

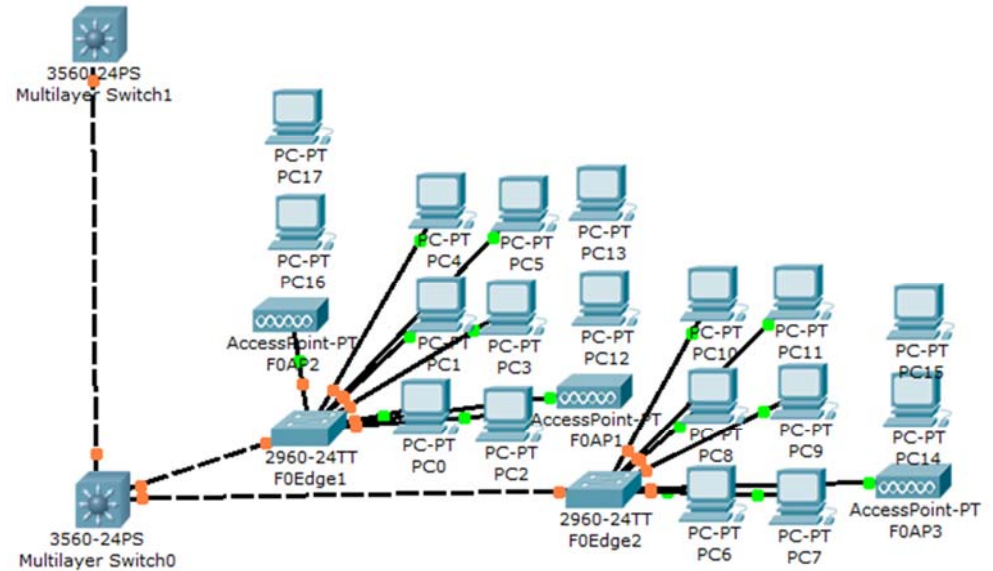


# Lecture (05) Multilayer Switch IV DSL links

By:

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```
enable
config t
hostname Core
ip routing

interface vlan 1
ip address 10.0.10.1 255.255.255.0
no shutdown

vlan 2
name vlan2

interface vlan 2
ip address 10.0.20.1 255.255.255.0
no shutdown

vlan 3
name vlan3

interface vlan 3
ip address 10.0.30.1 255.255.255.0
no shutdown

vlan 4
name vlan4
```

## Core

```
interface vlan 4
ip address 10.0.40.1 255.255.255.0
no shutdown

vlan 5
name wlan

vtp domain ACU
vtp mode server

interface range fa0/1-24
speed auto
duplex auto

interface range fa0/1-24
switchport trunk encapsulation dot1q
switchport mode trunk

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

ip dhcp excluded-address 10.0.20.1
10.0.20.100
ip dhcp pool vlan2pool
network 10.0.20.0 255.255.255.0
default-router 10.0.20.1
```

```
ip dhcp excluded-address 10.0.30.1
10.0.30.100
ip dhcp pool vlan3pool
network 10.0.30.0 255.255.255.0
default-router 10.0.30.1

ip dhcp excluded-address 10.0.40.1
10.0.40.100
ip dhcp pool vlan4pool
network 10.0.40.0 255.255.255.0
default-router 10.0.40.1

end
copy running-config startup-config
```

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```

enable
config t
hostname Distributor
ip routing

vtp domain ACU
vtp mode client

interface vlan 1
ip address 10.0.10.4 255.255.255.0
no shutdown

interface vlan 5
ip address 10.0.50.1 255.255.255.0
no shutdown

interface range fa0/1-24
speed auto
duplex auto

interface range fa0/1-24
switchport trunk encapsulation dot1q
switchport mode trunk

```

```

ip dhcp excluded-address 10.0.50.1
10.0.50.100
ip dhcp pool vlan5pool
network 10.0.50.0 255.255.255.0
default-router 10.0.50.1

end
copy running-config startup-config

