

## Packet Tracer - Configure PAT

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### Objectives

**Part 1: Configure Dynamic NAT with Overload**

**Part 2: Verify Dynamic NAT with Overload Implementation**

**Part 3: Configure PAT using an Interface**

**Part 4: Verify PAT Interface Implementation**

### Part 1: Configure Dynamic NAT with Overload

#### Step 1: Configure traffic that will be permitted.

On **R1**, configure one statement for ACL 1 to permit any address belonging to 172.16.0.0/16.

```
R1(config)# access-list 1 permit 172.16.0.0 0.0.255.255
```

#### Step 2: Configure a pool of address for NAT.

Configure **R1** with a NAT pool that uses the two useable addresses in the 209.165.200.232/30 address space.

```
R1(config)# ip nat pool ANY_POOL_NAME 209.165.200.233 209.165.200.234 netmask  
255.255.255.252
```

#### Step 3: Associate ACL 1 with the NAT pool and allow addresses to be reused.

```
R1(config)# ip nat inside source list 1 pool ANY_POOL_NAME overload
```

#### Step 4: Configure the NAT interfaces.

Configure **R1** interfaces with the appropriate inside and outside NAT commands.

```
R1(config)# interface s0/1/0  
R1(config-if)# ip nat outside  
R1(config-if)# interface g0/0/0  
R1(config-if)# ip nat inside  
R1(config-if)# interface g0/0/1
```

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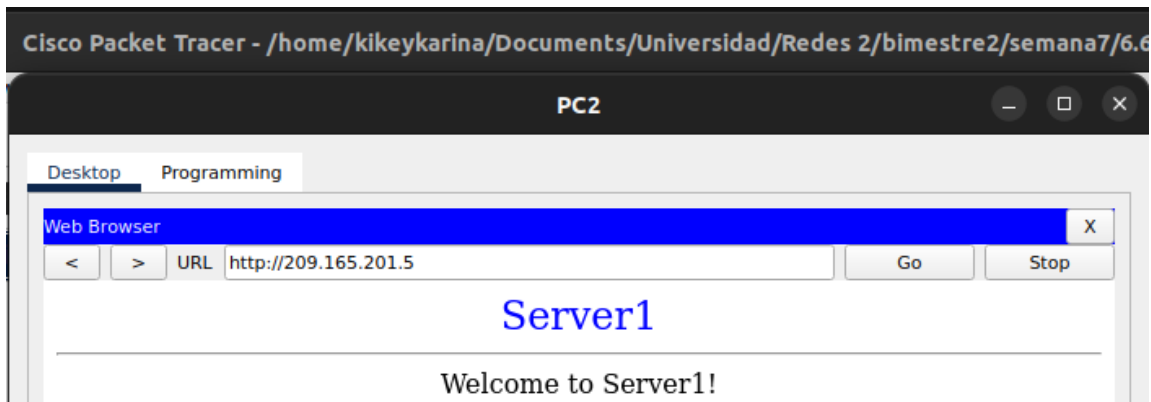
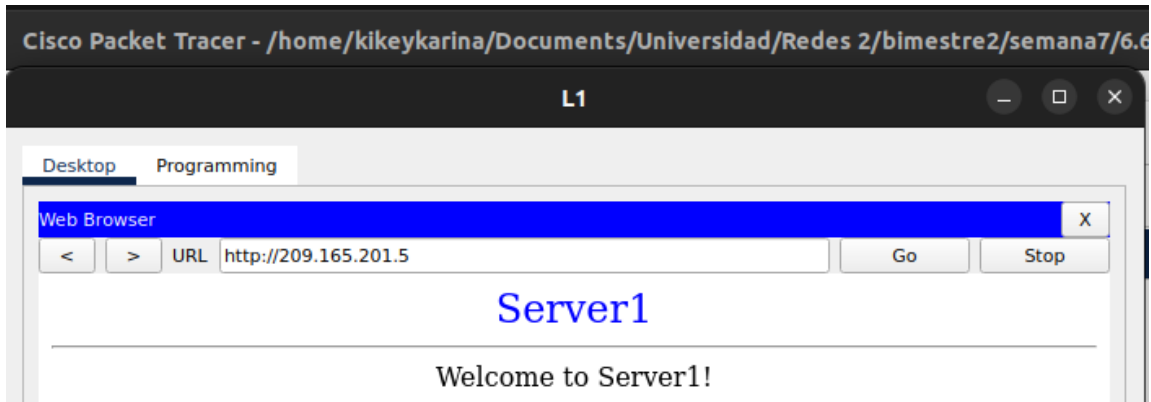
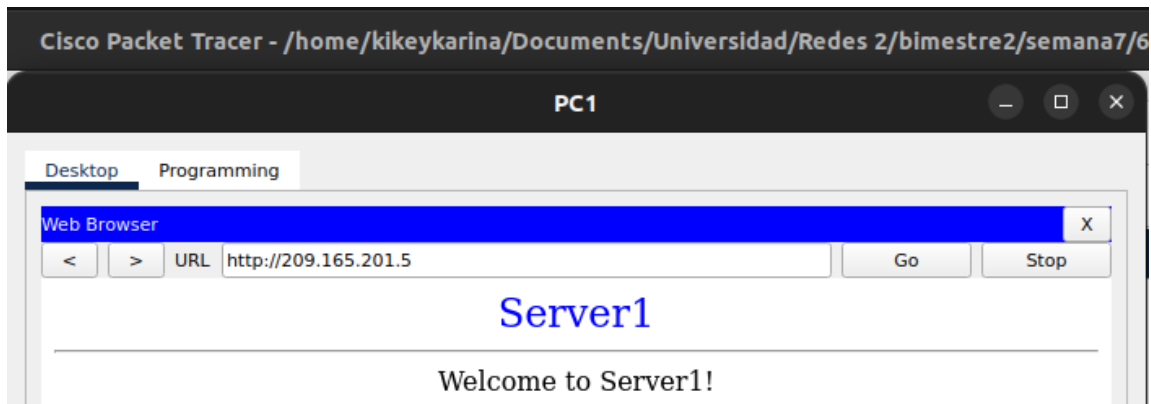
### Packet Tracer - Configure PAT

```
R1(config-if)# ip nat inside
```

