

**I H C QU C GIA THÀNH PH H CHÍ MINH  
TR NG I H C KHOA H C T NHIÊN**

**KHOA CÔNG NGH THÔNG TIN  
MÔN:TH C T P M NG MÁY TÍNH**

**BÁO CÁO BÀI T P TU N 8**

## **Access List**

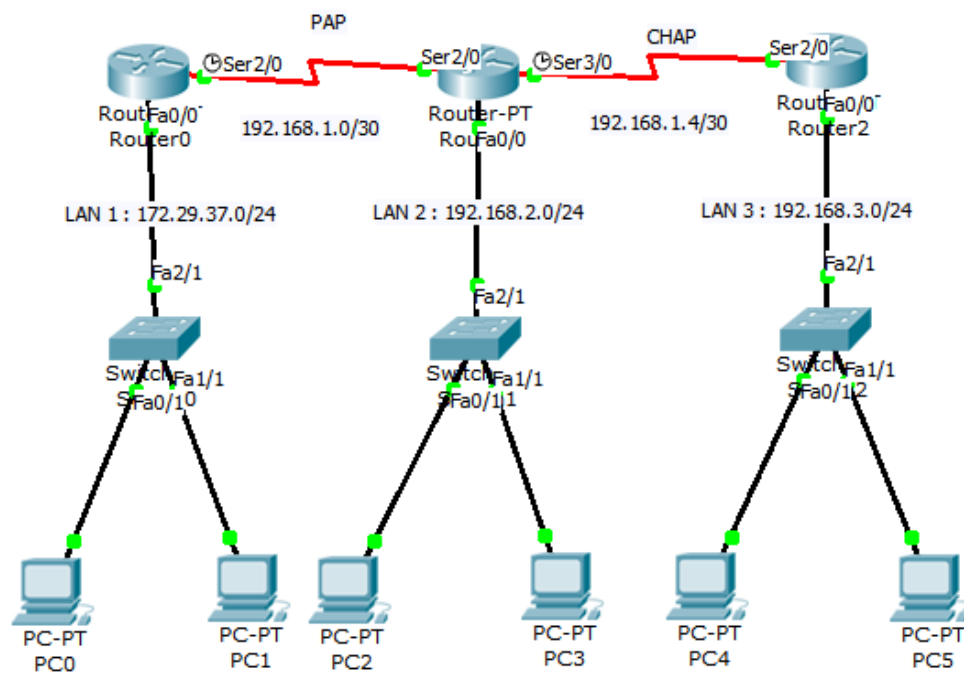
**L p: 09HCA**

**H tên : Võ Hu nh an**

**MSSV : 0941037**

## Bài làm:

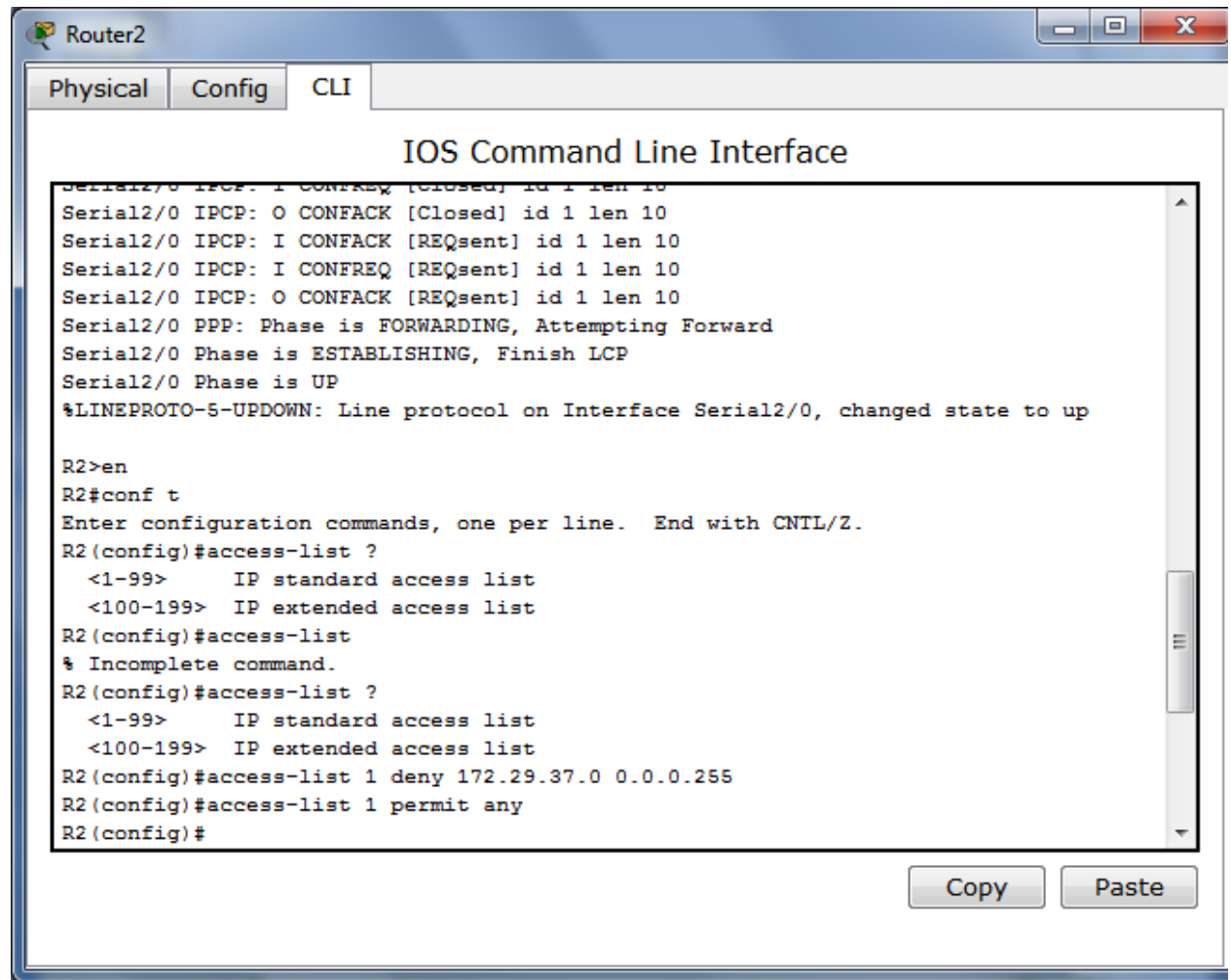
### 1. Mô hình thể hiện:



### 2. Access-list định nghĩa

#### a. Access-List định nghĩa standard

Ứng dụng 1:



C m các máy thu c ng m ng 172.29.37.0/24, cho phép các máy còn l i

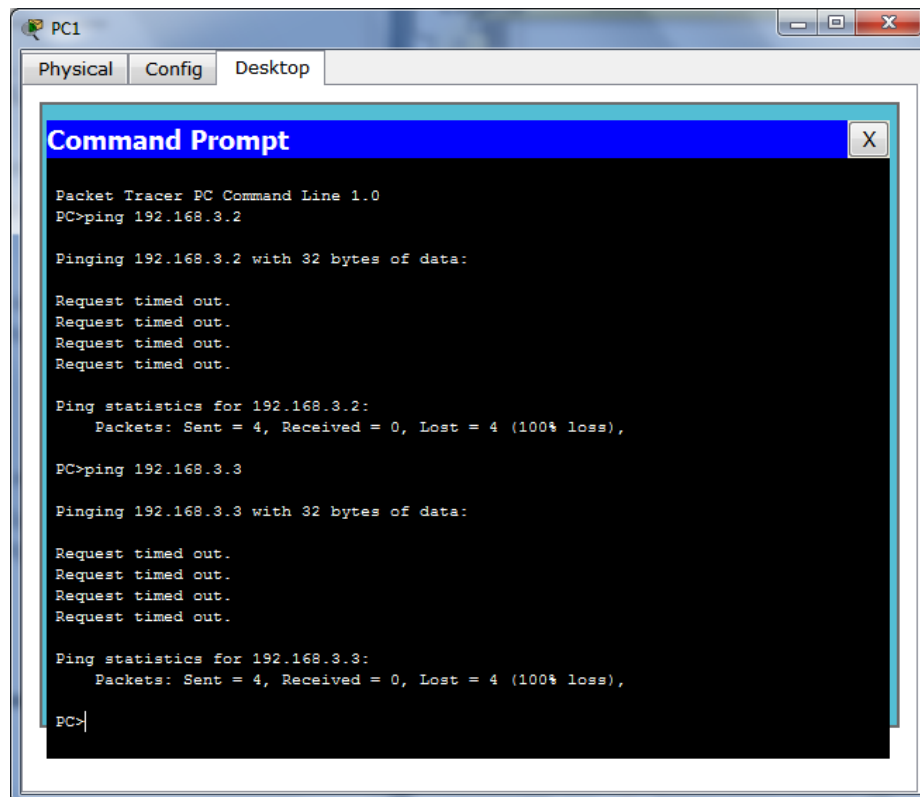
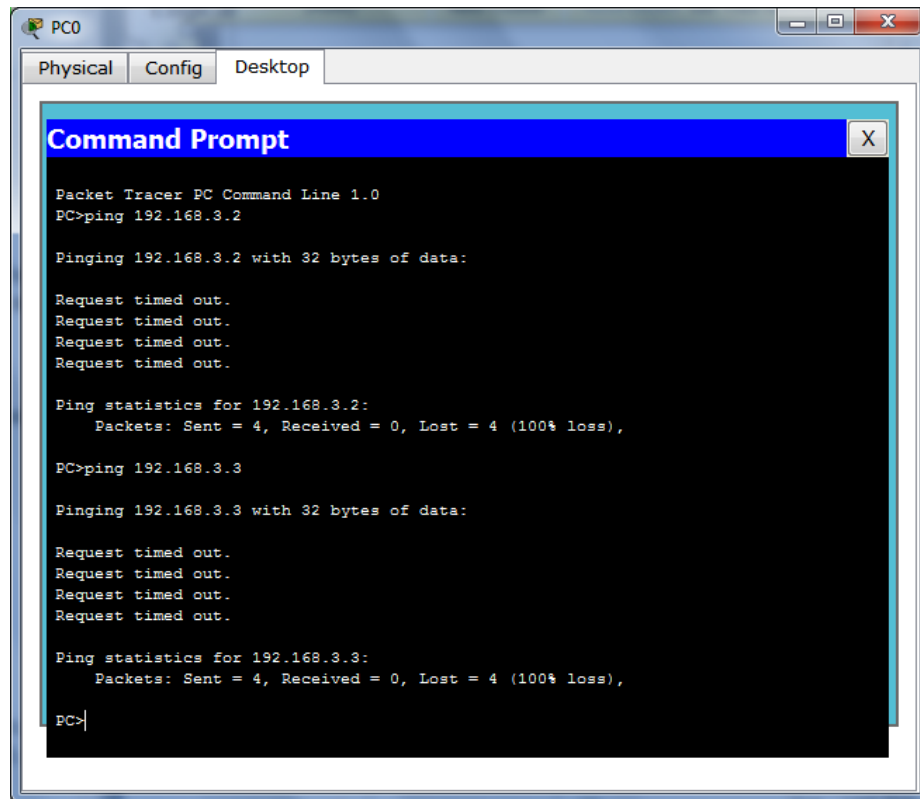
Áp d ng access-list này vào c ng Fa0/0 c a R2, h ng out

```

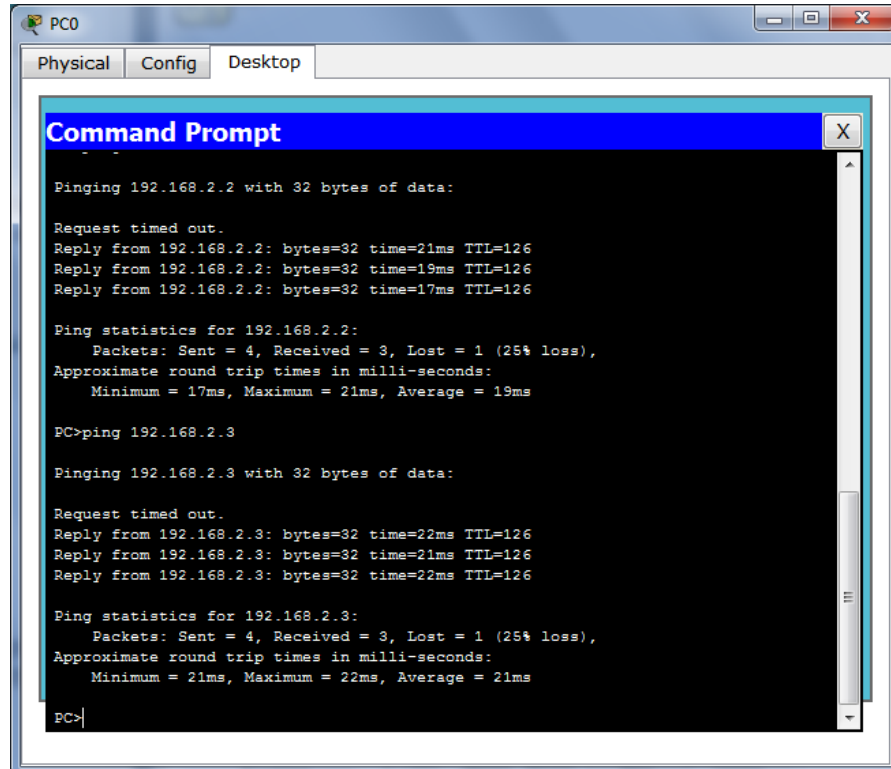
R2#conf t
Enter configuration commands, one per line. End with CNTL/Z.
R2(config)#int f0/0
R2(config-if)#ip access-group 1 out
R2(config-if)#exit
R2(config)#

```

**Th nh m ping t PC0, PC1 t i PC4 và PC5 u th t b i**



Trong khi Ping từ PC2 và PC3 vẫn thực hiện được



The screenshot shows a Command Prompt window on PC0. It displays the results of two ping commands. The first command is 'ping 192.168.2.2', which shows a 25% loss of packets. The second command is 'ping 192.168.2.3', which also shows a 25% loss of packets. The window has tabs for 'Physical', 'Config', and 'Desktop'.

```
PC0
Physical Config Desktop

Command Prompt

Pinging 192.168.2.2 with 32 bytes of data:

Request timed out.
Reply from 192.168.2.2: bytes=32 time=21ms TTL=126
Reply from 192.168.2.2: bytes=32 time=19ms TTL=126
Reply from 192.168.2.2: bytes=32 time=17ms TTL=126

Ping statistics for 192.168.2.2:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 17ms, Maximum = 21ms, Average = 19ms

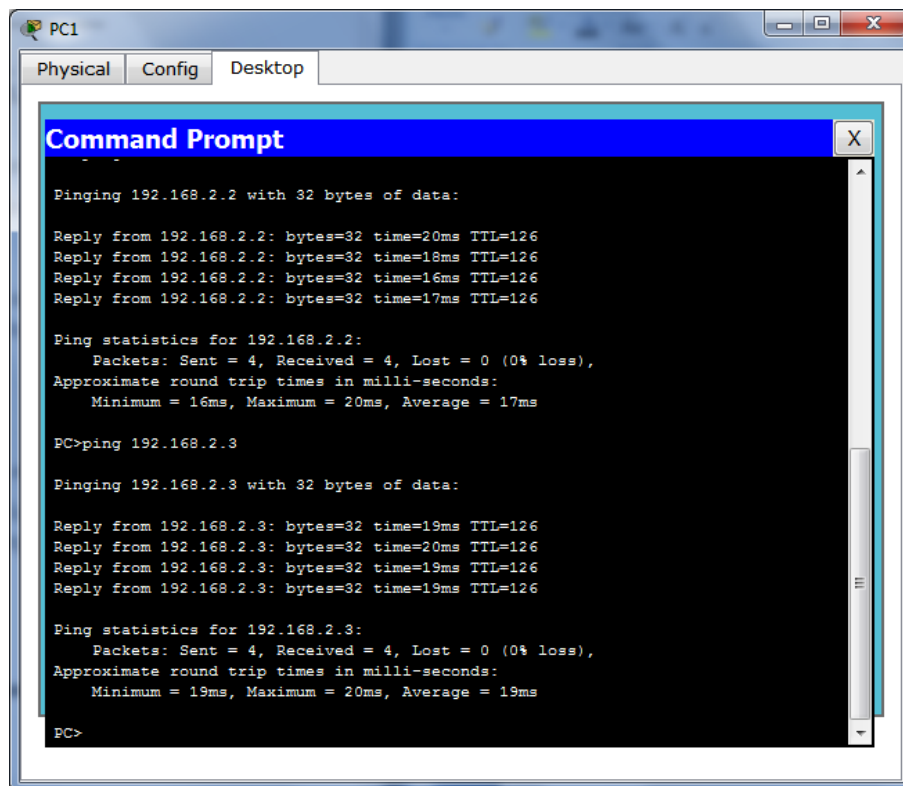
PC>ping 192.168.2.3

Pinging 192.168.2.3 with 32 bytes of data:

Request timed out.
Reply from 192.168.2.3: bytes=32 time=22ms TTL=126
Reply from 192.168.2.3: bytes=32 time=21ms TTL=126
Reply from 192.168.2.3: bytes=32 time=22ms TTL=126

Ping statistics for 192.168.2.3:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 21ms, Maximum = 22ms, Average = 21ms

PC>
```



