

CYB 210 5-2 Activity: Packet Tracer

Andree Salvo

Southern New Hampshire University

CYB 210

Instructor: Bruce Gonzalez

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- I. Change **network addressing** (subnet masks, IP addressing, and default gateway) for the new network configuration.

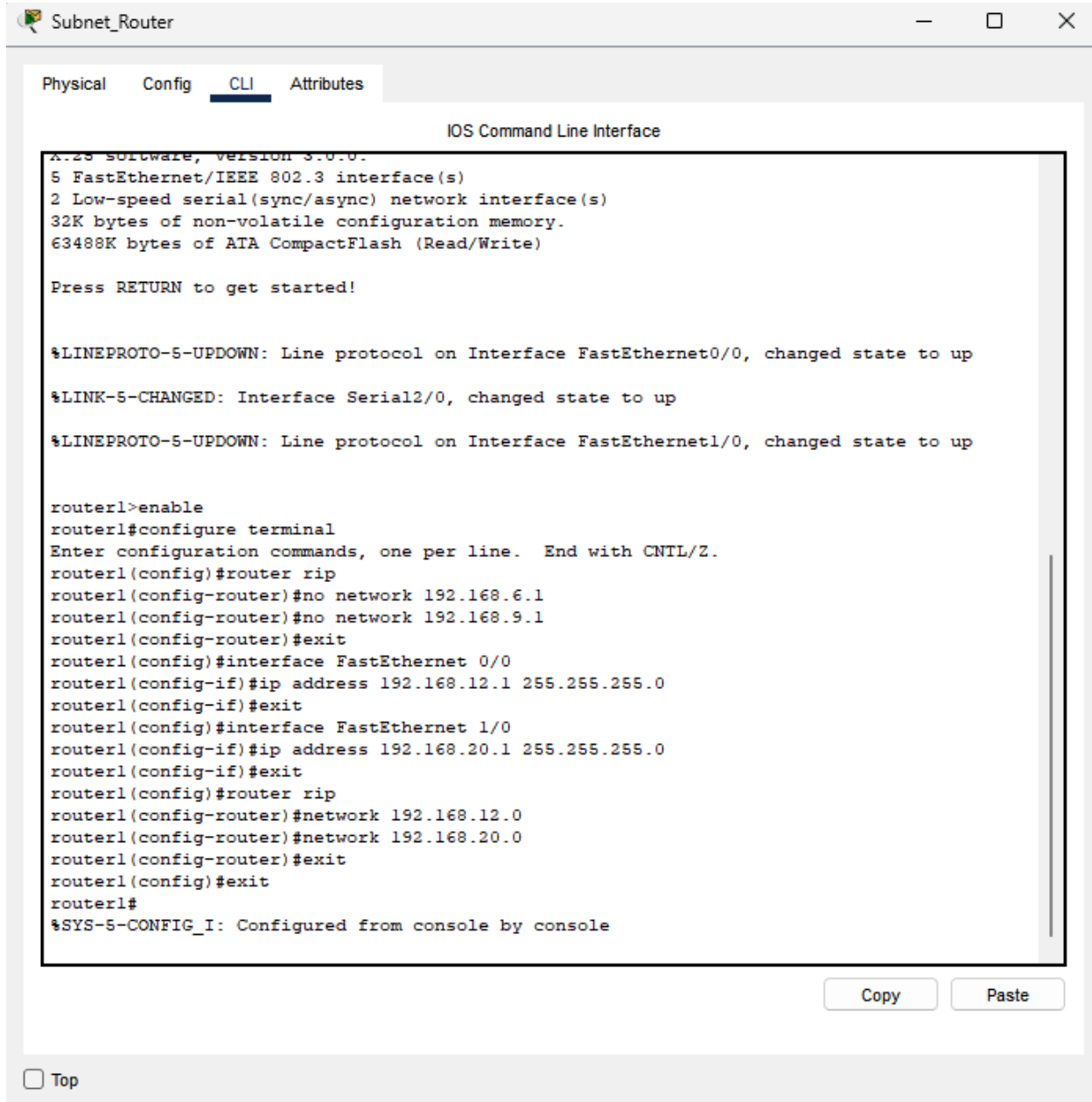
Provide an **explanation**: Configured all 4 IPV4 and default gateway to PC1, PC2,PC3, to the correct addresses.

