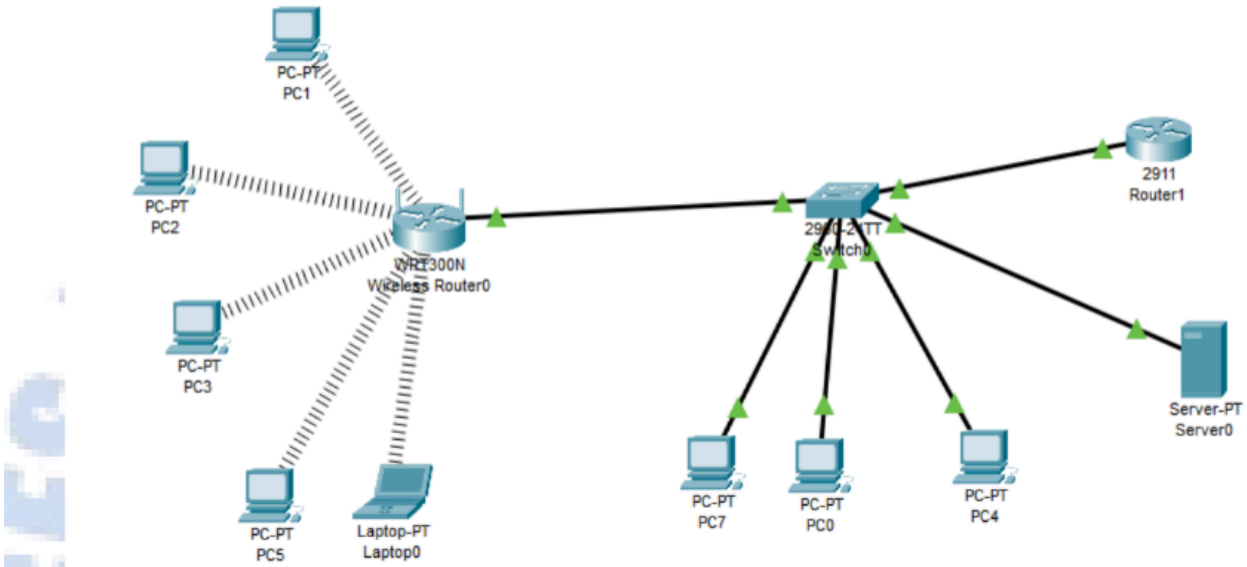
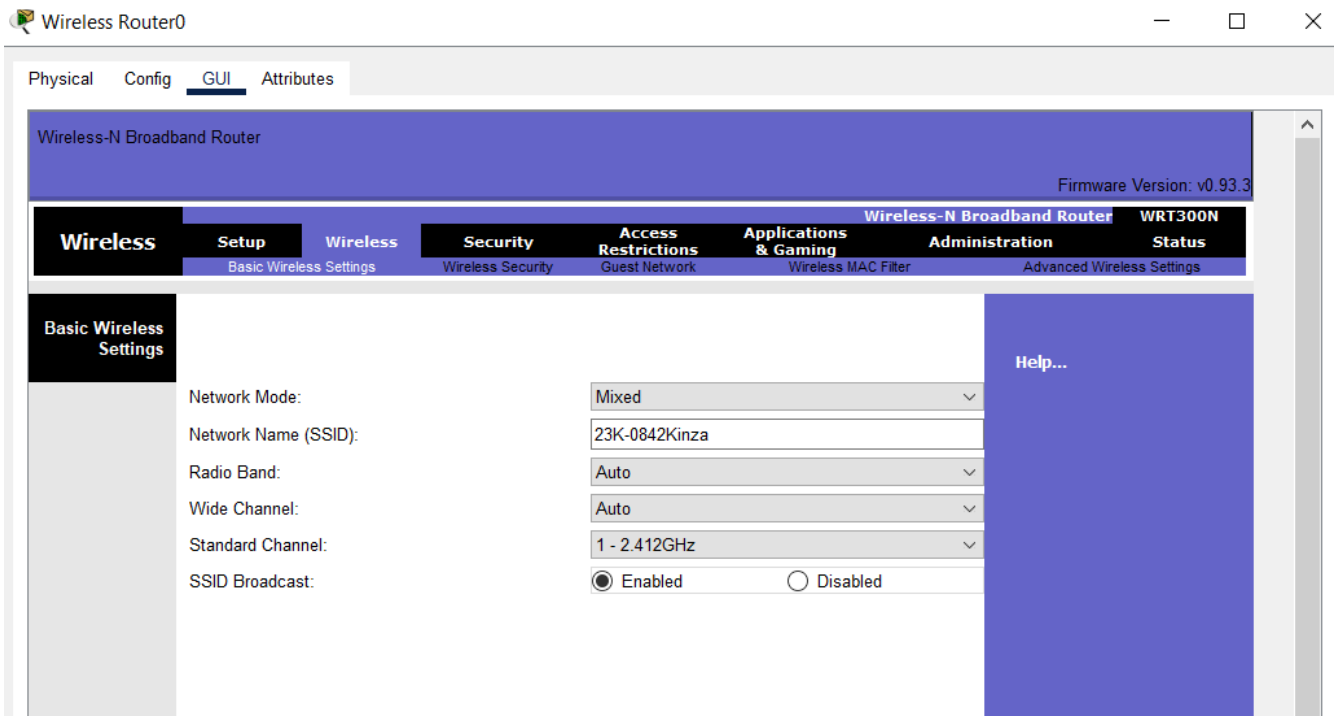
Lab Exercise – I