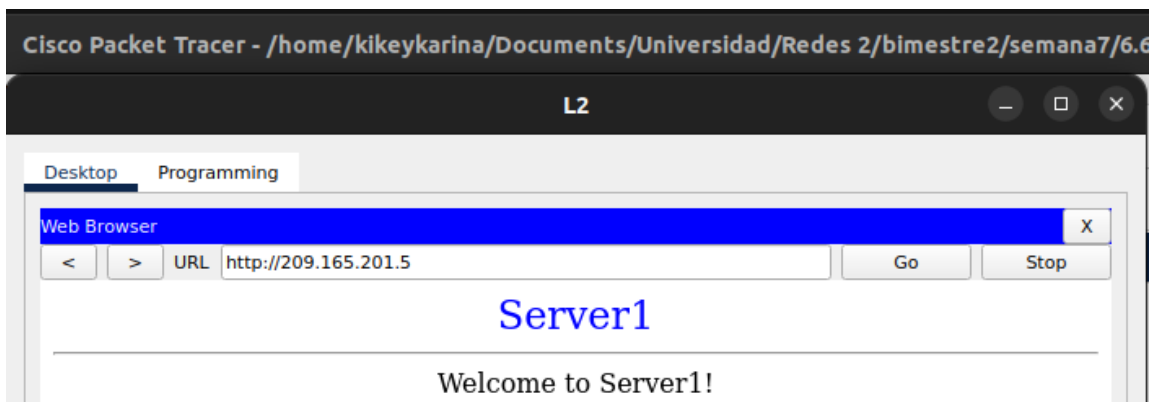
### Part 2: Verify Dynamic NAT with Overload Implementation

#### Step 1: Access services across the internet.

From the web browser of each of the PCs that use **R1** as their gateway (**PC1**, **L1**, **PC2**, and **L2**), access the web page for **Server1**.



## Packet Tracer - Configure PAT



Were all connections successful?

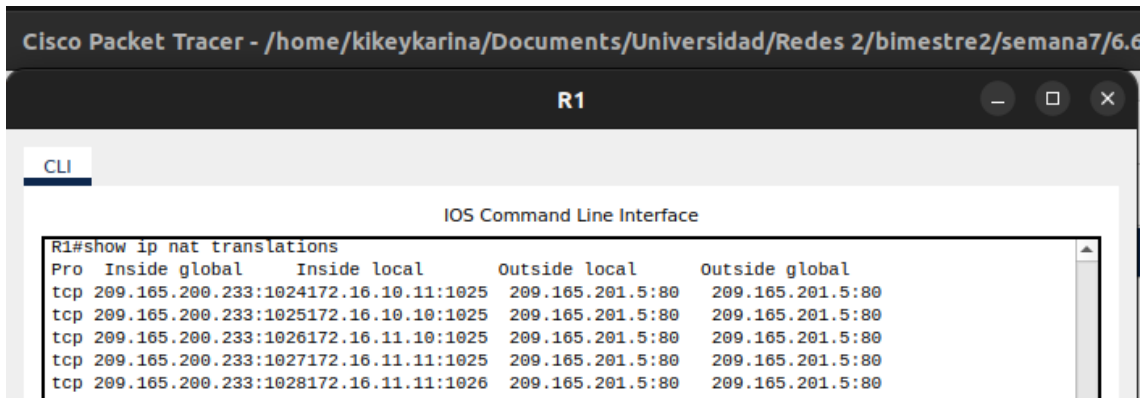
**R:** Yes, in each device the connection was successfully

