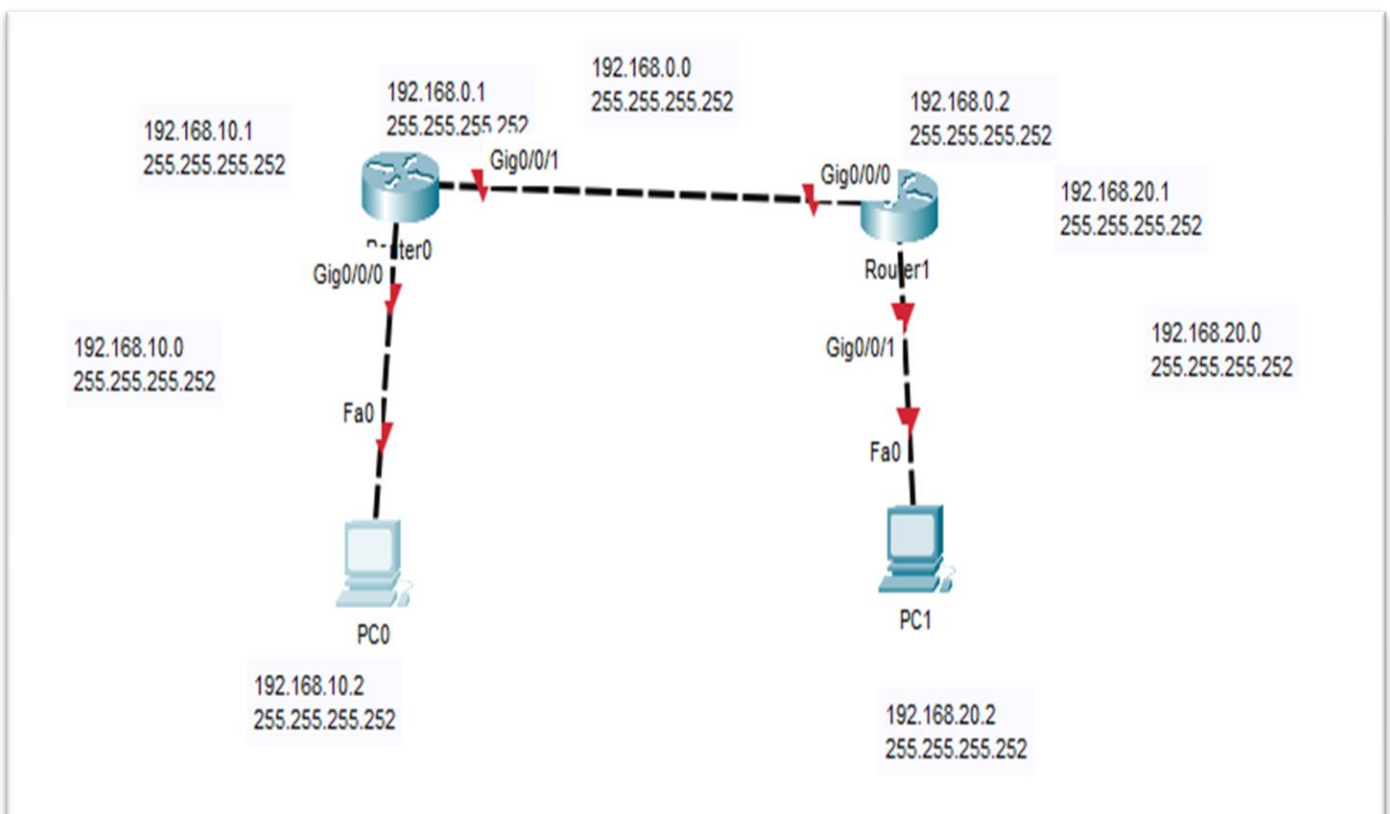


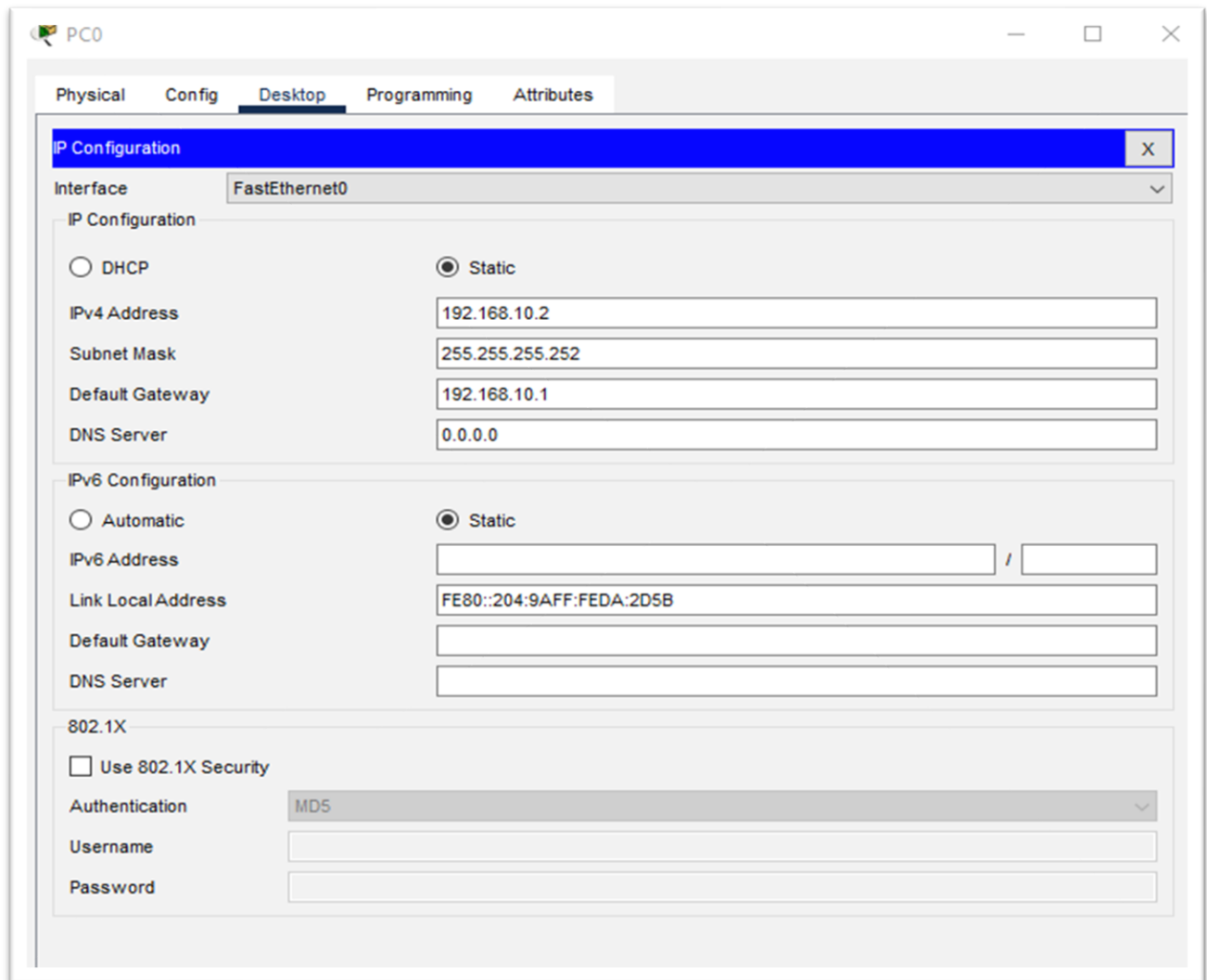
# Static Routing Configuration Step by Step Guide

Static routes are the routes that you manually add to the router's routing table. The process of adding static routes to the routing table is known as static routing. It is ideal for small organization.

**Step1:** Add place note in all devices for IP address and subnet mask.



## Step2: Configure each end devices (PC, laptop, mobile etc) by adding IP address, subnet mask and default gateway IP.



The screenshot shows the configuration window for PC0, specifically the Desktop tab. The IP Configuration section is active, showing settings for the FastEthernet0 interface. The IPv4 configuration is set to Static with an IP address of 192.168.10.2, a subnet mask of 255.255.255.252, a default gateway of 192.168.10.1, and a DNS server of 0.0.0.0. The IPv6 configuration is also set to Static, with a link local address of FE80::204:9AFF:FEDA:2D5B. The 802.1X section is currently disabled.

