

## ***Experiment No: 02***

***Experiment Name:*** Packet through Routers.

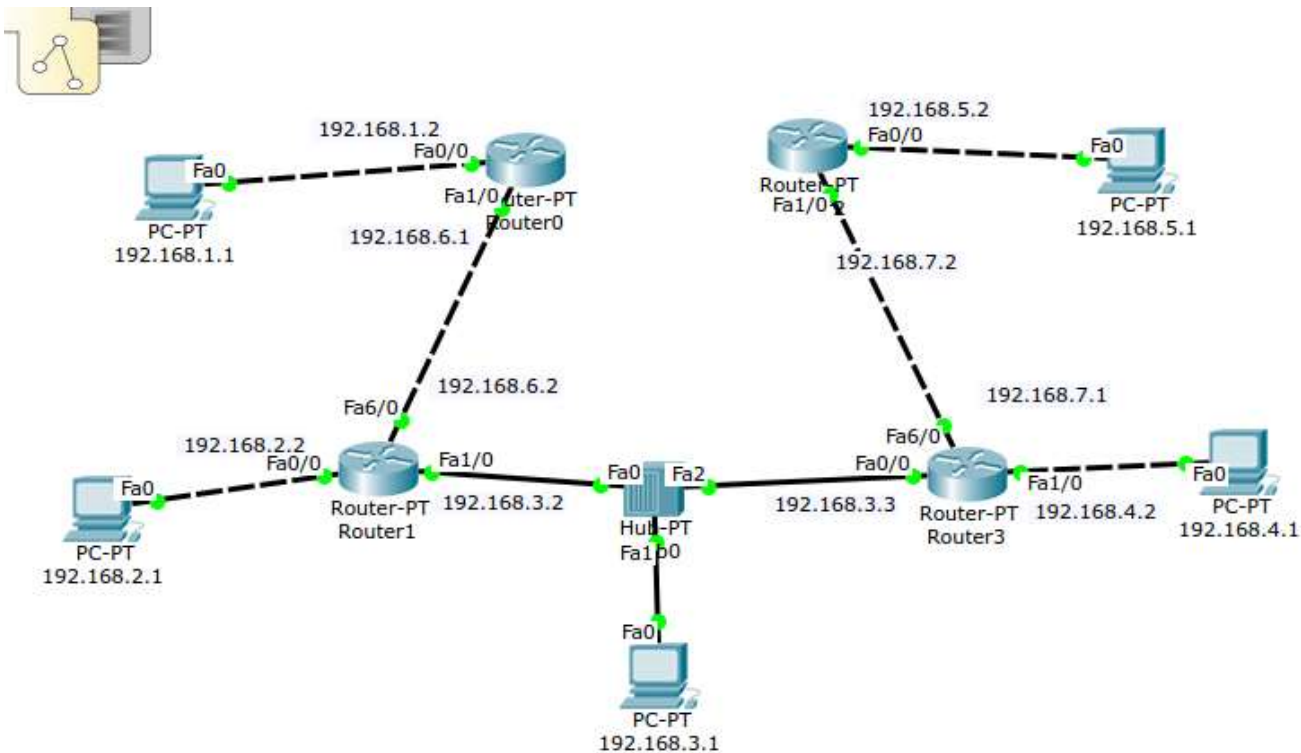
### ***Objective:***

Since we're going to transfer packet through Routers. we'll design a simple network diagram using " CISCO Packet Tracer".

First we'll test a simple packet transfer from one PC. The circuit contains one or more Hub(s) , Routers, some PCs. We'll connect two end point PC-to-PC , PC-to-Hub/Switch, PC to Routers, Routers to Hub, etc.

