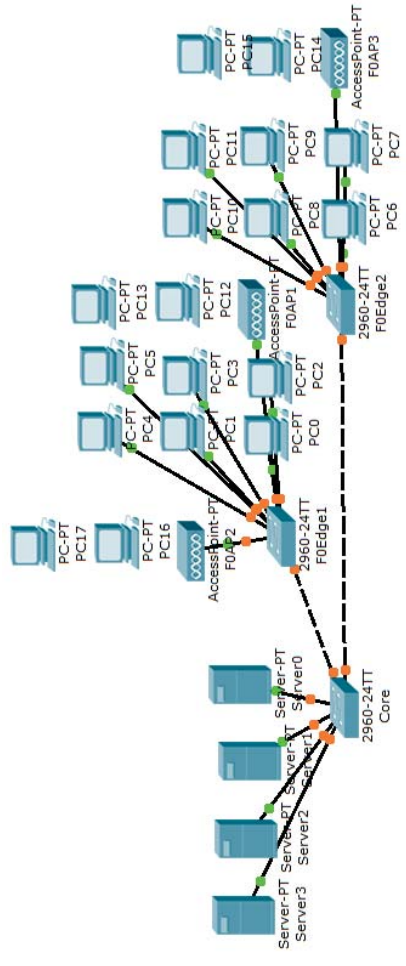


Lecture (02) Extended Service set with DHCP server Multilayer Switch I

By:
Dr. Ahmed ElShafee

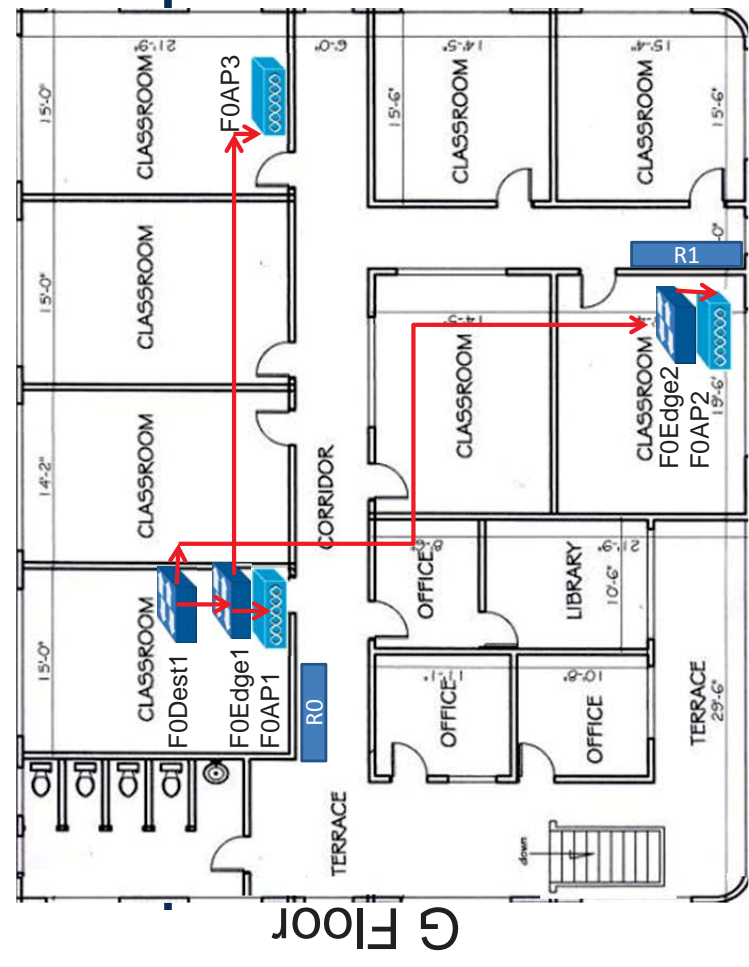
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Topology 01 - 4 DHCP servers