```

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```

enabl
config t
hostname F0Edge1

interface vlan 1
ip address 10.0.10.2 255.255.255.0
no shutdown

vtp domain ACU
vtp mode client

interface range fa0/1-24
speed auto
duplex auto

interface range fa0/24
switchport mode trunk

interface range fa0/1-7
switchport mode access
switchport access vlan 2

interface range fa0/8-14
switchport mode access
switchport access vlan 3

```

```

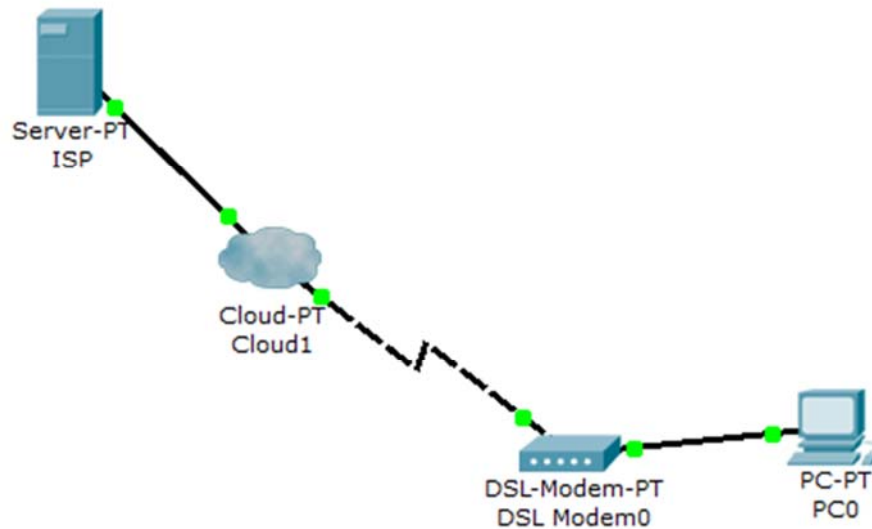
interface range fa0/15-21
switchport mode access
switchport access vlan 4

