



Lab 5 Building Small Network Topology

Lab Instructor: **Akbar Badhusha MOHIDEEN**

Objectives:

The objective of this lab is to build small network topology with a router and two switches using CISCO Packet Tracer. The students will have practice to router configuration and PC configuration.

Outline of this lab:

1. Building small network topology with two networks using Packet Tracer.
2. Verifying the connectivity between the networks
3. Assignment: Building a network topology with 4 networks

Activity Outcomes

At the end of this lab the student will be able to

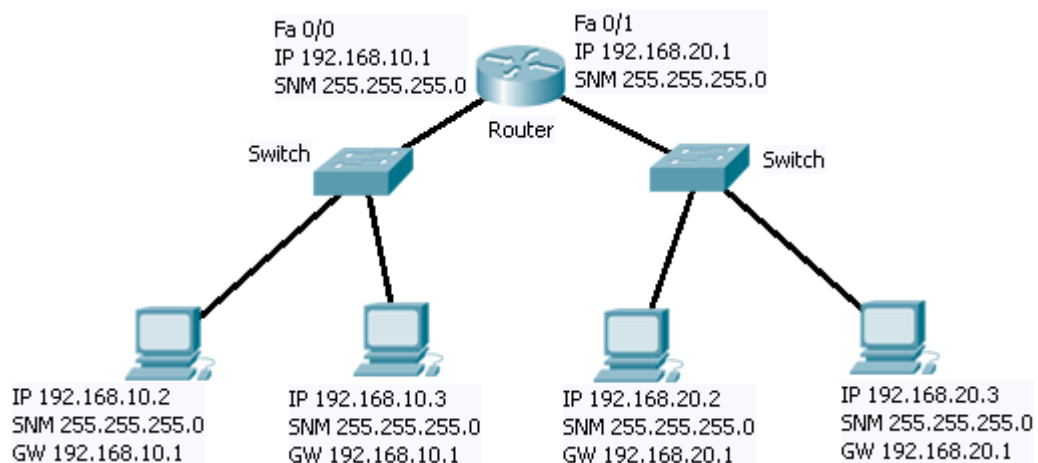
Build a small network topology with a router using the packet tracer

Lab Tasks

❖ IP addresses:

Device	Interface	IP address	Subnet mask	Gateway
Router	Fa0/0	192.168.10.1	255.255.255.0	-----
	Fa0/1	192.168.20.1	255.255.255.0	-----
PC1	NIC	192.168.10.2	255.255.255.0	192.168.10.1
PC2	NIC	192.168.10.3	255.255.255.0	192.168.10.1
PC3	NIC	192.168.20.2	255.255.255.0	192.168.20.1
PC4	NIC	192.168.20.3	255.255.255.0	192.168.20.1

❖ Build a small network topology with a router and two switches.



❖ **Configure PCs and Router:**

Configure the PCs with IP addresses.

1. To do this, Click on the PC and click on Desktop Tab. In that click on IP configuration. In that window, type the IP address, the subnet mask and the gateway address.
2. Repeat this step for all PCs.
3. Verify the IP addresses are assigned correctly or not using the command ipconfig in the command window.

Configure the Ethernet interfaces of the routers (Gateways):

Login to the router and use command line interface. Follow the instructions bellow.

```
Router> enable
```

```
Router# configure terminal
```

```
Router(config)# interface Fa 0/0
```

```
Router(Config - if)# ip address 192.168.10.1 255.255.255.0
```

```
Router(Config - if)# description Connection to West LAN
```

```
Router(Config - if)# no shutdown
```

Configure the second interface with the following commands

```
Router(config - if)# interface Fa 0/1
```

```
Router(Config - if)# ip address 192.168.20.1 255.255.255.0
```

```
Router(Config - if)# description Connection to East LAN
```

```
Router(Config - if)# no shutdown
```

```
Router(Config - if)#end
```

```
Router# show ip int brief
```

This command will show the interface is up with the assigned IP address.

❖ **Verify the connectivity:**

Using ping command, verify the connectivity between two networks.

From PC1, enter the command

```
ping 192.168.20.2
```

If you get replies from the other PC then the connections are correct. If not you may need to check the connections and configurations.