

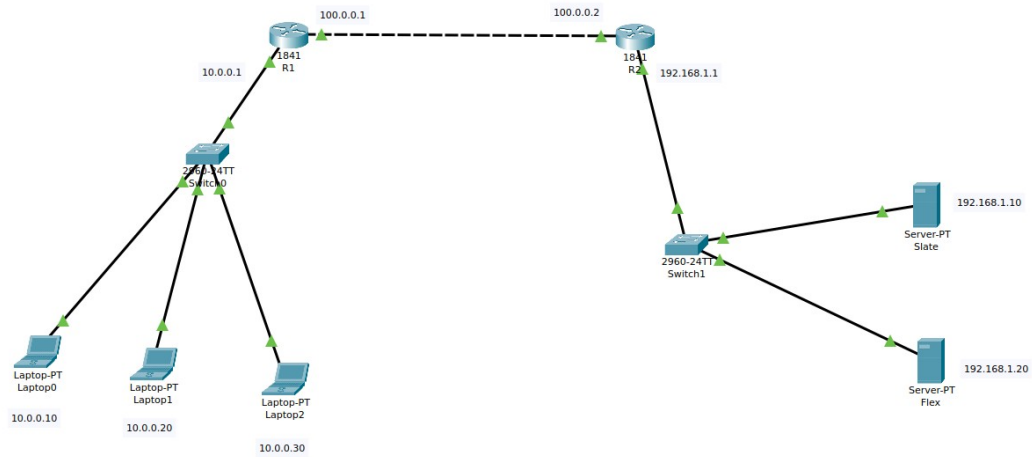
Computer Networks

Lab Task #13

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20P-0051

Add 3x Laptops, 2x switch, 2x routers and 2x servers and connect them all.



Now assign the IP addresses to the laptops, servers and routers:

Laptop0: 10.0.0.10

Laptop1: 10.0.0.20

Laptop2: 10.0.0.30

Server1: 192.168.1.10

Server2: 192.168.1.20

F0/0 of R1: 100.0.0.1

F0/0 of R2: 100.0.0.2

Laptop0

PhysicalConfigDesktopProgrammingAttributes

IP Configuration

InterfaceFastEthernet0

IP Configuration

DHCP

Static

IPv4 Address10.0.0.10

Subnet Mask255.0.0.0

Default Gateway10.0.0.1

DNS Server0.0.0.0

IPv6 Configuration

Laptop1

PhysicalConfigDesktopProgrammingAttributes

IP Configuration

InterfaceFastEthernet0

IP Configuration

DHCP

Static

IPv4 Address10.0.0.20

Subnet Mask255.0.0.0

Default Gateway10.0.0.1

DNS Server0.0.0.0

IPv6 Configuration

Laptop2

Physical

Config

Desktop

Programming

Attributes

IP Configuration

X

Interface

FastEthernet0

IP Configuration

☐ DHCP

☒ Static

IPv4 Address

10.0.0.30

Subnet Mask

255.0.0.0

Default Gateway

10.0.0.1

DNS Server

0.0.0.0

IPv6 Configuration

Slate

Physical

Config

Services

Desktop

Programming

Attributes

IP Configuration

X

IP Configuration

☐ DHCP

☒ Static

IPv4 Address

192.168.1.10

Subnet Mask

255.255.255.0

Default Gateway

192.168.1.1

DNS Server

0.0.0.0

IPv6 Configuration

Flex

Physical

Config

Services

Desktop

Programming

Attributes

IP Configuration

X

IP Configuration

DHCP

Static

IPv4 Address

192.168.1.20

Subnet Mask

255.255.255.0

Default Gateway

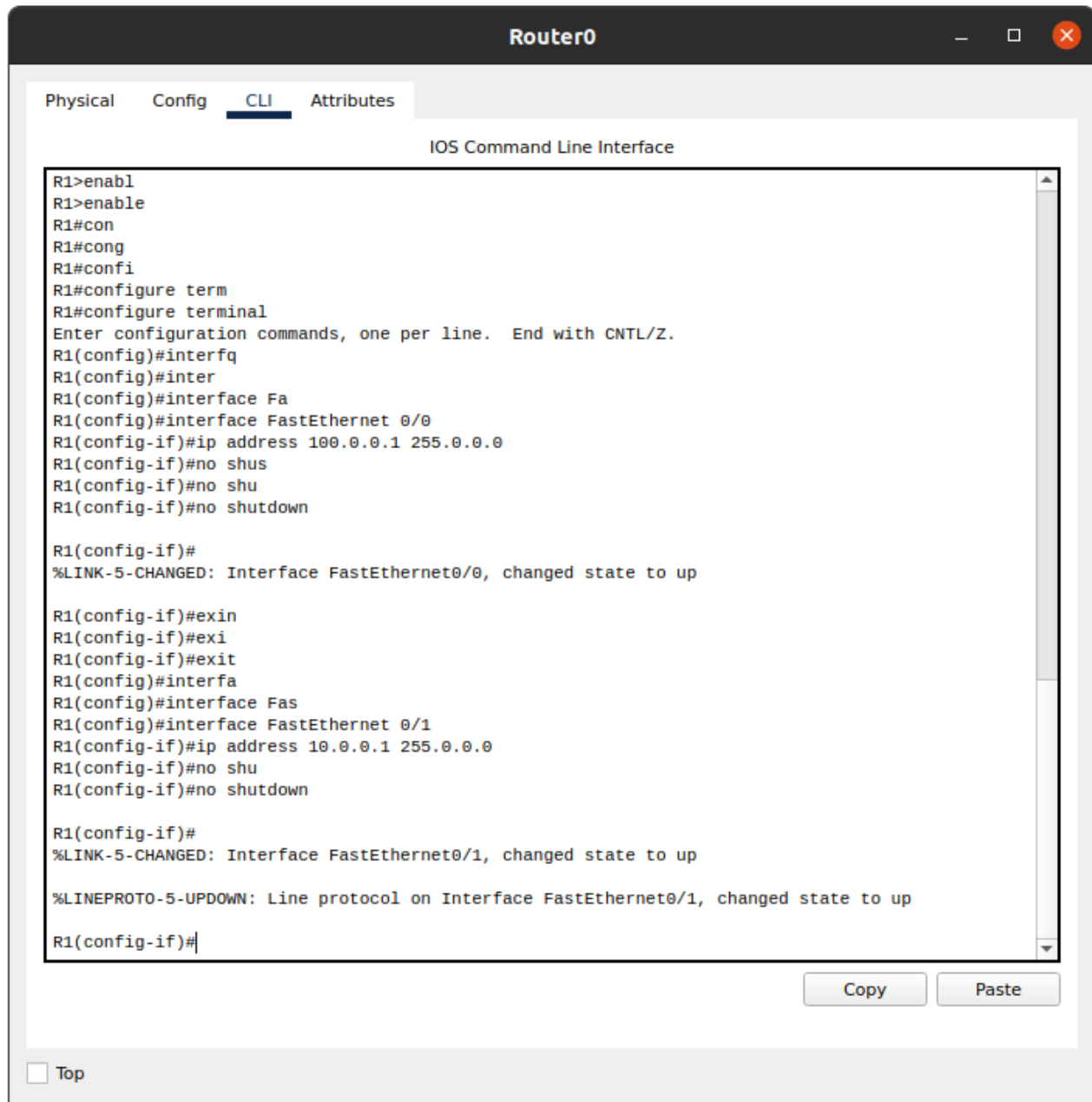
192.168.1.1

DNS Server

0.0.0.0

IPv6 Configuration

Configuring Router 1:



Configuring Router 2:



The screenshot shows a network simulator window titled "Router1". It has four tabs: "Physical", "Config", "CLI", and "Attributes". The "CLI" tab is selected, showing the "IOS Command Line Interface". The terminal output shows the configuration of Router 2. The user enters "enable" to enter privileged mode, then "hostname R2" to set the router's name. Then, they enter "configure terminal" to enter configuration mode. In configuration mode, they set the hostname to "R2", then configure interface FastEthernet 0/0 with IP address 100.0.0.2 and subnet mask 255.0.0.0, and finally enable the interface. They repeat this process for interface FastEthernet 0/1 with IP address 192.168.1.1 and subnet mask 255.255.255.0. The terminal output shows the state changes for both interfaces.

```
Router>
Router>
Router>
Router>enabl
Router>enable
Router#host
Router#hostna
Router#hostname R2
      ^
% Invalid input detected at '^' marker.

Router#conf
Router#configure ter
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#host
Router(config)#hostname R2
R2(config)#
R2(config)#
R2(config)#interfa
R2(config)#interface Fas
R2(config)#interface FastEthernet 0/0
R2(config-if)#ip add 100.0.0.2 255.0.0.0
R2(config-if)#no shu
R2(config-if)#no shutdown

R2(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

R2(config-if)#exi
R2(config-if)#exit
R2(config)#inter
R2(config)#interface Fas
R2(config)#interface FastEthernet 0/1
R2(config-if)#ip add 192.168.1.1 255.255.255.0
R2(config-if)#no shu
R2(config-if)#no shutdown

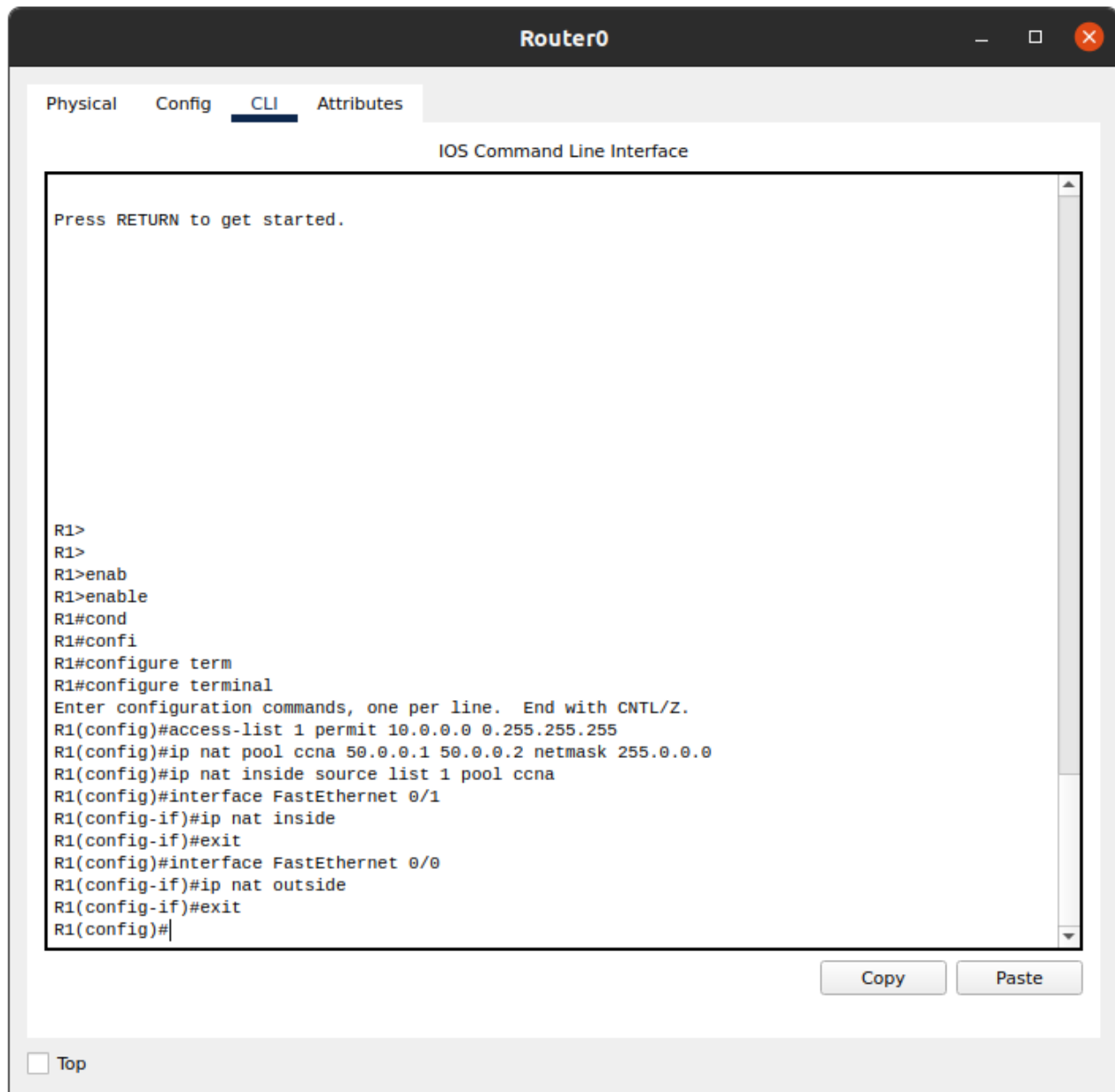
R2(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up

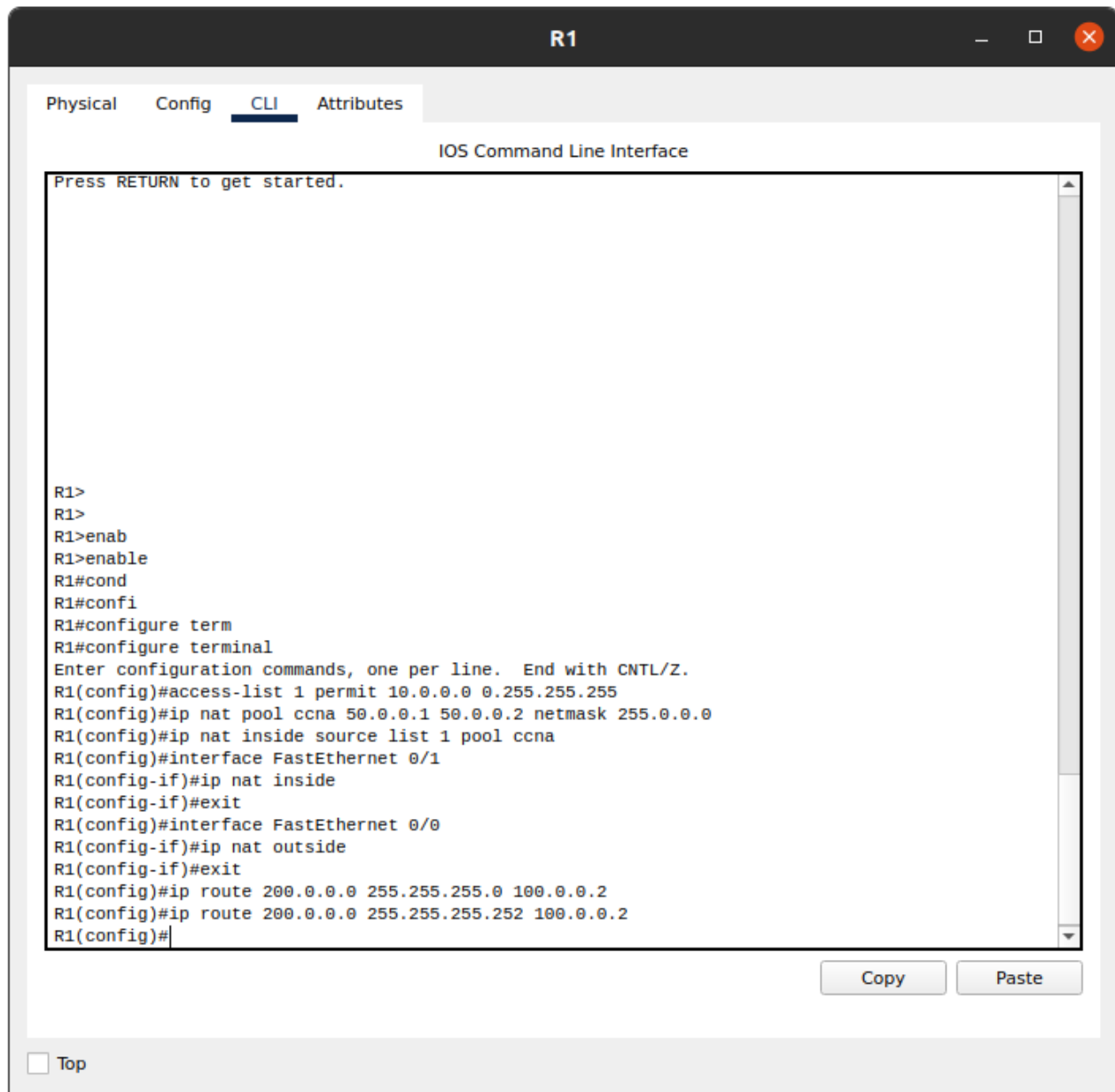
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up

R2(config-if)#
```