PC0

Physical Config **Desktop** Programming Attributes

IP Configuration X

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 192.168.10.2

Subnet Mask 255.255.255.252

Default Gateway 192.168.10.1

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::204:9AFF:FEDA:2D5B

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

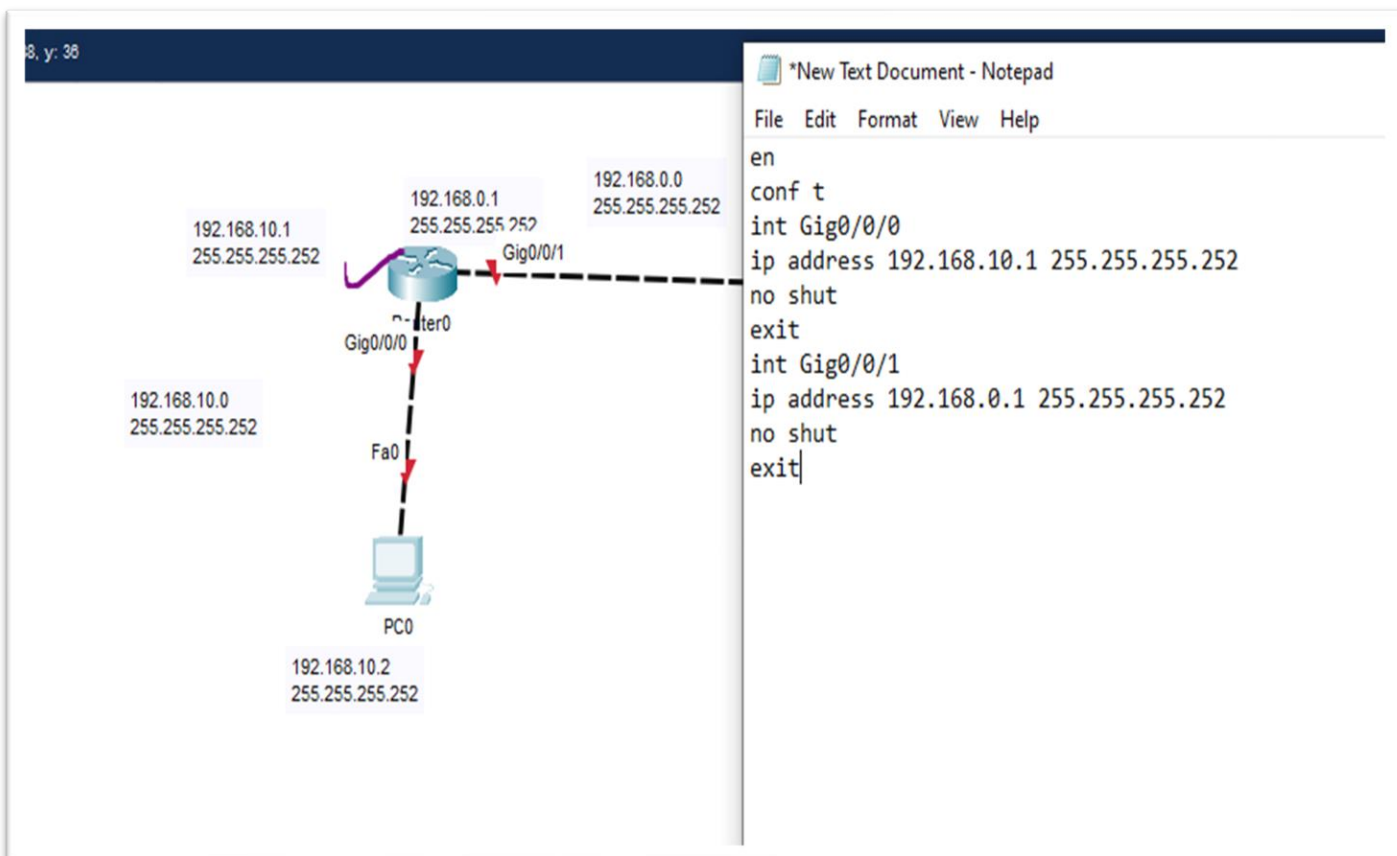
Username

Password

### Step3: Configure each router by writing command in CLI.

The commands are as follows. Write the same command if more than one port is used in the router.

```
Router>en
Router# conf t
Router(config)# int port_number
Router(config-if)# ip address gateway_ip subnet_mask
Router(config-if)#no shutdown
Router(config-if)#exit
```



## IOS Command Line Interface

3207167K bytes of flash memory at bootflash:.  
OK bytes of WebUI ODM Files at webui:.