## Step 2: View NAT translations.

View the NAT translations on **R1**.

```
R1# show ip nat translations
```

Notice that all four devices were able to communicate, and they are using just one address out of the pool. PAT will continue to use the same address until it runs out of port numbers to associate with the translation. Once that occurs, the next address in the pool will be used. While the theoretical limit would be 65,536 since the port number field is a 16 bit number, the device would likely run out of memory before that limit would be reached.



## Part 3: Configure PAT using an Interface

### Step 1: Configure traffic that will be permitted.

On **R2**, configure one statement for ACL 2 to permit any address belonging to 172.17.0.0/16.

### Step 2: Associate ACL 2 with the NAT interface and allow addresses to be reused.

Enter the **R2** NAT statement to use the interface connected to the internet and provide translations for all internal devices.

```
R2(config)# ip nat inside source list 2 interface s0/1/1 overload
```

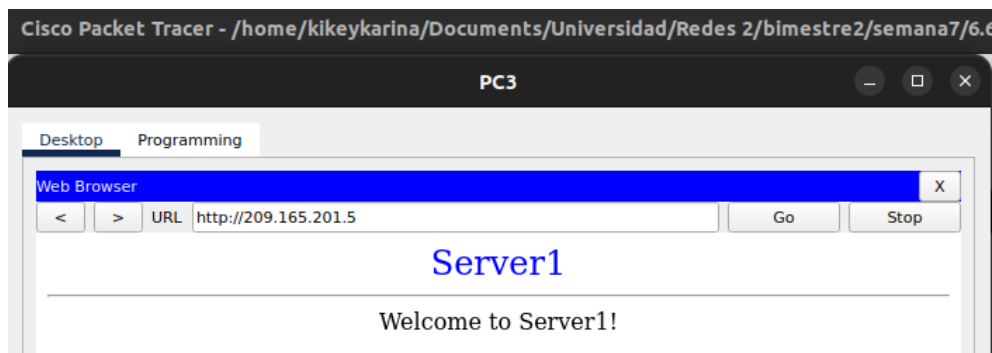
### Step 3: Configure the NAT interfaces.

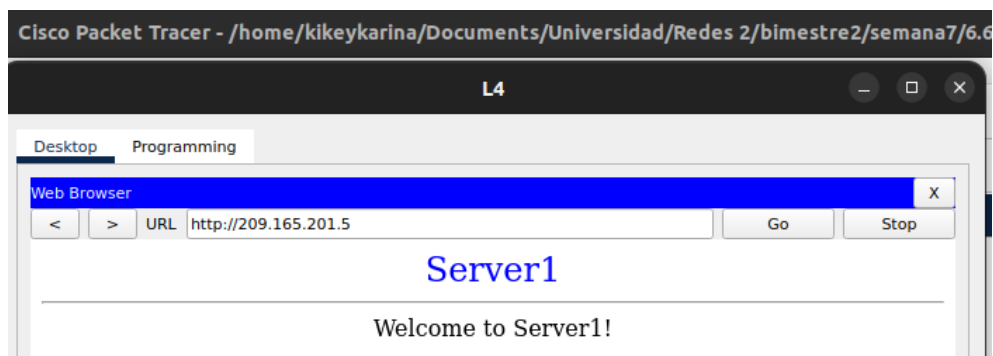
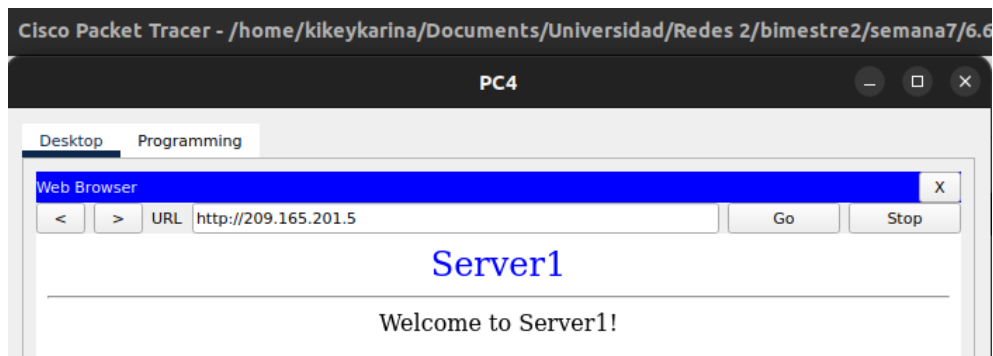
Configure **R2** interfaces with the appropriate inside and outside NAT commands.

