LAB 1

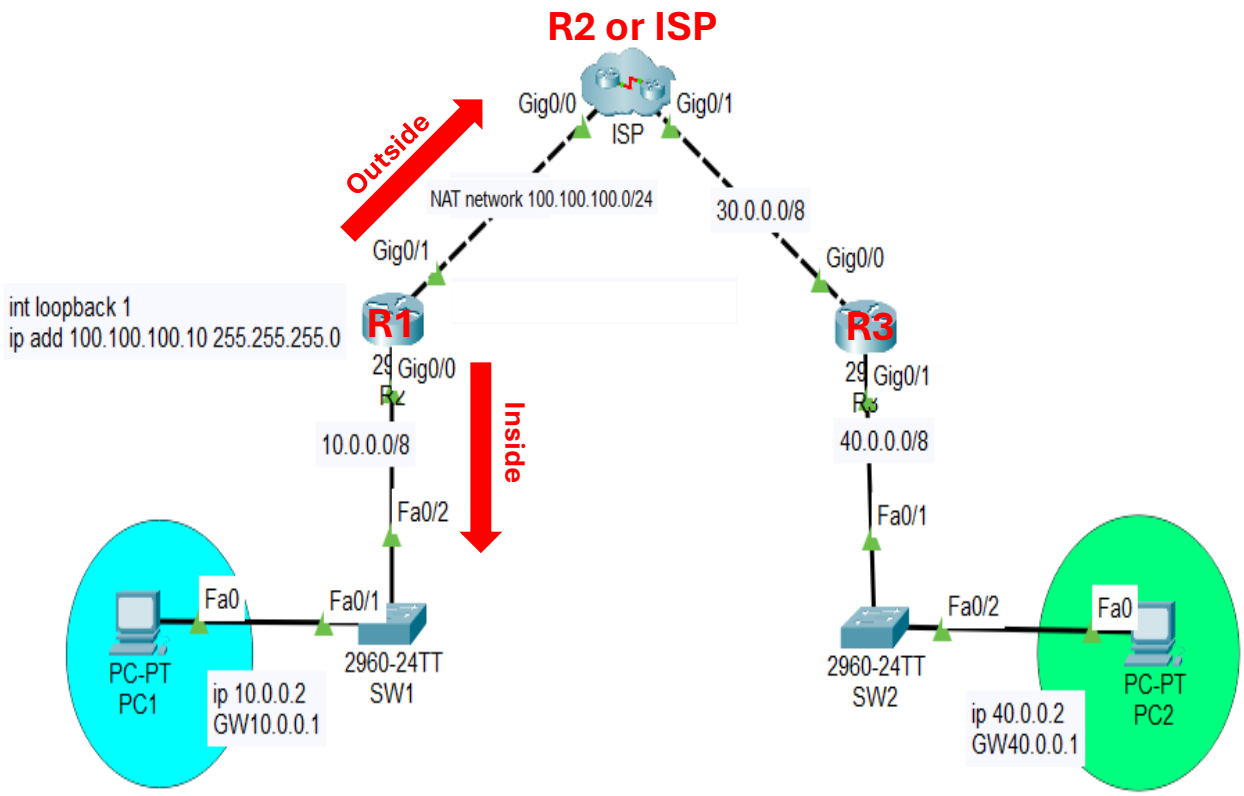
Static NAT and RIP

Network

Network Engineer: - Ahmed Abou_ELmaged Shallan Allam

- Using configuration static NAT in Router R1 Ping from PC1 to PC2 using IP 100.100.100.10/24
- Using configuration dynamic routing RIP between Routers R1, R2, ISP.
- Internal IP Address :10.0.0.2 /8
- External IP Address :100.100.100.10/24

Network Topology



Configuration Network Topology

R1
Router(config)# Router(config)#int g0/0 Router(config-if)#ip add 10.0.0.1 255.0.0.0 Router(config-if)#no shutdown Router(config-if)#int gig0/1 Router(config-if)#ip add 100.100.100.1 255.255.255.0 Router(config-if)#no shutdown Router(config-if)#int loopback 1 Router(config-if)#ip add 100.100.100.10 255.255.255.0 Router(config-if)#no shutdown
R2 or ISP
Router(config)# Router(config)#int g0/0 Router(config-if)#ip add 100.100.100.2 255.255.255.0 Router(config-if)#no shutdown Router(config-if)#int gig0/1 Router(config-if)#ip add 30.0.0.2 255.0.0.0 Router(config-if)#no shutdown
R3
Router(config)# Router(config)#int g0/0 Router(config-if)#ip add 30.0.0.3 255.0.0.0 Router(config-if)#no shutdown Router(config-if)#int gig0/1 Router(config-if)#ip add 40.0.0.1 255.0.0.0 Router(config-if)#no shutdown

Configuration Dynamic Routing RIP in Routers

R1
Router(config)# Router(config)#router rip Router(config-if)#version 2 Router(config-if)#network 10.0.0.0 Router(config-if)#network 100.100.100.0 Router(config-if)#
R2 or ISP
Router(config)# Router(config)#router rip Router(config-if)#version 2 Router(config-if)#network 100.100.100.0 Router(config-if)#network 30.0.0.0 Router(config-if)#
R3
Router(config)# Router(config)#router rip Router(config-if)#version 2 Router(config-if)#network 30.0.0.0 Router(config-if)#network 40.0.0.0 Router(config-if)#

Configuration Static NAT in Router R1

R1
Router(config)#int gig0/1 Router(config-if)#ip nat outside Router(config-if)#int gig0/0 Router(config-if)#ip nat inside Router(config)#ip nat inside source static 10.0.0.2 100.100.100.10 Router(config)#

Testing and Ping between two PCs

- **Ping from PC1 to PC2**

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 40.0.0.2

Pinging 40.0.0.2 with 32 bytes of data:

Reply from 40.0.0.2: bytes=32 time=1ms TTL=125
Reply from 40.0.0.2: bytes=32 time<1ms TTL=125
Reply from 40.0.0.2: bytes=32 time=10ms TTL=125
Reply from 40.0.0.2: bytes=32 time=11ms TTL=125
```

- **Show IP NAT translation in Router R1**

```
Router#
Router#sh ip nat tr
Pro  Inside global     Inside local       Outside local      Outside global
---  100.100.100.10    10.0.0.2           ---                ---

Router#sh ip nat tr
Pro  Inside global     Inside local       Outside local      Outside global
icmp 100.100.100.10:19 10.0.0.2:19        40.0.0.2:19        40.0.0.2:19
icmp 100.100.100.10:20 10.0.0.2:20        40.0.0.2:20        40.0.0.2:20
icmp 100.100.100.10:21 10.0.0.2:21        40.0.0.2:21        40.0.0.2:21
icmp 100.100.100.10:22 10.0.0.2:22        40.0.0.2:22        40.0.0.2:22
---  100.100.100.10    10.0.0.2           ---                ---

Router#
```

Helper Show :

Router# show ip nat translations

Router# show ip nat statistics

Thanks