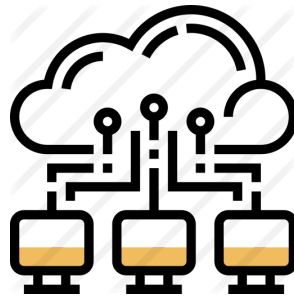




INSTITUTO POLITÉCNICO NACIONAL
ESCUELA SUPERIOR DE CÓMPUTO



ADMINISTRACIÓN DE SERVICIOS EN RED

Actividad

2_5 Desafío de configuración de ACL's

EQUIPO 1

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Activity 5.5.2:

Challenge Access Control Lists

NOTE TO USER: This activity is a variation of Lab 5.5.2. Packet Tracer may not support all the tasks specified in the hands-on lab. This activity should not be considered equivalent to completing the hands-on lab. Packet Tracer is not a substitute for a hands-on lab experience with real equipment.

Addressing table

Device	Interface	IP address	Subnet Mask	Default Gateway
R1	S0/0/0	10.1.1.0	255.255.255.252	N/A
	Fa0/0	10.1.1.254	255.255.255.0	N/A
R2	S0/0/1	10.1.0.2	255.255.255.252	N/A
	S0/0/1	10.3.0.1	255.255.255.252	N/A
R3	S0/0/1	10.3.0.2	255.255.255.252	N/A
	Fa0/0	10.3.1.254	255.255.255.0	N/A
PC1	NIC	10.1.1.1	255.255.255.0	10.1.1.254
PC2	NIC	10.3.1.1	255.255.255.0	10.3.1.254

Task 1: Perform Basic Configurations

Step 1. Configure all devices.

Configure all devices according to the following guidelines:

- Configure the router hostname.
- Disable DNS lookup.
- Configure an encrypted privileged EXEC password of class.
- Configure a message-of-the-day banner
- Configure a password of cisco for console connections.
- Configure a password of cisco for vty connections.
- Configure IP addresses and masks on all devices. Clock rate is 64000.
- Enable OSPF with process ID 1 on all routers for all networks.
- Configure IP addressing and default gateways on each PC.
- Verify full IP connectivity using the ping command.