The screenshot shows a Command Prompt window on PC1. It displays the results of two ping commands. The first command is 'ping 192.168.2.2', which shows 0% loss of packets. The second command is 'ping 192.168.2.3', which also shows 0% loss of packets. The window has tabs for 'Physical', 'Config', and 'Desktop'.

```
PC1
Physical Config Desktop

Command Prompt

Pinging 192.168.2.2 with 32 bytes of data:

Reply from 192.168.2.2: bytes=32 time=20ms TTL=126
Reply from 192.168.2.2: bytes=32 time=18ms TTL=126
Reply from 192.168.2.2: bytes=32 time=16ms TTL=126
Reply from 192.168.2.2: bytes=32 time=17ms TTL=126

Ping statistics for 192.168.2.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 16ms, Maximum = 20ms, Average = 17ms

PC>ping 192.168.2.3

Pinging 192.168.2.3 with 32 bytes of data:

Reply from 192.168.2.3: bytes=32 time=19ms TTL=126
Reply from 192.168.2.3: bytes=32 time=20ms TTL=126
Reply from 192.168.2.3: bytes=32 time=19ms TTL=126
Reply from 192.168.2.3: bytes=32 time=19ms TTL=126

Ping statistics for 192.168.2.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 19ms, Maximum = 20ms, Average = 19ms

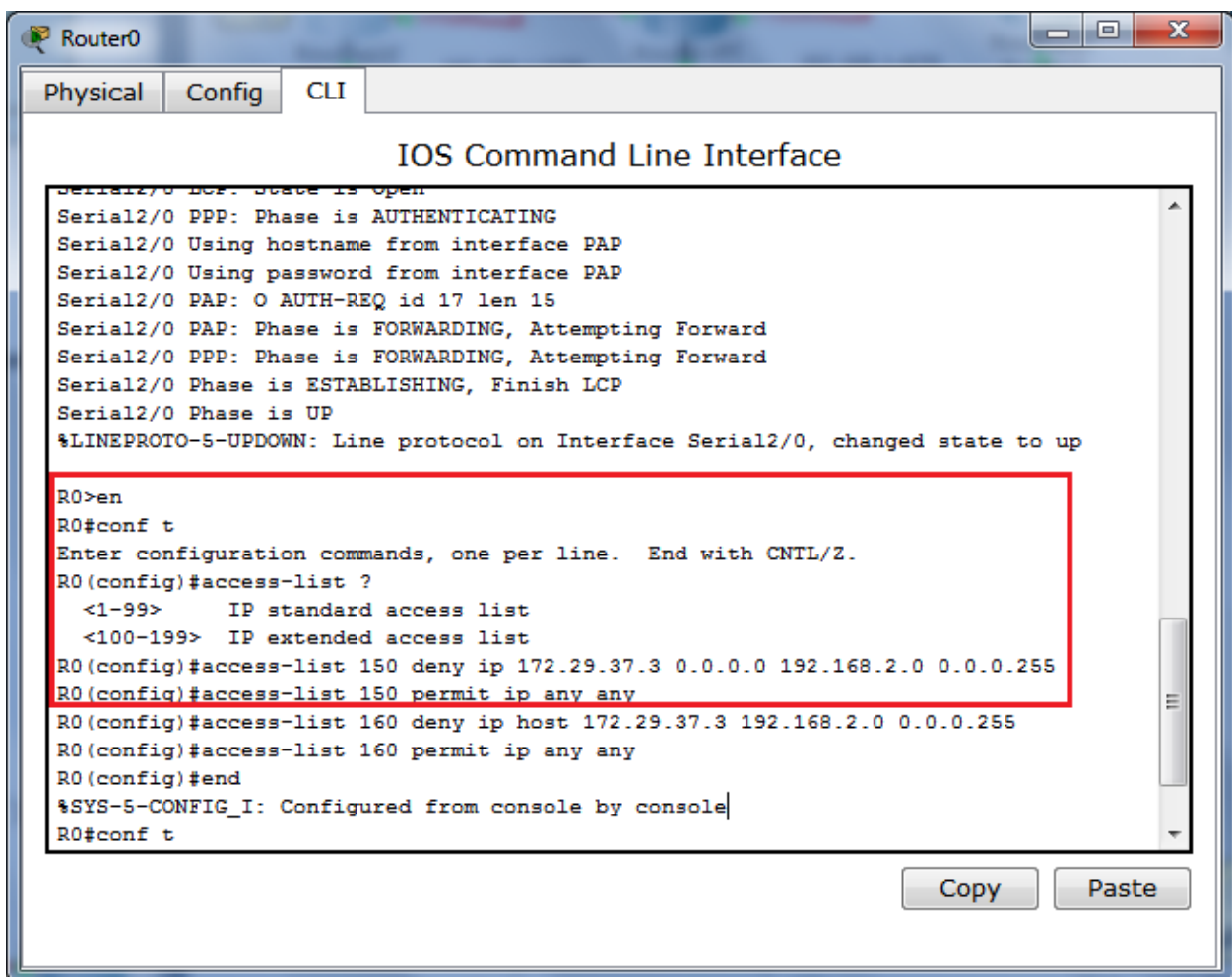
PC>
```

## b. Access-List dùng extended

Áp dụng 2:

Dùng extended access-list cấm PC1 nhằm ngăn LÀN

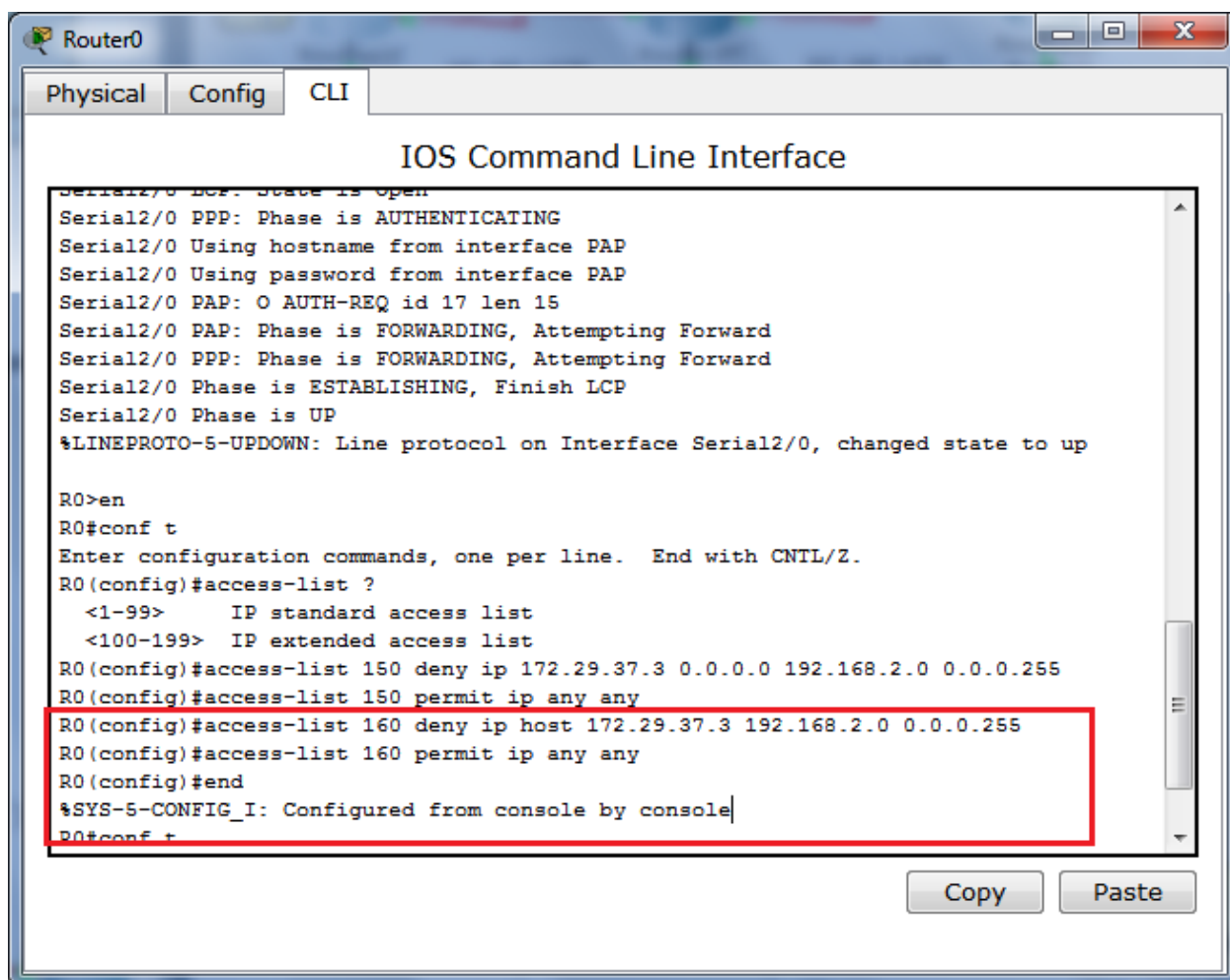
➔ Ta tắt access-list này tại cổng fa0/0 của R0



```
Router0
Physical Config CLI
IOS Command Line Interface
Serial2/0 LCP: State is Open
Serial2/0 PPP: Phase is AUTHENTICATING
Serial2/0 Using hostname from interface PAP
Serial2/0 Using password from interface PAP
Serial2/0 PAP: O AUTH-REQ id 17 len 15
Serial2/0 PAP: Phase is FORWARDING, Attempting Forward
Serial2/0 PPP: Phase is FORWARDING, Attempting Forward
Serial2/0 Phase is ESTABLISHING, Finish LCP
Serial2/0 Phase is UP
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up

R0>en
R0#conf t
Enter configuration commands, one per line. End with CNTL/Z.
R0(config)#access-list ?
<1-99>      IP standard access list
<100-199>   IP extended access list
R0(config)#access-list 150 deny ip 172.29.37.3 0.0.0.0 192.168.2.0 0.0.0.255
R0(config)#access-list 150 permit ip any any
R0(config)#access-list 160 deny ip host 172.29.37.3 192.168.2.0 0.0.0.255
R0(config)#access-list 160 permit ip any any
R0(config)#end
%SYS-5-CONFIG_I: Configured from console by console
R0#conf t
```

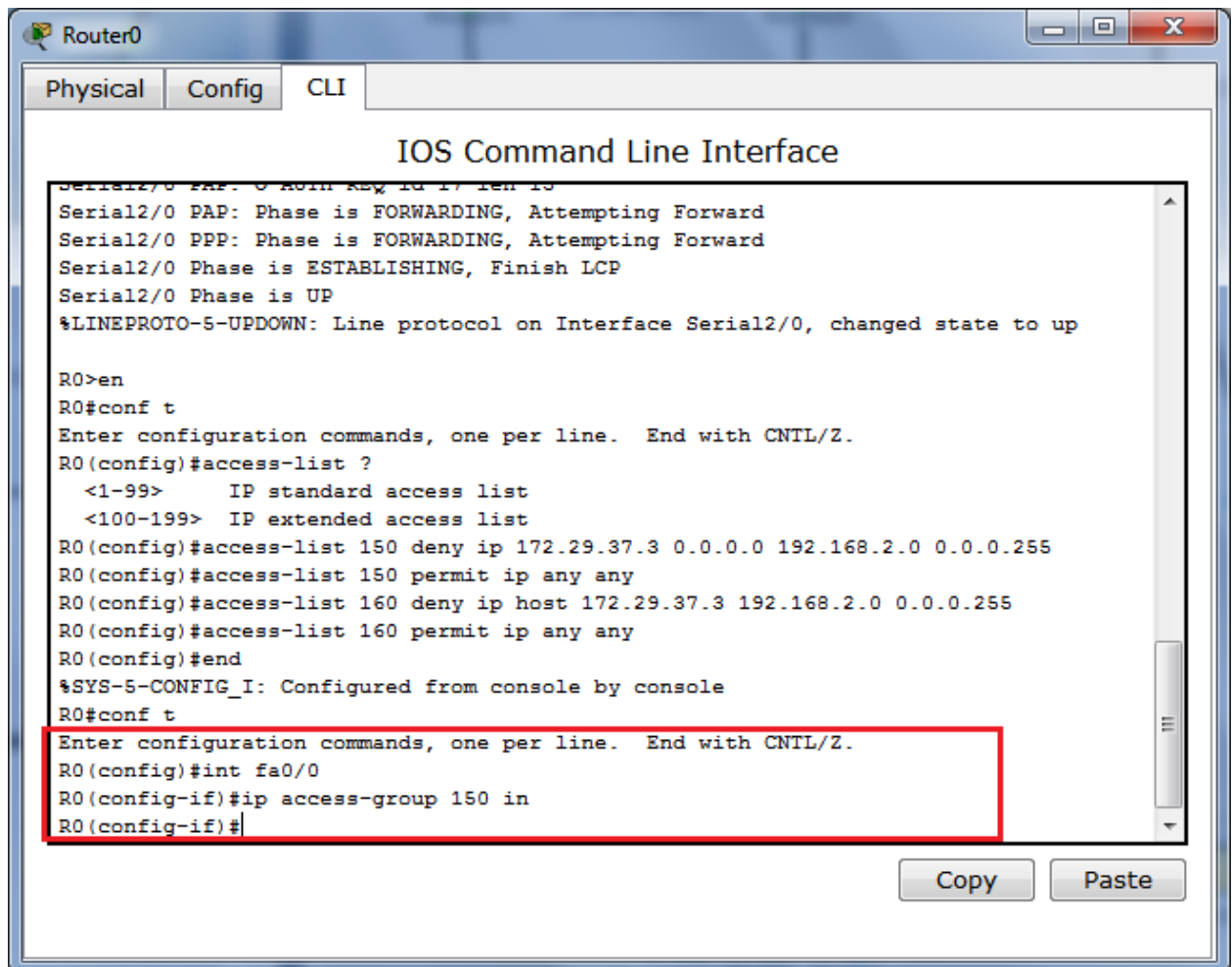
Xây dựng 1 access-list khác có tính năng tống t



```
Router0
Physical Config CLI
IOS Command Line Interface
Serial2/0 PPP: State is Open
Serial2/0 PPP: Phase is AUTHENTICATING
Serial2/0 Using hostname from interface PAP
Serial2/0 Using password from interface PAP
Serial2/0 PAP: O AUTH-REQ id 17 len 15
Serial2/0 PAP: Phase is FORWARDING, Attempting Forward
Serial2/0 PPP: Phase is FORWARDING, Attempting Forward
Serial2/0 Phase is ESTABLISHING, Finish LCP
Serial2/0 Phase is UP
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up

R0>en
R0#conf t
Enter configuration commands, one per line. End with CNTL/Z.
R0(config)#access-list ?
  <1-99>      IP standard access list
  <100-199>   IP extended access list
R0(config)#access-list 150 deny ip 172.29.37.3 0.0.0.0 192.168.2.0 0.0.0.255
R0(config)#access-list 150 permit ip any any
R0(config)#access-list 160 deny ip host 172.29.37.3 192.168.2.0 0.0.0.255
R0(config)#access-list 160 permit ip any any
R0(config)#end
%SYS-5-CONFIG_I: Configured from console by console
R0#conf t
```

