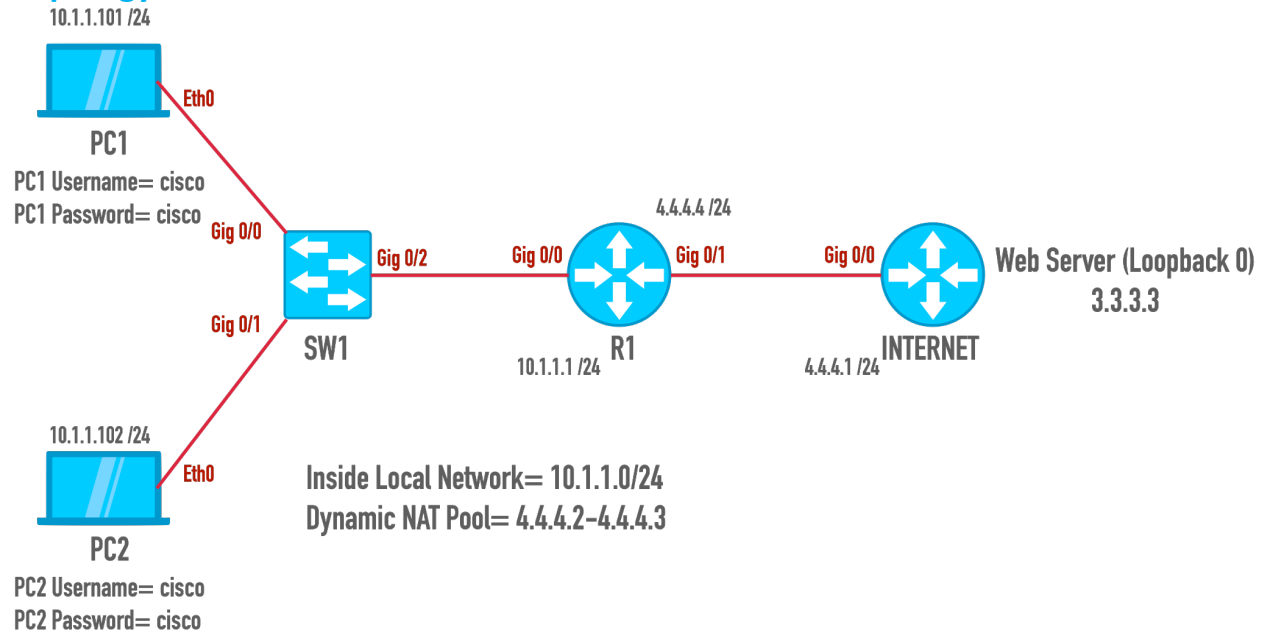


Dynamic NAT

Topology



Initial Configuration Commands

PC1:

```
sudo ifconfig eth0 10.1.1.101 netmask 255.255.255.0 up  
sudo ip route default via 10.1.1.1
```

PC2:

```
sudo ifconfig eth0 10.1.1.102 netmask 255.255.255.0 up  
sudo ip route default via 10.1.1.1
```

SW1:

```
enable  
conf t  
no ip domain-lookup  
logging console  
line con 0  
logging synchronous  
exec-timeout 0 0  
hostname SW1
```

```
end
copy run star
```

R1:

```
enable
conf t
no ip domain-lookup
logging console
line con 0
logging synchronous
exec-timeout 0 0
hostname R1
int gig 0/0
no shutdown
ip address 10.1.1.1 255.255.255.0
int gig 0/1
no shutdown
ip address 4.4.4.4 255.255.255.0
router ospf 1
network 10.1.1.0 0.0.0.255 area 0
network 4.4.4.0 0.0.0.255 area 0
end
copy run star
```

INTERNET:

```
enable
conf t
no ip domain-lookup
logging console
line con 0
logging synchronous
exec-timeout 0 0
hostname INTERNET
int gig 0/0
no shutdown
ip address 4.4.4.1 255.255.255.0
int lo 0
ip address 3.3.3.3 255.255.255.0
router ospf 1
network 4.4.4.0 0.0.0.255 area 0
network 3.3.3.0 0.0.0.255 area 0
end
copy run star
```

Lab Tasks

- On R1, designate which interface will be the inside NAT interface and which will be the outside NAT interface.
- Identify the inside local network by use of an ACL.
- Define the inside global NAT pool.
- Login to PC1 and PC2 (username= cisco, password= cisco) and verify connectivity between both PCs and web server, and verify that the dynamic translations take place on R1.

Solution

Step 1: On R1, designate which interface will be the inside NAT interface and which will be the outside NAT interface.

```
R1>en
R1#conf t
R1 (config) #int gig 0/0
R1 (config-if) #ip nat inside
R1 (config-if) #int gig 0/1
R1 (config-if) #ip nat outside
R1 (config-if) #exit
```

Step 2: Identify the inside local network by use of an ACL.

```
R1 (config) #access-list 1 permit 10.1.1.0 0.0.0.255
```

Step 3: Define the inside global NAT pool.

```
R1 (config) #ip nat pool POOL 4.4.4.2 4.4.4.3 netmask 255.255.255.0
R1 (config) #ip nat inside source list 1 pool POOL
R1 (config) #end
```

Step 4: Login to PC1 and PC2 (username= cisco, password= cisco) and verify connectivity between both PCs and web server, and verify that the dynamic translations take place on R1.

PC1

inserthostname-here login: **cisco**
Password: **cisco**

```
inserthostname-here:~$ ping 3.3.3.3
PING 3.3.3.3 (3.3.3.3): 56 data bytes
64 bytes from 3.3.3.3: seq=1 ttl=42 time=3.747 ms
64 bytes from 3.3.3.3: seq=2 ttl=42 time=4.397 ms
64 bytes from 3.3.3.3: seq=3 ttl=42 time=3.903 ms
64 bytes from 3.3.3.3: seq=4 ttl=42 time=4.209 ms
```

PC2

```
inserthostname-here login: cisco
Password: cisco
```

```
inserthostname-here:~$ ping 3.3.3.3
PING 3.3.3.3 (3.3.3.3): 56 data bytes
64 bytes from 3.3.3.3: seq=1 ttl=42 time=4.105 ms
64 bytes from 3.3.3.3: seq=2 ttl=42 time=3.969 ms
64 bytes from 3.3.3.3: seq=3 ttl=42 time=4.085 ms
64 bytes from 3.3.3.3: seq=4 ttl=42 time=3.814 ms
```

```
R1#show ip nat translation
```

Pro	Inside global	Inside local	Outside local	Outside global
icmp	4.4.4.2:2	10.1.1.101:2	3.3.3.3:2	3.3.3.3:2
---	4.4.4.2	10.1.1.101	---	---
icmp	4.4.4.3:2	10.1.1.102:2	3.3.3.3:2	3.3.3.3:2
---	4.4.4.3	10.1.1.102	---	---

```
(##PC1 and PC2 Inside local ip address)
```

```
(##PC1 and PC2 Inside global ip address translation)
```