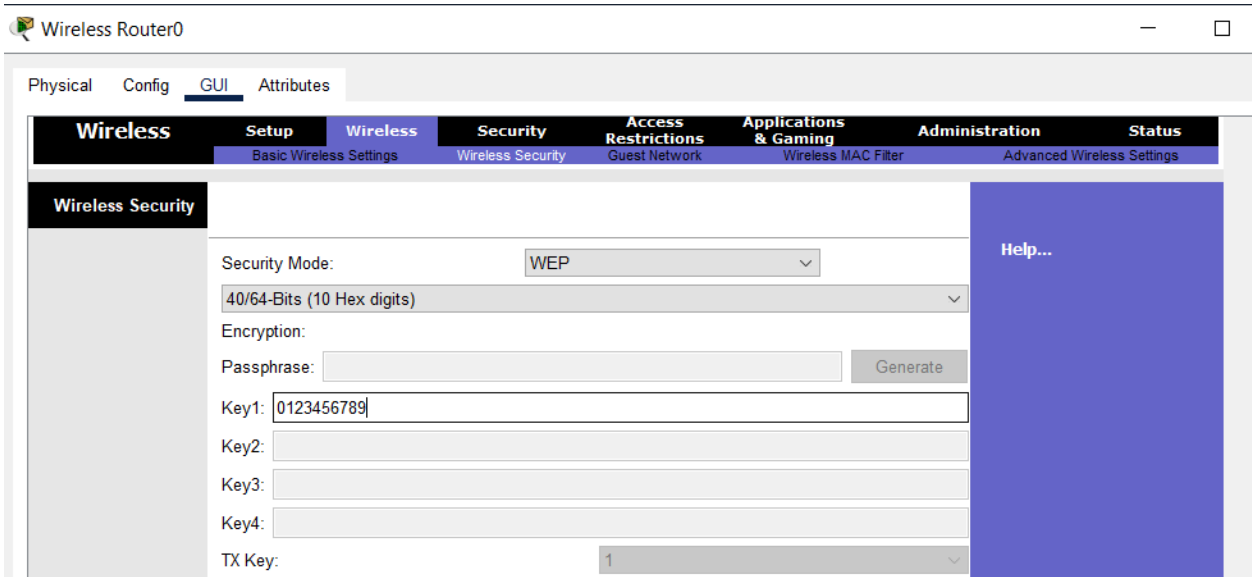


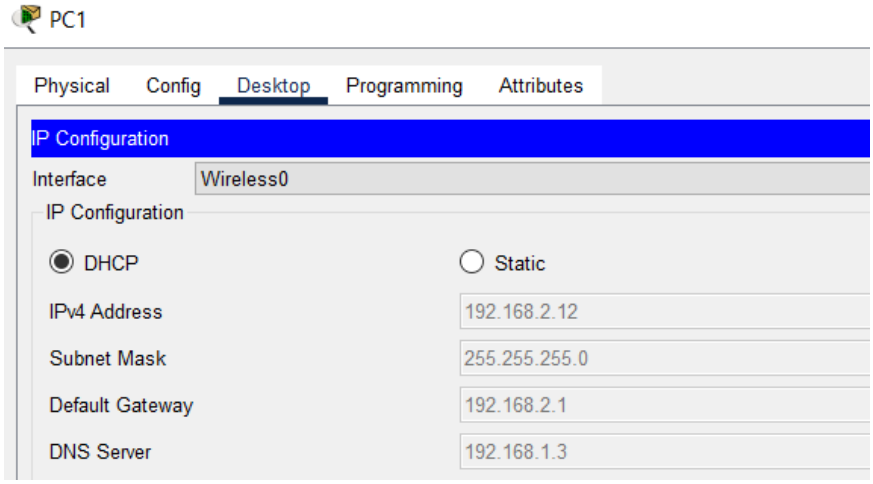
1. Change the Network of Wireless Router to your StudentID+Name.
2. Set the key while connecting the wireless router with end devices.
3. Do perform secure communication on Switch0 