interface range fa0/22-23
switchport mode access
switchport access vlan 5

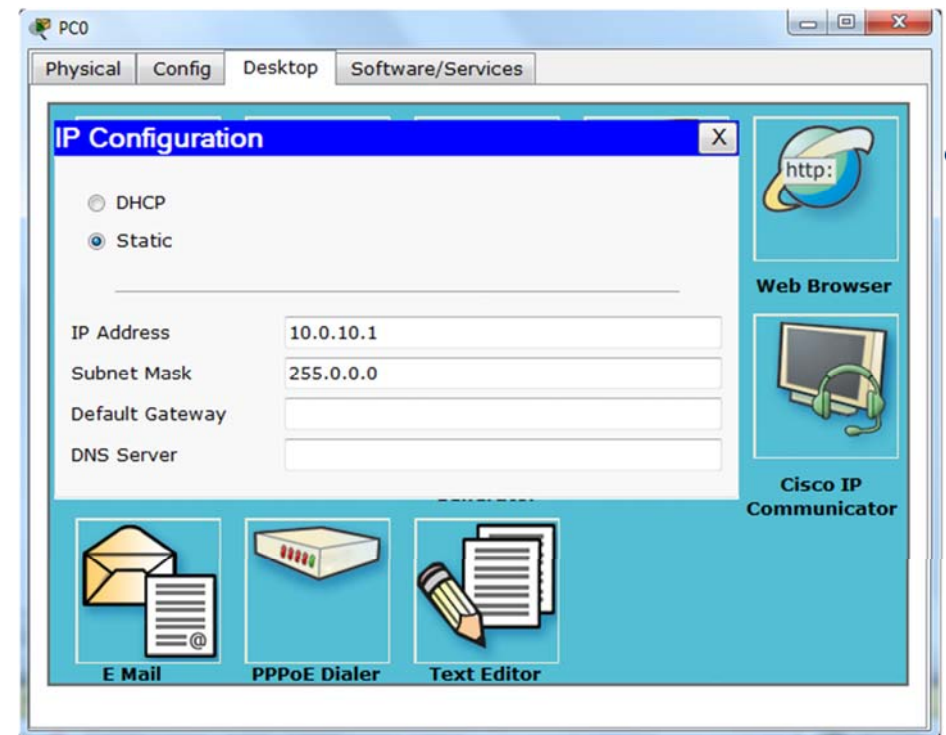
end
copy running-config startup-config

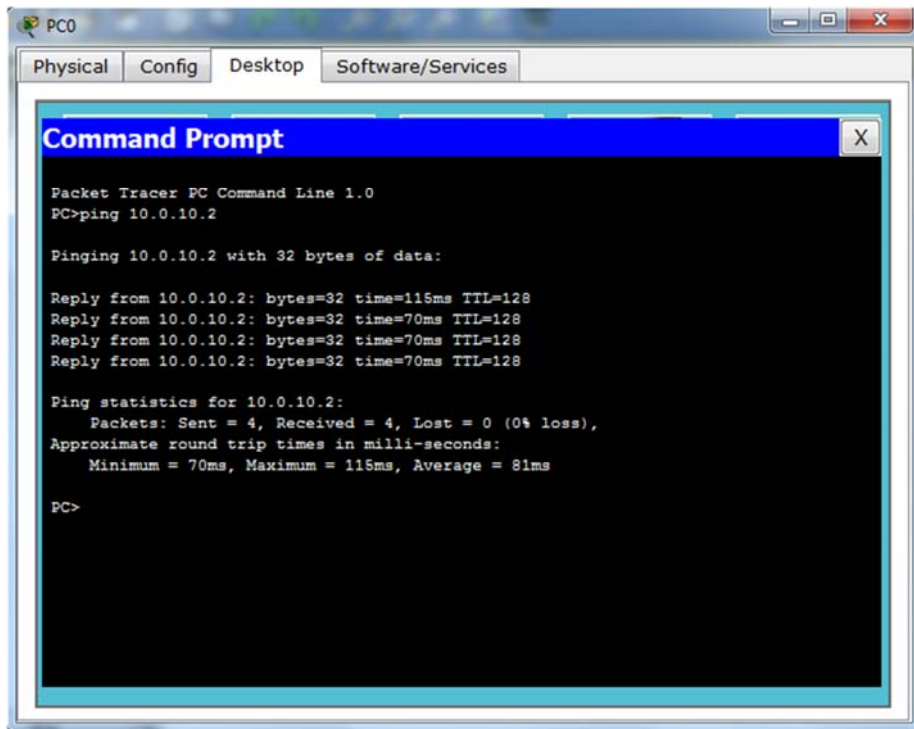
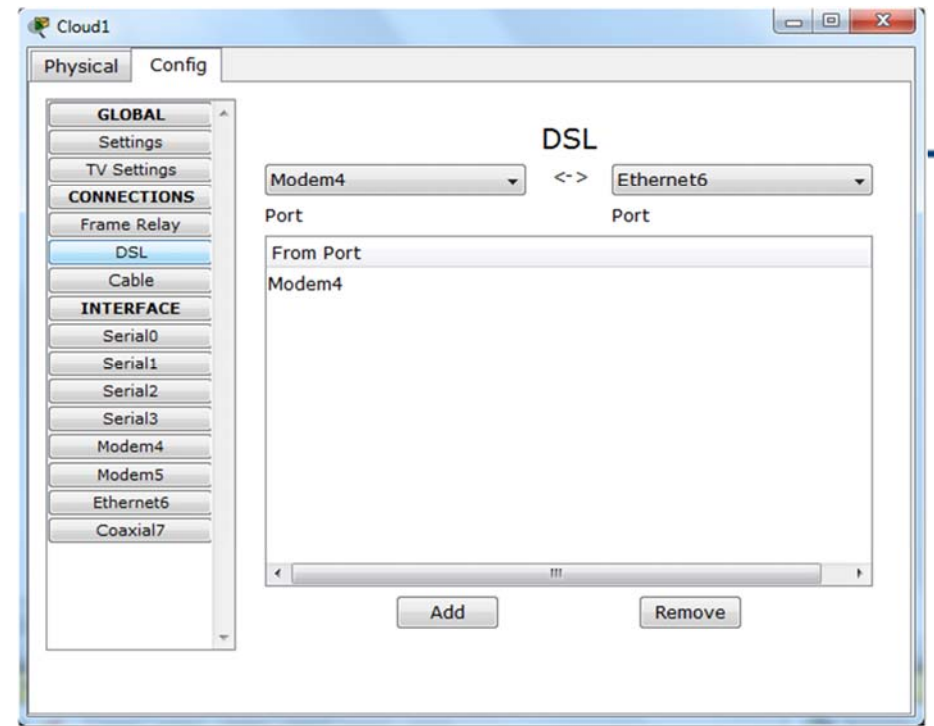