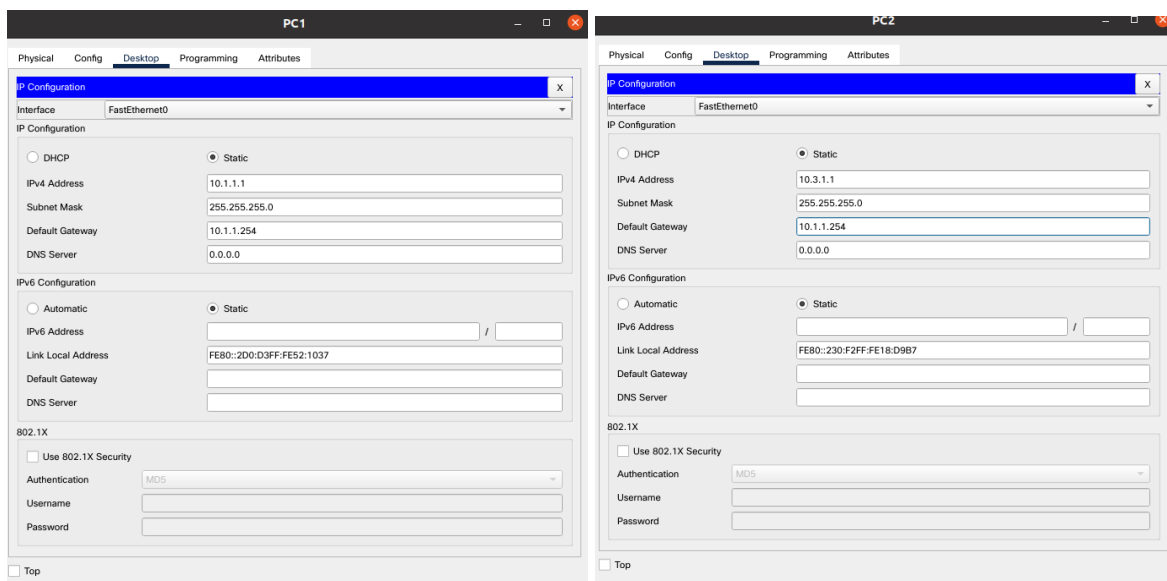
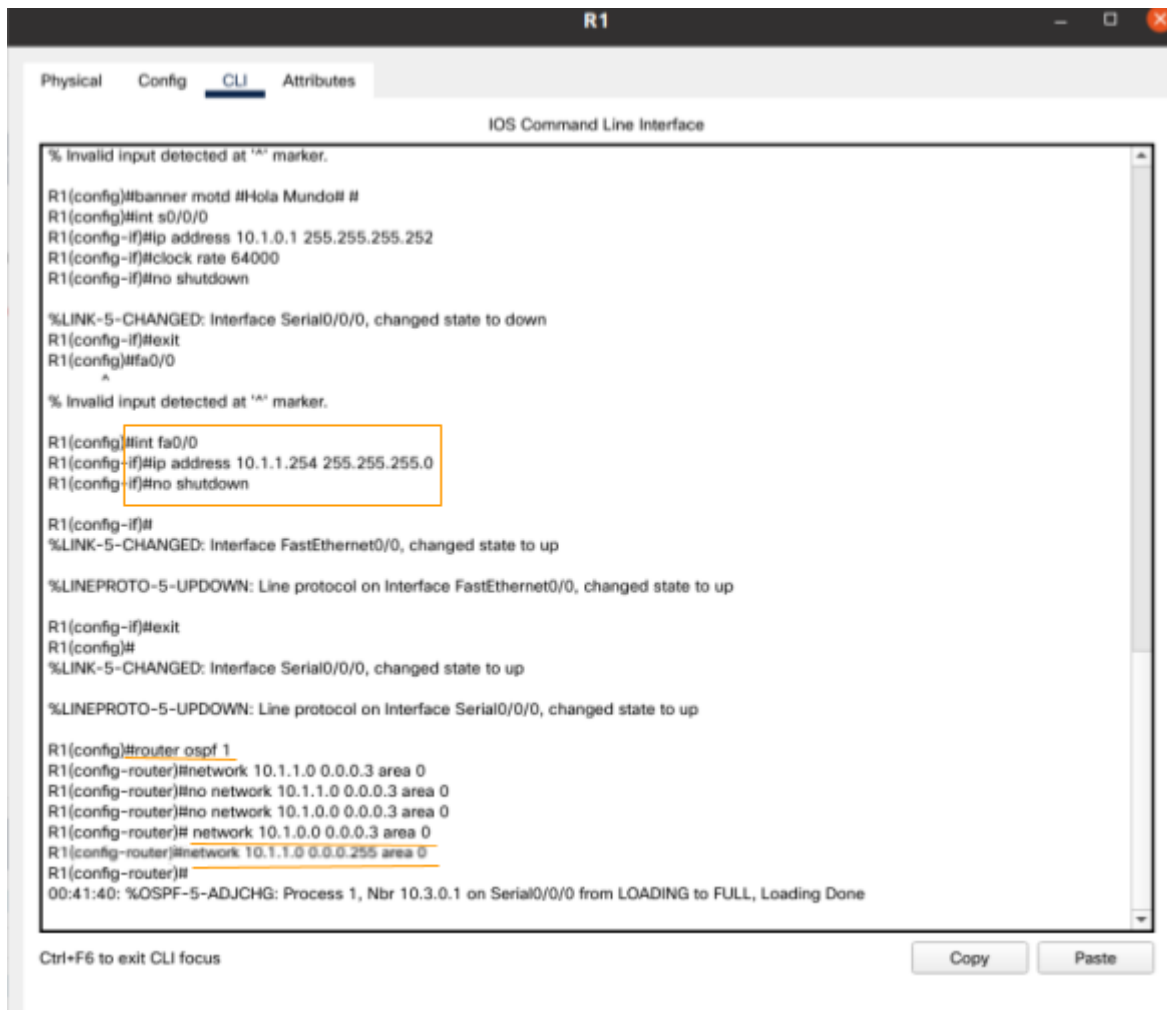
ROUTER 1:

The screenshot shows the R1 CLI interface with the following commands and output:

```
Router>en
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#hostname R1
R1(config)#no ip domain-lookup
R1(config)#
R1(config)#enable secret class
R1(config)#line console 0
R1(config-line)#password cisco
R1(config-line)#login
R1(config-line)#exit
R1(config)#line vty 0 4
R1(config-line)#password cisco
R1(config-line)#login
R1(config-line)#exit
R1(config)#banner motd ?
LINE c banner-text c, where 'c' is a delimiting character
R1(config)#banner ?
login Set login banner
motd Set Message of the Day banner
R1(config)#banner motd #HOLA MUNDO#
^
% Invalid input detected at '^' marker.
R1(config)#banner motd #HOLA MUNDO# #
^
% Invalid input detected at '^' marker.
R1(config)#banner motd #HOLA MUNDO# #
R1(config)#int s0/0/0
R1(config-if)#ip address 10.1.0.1 255.255.255.252
R1(config-if)#clock rate 64000
R1(config-if)#no shutdown

%LINK-5-CHANGED: Interface Serial0/0/0, changed state to down
R1(config-if)#exit
```

Below the CLI window, there is a text box with the instruction: "Ctrl+F6 to exit CLI focus". To the right of this text box are two buttons: "Copy" and "Paste".



Step 2. Check Results.

Your completion percentage should be 85%. If not, click Check Results to see which required components are not yet completed.

The screenshot displays the Cisco Packet Tracer interface. The main workspace shows a network topology with two routers, R1 and R2, connected via their Serial interfaces (Se0/0/0 and Se0/0/1). R1 is configured with IP 10.1.0.0/30 and R2 with IP 10.3.0.0/30. R1 is also connected to PC1 (10.1.1.1) via its Fa0/0 interface (10.1.1.0/24). R2 is connected to PC2 (10.3.1.1) via its Fa0/0 interface (10.3.1.0/24). The interface is titled "Cisco Packet Tracer - /home/alis/Escritorio/Administracion de redes/5.5.2 Challenge Access Control Lists.pka".