and Router1 and check it through Laptop0.
4. Do send mails from Wireless Users to Lan Users by creating different domains.
5. Hit the web browser using CNAME.
6. Show HTTP and HTTPs packet movement by taking screenshots.

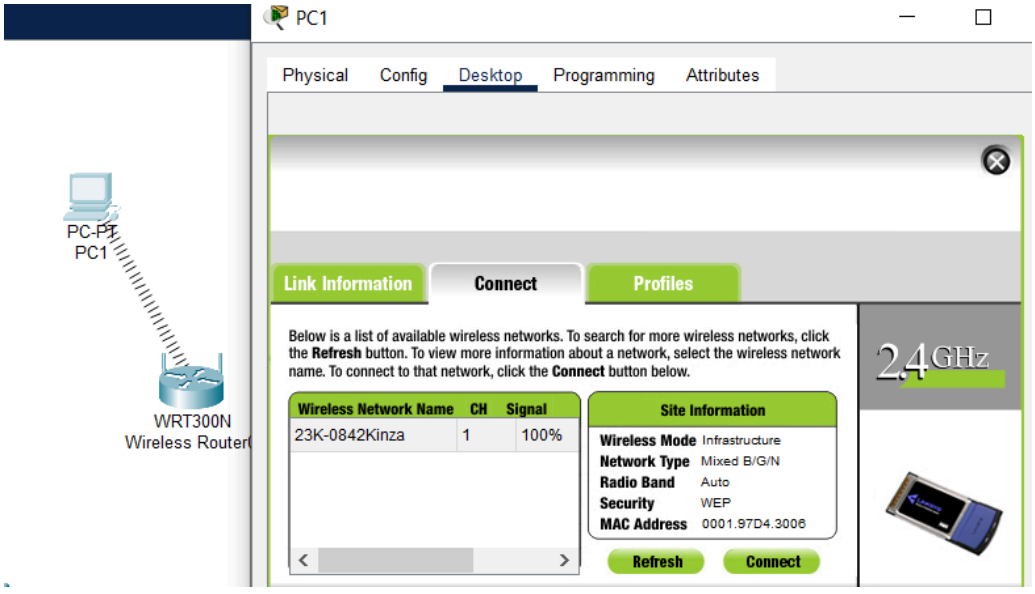
1.