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F0Dest

```
enable
config t
hostname Core
line vty 0 4
password cisco
login
line console 0
password cisco
login
enable password cisco
enable secret cisco1
interface vlan 1
ip address 10.0.10.1 255.255.255.0
no shutdown
vtp domain ACU
vtp mode server
```

```
vlan 2
name vlan2
vlan 3
name vlan3
vlan 4
name vlan4
vlan 5
name wlan
interface range fa0/1-24
speed auto
duplex auto
interface range fa6/1-24
switchport mode trunk
interface fa0/2
switchport mode access
switchport access vlan 2
```

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```

interface fa0/3
switchport mode access
switchport access vlan 3

interface fa0/4
switchport mode access
switchport access vlan 4

interface fa0/5
switchport mode access
switchport access vlan 5

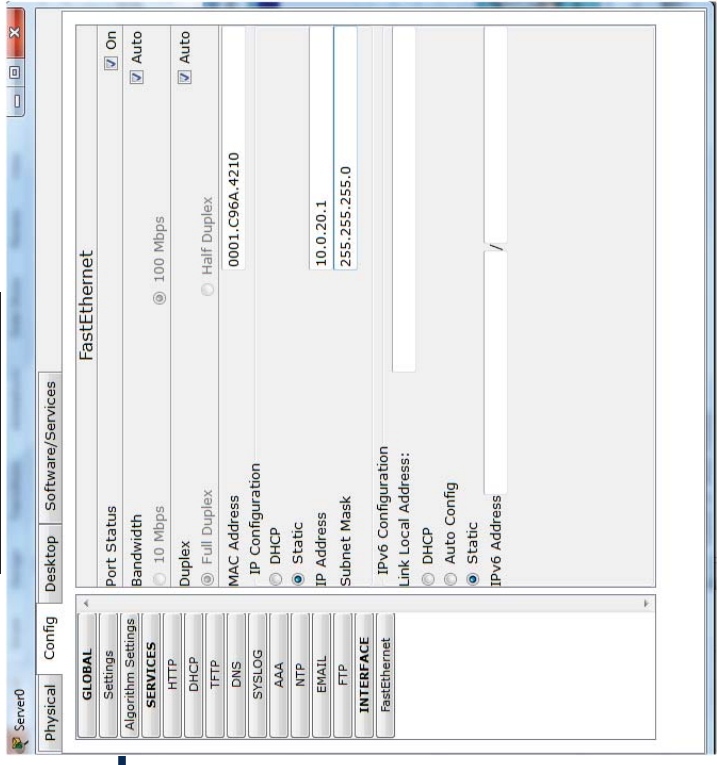
spanning-tree vlan 1,2,3,4,5 root primary