Overlaid on the right is the "PC1" configuration window, specifically the "Desktop" tab. It shows the "Command Prompt" window with the following output:

```
Packet Tracer PC Command Line 1.0
C:\>ping 10.3.1.1

Pinging 10.3.1.1 with 32 bytes of data:

Reply from 10.3.1.1: bytes=32 time=31ms TTL=125
Reply from 10.3.1.1: bytes=32 time=2ms TTL=125
Reply from 10.3.1.1: bytes=32 time=2ms TTL=125
Reply from 10.3.1.1: bytes=32 time=2ms TTL=125

Ping statistics for 10.3.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 31ms, Average = 9ms

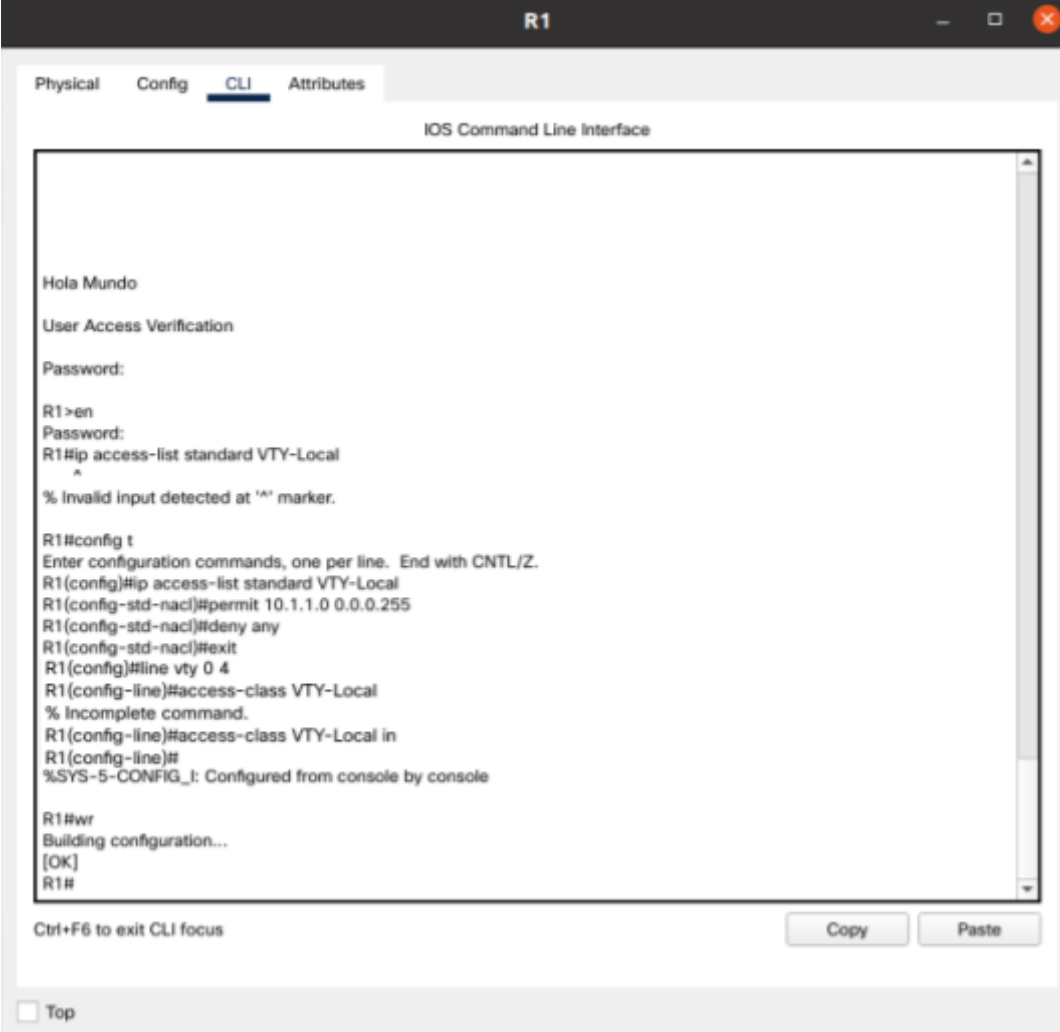
C:\>
```

At the bottom of the PC1 window, there is a "Toggle PDU List Window" button.

Task 2: Configuring Standard ACLs

Step 1. Configure standard ACLs on R1 and R3.

Configure standard named ACLs on the R1 and R3 vty lines, permitting hosts connected directly to their Fast Ethernet subnets to gain Telnet access. Deny all other connection attempts. Name these standard ACLs VTY-Local. Document your testing procedures.



The screenshot shows the R1 CLI interface with the following text:

```
R1
Physical Config CLI Attributes
IOS Command Line Interface

Hola Mundo

User Access Verification

Password:

R1>en
Password:
R1#ip access-list standard VTY-Local
^
% Invalid input detected at '^' marker.

R1#conf t
Enter configuration commands, one per line. End with CNTL/Z.
R1(config)#ip access-list standard VTY-Local
R1(config-std-nacl)#permit 10.1.1.0 0.0.0.255
R1(config-std-nacl)#deny any
R1(config-std-nacl)#exit
R1(config)#line vty 0 4
R1(config-line)#access-class VTY-Local
% Incomplete command.
R1(config-line)#access-class VTY-Local in
R1(config-line)#
%SYS-5-CONFIG_I: Configured from console by console

R1#wr
Building configuration...
[OK]
R1#
```

At the bottom of the window, there is a "Ctrl+F6 to exit CLI focus" message, "Copy" and "Paste" buttons, and a "Top" button with a checkbox.

