



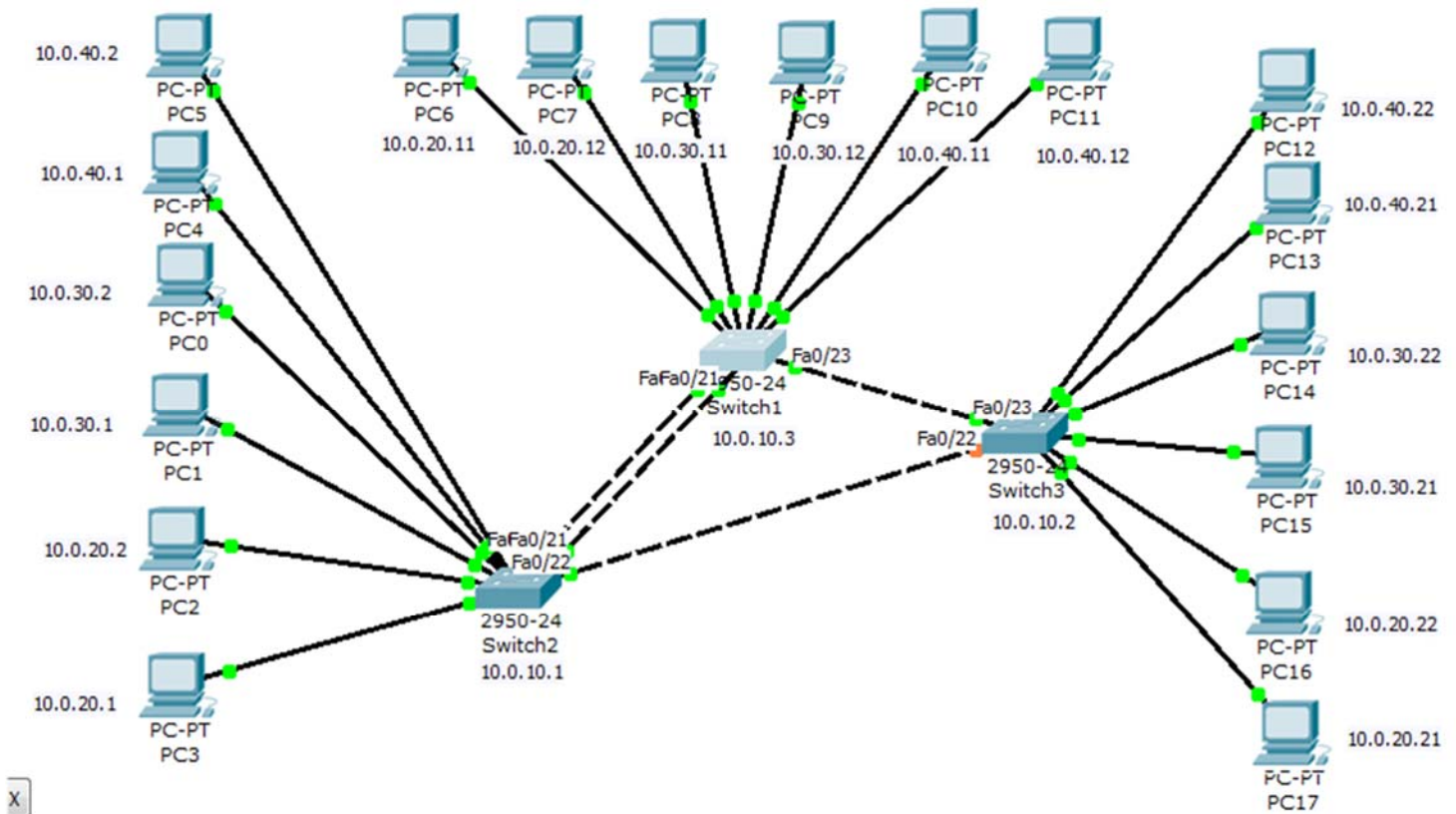
Lecture (06) Design and Configuration of LAN – Practicing, working on CISCO equipment

By:

Dr. Ahmed ElShafee

Dr. Ahmed ElShafee, ACU : Fall 2015, Practical App.
Networks II

Part I



SW01 steps

- firstly connect all links (refer to topology)
- then start configuring your switch:
- Enable switch
- Open configuration mode
- Set hostname
- Enable telnet
- Set enable password
- Set secret passwords
- Give switch IP (refer to topology)
- Set vtp domain name
- Set vtp mode
- Create vlans