end

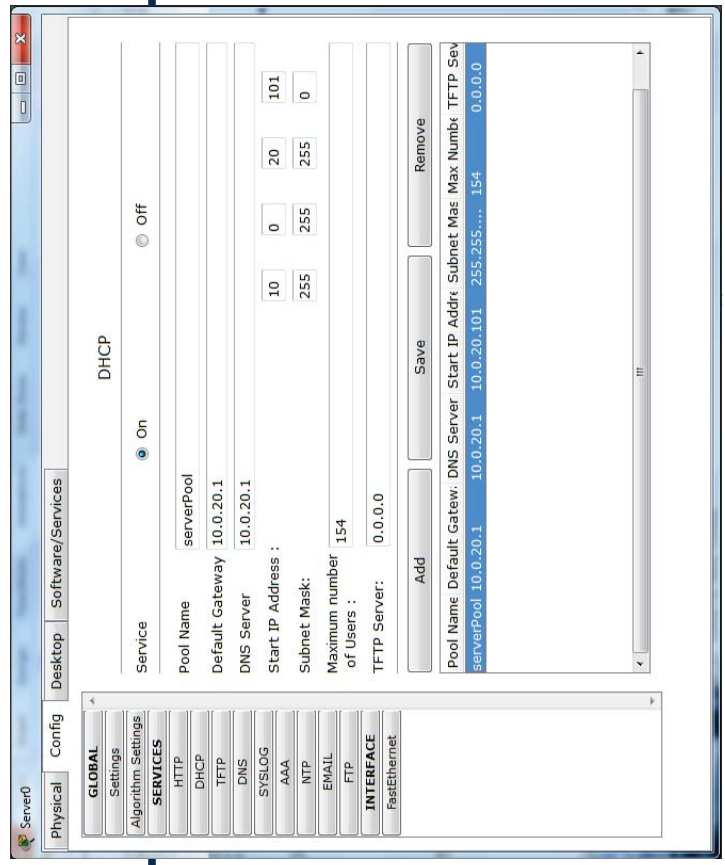
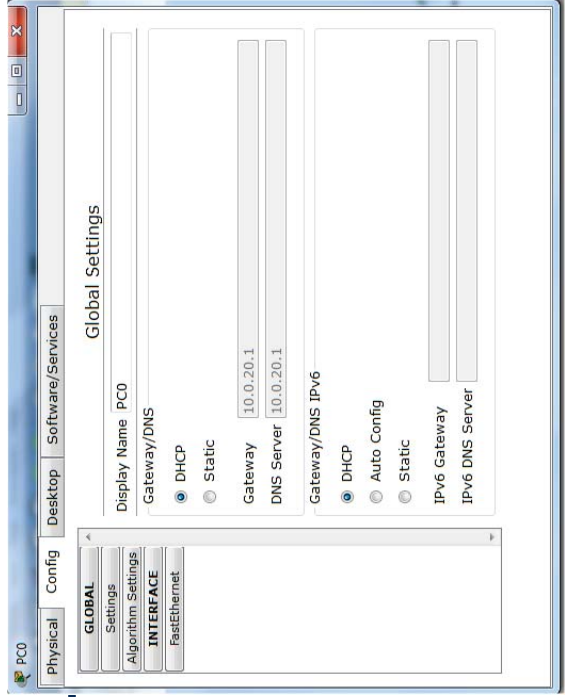
```

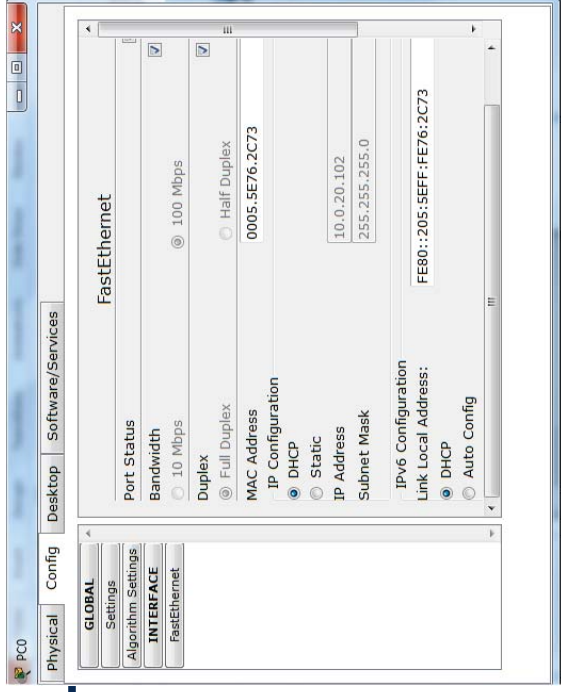
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DHCP Server@VLAN02



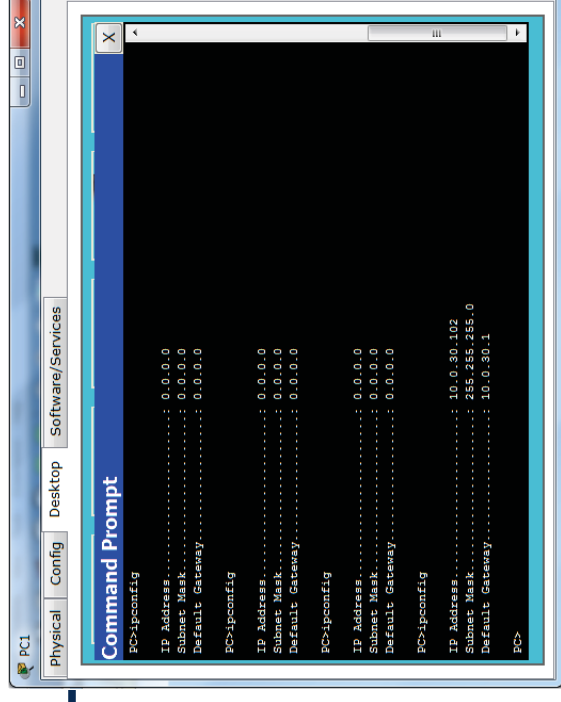
PC@VLAN02





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Testing

- all switches can access all other switches
- F0/24 is the core
- All PCs on VLAN 02 can access each other
- All PCs on VLAN 03 can access each other
- All PCs on VLAN 04 can access each other
- All Wireless PCs can access each other

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Multilayer Switch 3560



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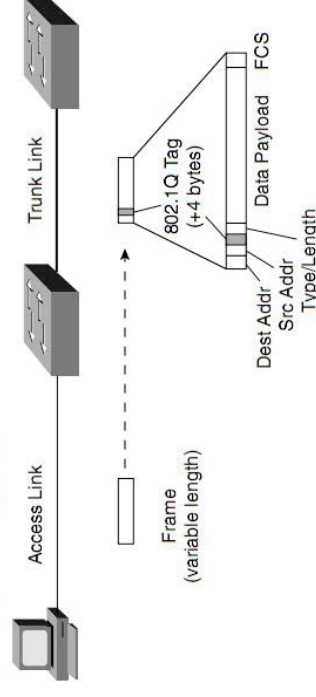
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What is the difference between L2 & L3 switch

