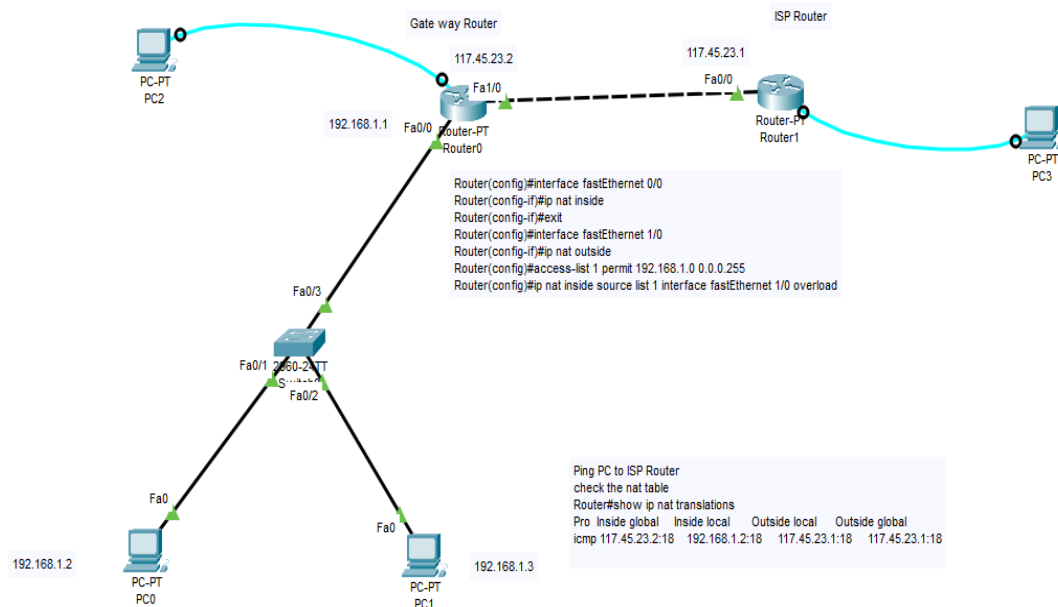


**Design a network that provides a pool of private IP addresses at each LANs. The LAN s in turn connected to a WAN Gate way Router with a pubic IP address provided by ISP.**