Step 2. Check Results.

Your completion percentage should be 94%. If not, click Check Results to see which required components are not yet completed.

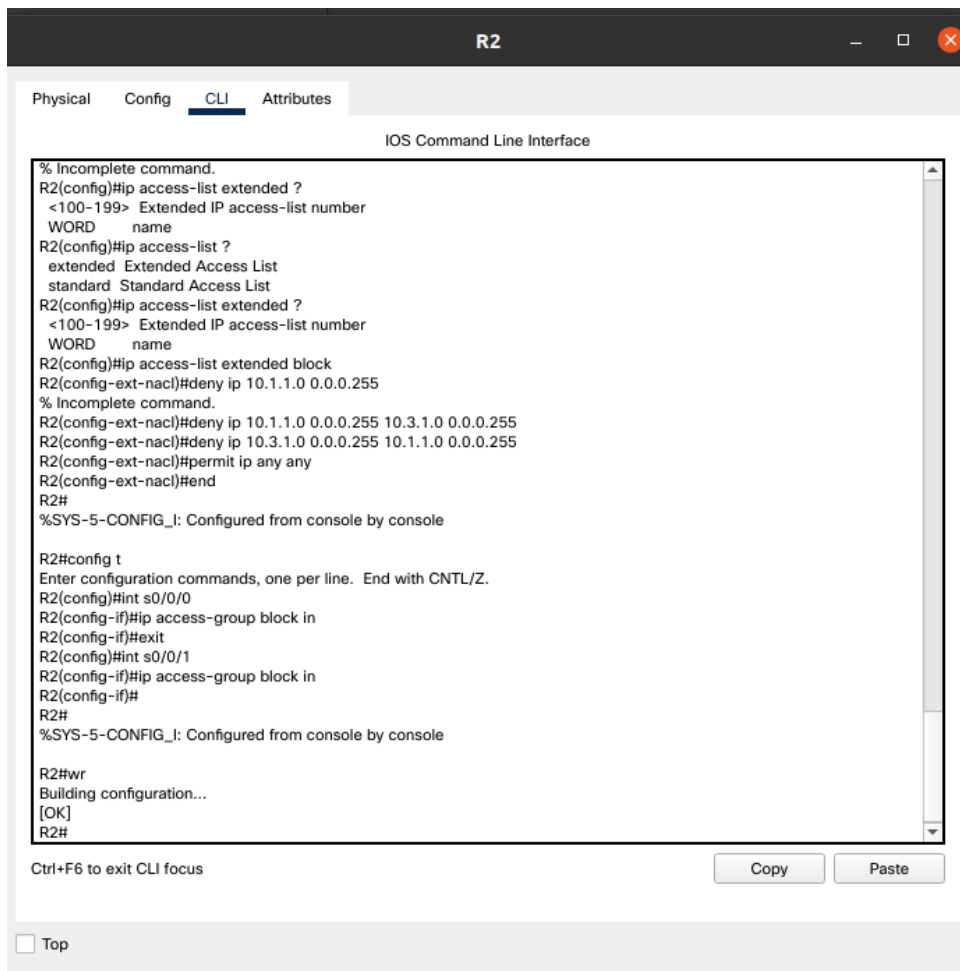
Task 3: Configuring Extended ACLs

Step 1. Configure extended ACLs on R2.

Using extended ACLs on R2, complete the following requirements:

- Name the ACL block
- Prohibit traffic originating from the R1 connected subnets from reaching the R3 connected subnets.
- Prohibit traffic originating from the R3 connected subnets from reaching the R1 connected subnets.
- Permit all other traffic.