The screenshot shows the 'PC1_Admin' window with the 'Desktop' tab selected. The 'IP Configuration' dialog is open for the 'FastEthernet0' interface. The 'IP Configuration' section has 'Static' selected, with the following values: IPv4 Address: 192.168.12.101, Subnet Mask: 255.255.255.0, Default Gateway: 192.168.12.1, and DNS Server: 0.0.0.0. The 'IPv6 Configuration' section also has 'Static' selected, with a Link Local Address of FE80::200:CFF:FE70:E3ED. The '802.1X' section is unchecked, and the 'Authentication' is set to MD5. A 'Top' button is visible at the bottom left.

- II. Change **RIP** to accommodate two new network configurations. Submit a screenshot of the RIP Configuration dialog window and a

Given explanation:

1. I opened the Subnet Router.
2. I clicked CLI.
3. I typed the following input on the CLI console to connect to the new network configurations that was provided for me on the new spreadsheet.



The screenshot shows a web-based interface for a 'Subnet_Router'. The 'CLI' tab is selected, displaying the 'IOS Command Line Interface'. The interface shows the router's startup sequence, including hardware details and the prompt 'Press RETURN to get started!'. After pressing return, the router displays status messages for interfaces FastEthernet0/0, Serial2/0, and FastEthernet1/0. The user then enters the command 'enable' to enter privileged EXEC mode. From there, the user enters 'configure terminal' to enter global configuration mode. The user then enters 'router rip' to enter RIP configuration mode. In this mode, the user enters 'no network 192.168.6.1' and 'no network 192.168.9.1' to remove those networks from the RIP table, followed by 'exit'. The user then enters 'interface FastEthernet 0/0' to enter interface configuration mode. In this mode, the user enters 'ip address 192.168.12.1 255.255.255.0' and 