Áp dụng access-list này vào cổng fa0/0 theo chỉ định :



The screenshot shows the Router0 CLI interface with the following text:

```
Router0
Physical Config CLI
IOS Command Line Interface
Serial2/0 PAP: Phase is FORWARDING, Attempting Forward
Serial2/0 PPP: Phase is FORWARDING, Attempting Forward
Serial2/0 Phase is ESTABLISHING, Finish LCP
Serial2/0 Phase is UP
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up

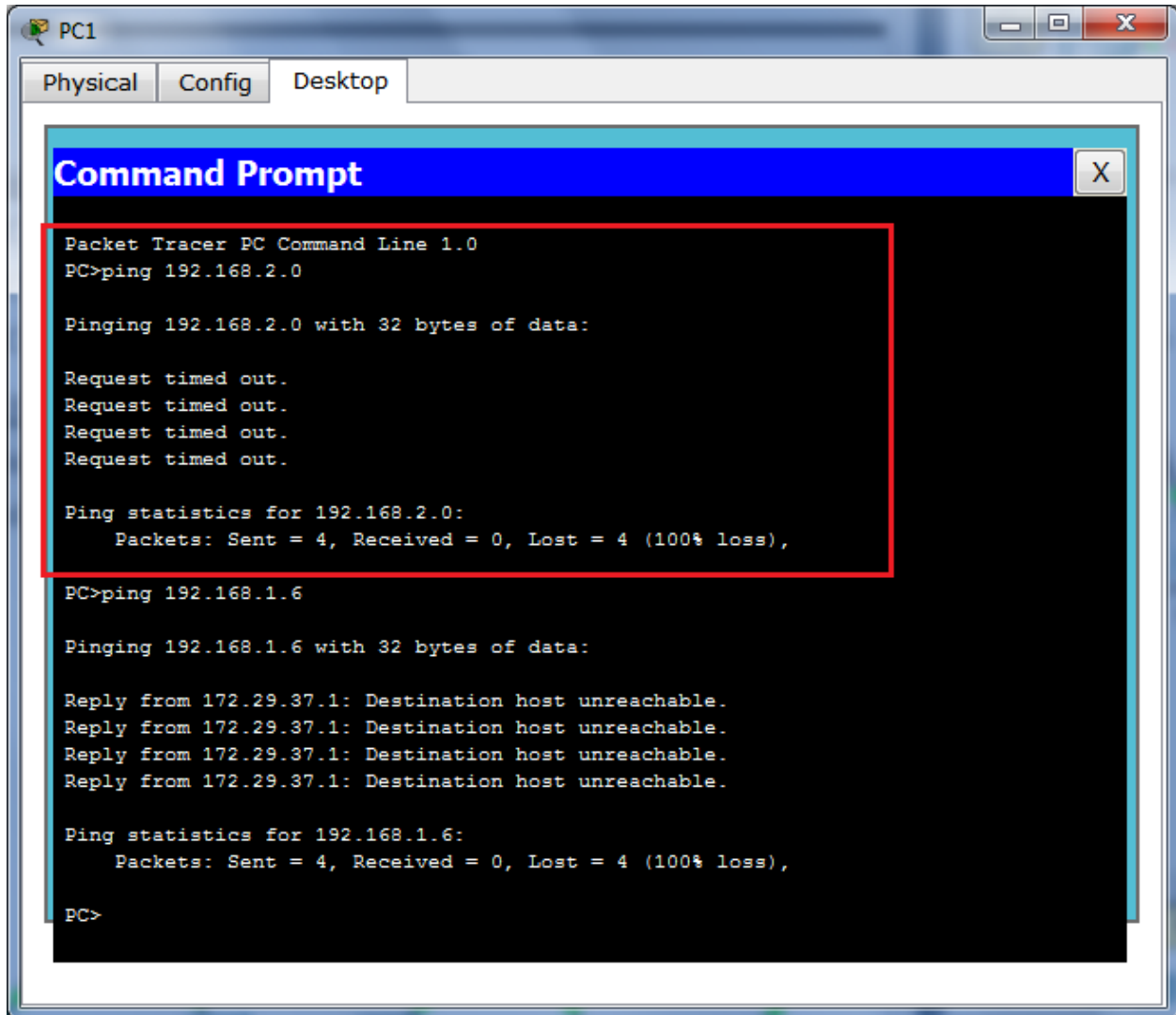
R0>en
R0#conf t
Enter configuration commands, one per line. End with CNTL/Z.
R0(config)#access-list ?
  <1-99>      IP standard access list
  <100-199>   IP extended access list
R0(config)#access-list 150 deny ip 172.29.37.3 0.0.0.0 192.168.2.0 0.0.0.255
R0(config)#access-list 150 permit ip any any
R0(config)#access-list 160 deny ip host 172.29.37.3 192.168.2.0 0.0.0.255
R0(config)#access-list 160 permit ip any any
R0(config)#end
%SYS-5-CONFIG_I: Configured from console by console
R0#conf t
Enter configuration commands, one per line. End with CNTL/Z.
R0(config)#int fa0/0
R0(config-if)#ip access-group 150 in
R0(config-if)#
```

At the bottom of the window, there are "Copy" and "Paste" buttons.



Thí nghiệm:

**Ping từ PC1 đến mạng LAN2 không thành công**



The screenshot shows a Packet Tracer PC window titled 'PC1' with tabs for 'Physical', 'Config', and 'Desktop'. The 'Desktop' tab is active, displaying a 'Command Prompt' window. The command prompt shows two failed ping attempts. The first attempt is to 192.168.2.0, which results in four 'Request timed out.' messages and a summary of 100% loss. The second attempt is to 192.168.1.6, which results in four 'Destination host unreachable.' messages and a summary of 100% loss. A red rectangular box highlights the first set of output messages.

```
Packet Tracer PC Command Line 1.0
PC>ping 192.168.2.0

Pinging 192.168.2.0 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.168.2.0:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

PC>ping 192.168.1.6

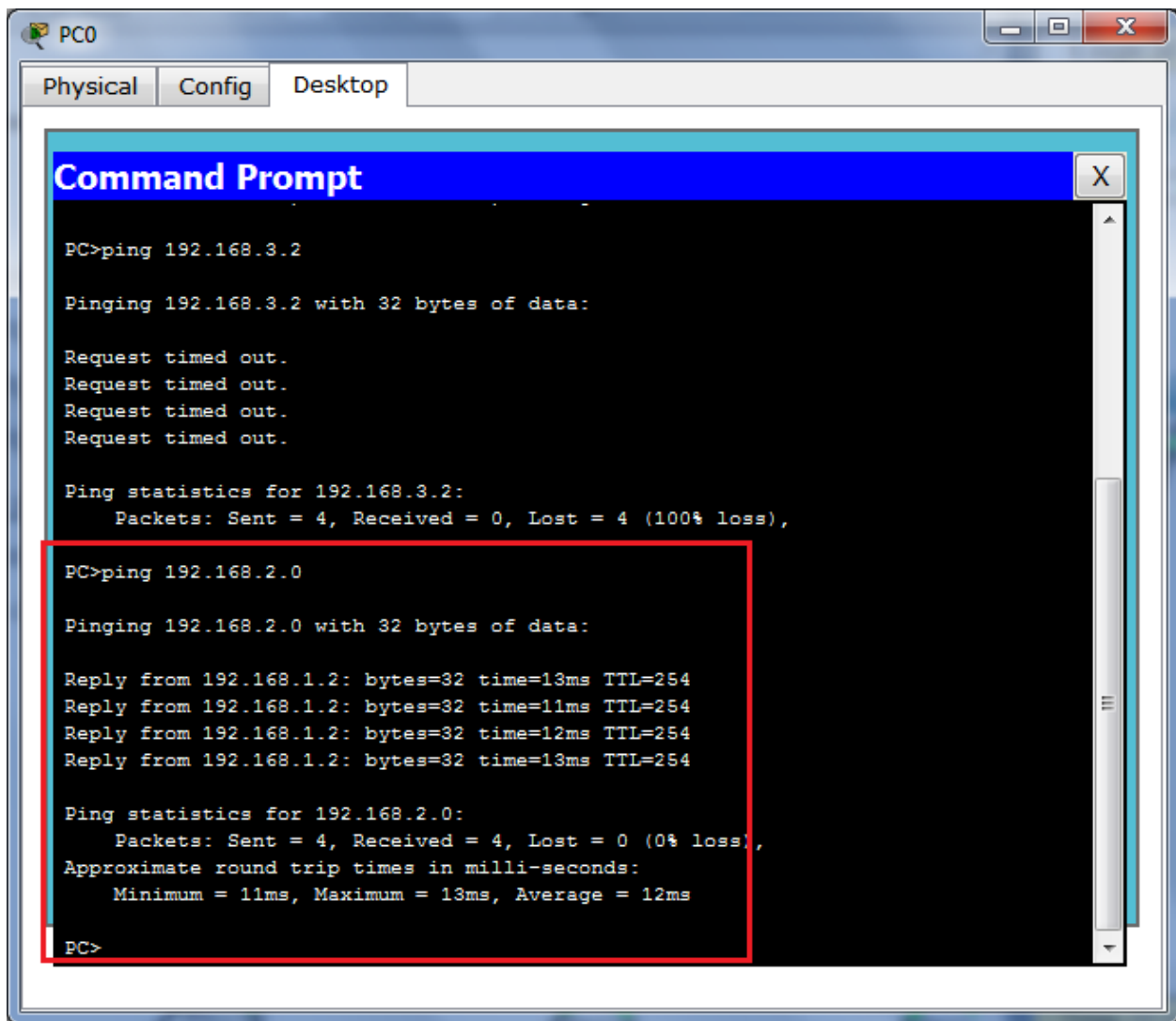
Pinging 192.168.1.6 with 32 bytes of data:

Reply from 172.29.37.1: Destination host unreachable.
Reply from 172.29.37.1: Destination host unreachable.
Reply from 172.29.37.1: Destination host unreachable.
Reply from 172.29.37.1: Destination host unreachable.

Ping statistics for 192.168.1.6:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

PC>
```

**Ping từ PC0 đến mạng LAN2 thành công**



The screenshot shows a Windows-style window titled "PC0" with tabs for "Physical", "Config", and "Desktop". The "Desktop" tab is active, displaying a "Command Prompt" window. The Command Prompt has a blue title bar and a black background with white text. It shows the results of two ping commands. The first command is "PC>ping 192.168.3.2", which results in four "Request timed out." messages and a summary showing 100% loss. The second command is "PC>ping 192.168.2.0", which results in four successful replies from 192.168.1.2 with varying round trip times (11ms, 12ms, 13ms) and a summary showing 0% loss. The second command's output is highlighted with a red rectangular box.

```
PC>ping 192.168.3.2

Pinging 192.168.3.2 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.168.3.2:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

PC>ping 192.168.2.0

Pinging 192.168.2.0 with 32 bytes of data:

Reply from 192.168.1.2: bytes=32 time=13ms TTL=254
Reply from 192.168.1.2: bytes=32 time=11ms TTL=254
Reply from 192.168.1.2: bytes=32 time=12ms TTL=254
Reply from 192.168.1.2: bytes=32 time=13ms TTL=254

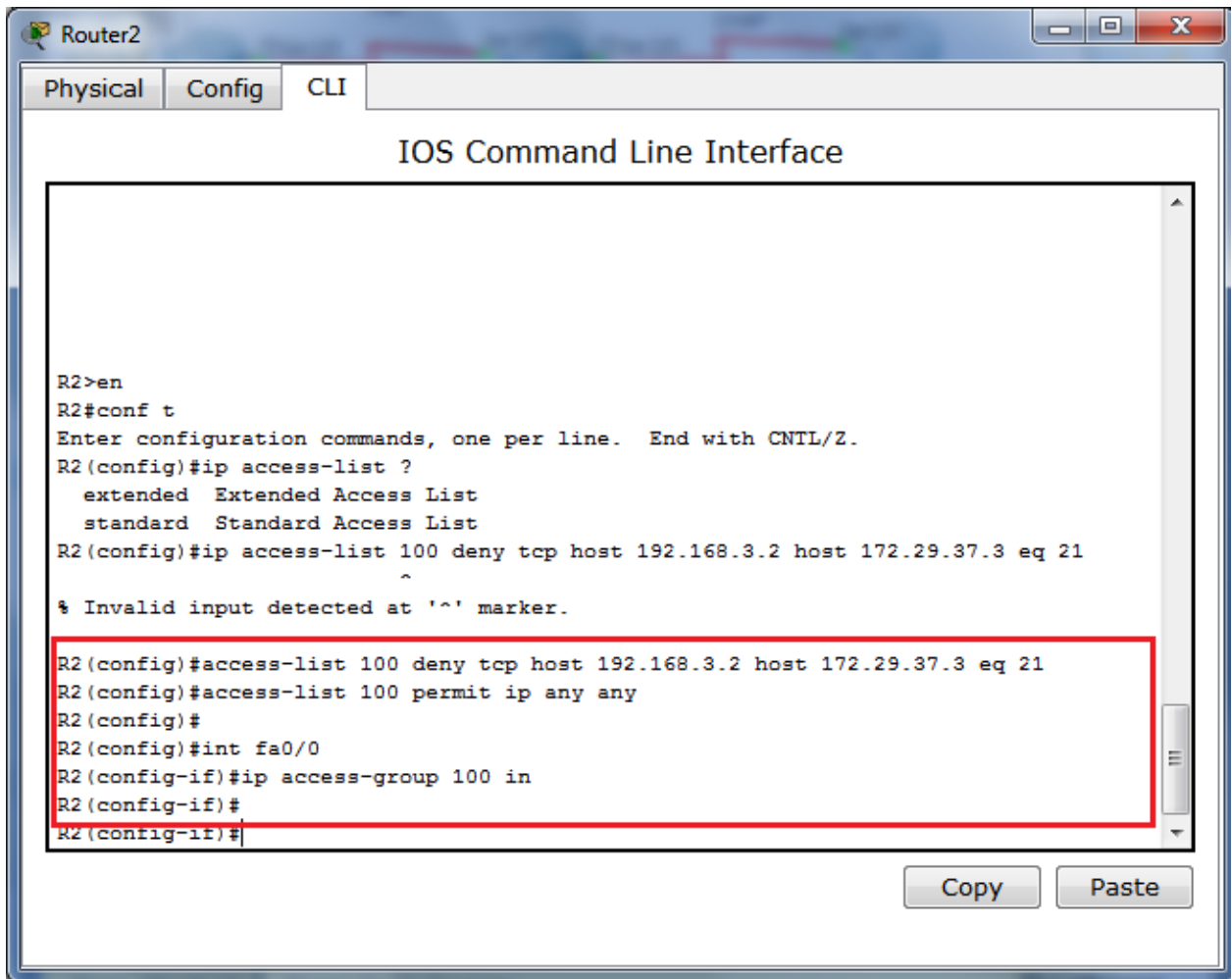
Ping statistics for 192.168.2.0:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 11ms, Maximum = 13ms, Average = 12ms

PC>
```

Áp dụng 3 :

Cấu hình Router PC4 ( 192.168.3.2/24) connect đến switch FPT trên PC1.

