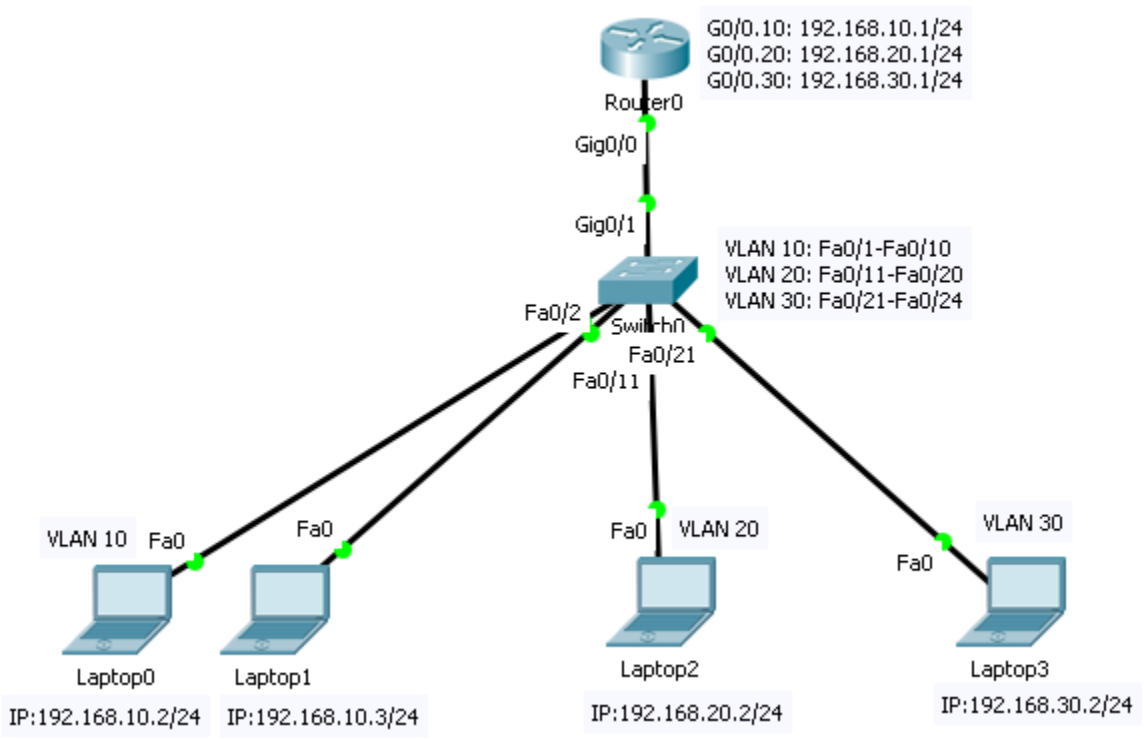
CCNA Sem01 Lab#07

Lab07 Topology (VLAN and Trunk Mode)



Setup topology

Step 1: Connect topology devices as shown in figure.

1- Select straight-through Cable from connections in Cisco Packet Tracer.

Step 2: Configure Switch.

1- Open router Router0

2- Select CLI tab.

Step 3: Enter privileged EXEC mode.

You can access all `Router` commands in privileged EXEC mode.
Enter privileged EXEC mode by entering the **enable** command.

```
1. Switch> enable
2. Switch#
```

Step 4: Enter global configuration mode.

Use the **configuration terminal** command to enter configuration mode.

```
1. Switch# configure terminal
2. Switch(config)#
```

The prompt changed to reflect global configuration mode.

Step 5: Create VLAN 10 and assign the first ten ports of the switch to this VLAN.

```
1. Switch(config)# VLAN 10
2. Switch (config-VLAN)# name CS
3. Switch (config-VLAN)# exit
4. Switch (config)# interface range fa0/1-10
5. Switch (config-if-range)# switchport mode access
6. Switch (config-if-range)# switchport access VLAN 10
```

Step 6: Create VLAN 20 and assign the second ten ports of the switch to this VLAN.

```
1. Switch(config)# VLAN 20
2. Switch (config-VLAN)# name IS
3. Switch (config-VLAN)# exit
4. Switch (config)# interface range fa0/11-20
5. Switch (config-if-range)# switchport mode access
6. Switch (config-if-range)# switchport access VLAN 20
```

Step 7: Create VLAN 30 and assign the third four ports of the switch to this VLAN.

```
1. Switch(config)# VLAN 30
2. Switch (config-VLAN)# name SC
3. Switch (config-VLAN)# exit
4. Switch (config)# interface range fa0/21-24
5. Switch (config-if-range)# switchport mode access
6. Switch (config-if-range)# switchport access VLAN 30
```

Step 8: Create a management VLAN 99 and assign the interface g0/1 of the switch to this VLAN to allow trunk mode (Allow set of VLANs to pass through it).

```
1. Switch(config)# VLAN 99
2. Switch (config-VLAN)# name management
3. Switch (config-VLAN)# exit
4. Switch (config)# interface g0/1
5. Switch (config-if-range)# switchport mode trunk
6. Switch (config-if-range)# switchport native VLAN 99
7. Switch (config-if-range)# switchport trunk allowed VLAN 10,20,30
```

Step 9: Enter global configuration mode of the Router.

Encrypted, limits access to the privileged EXEC mode of the Router

```
1. Router> enable
2. Router# config t
3. Router(config)#
```

Step 10: Set IPs for the sub-interfaces of the interface G0/0 for each VLAN.

```
1. Router(config)# interface G0/0.10
2. Router(config-if)# encapsulation dot1Q 10
3. Router(config-if)# ip address 192.168.10.1 255.255.255.0
```

```
Router(config-if)# interface G0/0.20
Router(config-if)# encapsulation dot1Q 20
Router(config-if)# ip address 192.168.20.1 255.255.255.0
Router(config-if)# interface G0/0.30
Router(config-if)# encapsulation dot1Q 30
Router(config-if)# ip address 192.168.30.1 255.255.255.0
Router(config)# interface G0/0
Router(config-if)# no shutdown
Router(config-if)# exit
Router(config)# exit
```

Show interfaces status:

```
Router# show ip interface brief
```

Step 10: Configure Laptops

1- Set IP for Laptop0(Desktop -> IP configuration)
   a. IP address: 192.168.10.2
   b. Subnet Mask: 255.255.255.0
   c. Default Gateway: 192.168.10.1
2- Set IP for Laptop1(Desktop -> IP configuration)
   a. IP address: 192.168.10.3
   b. Subnet Mask: 255.255.255.0
   c. Default Gateway: 192.168.10.1
3- Set IP for Laptop2(Desktop -> IP configuration)
   a. IP address: 192.168.20.2
   b. Subnet Mask: 255.255.255.0
   c. Default Gateway: 192.168.20.1
4- Set IP for Laptop3(Desktop -> IP configuration)
   a. IP address: 192.168.30.2
   b. Subnet Mask: 255.255.255.0
   c. Default Gateway: 192.168.30.1

Step 11: Test Connectivity of laptops

1- Open Laptop0(Desktop ->CMD)
   a. Ping 192.168.30.2

2- Open Laptop1(Desktop ->CMD)
   a. Ping 192.168.10.2