

# Lab Manual: Corrected Version

## Title: Configuration of VLAN, VLAN-VTP and NAT with DHCP

Software: Cisco Packet Tracer (version 7.3.0)  
American International University-Bangladesh (AIUB)  
Faculty of Science and Technology (FST)  
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### **Switch0 (Server Switch – VLANs 2 & 4)**

```
Switch>en
Switch#conf t
vtp domain AIUB

vlan 2
 name CSE
vlan 4
 name EEE

int range f0/1-3
 switchport mode trunk
 switchport trunk allowed vlan all
```

### **Switch1 (Client Switch – VLANs 3 & 6)**

```
Switch>en
Switch#conf t
vtp mode client

int range f0/2-13
 switchport mode access
 switchport access vlan 3

int range f0/14-24
 switchport mode access
 switchport access vlan 6

int f0/1
 switchport mode trunk
 switchport trunk allowed vlan all
```

### **Switch3 (Client Switch – VLANs 2 & 4)**

```
Switch>en
Switch#conf t
vtp mode client

int range f0/4-15
 switchport mode access
 switchport access vlan 2

int range f0/16-24
 switchport mode access
 switchport access vlan 4

int f0/1
 switchport mode trunk
 switchport trunk allowed vlan all
```

### **Router0 (172.18.0.0/16 – VLAN2 & VLAN4)**

```

int f0/0
  no shut
int f0/0.2
  encapsulation dot1q 2
  ip address 172.18.3.254 255.255.252.0
int f0/0.4
  encapsulation dot1q 4
  ip address 172.18.4.254 255.255.255.0

ip dhcp pool dpool2
  network 172.18.0.0 255.255.252.0
  default-router 172.18.3.254

ip dhcp pool dpool4
  network 172.18.4.0 255.255.255.0
  default-router 172.18.4.254

int s0/3/0
  ip address 100.0.0.1 255.255.255.252
  clock rate 64000
  no shut

router ospf 40
  network 172.18.0.0 0.0.3.255 area 0
  network 172.18.4.0 0.0.0.255 area 0
  network 100.0.0.0 0.0.0.3 area 0

! NAT
access-list 2 permit 172.18.0.0 0.0.3.255
access-list 4 permit 172.18.4.0 0.0.0.255
ip nat inside source list 2 interface s0/3/0 overload
ip nat inside source list 4 interface s0/3/0 overload
int f0/0
  ip nat inside
int s0/3/0
  ip nat outside

```

### ***Router1 (172.24.0.0/16 – VLAN3 & VLAN6)***

```

int s0/3/0
  ip address 100.0.0.2 255.255.255.252
  no shut
int s0/3/1
  ip address 100.0.0.5 255.255.255.252
  clock rate 64000
  no shut

int f0/0
  no shut
int f0/0.3
  encapsulation dot1q 3
  ip address 172.24.1.254 255.255.254.0
int f0/0.6
  encapsulation dot1q 6
  ip address 172.24.2.62 255.255.255.192

ip dhcp pool dpool3
  network 172.24.0.0 255.255.254.0
  default-router 172.24.1.254
ip dhcp pool dpool6
  network 172.24.2.0 255.255.255.192
  default-router 172.24.2.62

router ospf 80
  network 172.24.0.0 0.0.1.255 area 0
  network 172.24.2.0 0.0.0.63 area 0
  network 100.0.0.0 0.0.0.3 area 0
  network 100.0.0.4 0.0.0.3 area 0

! NAT
access-list 3 permit 172.24.0.0 0.0.1.255
access-list 6 permit 172.24.2.0 0.0.0.63
ip nat inside source list 3 interface s0/3/1 overload
ip nat inside source list 6 interface s0/3/1 overload
int f0/0

```

```
ip nat inside
int s0/3/1
ip nat outside
```

### ***Router2 (192.168.10.0/28 – Server VLAN)***

```
int s0/3/0
ip address 100.0.0.6 255.255.255.252
no shut
int f0/0
ip address 192.168.10.14 255.255.255.240
no shut

ip dhcp pool svr
network 192.168.10.0 255.255.255.240
default-router 192.168.10.14

router ospf 100
network 192.168.10.0 0.0.0.15 area 0
network 100.0.0.4 0.0.0.3 area 0

! NAT
ip nat inside source static 192.168.10.1 100.0.0.6
int f0/0
ip nat inside
int s0/3/0
ip nat outside
```