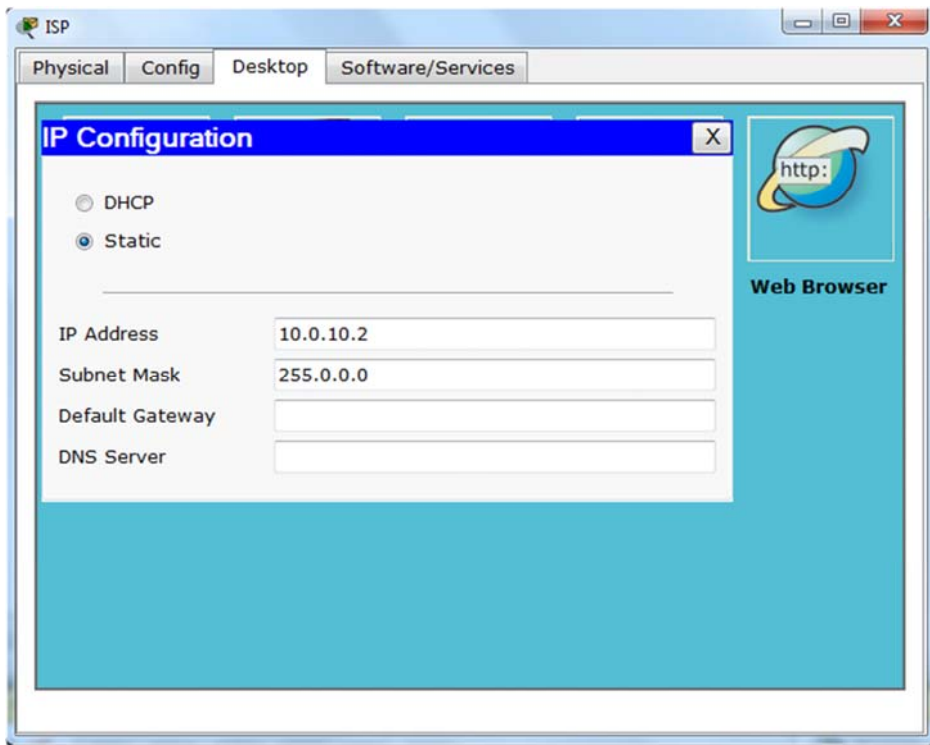
```

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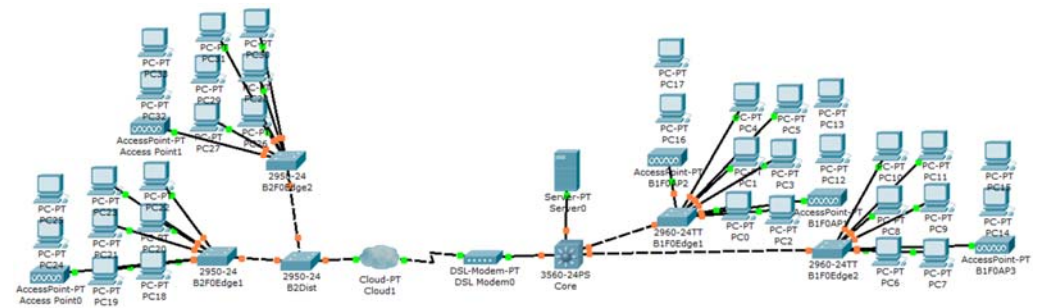


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## 2 Campuses Topology - Multilayer + DHCP server + DSL - 5 vlans



**Core B1**

