

1.Router

enable

configure terminal

hostname R1

interface gigabitEthernet0/1

ip address 192.168.1.1 255.255.255.252

no shutdown

exit

ip route 10.10.10.0 255.255.255.0 192.168.1.2

ip route 20.20.20.0 255.255.255.0 192.168.1.2

ip route 30.30.30.0 255.255.255.0 192.168.1.2

ip dhcp excluded-address 10.10.10.1

10.10.10.10

ip dhcp excluded-address 20.20.20.1

20.20.20.10

ip dhcp excluded-address 30.30.30.1

30.30.30.10

ip dhcp pool VLAN10

network 10.10.10.0 255.255.255.0

default-router 10.10.10.1

dns-server 8.8.8.8

exit

```
ip dhcp pool VLAN20
network 20.20.20.0 255.255.255.0
default-router 20.20.20.1
dns-server 8.8.8.8
exit
```

```
ip dhcp pool VLAN30
network 30.30.30.0 255.255.255.0
default-router 30.30.30.1
dns-server 8.8.8.8
exit
```

```
end
write memory
```

2.Multilayer Switch

VLAN + Routing

```
enable
configure terminal
hostname MLS
```

```
ip routing
```

```
vlan 10
name VLAN10
```

```
exit
vlan 20
  name VLAN20
exit
vlan 30
  name VLAN30
exit
```

```
interface vlan 10
  ip address 10.10.10.1 255.255.255.0
  ip helper-address 192.168.1.1
  no shutdown
exit
```

```
interface vlan 20
  ip address 20.20.20.1 255.255.255.0
  ip helper-address 192.168.1.1
  no shutdown
exit
```

```
interface vlan 30
  ip address 30.30.30.1 255.255.255.0
  ip helper-address 192.168.1.1
  no shutdown
exit
```

MLS → Router

```
interface gigabitEthernet0/1
no switchport
ip address 192.168.1.2 255.255.255.252
no shutdown
exit
```

```
ip route 0.0.0.0 0.0.0.0 192.168.1.1
```

EtherChannel ទៅ Switch ឆ្លង

```
interface range fastEthernet0/1 - 2
channel-group 1 mode desirable
no shutdown
exit
```

```
interface port-channel 1
switchport trunk encapsulation dot1q
switchport mode trunk
switchport trunk allowed vlan 10,20,30
no shutdown
exit
```

EtherChannel ទៅ Switch ស្តាំ

```
interface range fastEthernet0/3 - 6
channel-group 2 mode desirable
```

```
no shutdown
exit
```

```
interface port-channel 2
switchport trunk encapsulation dot1q
switchport mode trunk
switchport trunk allowed vlan 10,20,30
no shutdown
exit
```

PC1 → VLAN 20

```
interface fastEthernet0/7
switchport mode access
switchport access vlan 20
spanning-tree portfast
no shutdown
exit
```

```
end
write memory
```

3. Switch Left

VLAN

```
enable
configure terminal
```

hostname S1

vlan 10
name VLAN10
exit

vlan 20
name VLAN20
exit

vlan 30
name VLAN30
exit

PAgP → MLS

interface range fastEthernet0/1 - 2
channel-group 1 mode desirable
no shutdown
exit

interface port-channel 1
switchport mode trunk
switchport trunk allowed vlan 10,20,30
no shutdown
exit

PC0 → VLAN 10

```
interface fastEthernet0/3
  switchport mode access
  switchport access vlan 10
  spanning-tree portfast
  no shutdown
exit
```

```
end
write memory
```

4. Switch Right

VLAN

```
enable
configure terminal
hostname S2
```

```
vlan 10
  name VLAN10
exit
```

```
vlan 20
  name VLAN20
exit
```

```
vlan 30
```

```
name VLAN30
exit
```

PAgP → MLS

```
interface range fastEthernet0/3 - 6
channel-group 2 mode desirable
no shutdown
exit
```

```
interface port-channel 2
switchport mode trunk
switchport trunk allowed vlan 10,20,30
no shutdown
exit
```

PC2 → VLAN 30

```
interface fastEthernet0/1
switchport mode access
switchport access vlan 30
spanning-tree portfast
no shutdown
exit
```

```
end
write memory
```