**Step 1:** Design the network as shown in the figure.

**Step 2:** To configure the routers port address using the Console.

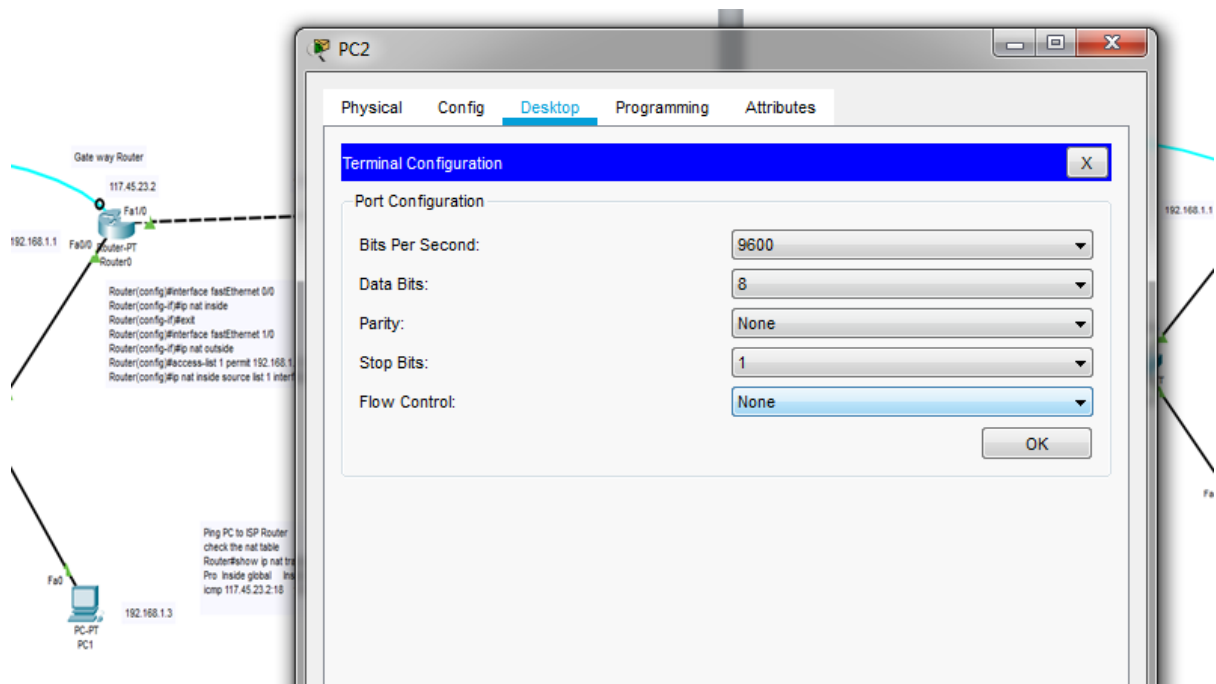
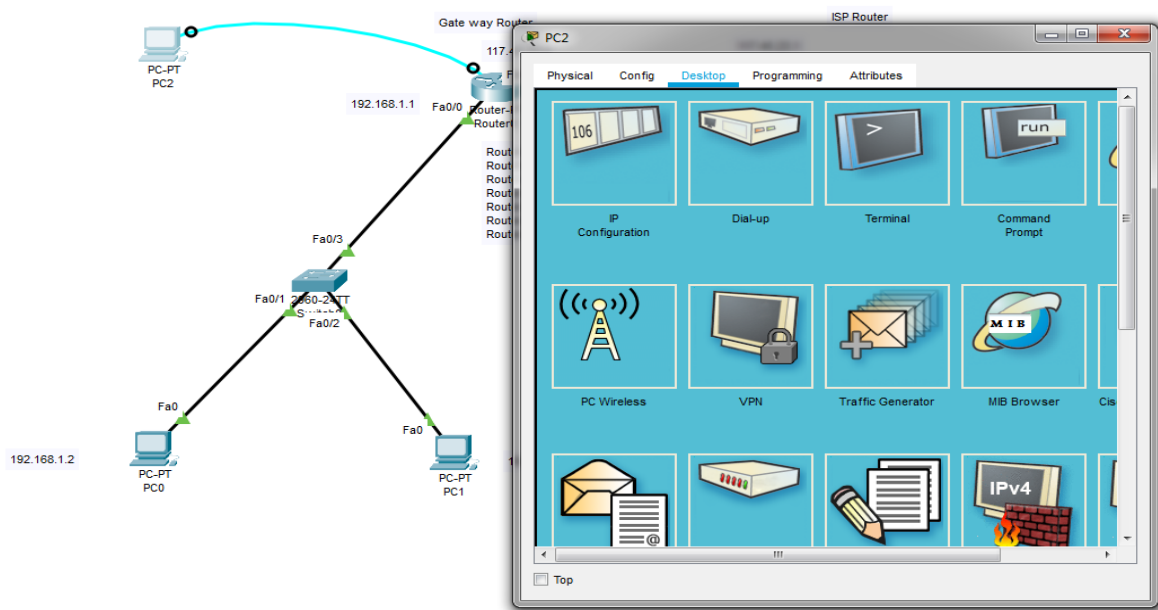
**Step 3 :** Configure the Gate way Router with NAT commands using Console.