### ***Design procedure:***

Here a simple network connection using Routers & hubs:

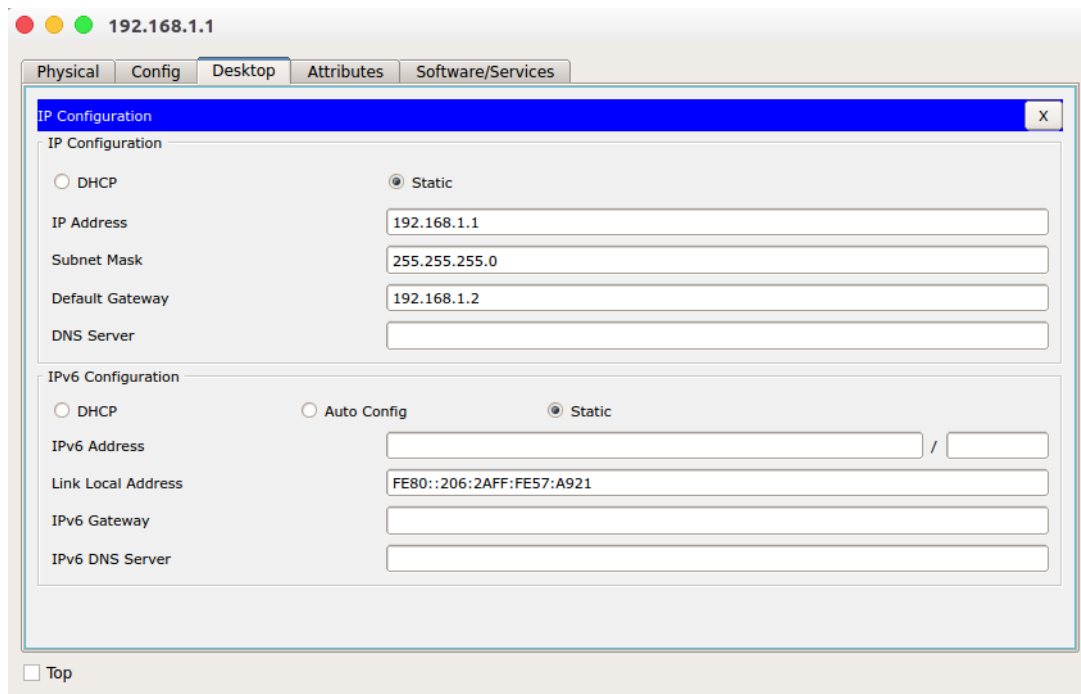


*Illustration 1: A network connection with routers & Hub*

This figure shows the connection among PC , routers and hub.

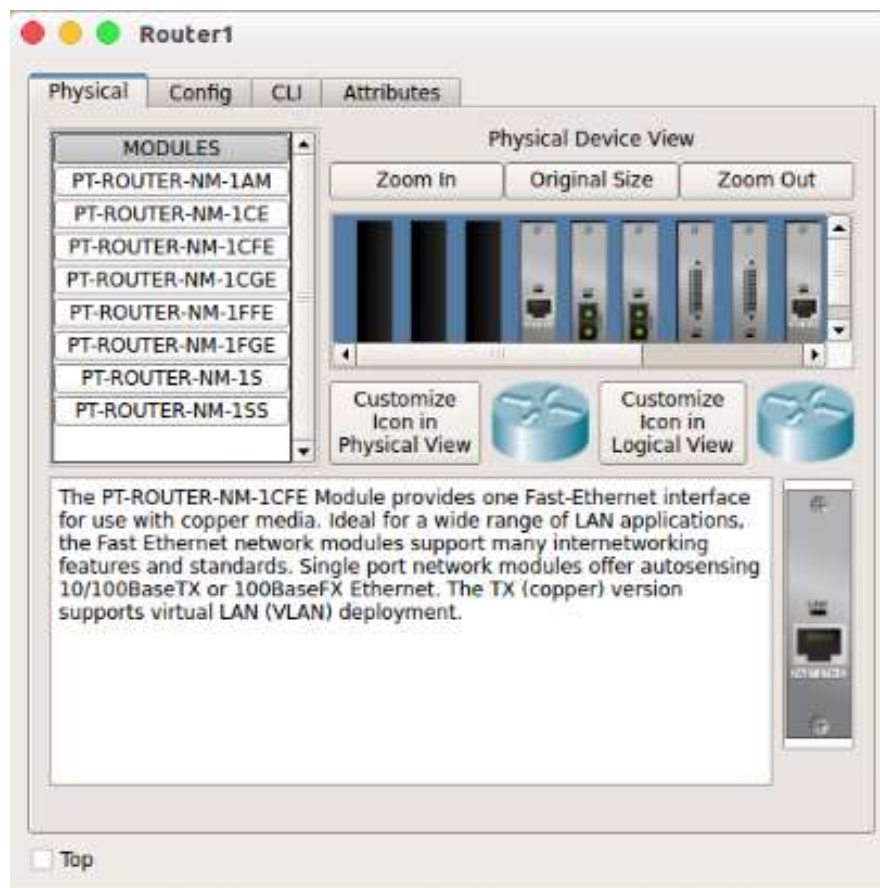
## *Details procedure of configure router, PC & hub:*