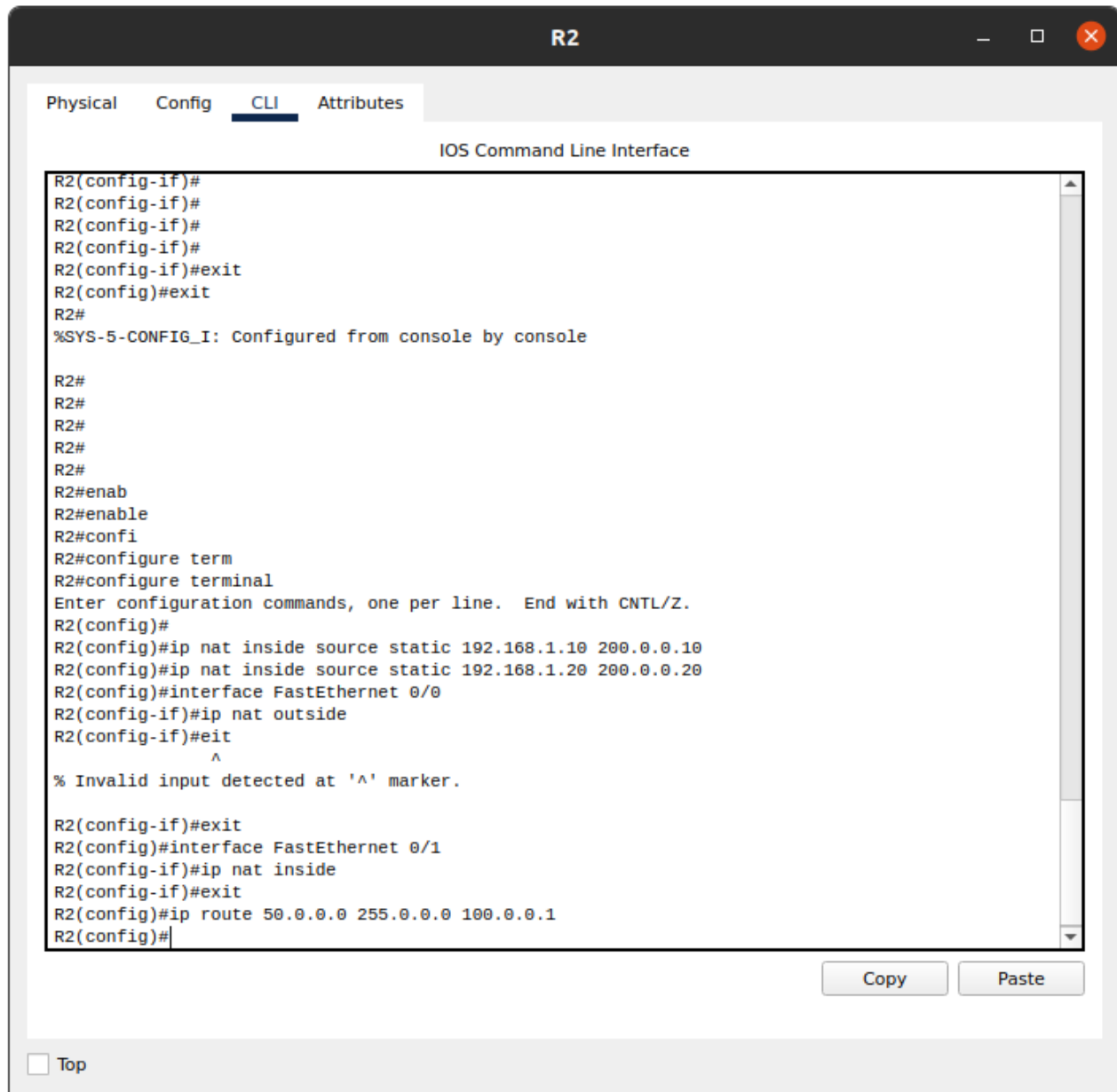
At the bottom right of the CLI window, there are "Copy" and "Paste" buttons. At the bottom left of the window, there is a "Top" button.