```
enable
config t
hostname Core
ip routing

interface vlan 1
ip address 10.0.10.1 255.255.255.0
no shutdown

vlan 2
name vlan2

interface vlan 2
ip address 10.0.20.1 255.255.255.0
no shutdown
ip helper-address 10.0.10.254

vlan 3
name vlan3

interface vlan 3
ip address 10.0.30.1 255.255.255.0
no shutdown
ip helper-address 10.0.10.254
```

```
vlan 4
name vlan4

interface vlan 4
ip address 10.0.40.1 255.255.255.0
no shutdown
ip helper-address 10.0.10.254

vlan 5
name wlan

interface vlan 5
ip address 10.0.50.1 255.255.255.0
no shutdown
ip helper-address 10.0.10.254

vtp domain ACU
vtp mode server

interface range fa0/1-24
speed auto
duplex auto
```

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```
interface range fa0/2-24
switchport trunk encapsulation dot1q
switchport mode trunk

interface fa0/1
switchport mode access
switchport access vlan 1

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

end
copy running-config startup-config
```

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**Edge B1**

```
enabl
config t
hostname B1F0Edge1

interface vlan 1
ip address 10.0.10.2 255.255.255.0
no shutdown

vtp domain ACU
vtp mode client

interface range fa0/1-24
speed auto
duplex auto

interface range fa0/24
switchport mode trunk

interface range fa0/1-7
switchport mode access
switchport access vlan 2

interface range fa0/8-14
switchport mode access
```

```
switchport access vlan 3

interface range fa0/15-21
switchport mode access
switchport access vlan 4

interface range fa0/22-23
switchport mode access
switchport access vlan 5

end
copy running-config startup-config
```

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**Distributer B2**

```
enabl
config t
hostname B2Dist

interface vlan 1
ip address 10.0.10.4 255.255.255.0
no shutdown

vtp domain ACU
vtp mode client

interface range fa0/1-24
speed auto
duplex auto

interface range fa0/1-24
switchport mode trunk

end
copy running-config startup-config
```



```

enabl
config t
hostname B2F0Edge1

interface vlan 1
ip address 10.0.10.5 255.255.255.0
no shutdown

vtp domain ACU
vtp mode client

```

```

interface range fa0/15-21
switchport mode access
switchport access vlan 4

interface range fa0/22-23
switchport mode access
switchport access vlan 5

end
copy running-config startup-config

```

```

interface range fa0/1-24
speed auto
duplex auto

```

```

interface range fa0/24
switchport mode trunk

```

```

interface range fa0/1-7
switchport mode access
switchport access vlan 2

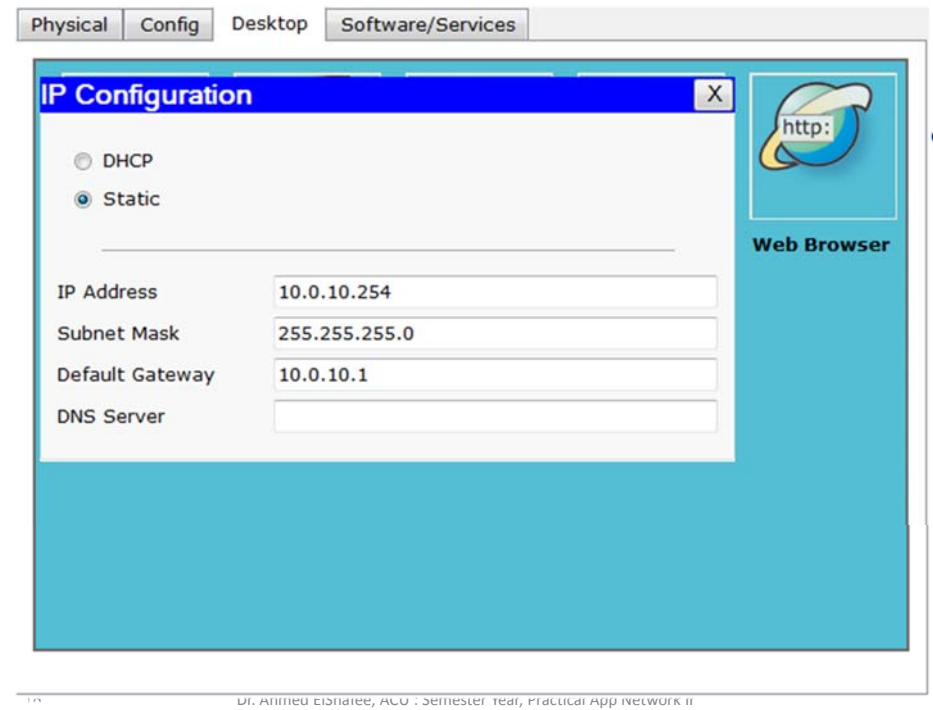
```

```

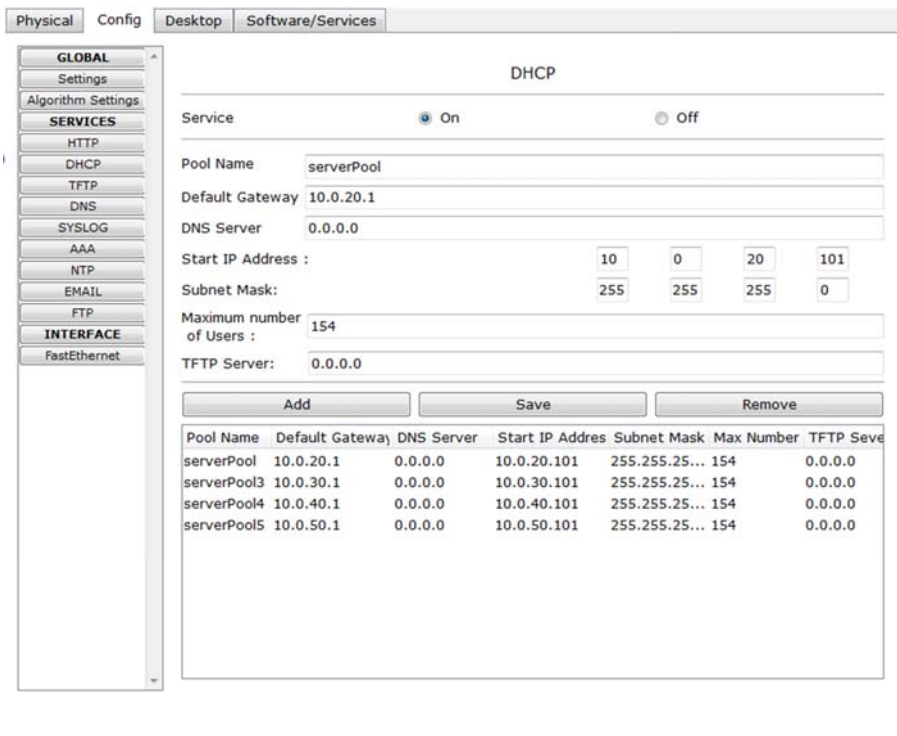
interface range fa0/8-14
switchport mode access
switchport access vlan 3