## Part 4: Verify PAT Interface Implementation

### Step 1: Access services across the internet.

From the web browser of each of the PCs that use **R2** as their gateway (**PC3**, **L3**, **PC4**, and **L4**), access the web page for **Server1**.



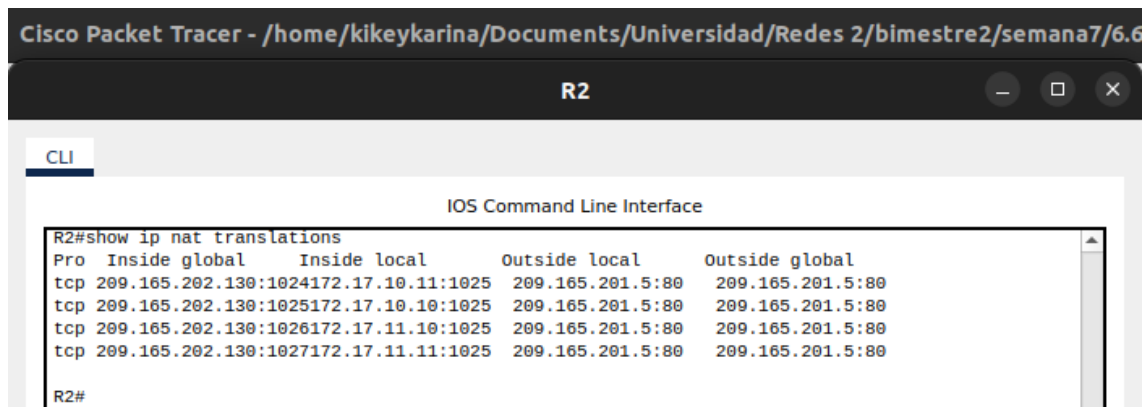


Were all connections successful?

**R:** Yes, in each device the connection was successfully

## Step 2: View NAT translations.

View the NAT translations on R2.



### Step 3: Compare NAT statistics on R1 and R2.

Compare the NAT statistics on the two devices.

Why doesn't **R2** list any dynamic mappings?

**R:** Nunca se le asigno una pool de direcciones nat solo una dirección NAT.

## SCREENSHOT

The screenshot displays the Cisco Packet Tracer interface with the 'Assessment Items' tab selected. The main window shows a tree view of configuration items for R1 and R2, with a table of assessment results. The table columns are Assessment Items, Status, Points, Component(s), and Feedback. The items are categorized under Network, R1, and R2. The assessment results show that all items are correct, with a total score of 100/100. A summary table on the right provides a breakdown of the scores for each component.

Assessment Items	Status	Points	Component(s)	Feedback
Network				
ACL		0	Acl	
1	Correct	5	ACL	
NAT				
Inside Source List		0	Nat	
NAT Source Setting 1	Correct	20	Dynamic PAT C...	
Pools		0	Nat	
Pool Name 1	Correct	20	Dynamic PAT C...	
Ports				
GigabitEthernet0/0/0		0	Other	
NAT Mode	Correct	5	NAT Interface ...	
GigabitEthernet0/0/1		0	Other	
NAT Mode	Correct	5	NAT Interface ...	
Serial0/1/0		0	Other	
NAT Mode	Correct	5	NAT Interface ...	
R2				
ACL		0	Acl	
2	Correct	5	ACL	
NAT		0	Nat	
Inside Source List		0	Nat	
NAT Source Setting 1	Correct	20	PAT Single Add...	
Ports				
GigabitEthernet0/0/0		0	Other	
NAT Mode	Correct	5	NAT Interface ...	
GigabitEthernet0/0/1		0	Other	
NAT Mode	Correct	5	NAT Interface ...	
Serial0/1/1		0	Other	
NAT Mode	Correct	5	NAT Interface ...	

Component	Items/Total	Score
Dynamic PAT Configuration	2/2	40/40
NAT Interface Configuration	6/6	30/30
PAT Single Address Configuration	1/1	20/20