Configure Dynamic NAT on Router 1:





Configure Static NAT on Router 2:



The screenshot shows a window titled "R2" with a dark header bar. Below the header is a tabbed interface with four tabs: "Physical", "Config", "CLI", and "Attributes". The "CLI" tab is selected and highlighted. The main area of the window is titled "IOS Command Line Interface" and contains a text area with the following text:

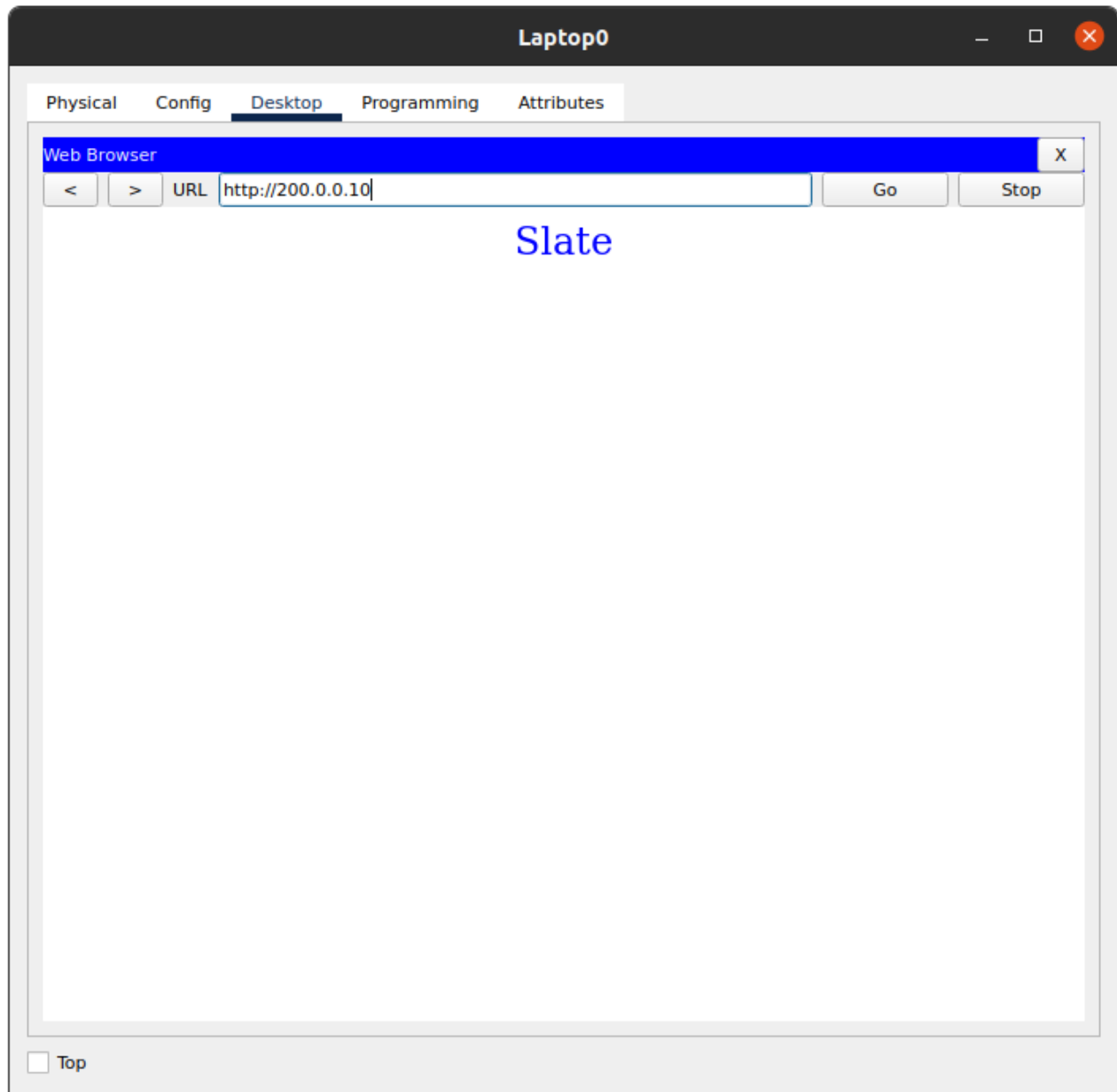
```
R2(config-if)#
R2(config-if)#
R2(config-if)#
R2(config-if)#
R2(config-if)#exit
R2(config)#exit
R2#
%SYS-5-CONFIG_I: Configured from console by console

R2#
R2#
R2#
R2#
R2#
R2#enab
R2#enable
R2#confi
R2#configure term
R2#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
R2(config)#
R2(config)#ip nat inside source static 192.168.1.10 200.0.0.10
R2(config)#ip nat inside source static 192.168.1.20 200.0.0.20
R2(config)#interface FastEthernet 0/0
R2(config-if)#ip nat outside
R2(config-if)#eit
                ^
% Invalid input detected at '^' marker.

R2(config-if)#exit
R2(config)#interface FastEthernet 0/1
R2(config-if)#ip nat inside
R2(config-if)#exit
R2(config)#ip route 50.0.0.0 255.0.0.0 100.0.0.1
R2(config)#
```

At the bottom right of the text area, there are two buttons: "Copy" and "Paste". At the bottom left of the window, there is a checkbox labeled "Top".

Checking the connection:



And