Document your ACL configuration.



```
R2
Physical Config CLI Attributes
IOS Command Line Interface

% Incomplete command.
R2(config)#ip access-list extended ?
<100-199> Extended IP access-list number
WORD name
R2(config)#ip access-list ?
extended Extended Access List
standard Standard Access List
R2(config)#ip access-list extended ?
<100-199> Extended IP access-list number
WORD name
R2(config)#ip access-list extended block
R2(config-ext-nacl)#deny ip 10.1.1.0 0.0.0.255
% Incomplete command.
R2(config-ext-nacl)#deny ip 10.1.1.0 0.0.0.255 10.3.1.0 0.0.0.255
R2(config-ext-nacl)#deny ip 10.3.1.0 0.0.0.255 10.1.1.0 0.0.0.255
R2(config-ext-nacl)#permit ip any any
R2(config-ext-nacl)#end
R2#
%SYS-5-CONFIG_I: Configured from console by console

R2#conf t
Enter configuration commands, one per line. End with CNTL/Z.
R2(config)#int s0/0/0
R2(config-if)#ip access-group block in
R2(config-if)#exit
R2(config)#int s0/0/1
R2(config-if)#ip access-group block in
R2(config-if)#
R2#
%SYS-5-CONFIG_I: Configured from console by console

R2#wr
Building configuration...
[OK]
R2#
```

Ctrl+F6 to exit CLI focus

Copy Paste

☐ Top

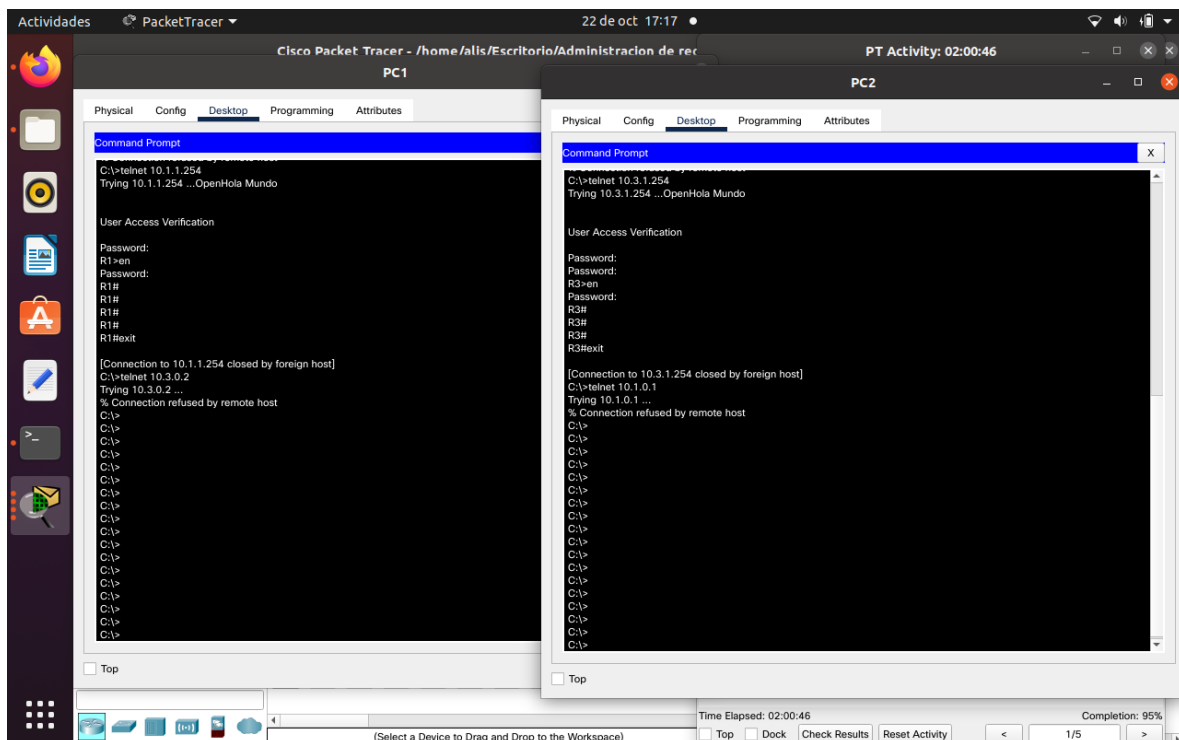
Step 2. Check Results.