**Step 4:** Demonstrate the working of NAT – PAT by pinging from PC to ISP router.

**Step 5 :**Use the command Show ip nat translations .

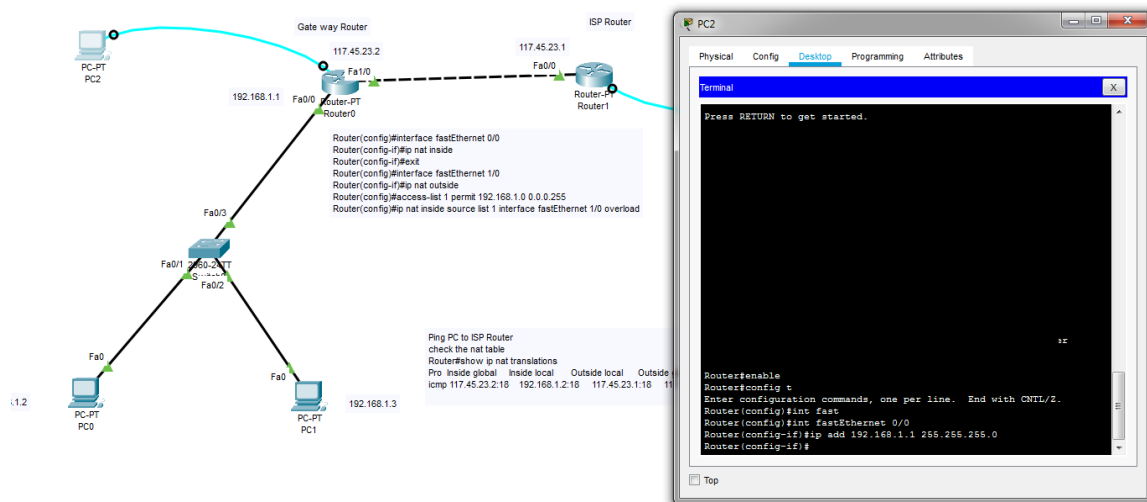
### **Procedure to Configure the Router Using Console**

1. Connect PC and Router using Console Cable.
2. PC using RS232C and Router to Console Port.
3. Click on PC
4. Select Terminal. Click OK. Now the PC will be used to configure the Router.

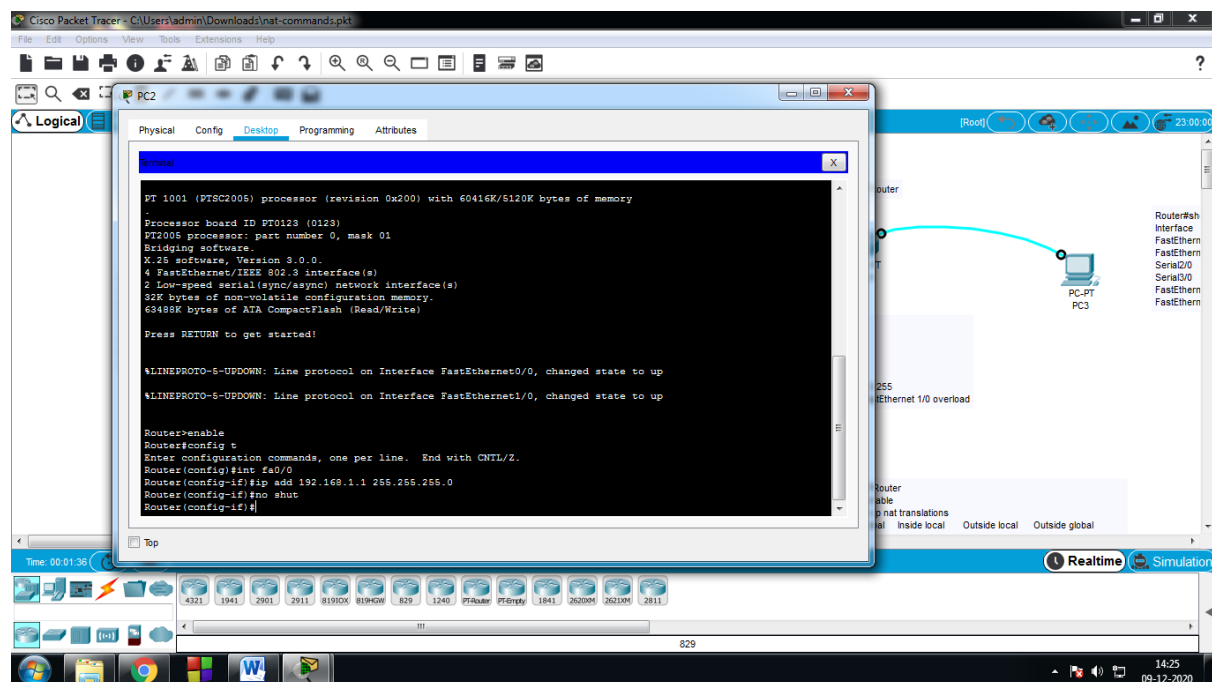


6. configure two ports fast0/0 and fast1/0 of Gateway Router

7. Configure Default Gateway of Router – Gateway Router using Console PC connected to Gateway Router.



Router>enable  
 Router#config t  
 Enter configuration commands, one per line. End with CNTL/Z.  
 Router(config)#int fa0/0  
 Router(config-if)#ip add 192.168.1.1 255.255.255.0  
 Router(config-if)#no shut