-
- Set all ports speed to auto, duplex to auto
 - Set ports 21-24 to trunk mode
 - Set ports 1-5 access vlan 2
 - Set ports 6-10 access vlan 2
 - Set ports 11-15 access vlan 2
 - Set switch as root
 - Exit configuration mode
 - configure PCs giving each PC IP/Mask (refer to topology)
 - *****

◦ Dr. Ahmed ElShafee, ACU Spring 2014, Practical Applications in Computer Networks

-
- Troubleshooting
 - *****
 - Display all vlans
 - Display all interfaces
 - Display spanning tree status on different vlans and trunk interfaces
 - Make sure switch can communicate with other switches
 - Make sure that PC connected to that switch can access other PCs that are connected to different switches on the same vlan
 - try to access switch remotely using telnet
 - *****

SW 02,03 steps

- firstly connect all links (refer to topology)
- then start configuring your switch:
- Enable switch
- Open configuration mode
- Set hostname
- Enable telnet
- Set enable password
- Set secret passwords
- Give switch IP (refer to topology)
- Set vtp domain name
- Set vtp mode
- Set all ports speed to auto, duplex to auto

Y

Dr. Ahmed ElShafee, ACU Spring 2014, Practical Applications in Computer Networks

-
- Set ports 21-24 to trunk mode
 - check vlans (make sure all vlans are exist)
 - Set ports 1-5 access vlan 2
 - Set ports 6-10 access vlan 2
 - Set ports 11-15 access vlan 2
 - Set switch as root
 - Exit configuration mode
 - configure PCs giving each PC IP/Mask (refer to topology)
 - *****

A

Dr. Ahmed ElShafee, ACU Spring 2014, Practical Applications in Computer Networks

-
- Troubleshooting
 - *****
 - Display all vlans
 - Display all interfaces
 - Display spanning tree status on different vlans and trunk interfaces
 - Make sure switch can communicate with other switches
 - Make sure that PC connected to that switch can access other PCs that are connected to different switches on the same vlan
 - try to access switch remotely using telnet
 - *****

Switch I

```
enabl
config t
hostname SW01
```

```
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 Finance
```

```
vlan 3
name HR
```

```
vlan 4
name Admin
```

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

```
interface range fa0/21-24
switchport mode trunk
```

```
interface range fa0/1-5
switchport mode access
switchport access vlan 2
```

```
interface range fa0/6-10
switchport mode access
switchport access vlan 3
```

-

```
interface range fa0/11-15
switchport mode access
switchport access vlan 4
```

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

```
end
```

```
*****
```

```
show vlan
show ip interface brief
show spanning-tree vlan 1
show spanning-tree interface FastEthernet
0/21
```

Switch 2

```
enabl
config t
hostname SW02
```

```
line vty 0 4
password cisco
login
```

```
line console 0
password cisco
login
```

```
enable password cisco
```

```
enable secret cisco1
```

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

```
vtp domain ACU
vtp mode client
```

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

```
interface range fa0/21-24
switchport mode trunk
```

```
end
```

```
show vlan
```

```
config t
```

```
interface range fa0/1-5
switchport mode access
switchport access vlan 2
```

```
interface range fa0/6-10
switchport mode access
switchport access vlan 3
```

```
interface range fa0/11-15
switchport mode access
switchport access vlan 4
```

```
end
*****
show vlan
show ip interface brief
show spanning-tree vlan 1
show spanning-tree interface FastEthernet
0/21
```

Part 3


```
enabl
config t
hostname SW03
```

```
line vty 0 4
password cisco
login
```

```
line console 0
password cisco
login
```

```
enable password cisco
```

```
enable secret cisco1
```

```
interface vlan 1
ip address 10.0.10.3 255.255.255.0
no shutdown
```

```
vtp domain ACU
vtp mode client
```

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

```
interface range fa0/21-24
switchport mode trunk
```

```
end
```

```
show vlan
```

```
config t
```

```
interface range fa0/1-5
switchport mode access
switchport access vlan 2
```

```
interface range fa0/6-10
switchport mode access
switchport access vlan 3
```

```
interface range fa0/11-15
switchport mode access
switchport access vlan 4

end
*****

show vlan
show ip interface brief
show spanning-tree vlan 1
show spanning-tree interface FastEthernet
0/21
```



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

Dr. Ahmed ElShafee, ACU : Fall 2015, Practical App.
Networks II