Your completion percentage should be 100%. If not, click Check Results to see which required components are not yet completed.

Task 4: Verifying an ACL

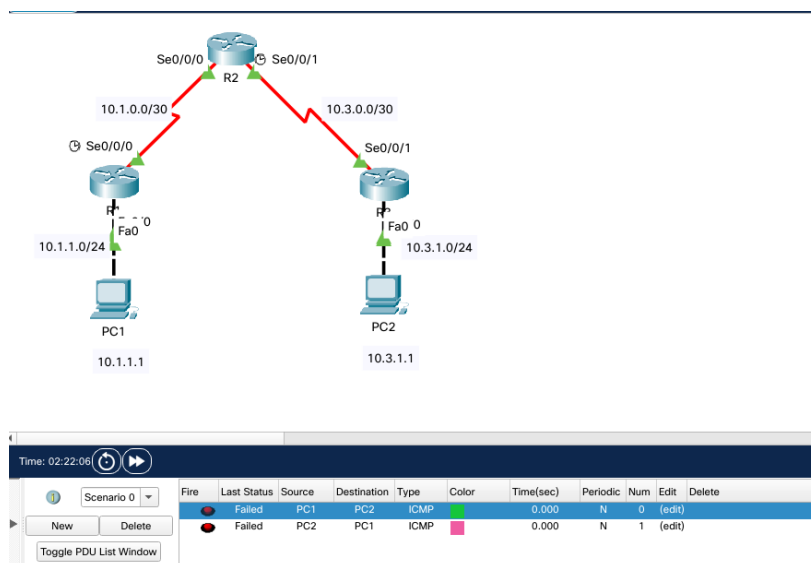
Step 1. Test telnet.

- PC1 should be able to telnet into R1
- PC3 should be able to telnet into R3
- R2 should be denied telnet access to R1 and R3



Step 2. Test traffic.

Pings between PC1 and PC3 should fail.



Nota: La actividad no registró la configuración de las Default Gateway pero si está presente.

Actividades PacketTracer 22 de oct 17:12

Cisco Packet Tracer - /home/alis/Escritorio/Administracion de redes/5.5.2 Challenge Access Control Lists.pka

File Edit Options View Tools Extensions Window Help

Activity Results Time Elapsed: 01:55:42

You did not complete the activity. Please close this window and try again.

Overall Feedback Assessment Items Connectivity Tests

Expand/Collapse All Show Incorrect Items

Assessment Items	Status	Points	Component(s)	Feedback
Network				
PC1				
Default Gateway	Incorrect	0	Other	
Ports				
FastEthernet0				
IP Address	Correct	0	Other	
Subnet Mask	Correct	0	Other	
PC2				
Default Gateway	Incorrect	0	Other	
Ports				
FastEthernet0				
IP Address	Correct	0	Other	
Subnet Mask	Correct	0	Other	
R1				
ACL				
VTY-Local	Correct	0	Other	
DNS				
IP Domain-Lookup	Correct	0	Other	
Enable Secret	Correct	0	Other	
Host Name	Correct	0	Other	
OSPF				
Process ID 1	Correct	0	Other	
Ports				
FastEthernet0/0				
IP Address	Correct	0	Other	
Port Status	Correct	0	Other	
Subnet Mask	Correct	0	Other	
Serial0/0/0				
Clock Rate	Correct	0	Other	
IP Address	Correct	0	Other	
Port Status	Correct	0	Other	
Subnet Mask	Correct	0	Other	

Score : 0/0
Item Count : 39/41

Component	Items/Total	Score
Other	34/36	0/0
Physical	2/2	0/0

Close