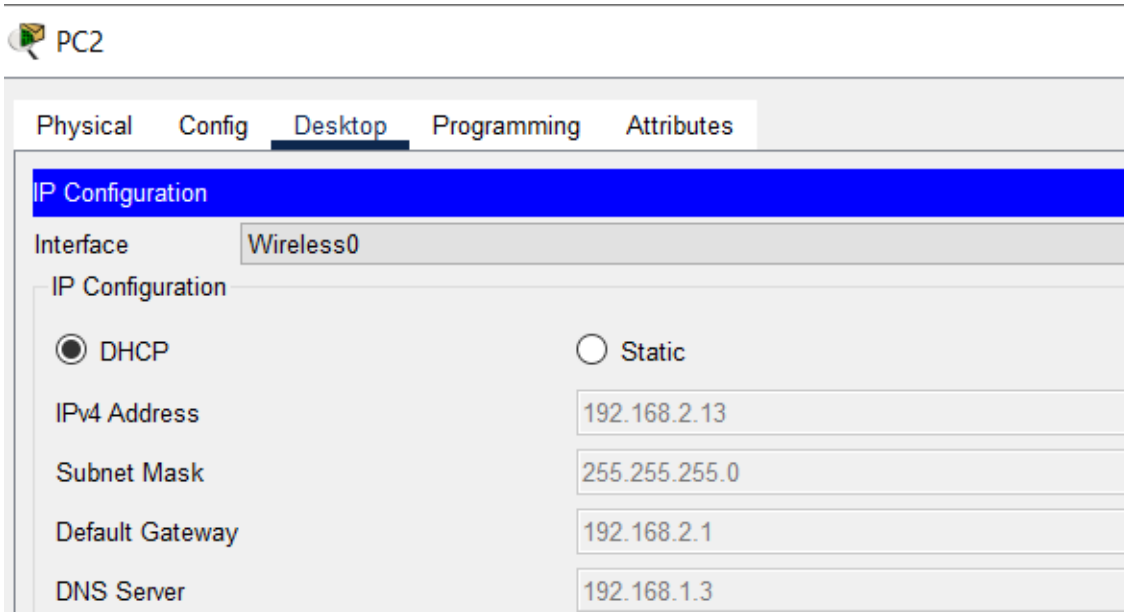


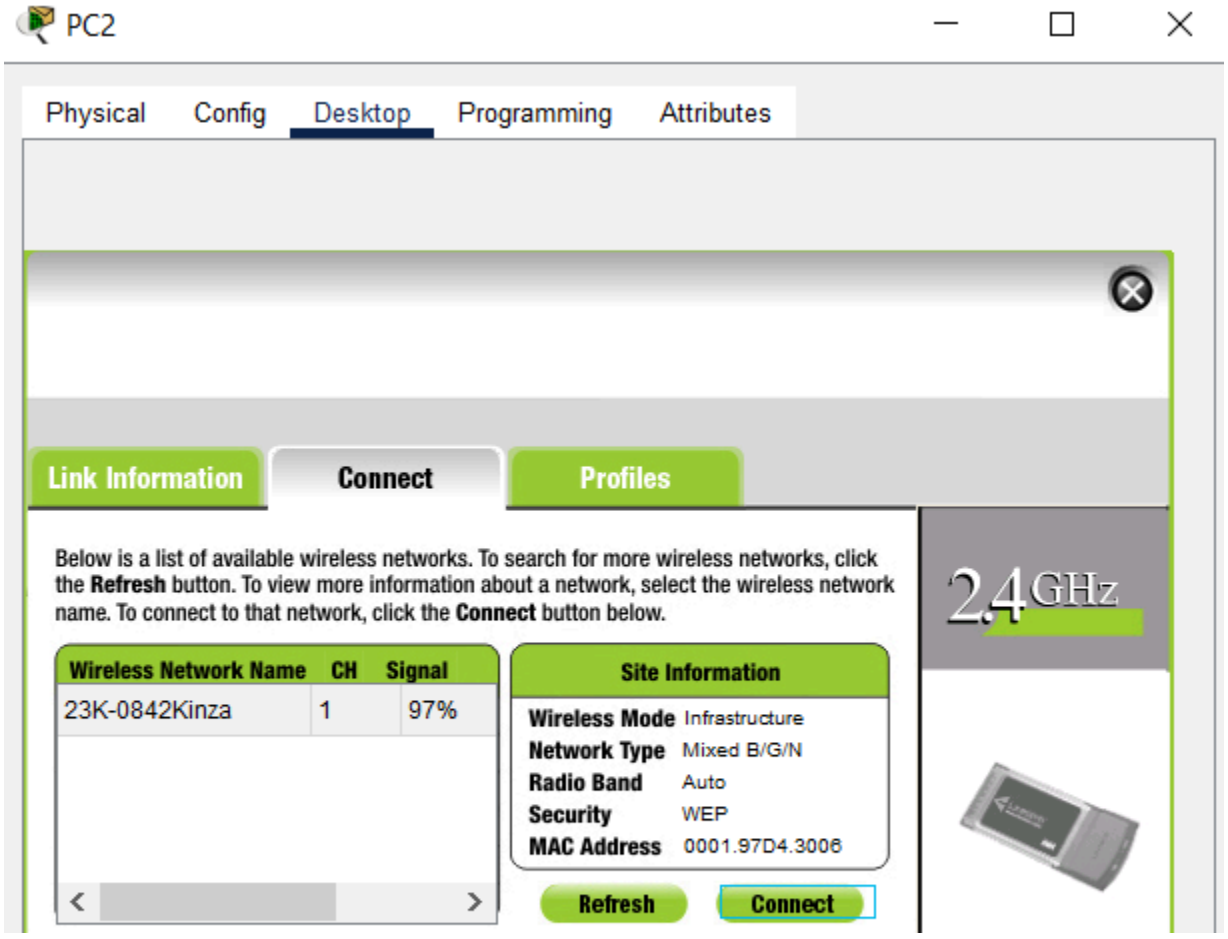
2. Key: 0123456789



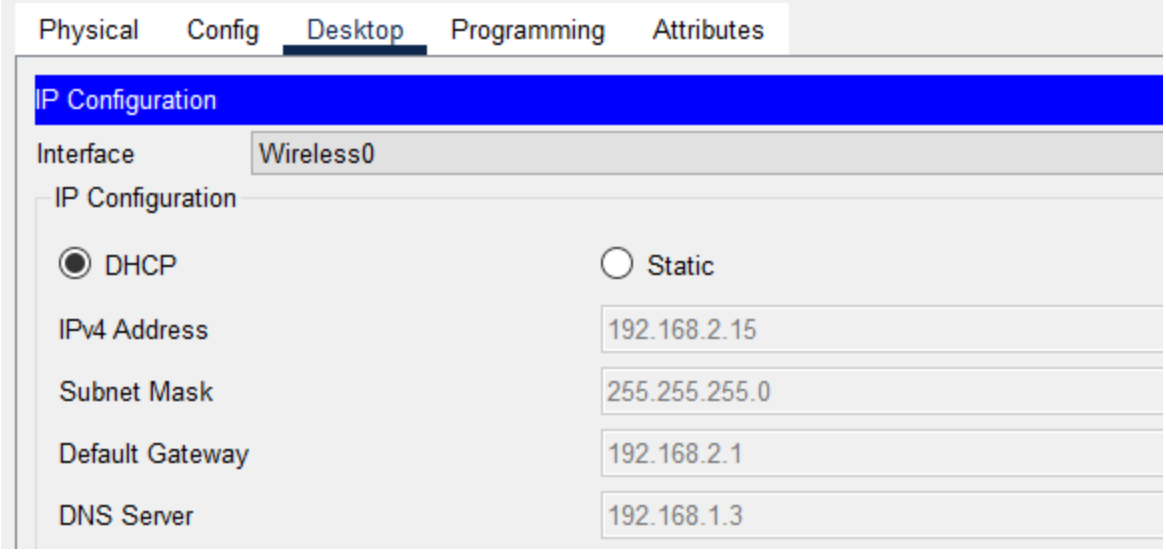




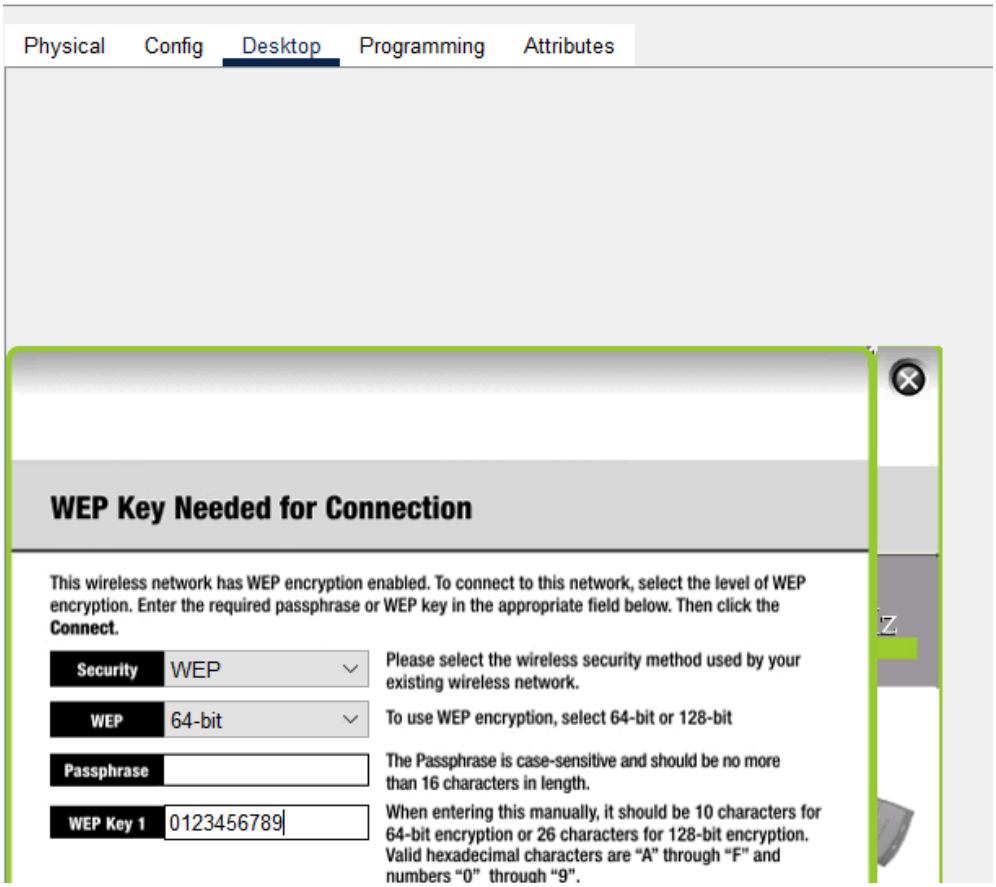

PC2
Physical
Config
Desktop
Programming
Attributes
IP Configuration
Interface
Wireless0
IP Configuration
DHCP
Static
IPv4 Address
192.168.2.13
Subnet Mask
255.255.255.0
Default Gateway
192.168.2.1
DNS Server
192.168.1.3


PC2
Physical
Config
Desktop
Programming
Attributes
Link Information
Connect
Profiles
Below is a list of available wireless networks. To search for more wireless networks, click the Refresh button. To view more information about a network, select the wireless network name. To connect to that network, click the Connect button below.
Wireless Network Name
CH
Signal
23K-0842Kinza
1
97%
Site Information
Wireless Mode
Infrastructure
Network Type
Mixed B/G/N
Radio Band
Auto
Security
WEP
MAC Address
0001.97D4.3006
Refresh
Connect
2.4GHz

PC3


Physical
Config
Desktop
Programming
Attributes