'exit'. The user then enters 'interface FastEthernet 1/0' to enter interface configuration mode. In this mode, the user enters 'ip address 192.168.20.1 255.255.255.0' and 'exit'. The user then enters 'router rip' to enter RIP configuration mode. In this mode, the user enters 'network 192.168.12.0' and 'network 192.168.20.0' to advertise those networks, followed by 'exit'. The user then enters 'exit' to return to privileged EXEC mode. The final prompt is 'router1#'. A status message at the bottom indicates the configuration was successful: '%SYS-5-CONFIG_I: Configured from console by console'. At the bottom of the interface, there is a 'Top' link and 'Copy' and 'Paste' buttons.

```
A.25 Software, version 3.0.0.
5 FastEthernet/IEEE 802.3 interface(s)
2 Low-speed serial(sync/async) network interface(s)
32K bytes of non-volatile configuration memory.
63488K bytes of ATA CompactFlash (Read/Write)

Press RETURN to get started!

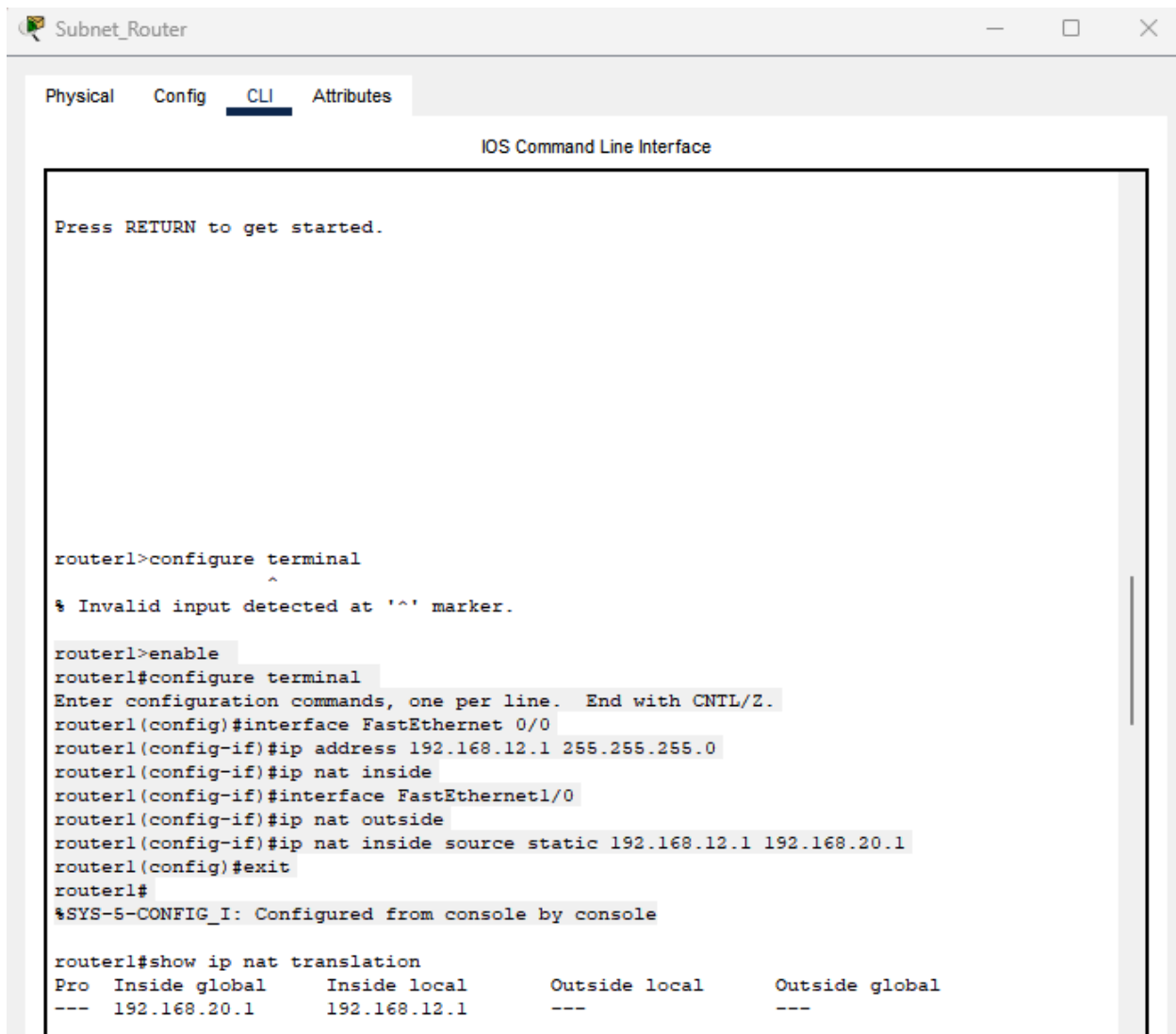
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
%LINK-5-CHANGED: Interface Serial2/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet1/0, changed state to up

router1>enable
router1#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
router1(config)#router rip
router1(config-router)#no network 192.168.6.1
router1(config-router)#no network 192.168.9.1
router1(config-router)#exit
router1(config)#interface FastEthernet 0/0
router1(config-if)#ip address 192.168.12.1 255.255.255.0
router1(config-if)#exit
router1(config)#interface FastEthernet 1/0
router1(config-if)#ip address 192.168.20.1 255.255.255.0
router1(config-if)#exit
router1(config)#router rip
router1(config-router)#network 192.168.12.0
router1(config-router)#network 192.168.20.0
router1(config-router)#exit
router1(config)#exit
router1#
%SYS-5-CONFIG_I: Configured from console by console
```