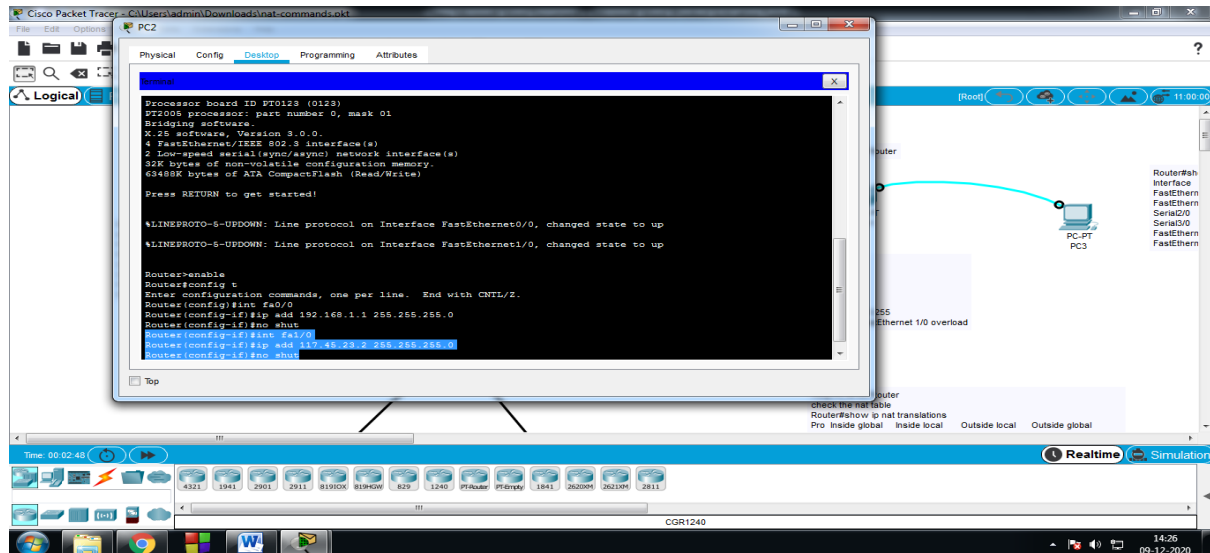
Router#enable  
 Router#config t

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

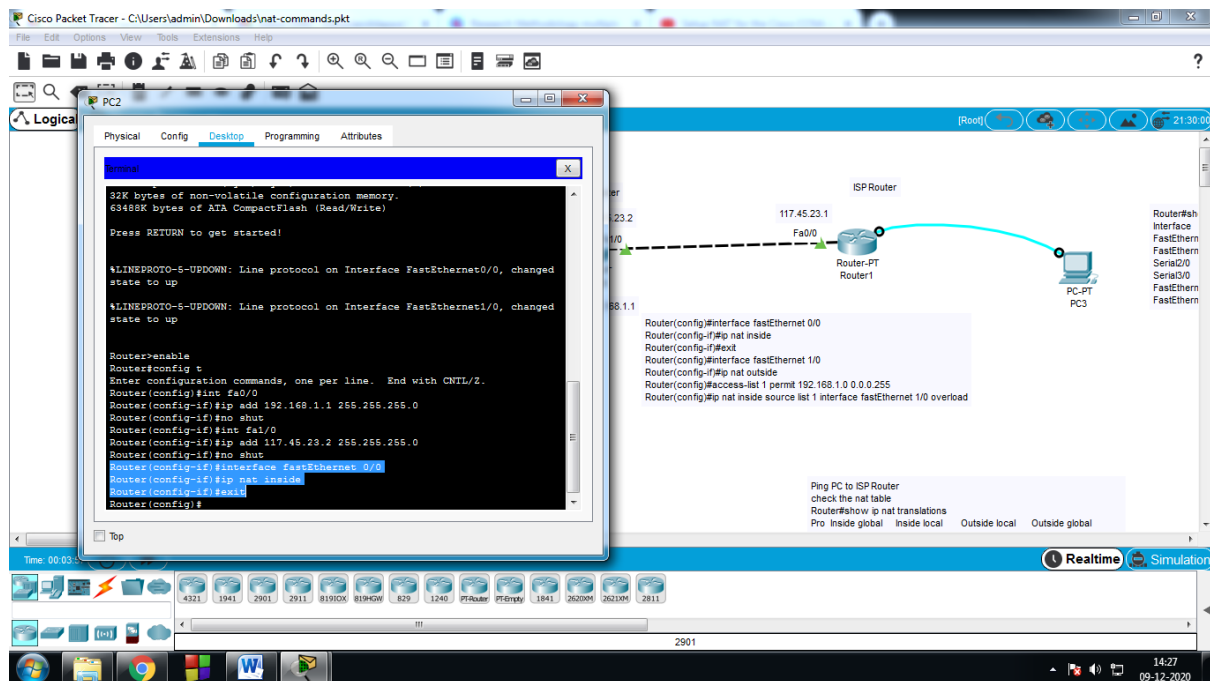
```
Router(config)#int fa1/0
```

```
Router(config-if)#ip add 117.45.23.2 255.255.255.0
```

```
Router(config-if)#no shut
```