```

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enable **Core B1**

```

config t
hostname Core1
ip routing
ip route 0.0.0.0 0.0.0.0 10.0.10.4

```

```

interface vlan 1
ip address 10.0.10.1 255.255.255.0
no shutdown

```

```

vlan 2
name vlan2

```

```

interface vlan 2
ip address 10.0.20.1 255.255.255.0
no shutdown
ip helper-address 10.0.10.254

```

```

vlan 3
name vlan3

```

```

interface vlan 3
ip address 10.0.30.1 255.255.255.0
no shutdown
ip helper-address 10.0.10.254

```

```

vlan 4
name vlan4

```

```

interface vlan 4
ip address 10.0.40.1 255.255.255.0
no shutdown
ip helper-address 10.0.10.254

```

```

vlan 5
name wlan

```

```

interface vlan 5
ip address 10.0.50.1 255.255.255.0
no shutdown
ip helper-address 10.0.10.254

```

```

vtp domain ACUB1
vtp mode server

```

```

interface range fa0/1-24
speed auto
duplex auto

```

```

interface range fa0/2-24
switchport trunk encapsulation dot1q

```

```
switchport mode trunk
```

```
interface fa0/1  
switchport mode access  
switchport access vlan 1
```

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

```
end  
copy running-config startup-config
```

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```
enabl  
config t
```

**Edge B1**

```
hostname B1F0Edge1  
  
interface vlan 1  
ip address 10.0.10.2 255.255.255.0  
no shutdown
```

```
vtp domain ACUB1  
vtp mode client
```

```
interface range fa0/1-24  
speed auto  
duplex auto
```

```
interface range fa0/24  
switchport mode trunk
```

```
interface range fa0/1-7  
switchport mode access  
switchport access vlan 2
```

```
interface range fa0/8-14  
switchport mode access
```

```
switchport access vlan 3
```

```
interface range fa0/15-21  
switchport mode access  
switchport access vlan 4
```

```
interface range fa0/22-23  
switchport mode access  
switchport access vlan 5
```

```
end  
copy running-config startup-config
```

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```
enable  
config t  
hostname Core2  
ip routing  
ip route 0.0.0.0 0.0.0.0 10.0.10.1
```