### *1. PC IP configure:*



*Illustration 2: IP configure of PC*

### *2. Router configure:*



*Illustration 3: Add Interface card ICFE*

**Router0**

Physical Config CLI Attributes

**GLOBAL**

Settings

Algorithm Settings

**ROUTING**

Static

RIP

**INTERFACE**

FastEthernet0/0

FastEthernet1/0

Serial2/0

Serial3/0

FastEthernet4/0

FastEthernet5/0

**FastEthernet0/0**

Port Status ☒ On

Bandwidth ☒ 100 Mbps ☐ 10 Mbps ☒ Auto

Duplex ☒ Half Duplex ☐ Full Duplex ☒ Auto

MAC Address 000C.85AE.69E8

IP Configuration

IP Address 192.168.1.1

Subnet Mask 255.255.255.0

Tx Ring Limit 10

**Equivalent IOS Commands**

```
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0,
changed state to up
%IP-4-DUPADDR: Duplicate address 192.168.1.1 on FastEthernet0/0,
sourced by 0006.2A57.A921
```

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Illustration 4: Fast Ethernet Configuration

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**Equivalent IOS Commands**

```
Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet1/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet1/0,
changed state to up

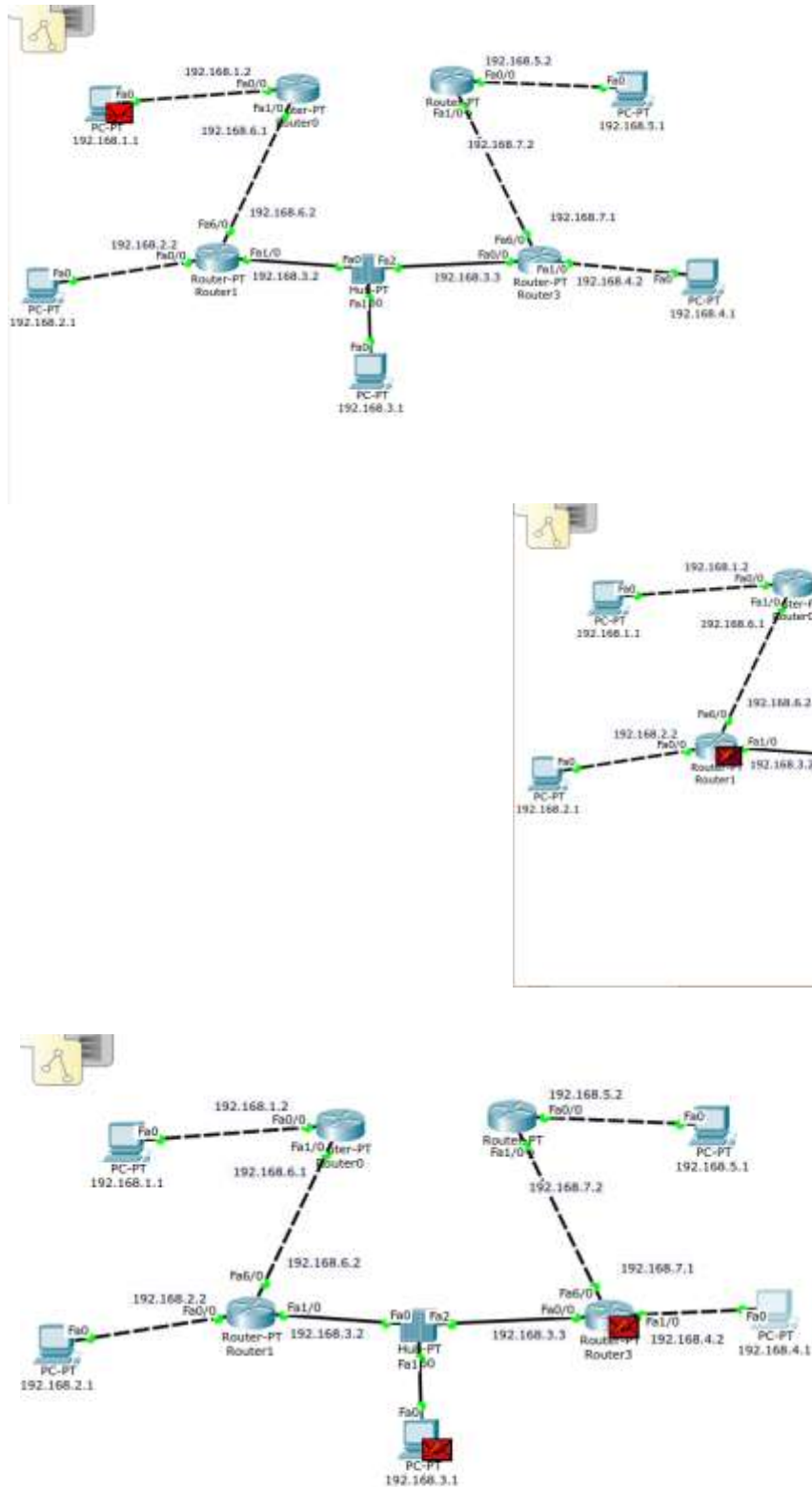
Router(config-if)#exit
Router(config)#ip route 192.168.2.0 255.255.255.0 192.168.6.2
Router(config)#ip route 192.168.3.0 255.255.255.0 192.168.6.2
Router(config)#ip route 192.168.4.0 255.255.255.0 192.168.3.3
Router(config)#ip route 192.168.5.0 255.255.255.0 192.168.7.2
Router(config)#
```

