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

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

Objectives:

1. Set up NAT on a router.
2. Configure internal devices to use private IP addresses.
3. Verify NAT functionality.

Steps:

1. **Open Cisco Packet Tracer:** ○ Start a new project.

2. **Add Devices:**
   - **Add a Router:** Drag a router (e.g., 2911).
   - **Add PCs and a Server:** Connect PCs and a server to the router.

3. **Configure NAT on the Router:**

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:**
   - Assign private IP addresses to PCs (e.g., 192.168.1.2, 192.168.1.3).
5. **Verify NAT Functionality:**
   - On each PC, use the Command Prompt to ping an external IP address (e.g., 8.8.8.8) to verify NAT is working.