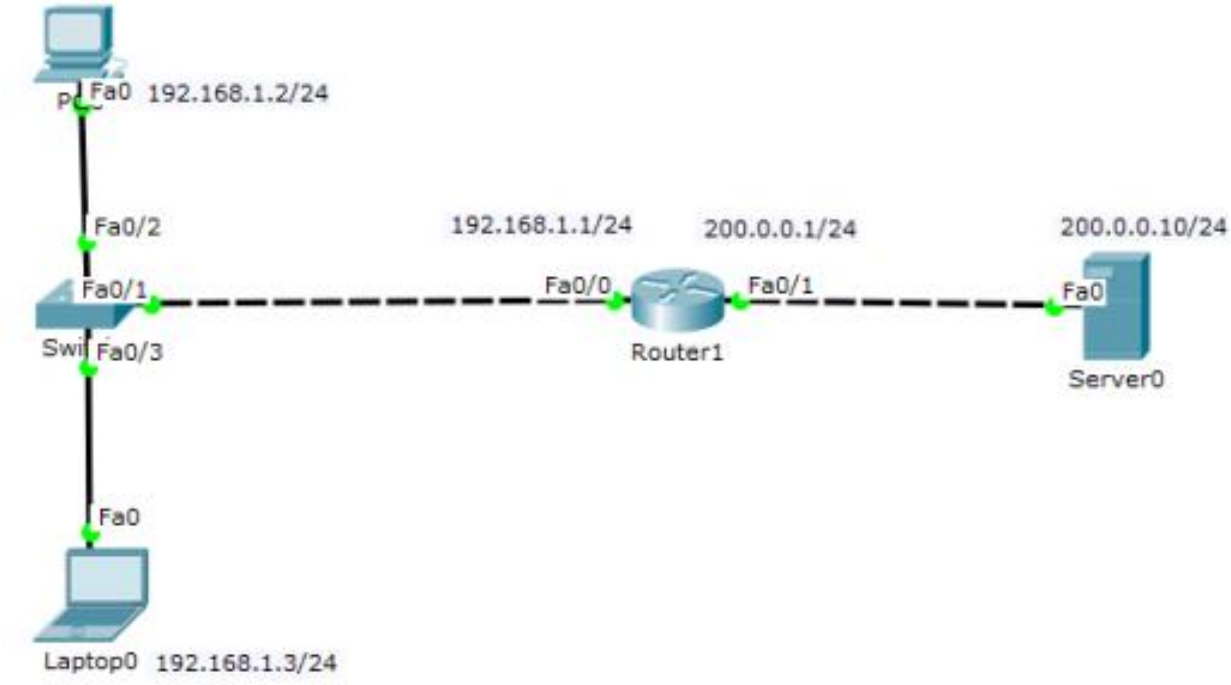
Ex. No: 12 Dynamic NAT configuration in Packet Tracer

In dynamic NAT, the router will dynamically pick a public address from the pool. The dynamic mapping entry will stay in the NAT translations as long as the traffic is being exchanged. Otherwise, after a period of no traffic flow, the global IP address will be reused for new translations.

Now, let's configure Dynamic NAT in Packet Tracer.

First build the network topology:



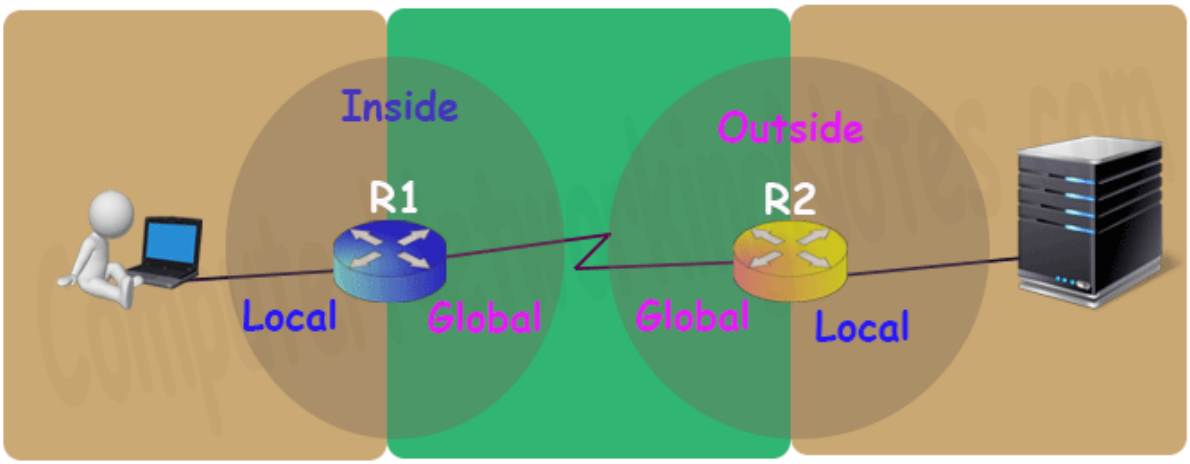
Router

Router(config) # int fa0/0
Router(config-if) # ip add 192.168.1.1 255.255.255.0
Router (config-if) #no shut
Router (config-if) #
Router (config-if) #int fa0/1
Router (config-if) # ip add 200.0.0.1 255.255.255.0
Router (config-if) #no shut

PC IP add 192.168.1.2/24 Default gateway 192.168.1.1(int fa0/0)

Laptop IP add 192.168.1.3/24 Default gateway 192.168.1.1 (int fa0/0)

Server IP add 200.0.0.10/24 Default gateway 200.0.0.1 (int fa0/1)



Now, to configure Dynamic NAT on the router we'll need to:

1. Configure the router's **inside address** using *ip nat inside* command.
2. Configure the router's **outside address** using *ip nat outside* command.
3. Create an **access list** of inside source source addresses to be translated.
4. Configure the pool of global IP addresses using the command

ip nat pool POOL_NAME FIRST_IP LAST _IP netmask SUBNET_MASK

5. Enable dynamic NAT on the router using:

ip nat inside source list ACL_NUMBER pool POOL_NAME

Dynamic NAT configurations:

```
Router (config) #int fa0/0
Router (config-if) #ip nat inside
Router (config-if) #int fa0/1
Router (config-if) #ip nat outside
Router (config-if) #exit
Router (config) #access- list 1 permit 192.168.1.0 0.0.0.5
Router (config) #ip nat pool mypool 155.21.21.10 155.21.21.15 netmask 255.255.0.0
Router (config) #ip nat inside source list 1 pool  mypool
```

That's all for configurations. We now proceed to test whether the address translations are actually taking place.

So then:Ping the server from the PC to 'trigger' off dynamic NAT translations.

When the PC sends the server a request via the router, the router will first map the private IP address of the PC into a public IP address from the pool. The router will then forward the request to the server, with the public IP address of the PC as the source address.

When the server responds with a packet destined for the PC,the router will look into its dynamic NAT table and translate the public IP of the PC to the private one, then forward the packet to the PC via the *ip NAT inside* interface (int fa0/0).

Verify dynamic NAT translations in the router using *show ip nat statistics* command:

Router# show ip nat statistics

```
Router#show ip nat statistics
Total translations: 0 (0 static, 0 dynamic, 0 extended)
Outside Interfaces: FastEthernet0/1
Inside Interfaces: FastEthernet0/0
Hits: 0  Misses: 5
Expired translations: 0
Dynamic mappings:
-- Inside Source
access-list 1 pool mypool refCount 0
 pool mypool: netmask 255.255.0.0
       start 155.21.21.10 end 155.21.21.15
       type generic, total addresses 6 , allocated 0 (0%), misses 0
```