**Core2 B2**

```
interface vlan 1  
ip address 10.0.10.4 255.255.255.0  
no shutdown
```

```
vlan 6  
name vlan6
```

```
interface vlan 6  
ip address 10.0.60.1 255.255.255.0  
no shutdown  
ip helper-address 10.0.10.253
```

```
vlan 7  
name vlan7
```

```
interface vlan 7  
ip address 10.0.70.1 255.255.255.0  
no shutdown
```

```
ip helper-address 10.0.10.253
```

```
vlan 8  
name vlan8
```

```
interface vlan 8  
ip address 10.0.80.1 255.255.255.0  
no shutdown  
ip helper-address 10.0.10.253
```

```
vlan 9  
name wlan
```

```
interface vlan 9  
ip address 10.0.90.1 255.255.255.0  
no shutdown  
ip helper-address 10.0.10.253
```

```
vtp domain ACUB2  
vtp mode server
```

```
interface range fa0/1-24  
speed auto  
duplex auto
```

```
interface range fa0/2-24  
switchport trunk encapsulation dot1q  
switchport mode trunk
```

```
interface fa0/1  
switchport mode access  
switchport access vlan 1
```

```
end  
copy running-config startup-config
```

```
enabl
config t
hostname B2F0Edge1

interface vlan 1
ip address 10.0.10.5 255.255.255.0
no shutdown
```

### Edge B2

```
switchport access vlan 7

interface range fa0/15-21
switchport mode access
switchport access vlan 8

interface range fa0/22-23
switchport mode access
switchport access vlan 9

end
copy running-config startup-config
```

```
vtp domain ACUB2
vtp mode client
```

```
interface range fa0/1-24
speed auto
duplex auto
```

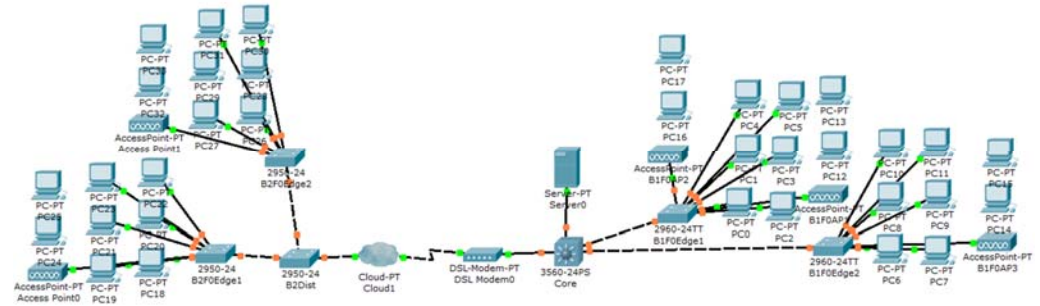
```
interface range fa0/24
switchport mode trunk
```

```
interface range fa0/1-7
switchport mode access
switchport access vlan 6
```

```
interface range fa0/8-14
switchport mode access
```

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# 2 Campuses Topology - Multilayer + DHCP server + DSL - 9 vlans



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```
enable
config t
hostname Core
ip routing

interface vlan 1
ip address 10.0.10.1 255.255.255.0
no shutdown
```

### Core

```
vlan 4
name vlan4

interface vlan 4
ip address 10.0.40.1 255.255.255.0
no shutdown
ip helper-address 10.0.10.254
```

```
vlan 2
name vlan2
```

```
vlan 5
name wlan

interface vlan 5
ip address 10.0.50.1 255.255.255.0
no shutdown
ip helper-address 10.0.10.254
```

```
interface vlan 2
ip address 10.0.20.1 255.255.255.0
no shutdown
ip helper-address 10.0.10.254
```

```
vlan 3
name vlan3
```

```
vlan 6
name vlan6

interface vlan 6
ip address 10.0.60.1 255.255.255.0
no shutdown
ip helper-address 10.0.10.254
```

```
interface vlan 3
ip address 10.0.30.1 255.255.255.0
no shutdown
ip helper-address 10.0.10.254
```

```
vlan 7
name vlan7

interface vlan 7
ip address 10.0.70.1 255.255.255.0
no shutdown
ip helper-address 10.0.10.254
```

```
vlan 8
name vlan8
```

```
interface vlan 8
ip address 10.0.80.1 255.255.255.0
no shutdown
ip helper-address 10.0.10.254
```

```
vlan 9
name vlan9
```

```
interface vlan 9
ip address 10.0.90.1 255.255.255.0
no shutdown
ip helper-address 10.0.10.254
```