--- System Configuration Dialog ---

Would you like to enter the initial configuration dialog? [yes/no]: no

Press RETURN to get started!

Router>en

Router#conf t

Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#int Gig0/0/0

Router(config-if)#ip address 192.168.10.1 255.255.255.252

Router(config-if)#no shut

Router(config-if)#exit

Router(config)#int Gig0/0/1

Router(config-if)#ip address 192.168.0.1 255.255.255.252

Router(config-if)#no shut

Router(config-if)#exit

Router(config)#

%LINK-5-CHANGED: Interface GigabitEthernet0/0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0/0, changed state to up

%LINK-5-CHANGED: Interface GigabitEthernet0/0/1, changed state to up

Router(config)#

Ctrl+F6 to exit CLI focus

Copy

Paste

Logic

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File Edit Format View Help

```
en
conf t
int Gig0/0/1
ip address 192.168.20.1 255.255.255.252
no shut
exit
int Gig0/0/0
ip address 192.168.0.2 255.255.255.252
no shut
exit
```

192.168.0.0  
255.255.255.252

192.168.0.2  
255.255.255.252

192.168.20.1  
255.255.255.252

192.168.20.0  
255.255.255.252

192.168.20.2  
255.255.255.252

Gig0/0/0

Router1

Gig0/0/1

Fa0

PC1

Time: 00:25 Ln 1, Col 1 100% Windows (CRLF) UTF-8

```
graph TD
    N1["192.168.0.0  
255.255.255.252"] --- Gig0_0_0["Gig0/0/0"]
    Gig0_0_0 --- Router1["Router1"]
    Router1 --- Gig0_0_1["Gig0/0/1"]
    Gig0_0_1 --- Fa0["Fa0"]
    Fa0 --- PC1["PC1"]
    PC1 --- N2["192.168.20.2  
255.255.255.252"]
    N3["192.168.20.1  
255.255.255.252"] --- Router1
    Router1 --- N4["192.168.0.2  
255.255.255.252"]
```

## IOS Command Line Interface

OK Bytes of WebUI ODM files at WebUI...

--- System Configuration Dialog ---

Would you like to enter the initial configuration dialog? [yes/no]: no

Press RETURN to get started!

Router>en

Router#conf t

Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#int Gig0/0/1

Router(config-if)#ip address 192.168.20.1 255.255.255.252

Router(config-if)#no shut

Router(config-if)#exit

Router(config)#int Gig0/0/0

Router(config-if)#ip address 192.168.0.2 255.255.255.252

Router(config-if)#no shut

Router(config-if)#exit

%LINK-5-CHANGED: Interface GigabitEthernet0/0/1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0/1, changed state to up

%LINK-5-CHANGED: Interface GigabitEthernet0/0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0/0, changed state to up