- III. Configure **NAT** on the router. Submit a screenshot of the NAT translations table and a brief explanation of the steps you took.

Explanation:

1. Open the Subnet Router
2. Click the CLI
3. The commands I used to set the IP addresses from inside and outside was
 - router1>enable
 - router1#configure terminal
 - Enter configuration commands, one per line. End with CNTL/Z.
 - router1(config)#interface FastEthernet 0/0
 - router1(config-if)#ip address 192.168.12.1 255.255.255.0
 - router1(config-if)#ip nat inside
 - router1(config-if)#interface FastEthernet1/0
 - router1(config-if)#ip nat outside
 - router1(config-if)#ip nat inside source static 192.168.12.1 192.168.20.1
 - router1(config)#exit
 - router1#
 - %SYS-5-CONFIG_I: Configured from console by console



The screenshot shows a window titled "Subnet_Router" with four tabs: "Physical", "Config", "CLI", and "Attributes". The "CLI" tab is selected, displaying the "IOS Command Line Interface". The interface shows a series of commands entered at the "router1" prompt, including enabling configuration mode, setting up interfaces, and configuring NAT. A confirmation message "%SYS-5-CONFIG_I: Configured from console by console" is displayed. Finally, the "show ip nat translation" command is executed, resulting in a table showing the translation of the inside local address 192.168.12.1 to the inside global address 192.168.20.1.

```
Press RETURN to get started.

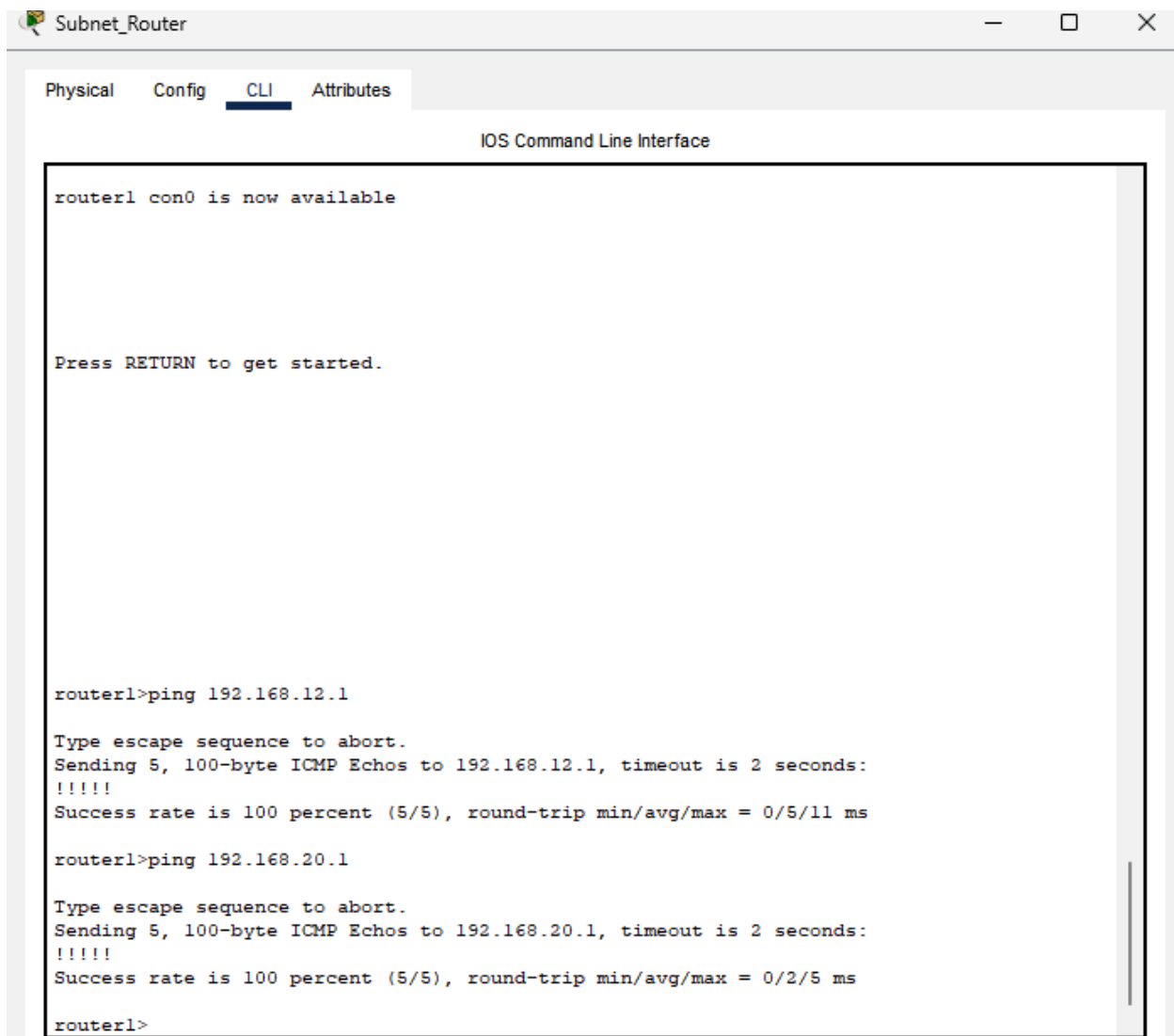
router1>configure terminal
      ^
% Invalid input detected at '^' marker.

router1>enable
router1#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
router1(config)#interface FastEthernet 0/0
router1(config-if)#ip address 192.168.12.1 255.255.255.0
router1(config-if)#ip nat inside
router1(config-if)#interface FastEthernet1/0
router1(config-if)#ip nat outside
router1(config-if)#ip nat inside source static 192.168.12.1 192.168.20.1
router1(config)#exit
router1#
%SYS-5-CONFIG_I: Configured from console by console

router1#show ip nat translation
Pro  Inside global      Inside local       Outside local      Outside global
---  192.168.20.1          192.168.12.1      ---                ---
```

Also, I pinged both the Ip addresses to make sure they were a success.