## 8. configure NATing at Gate way Router



```

Router(config-if)#interface fastEthernet 0/0
Router(config-if)#ip nat inside
Router(config-if)#exit
Router(config)#interface fastEthernet 1/0
Router(config-if)#ip nat outside
Router(config-if)#access-list 1 permit 192.168.1.0 0.0.0.255
Router(config)#ip nat inside source list 1 interface fastEthernet 1/0 overload
Router(config)#

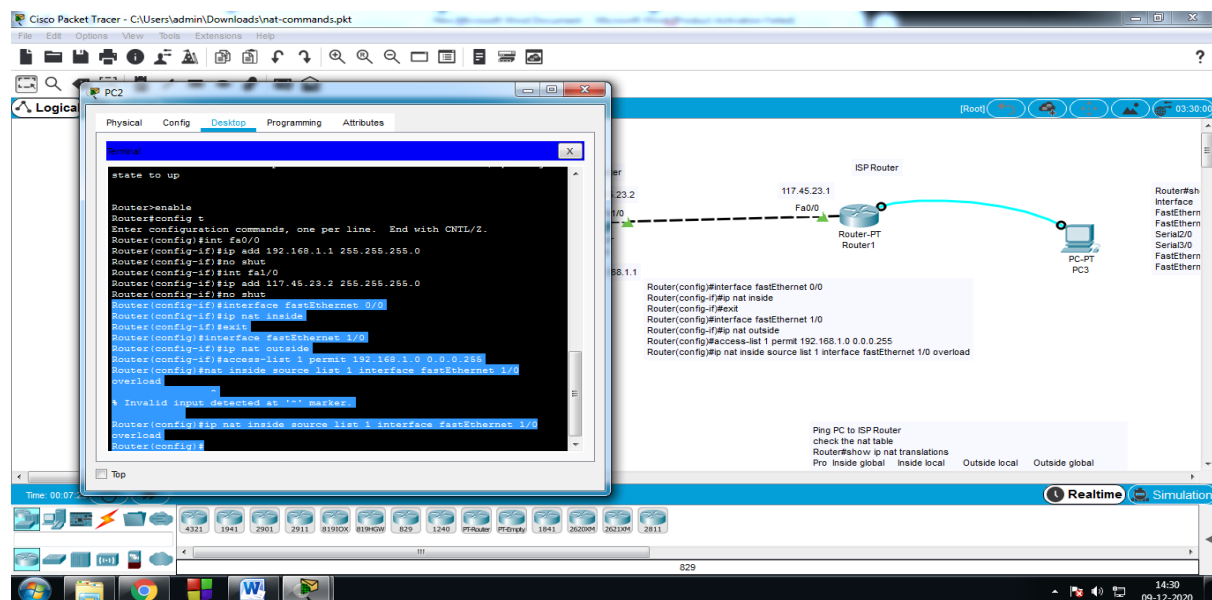
```