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Remove

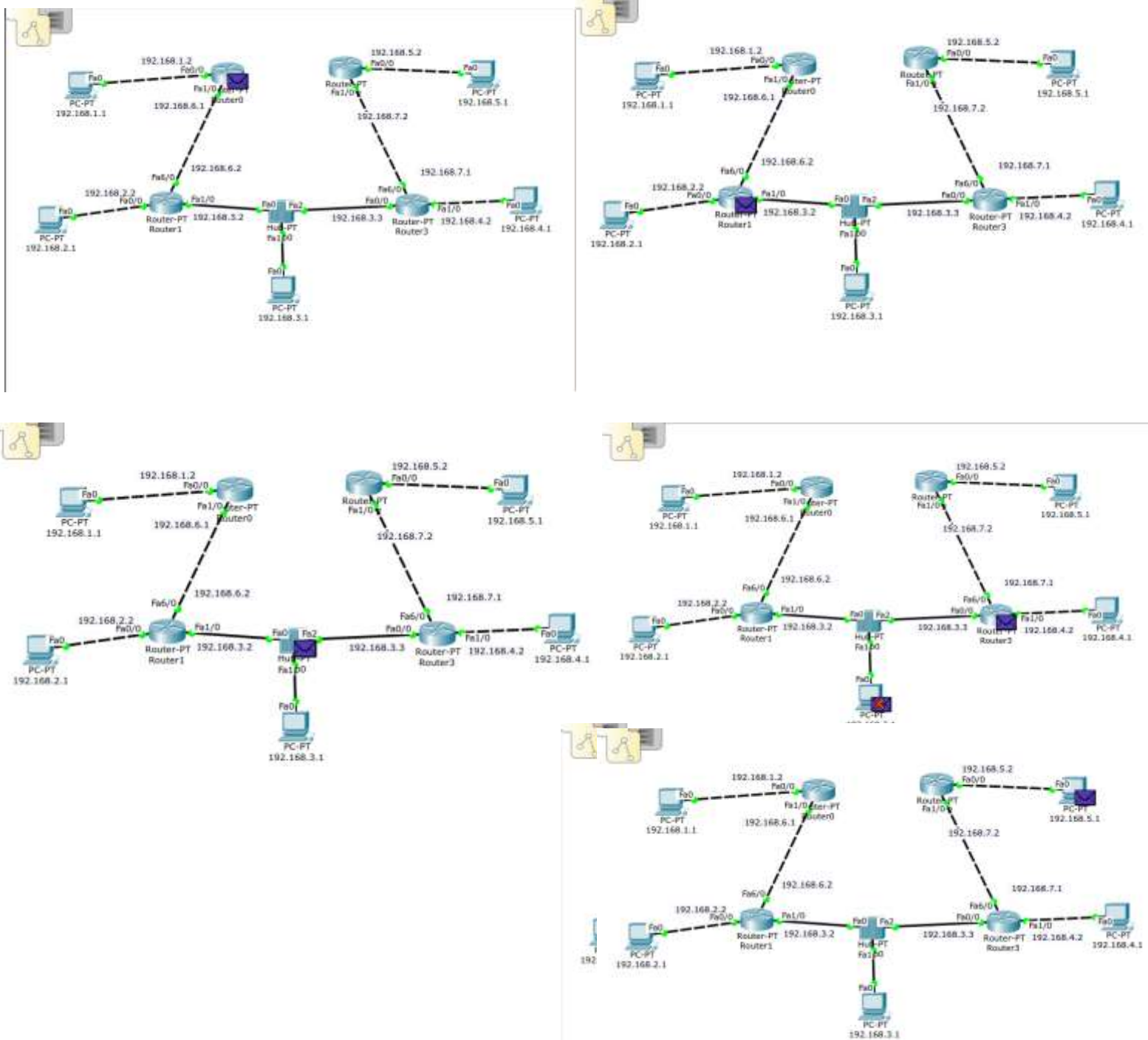
*Illustration 5: Routes configure*

### 3. Packet transferring between two PC.