```
vtp domain ACU
vtp mode server
```

```
interface range fa0/1-24
speed auto
duplex auto
```

```
interface range fa0/2-24
switchport trunk encapsulation dot1q
switchport mode trunk
```

```
interface fa0/1
switchport mode access
switchport access vlan 1
```

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

```
end
copy running-config startup-config
```

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enabl  
config t

### B2F0-Edge1

hostname B2F0Edge1

interface vlan 1  
ip address 10.0.10.5 255.255.255.0  
no shutdown

vtp domain ACU  
vtp mode client

interface range fa0/1-24  
speed auto  
duplex auto

interface range fa0/24  
switchport mode trunk

interface range fa0/1-7  
switchport mode access  
switchport access vlan 6

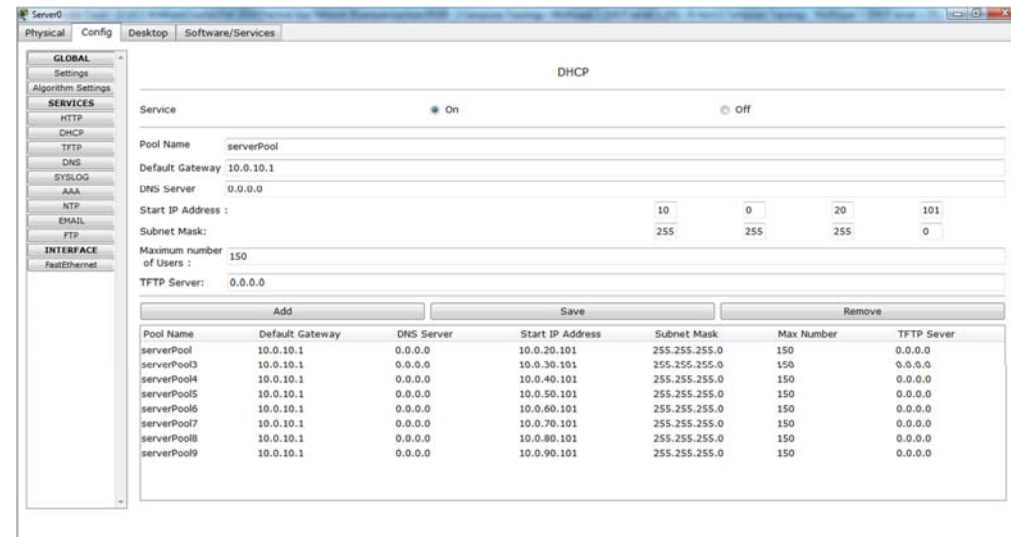
interface range fa0/8-14  
switchport mode access  
switchport access vlan 7

interface range fa0/15-21  
switchport mode access  
switchport access vlan 8

interface range fa0/22-23  
switchport mode access  
switchport access vlan 9

end  
copy running-config startup-config

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The screenshot shows a configuration window for a DHCP service on a device named 'Server0'. The service is currently turned 'On'. The configuration includes a pool name 'serverPool', a default gateway of 10.0.10.1, and a DNS server of 0.0.0.0. The start IP address is 10.0.0.0, and the subnet mask is 255.255.255.0. The maximum number of users is set to 150, and the TFTP server is 0.0.0.0. Below the configuration fields is a table listing several server pools.

Pool Name	Default Gateway	DNS Server	Start IP Address	Subnet Mask	Max Number	TFTP Sever
serverPool	10.0.10.1	0.0.0.0	10.0.20.101	255.255.255.0	150	0.0.0.0
serverPool3	10.0.10.1	0.0.0.0	10.0.30.101	255.255.255.0	150	0.0.0.0
serverPool4	10.0.10.1	0.0.0.0	10.0.40.101	255.255.255.0	150	0.0.0.0
serverPool5	10.0.10.1	0.0.0.0	10.0.50.101	255.255.255.0	150	0.0.0.0
serverPool6	10.0.10.1	0.0.0.0	10.0.60.101	255.255.255.0	150	0.0.0.0
serverPool7	10.0.10.1	0.0.0.0	10.0.70.101	255.255.255.0	150	0.0.0.0
serverPool8	10.0.10.1	0.0.0.0	10.0.80.101	255.255.255.0	150	0.0.0.0
serverPool9	10.0.10.1	0.0.0.0	10.0.90.101	255.255.255.0	150	0.0.0.0

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