### To check whether the ports are configured are not

```

Router#show ip interface brief
Interface IP-Address OK? Method Status Protocol
FastEthernet0/0 192.168.1.1 YES manual up up
FastEthernet1/0 117.45.23.2 YES manual up up
Serial2/0 unassigned YES unset administratively down down
Serial3/0 unassigned YES unset administratively down down
FastEthernet4/0 unassigned YES unset administratively down down
FastEthernet5/0 unassigned YES unset administratively down down

```



9. Click on PC3 and configure the ports fast0/0 of ISP router

```

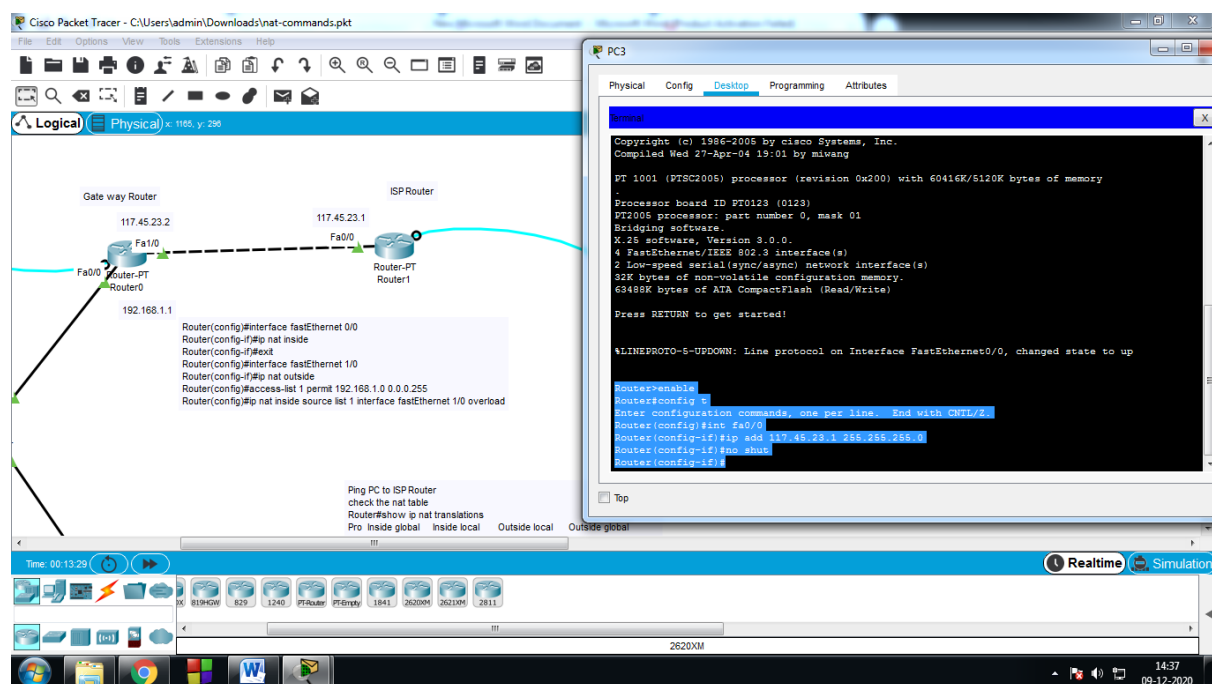
Router>enable
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.

```

```
Router(config)#int fa0/0
Router(config-if)#ip add 117.45.23.1 255.255.255.0
Router(config-if)#no shut
Router(config-if)#
```

**To check whether the ports are configured are not**

```
Router#show ip interface brief
Interface IP-Address OK? Method Status Protocol
FastEthernet0/0 117.45.23.1 YES manual up up
FastEthernet1/0 unassigned YES unset administratively down down
Serial2/0 unassigned YES unset administratively down down
Serial3/0 unassigned YES unset administratively down down
FastEthernet4/0 unassigned YES unset administratively down down
FastEthernet5/0 unassigned YES unset administratively down down
```



10 Ping PC to ISP Router and check the nat table

Router#enable

Router#show ip nat translations