1. Can exchange IP packets between different VLANs if the switch can identify the destination
2. While passing packets through trunk port, switch strip L2 header/tale of packet including VLAN tag (802.1q protocol), determine destination port, add new L2 header/tale to IP packet contains VLAN tag for destination port.

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IEEE 802.1Q Frame-Tagging Standard



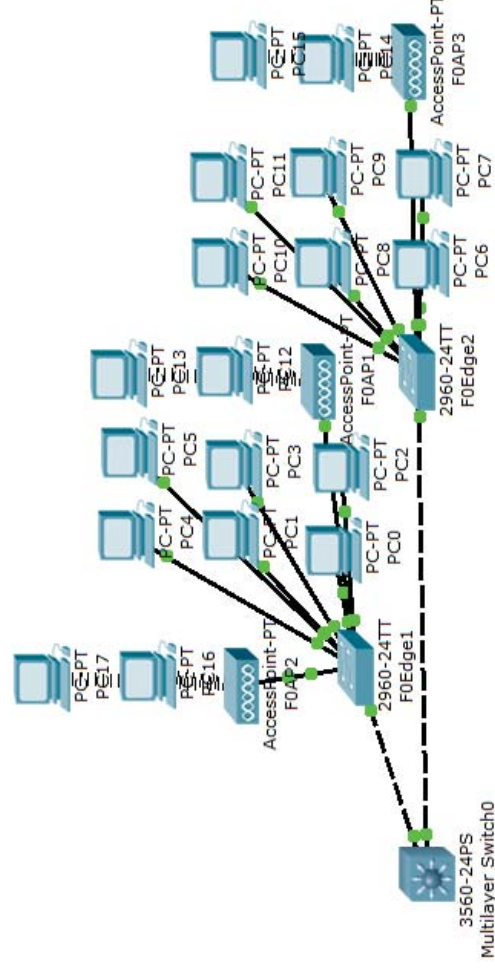
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Topology 1, with Multilayer Switch

Commands can be only executed on multi-layer switch

- Enable L3 packet routing
 - ip routing
- Enable encapsulation on trunk ports
 - interface range fa0/1-24
 - switchport trunk encapsulation dot1q
 - switchport mode trunk

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Thanks,..
See you next week (ISA),...