Router(config)#

Ctrl+F6 to exit CLI focus

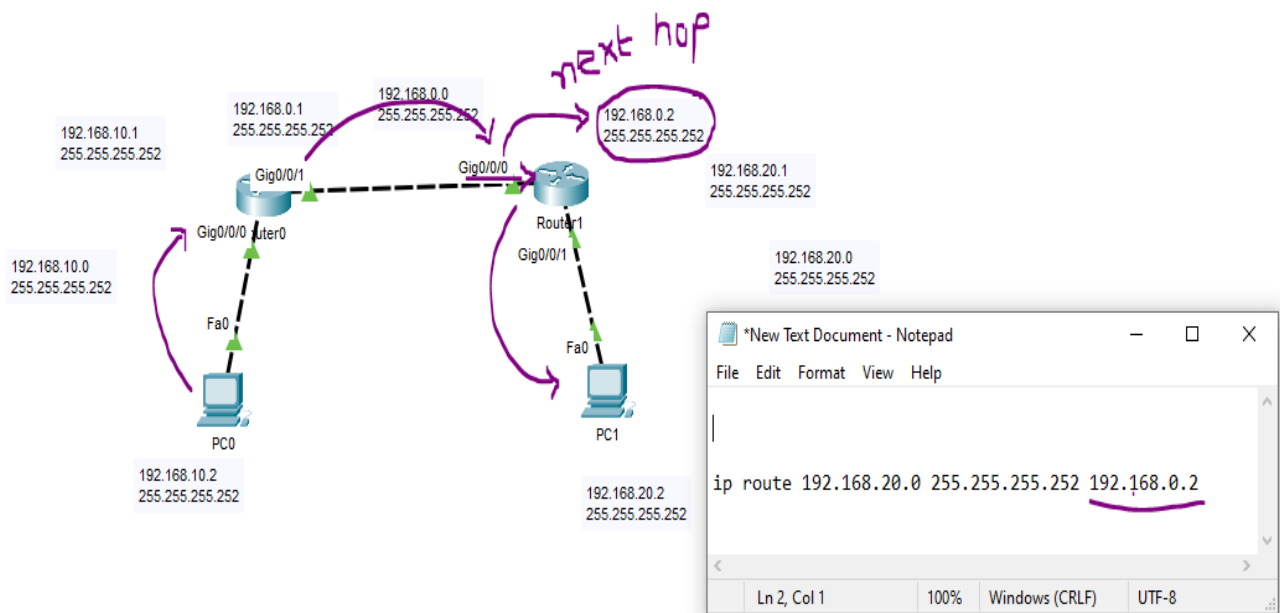
Copy

Paste

## Step4: Configure static routing for each router by writing command in CLI.

The commands are as follows:

```
Router(config)# ip route destination_network_IP subnet_mask next_hop_IP  
Router(config-router)#exit
```



Router0

Physical Config CLI Attributes

IOS Command Line Interface

Press RETURN to get started!

```
Router>en
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int Gig0/0/0
Router(config-if)#ip address 192.168.10.1 255.255.255.252
Router(config-if)#no shutdown

Router(config-if)#exit
Router(config)#int Gig0/0/1
Router(config-if)#ip address 192.168.0.1 255.255.255.252
Router(config-if)#no shutdown

Router(config-if)#exit
%LINK-5-CHANGED: Interface GigabitEthernet0/0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0/0, changed state to up
%LINK-5-CHANGED: Interface GigabitEthernet0/0/1, changed state to up

Router(config)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0/1, changed state to up

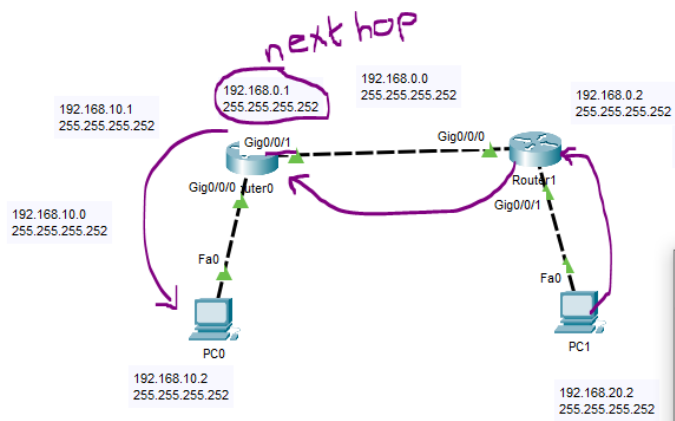
Router(config)#
Router(config)#
Router(config)#interface GigabitEthernet0/0/0
Router(config-if)#
Router(config-if)#ip route 192.168.20.0 255.255.255.252 192.168.0.2
Router(config-if)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console
```

Ctrl+F6 to exit CLI focus

Copy Paste

Top





```
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ip route 192.168.10.0 255.255.255.252 192.168.0.1
```

Ln 3, Col 1    100%    Windows (CRLF)    UTF-8

Physical Config CLI Attributes

## IOS Command Line Interface

Router con0 is now available

Press RETURN to get started.