Ta chọn trên Router 2 :



### c. Access-List dùng tên

Áp dụng 4 :

C m Router1 có ip 192.168.1.5 telnet n Router2

Gi s ta t access-list này t i Router2

Ta t o 1 list access-list dùng tên :

```
R2#conf t
Enter configuration commands, one per line. End with CNTL/Z.
R2(config)#ip access-list ?
    extended  Extended Access List
    standard  Standard Access List
R2(config)#ip access-list
```

Copy

Paste

Có thể dùng từ khóa standard hoặc extended cho bất kỳ access-list.

The screenshot shows the Router2 CLI interface with the 'CLI' tab selected. The title bar reads 'Router2'. The main window is titled 'IOS Command Line Interface'. The command history is as follows:

```
R2(config)#ip access-list ?
    extended  Extended Access List
    standard  Standard Access List
R2(config)#ip access-list standard CAM-TELNET
R2(config-std-nacl)#deny host 192.168.1.5
R2(config-std-nacl)#permit any
R2(config-std-nacl)#
R2(config-std-nacl)#show access-list
```

A red box highlights the configuration steps from the first prompt to the 'show access-list' command. Below this, an error message appears:

```
% Invalid input detected at '^' marker.
```

The user then enters 'end' to exit the configuration mode:

```
R2(config-std-nacl)#end
%SYS-5-CONFIG_I: Configured from console by console
```

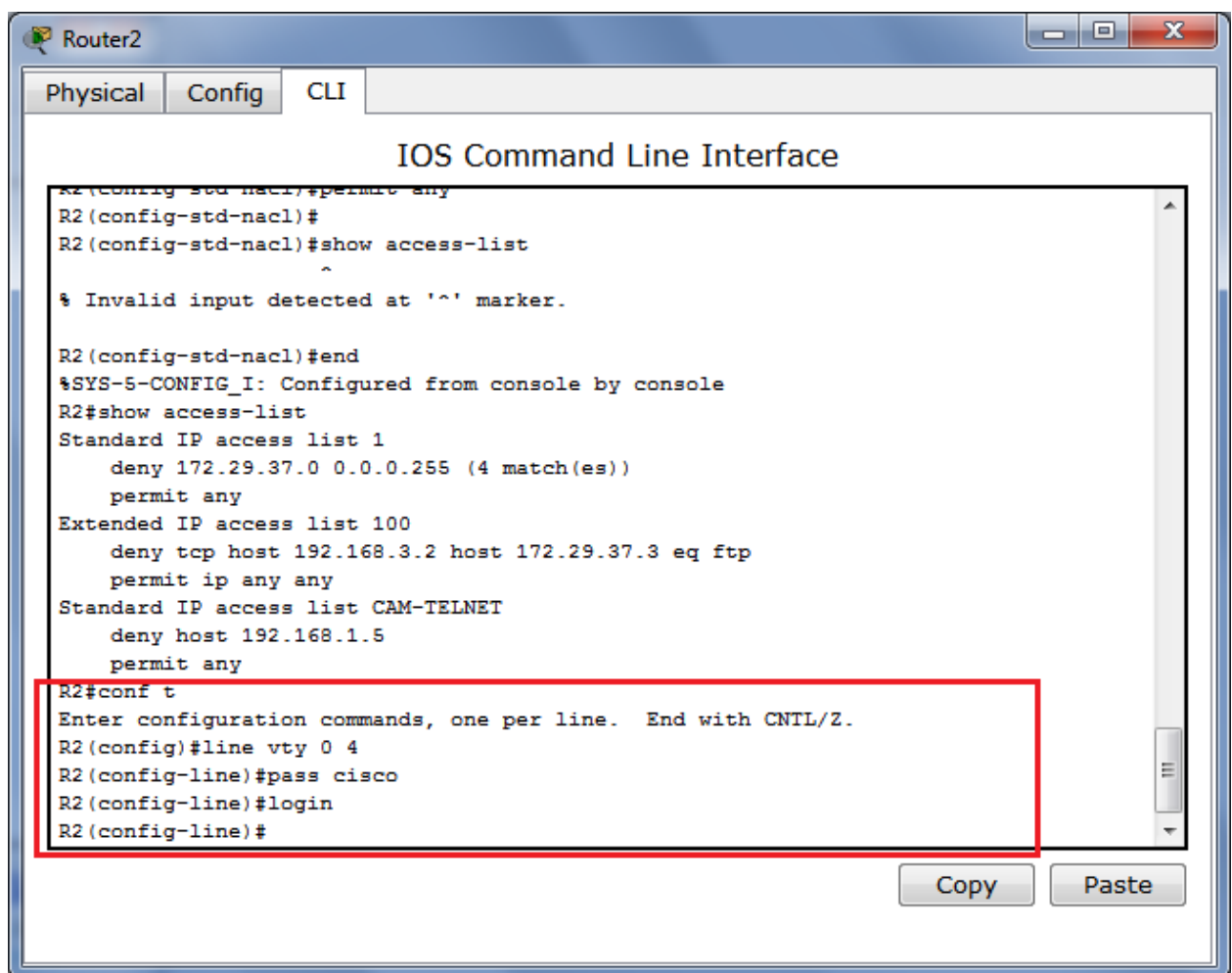
Finally, the user enters 'show access-list' to display the current configuration. A second red box highlights the output of this command:

```
R2#show access-list
Standard IP access list 1
    deny 172.29.37.0 0.0.0.255 (4 match(es))
    permit any
Extended IP access list 100
    deny tcp host 192.168.3.2 host 172.29.37.3 eq ftp
    permit ip any any
Standard IP access list CAM-TELNET
    deny host 192.168.1.5
    permit any
```

The prompt at the bottom is 'R2#'. At the bottom right, there are 'Copy' and 'Paste' buttons.

