Lab 5: Configuring NAT (Network Address Translation) on a Router

Aim:Configure NAT on a rc ,ter to enable multiple devices to share a single public IP address.

Objectives:

1. SetupNATonarouter.
2. ConfigureinternaldevicestouseprivateIPaddresses.
3. VerifyNATfunctionality.

Steps:

1. OpenCiscoPacketTracer:
   - ◯ Startanewproject.

2. Add Devices:
   - ◯ AddaRouter: Drag a router (e.g., 2911).
   - ◯ AddPCsandaServer: Connect PCs and a server to the router.

3. ConfigureNATontheRouter:

Access the router CLI and configure NAT:

```
Router> enable
Router# configure terminal
Router(config)# interface gig0/0
Router(config-if)# ip address 192.168.1.1 255.255.255.0
Router(config-if)# ip nat inside
Router(config-if)# exit
Router(config)# interface gig0/1
Router(config-if)# ip address 203.0.113.1 255.255.255.0
Router(config-if)# ip nat outside
```

```
Router(config-if)# exit
Router(config)# ip nat inside source list 1 interface gig0/1
overload
Router(config)# access-list 1 permit 192.168.1.0 0.0.0.255
```

4. Configure PCs with Private IP Addresses:
    - ◯ AssignprivateIPaddressestoPCs(e.g.,192.168.1.2,192.168.1.3).
5. Verify NAT Functionality:
    - ◯ OneachPC,usetheCommandPrompttopinganexternalIPaddress (e.g., 8.8.8.8) to verify NAT is working.