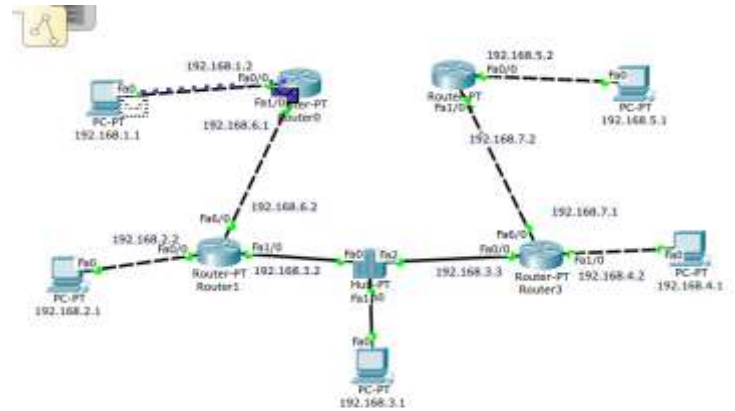
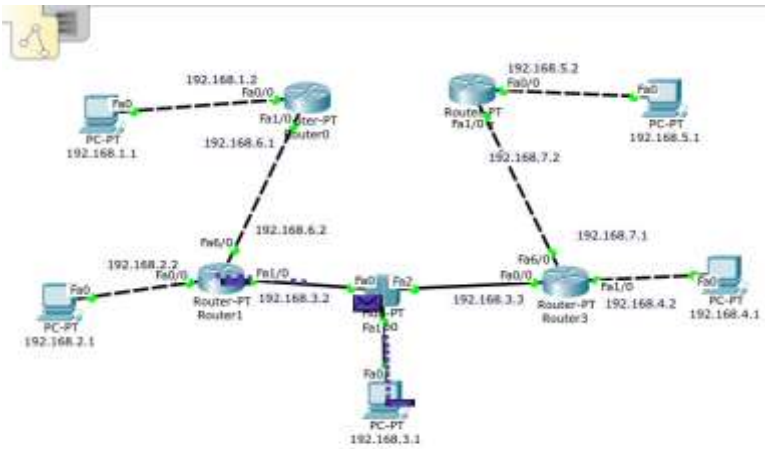
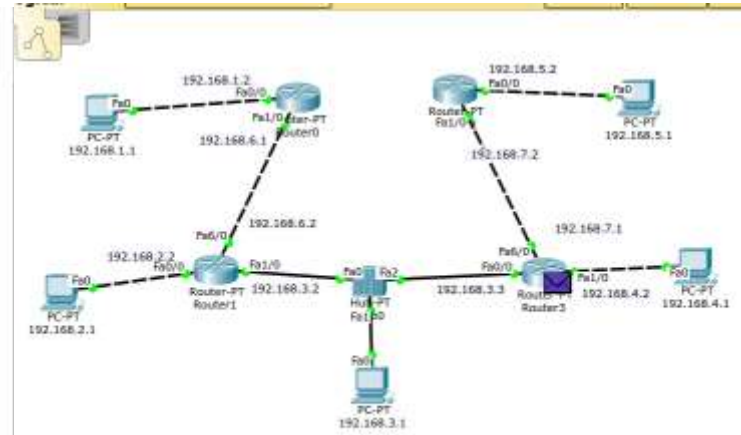
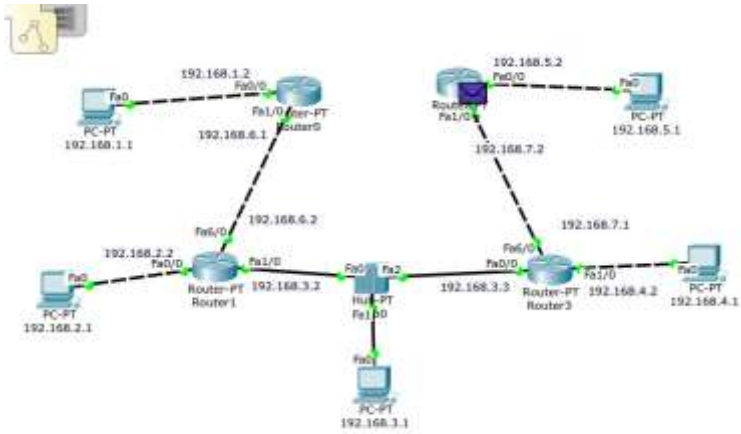