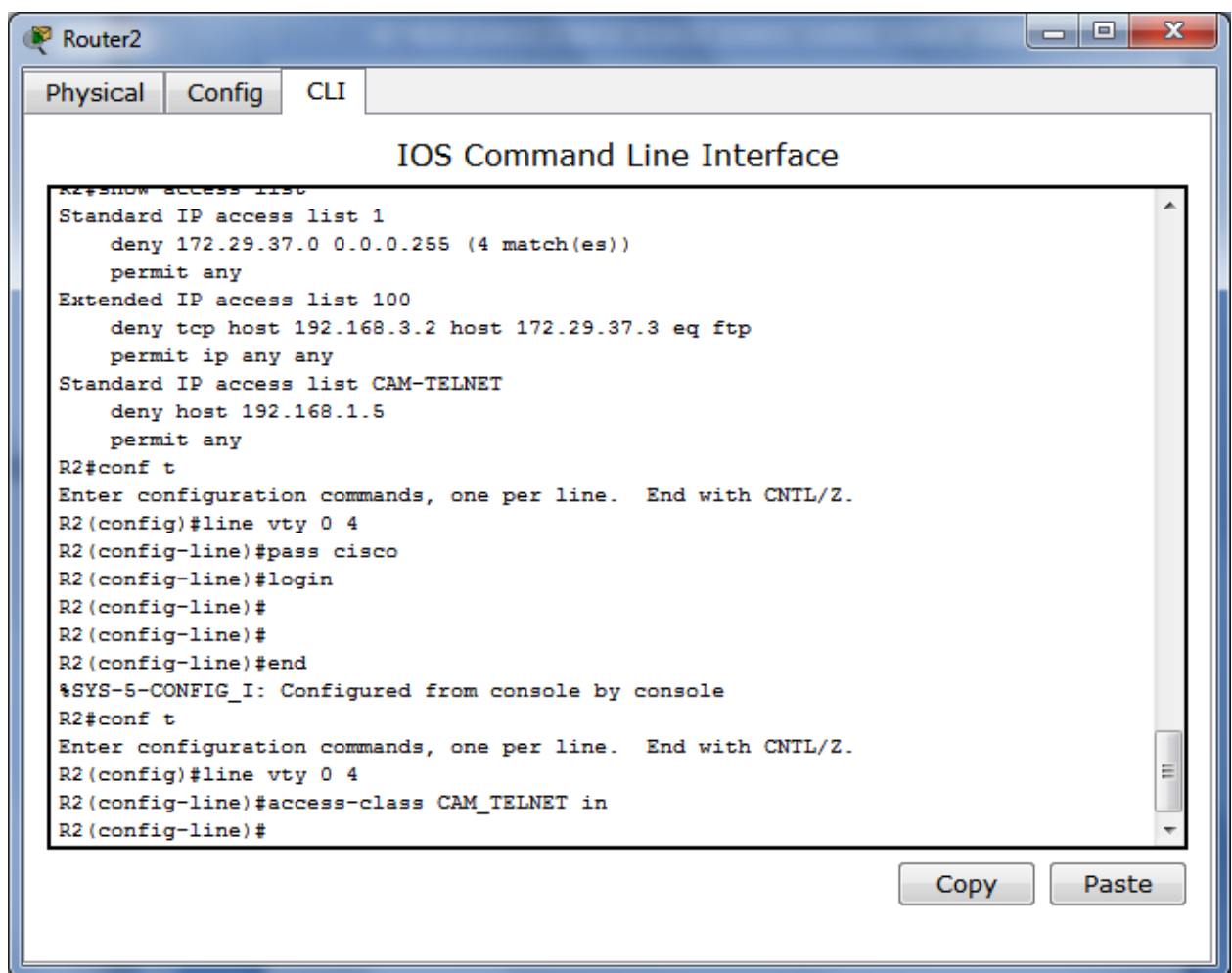
Th c nghi m :

C u hình Telnet :



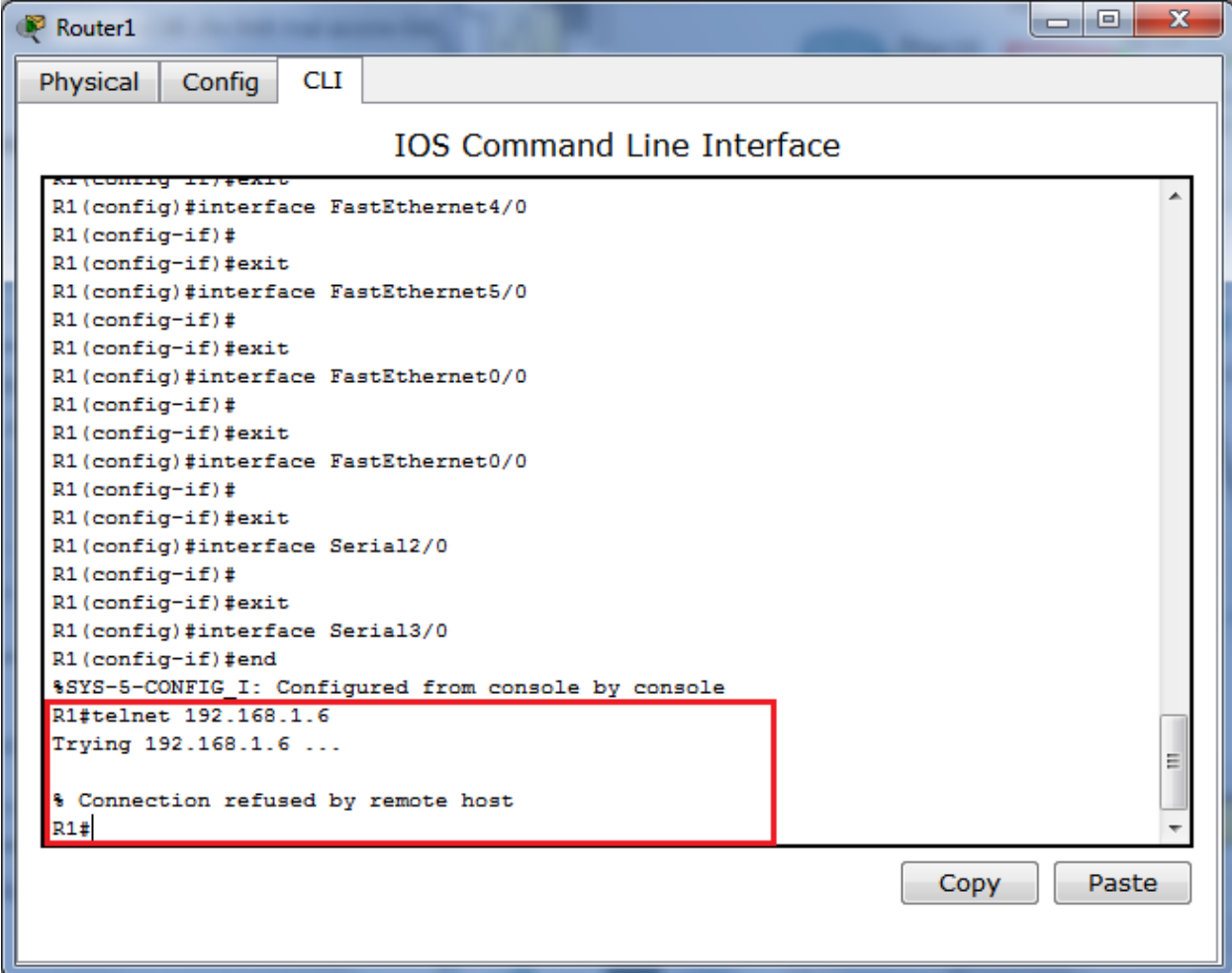
Từ R1 telnet đến R2

Áp dụng access-list vào cấu hình telnet, ta có thể dùng câu lệnh dành riêng : access-class



```
R2#show access-lists
Standard IP access list 1
  deny 172.29.37.0 0.0.0.255 (4 match(es))
  permit any
Extended IP access list 100
  deny tcp host 192.168.3.2 host 172.29.37.3 eq ftp
  permit ip any any
Standard IP access list CAM-TELNET
  deny host 192.168.1.5
  permit any
R2#conf t
Enter configuration commands, one per line. End with CNTL/Z.
R2(config)#line vty 0 4
R2(config-line)#pass cisco
R2(config-line)#login
R2(config-line)#
R2(config-line)#
R2(config-line)#end
%SYS-5-CONFIG_I: Configured from console by console
R2#conf t
Enter configuration commands, one per line. End with CNTL/Z.
R2(config)#line vty 0 4
R2(config-line)#access-class CAM_TELNET in
R2(config-line)#
```

Lúc này telnet từ R1 đến R2 không thành công



The screenshot shows a Cisco Router CLI window titled "Router1". The window has three tabs: "Physical", "Config", and "CLI". The "CLI" tab is selected, and the title "IOS Command Line Interface" is displayed. The command history shows the following sequence of commands:

```
R1(config-if)#exit
R1(config)#interface FastEthernet4/0
R1(config-if)#
R1(config-if)#exit
R1(config)#interface FastEthernet5/0
R1(config-if)#
R1(config-if)#exit
R1(config)#interface FastEthernet0/0
R1(config-if)#
R1(config-if)#exit
R1(config)#interface FastEthernet0/0
R1(config-if)#
R1(config-if)#exit
R1(config)#interface Serial2/0
R1(config-if)#
R1(config-if)#exit
R1(config)#interface Serial3/0
R1(config-if)#end
%SYS-5-CONFIG_I: Configured from console by console
R1#telnet 192.168.1.6
Trying 192.168.1.6 ...

% Connection refused by remote host
R1#
```

The last three lines of the command history are highlighted with a red box. Below the command history, there are two buttons: "Copy" and "Paste".

--- H T ---