Press RETURN to get started!

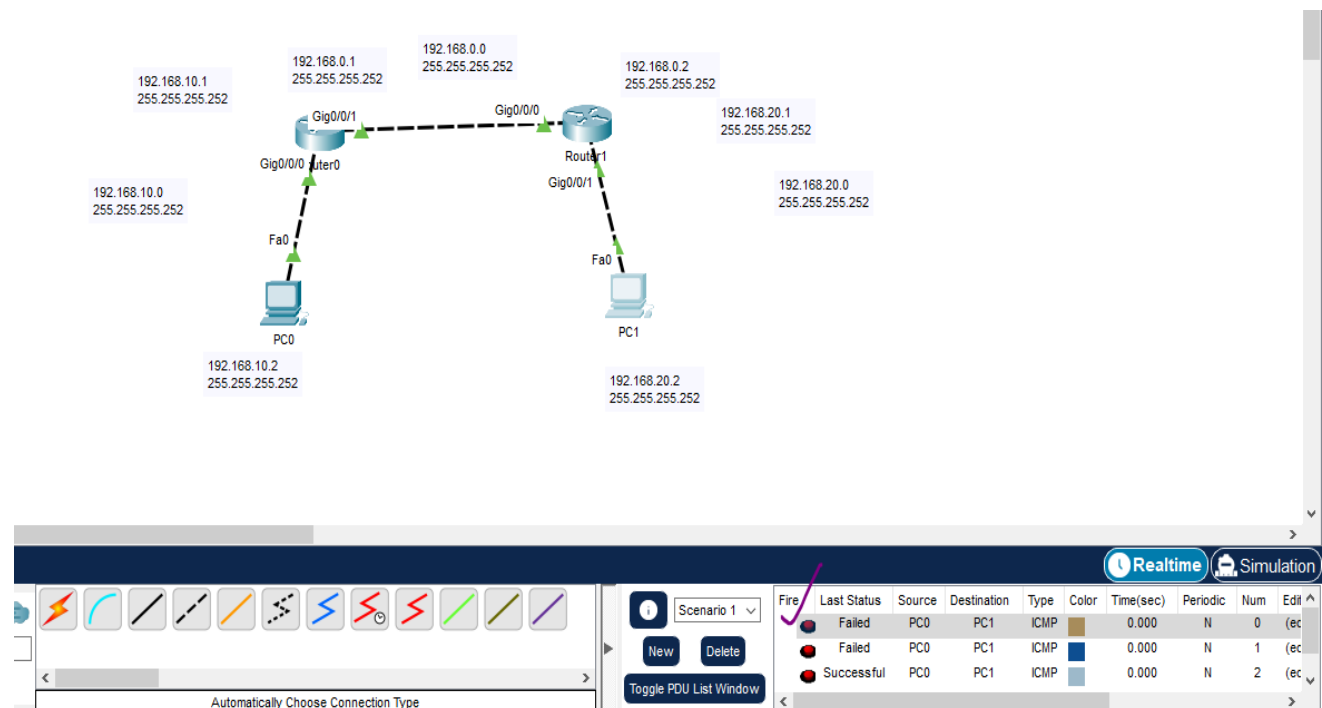
```
Router>en
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#ip route 192.168.10.0 255.255.255.252 192.168.0.1
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console
```

Ctrl+F6 to exit CLI focus

Copy

Paste

## Step5: Pass the packet from one subnet to another subnet and check the status.



## Command description:

Command	Description
Router>en	Enable global configuration mode
Router# conf t	Enter in global configuration mode
Router(config)#int Gig0/0/0	Enter interface mode from global configuration mode
Router(config-if)#ip address 192.168.10.1 255.255.255.252	Assign IP to the interface ( eg. Gig0/0/0)
Router(config-if)#no shutdown	Bring the interface up
Router(config-if)#exit	Return in global configuration mode
Router(config)#ip route 192.168.20.0 255.255.255.252 192.168.0.2	Enable static routing protocol to the destination network via next hop.

### Written by:

Nasima Islam Bithi  
Lecturer,  
Dept of CSE, DIU