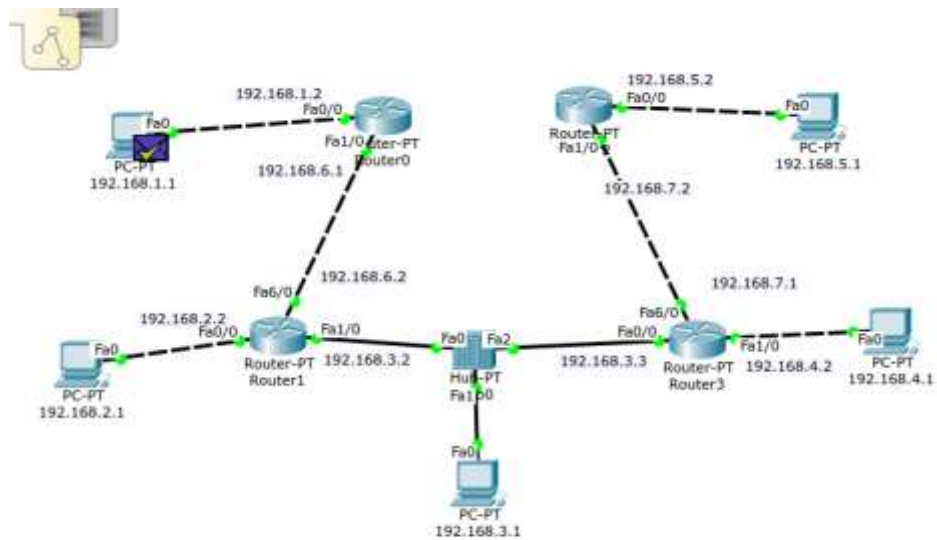
*Illustration 6: First time packet transferring*

## Successful packet transferring:









*Illustration 7:  
Transferring*

*packet through Routers.*