(PART OF) Configure NAT



The screenshot shows a window titled "Subnet_Router" with a standard macOS-style title bar (minimize, maximize, close buttons). Inside the window, there are four tabs: "Physical", "Config", "CLI", and "Attributes". The "CLI" tab is selected and highlighted with a blue underline. Below the tabs, the text "IOS Command Line Interface" is centered. The main area of the window displays a text-based interface for a router. It starts with the message "router1 con0 is now available", followed by "Press RETURN to get started." After a series of blank lines, the user enters the command "router1>ping 192.168.12.1". The router responds with "Type escape sequence to abort.", "Sending 5, 100-byte ICMP Echos to 192.168.12.1, timeout is 2 seconds:", "!!!!", and "Success rate is 100 percent (5/5), round-trip min/avg/max = 0/5/11 ms". The user then enters "router1>ping 192.168.20.1", and the router responds with "Type escape sequence to abort.", "Sending 5, 100-byte ICMP Echos to 192.168.20.1, timeout is 2 seconds:", "!!!!", and "Success rate is 100 percent (5/5), round-trip min/avg/max = 0/2/5 ms". Finally, the user enters "router1>" and the prompt is shown again.

```
router1 con0 is now available

Press RETURN to get started.


router1>ping 192.168.12.1

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 192.168.12.1, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 0/5/11 ms

router1>ping 192.168.20.1

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 192.168.20.1, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 0/2/5 ms

router1>
```

IV. Configure **DHCP** services

Explanation:

1. Created a StudentPool
2. Turned the services Off to On
3. Configured the default gateway to 192.168.20.1
4. Configured the DNS Server to 192.168.20.100
5. Start IP Address: 192.168.20.125
6. Change the max of users: 37
7. Once Finished, I clicked on every StudentPC to check and it successfully assigned the correct IP addresses to each PC and device that are in range.

The screenshot shows the 'Server_Main' configuration window with the 'Services' tab selected. On the left, a 'SERVICES' sidebar lists various services, with 'DHCP' highlighted. The main area is titled 'DHCP' and contains configuration fields for the 'StudentPool'. The 'Interface' is set to 'FastEthernet0' and the 'Service' is turned 'On'. The 'Pool Name' is 'StudentPool', the 'Default Gateway' is '192.168.20.1', and the 'DNS Server' is '192.168.20.100'. The 'Start IP Address' is configured as 192.168.20.125, and the 'Subnet Mask' is 255.255.255.0. The 'Maximum Number of Users' is set to 37. The 'TFTP Server' and 'WLC Address' are both set to 0.0.0.0. Below these fields are 'Add', 'Save', and 'Remove' buttons. At the bottom, a table lists the configured pools.

Pool Name	Default Gateway	DNS Server	Start IP Address	Subnet Mask	Max User	TFTP Server	WLC Address
serverPool	0.0.0.0	0.0.0.0	192.168....	255.255....	25	0.0.0.0	0.0.0.0
StudentPool	192.168....	192.168....	192.168....	255.255....	37	0.0.0.0	0.0.0.0

☐ Top

Second screenshot of PC2

PC3_Student

Physical **Config** Desktop Programming Attributes

GLOBAL

Settings

Algorithm Settings

INTERFACE

FastEthernet0

Bluetooth

FastEthernet0

Port Status ☒ On

Bandwidth ☒ 100 Mbps ☐ 10 Mbps ☒ Auto

Duplex ☐ Half Duplex ☒ Full Duplex ☒ Auto

MAC Address 00E0.B041.ADDA

IP Configuration

☒ DHCP

☐ Static

IPv4 Address 192.168.20.128

Subnet Mask 255.255.255.0

IPv6 Configuration

☒ Automatic

☐ Static

IPv6 Address /

Link Local Address: FE80::2E0:B0FF:FE41:ADDA

☐ Top

V. Configure **DNS** for the server name and IP address

Explanation:

1. Click Student Server Main
 2. Once in, go to Services
 3. In Services, click DNS
 4. Once in, Remove the first server.com
 5. Turn the DNS Service to ON
 6. Add a server
 7. Name – Server.com
 8. Type = A Record
- Photo below

The screenshot shows the 'Server_Main' application window with the 'Services' tab selected. In the left sidebar, 'DNS' is highlighted under the 'SERVICES' section. The main area displays the DNS configuration. The 'DNS Service' is set to 'On'. Under 'Resource Records', there is a table with one entry: 'server.com' of type 'A Record' with IP address '192.168.20.100'. Below the table is a 'DNS Cache' button. At the bottom left, there is a 'Top' button.

No.	Name	Type	Detail
0	server.com	A Record	192.168.20.100

VI. Label all devices and networks with the IP addresses