IP Configuration
Interface
Wireless0
IP Configuration
DHCP
Static
IPv4 Address
192.168.2.15
Subnet Mask
255.255.255.0
Default Gateway
192.168.2.1
DNS Server
192.168.1.3

PC3


Physical
Config
Desktop
Programming
Attributes
WEP Key Needed for Connection
This wireless network has WEP encryption enabled. To connect to this network, select the level of WEP encryption. Enter the required passphrase or WEP key in the appropriate field below. Then click the Connect.
Security
WEP
Please select the wireless security method used by your existing wireless network.
WEP
64-bit
To use WEP encryption, select 64-bit or 128-bit
Passphrase
The Passphrase is case-sensitive and should be no more than 16 characters in length.
WEP Key 1
0123456789
When entering this manually, it should be 10 characters for 64-bit encryption or 26 characters for 128-bit encryption. Valid hexadecimal characters are "A" through "F" and numbers "0" through "9".

PC5

Physical | Config | Desktop | Programming | Attributes

IP Configuration

Interface: Wireless0

IP Configuration

- DHCP
- Static

IPv4 Address: 192.168.2.11

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.2.1

DNS Server: 192.168.1.3

PC5

Link Information | Connect | Profiles

Below is a list of available wireless networks. To search for more wireless networks, click the **Refresh** button. To view more information about a network, select the wireless network name. To connect to that network, click the **Connect** button below.

Wireless Network Name	CH	Signal
23K-0842Kinza	1	73%

Site Information

Wireless Mode	Infrastructure
Network Type	Mixed B/G/N
Radio Band	Auto
Security	WEP
MAC Address	0001.97D4.3006

Refresh | Connect

2.4GHz

Adapter is Active

Wireless-N Notebook Adapter | Wireless Network Monitor v1.0 | Model No. WPC300N

Laptop0

Physical Config Desktop Programming Attributes

IP Configuration

Interface Wireless0

IP Configuration

DHCP Static

IPv4 Address 192.168.2.10

Subnet Mask 255.255.255.0

Default Gateway 192.168.2.1

DNS Server 192.168.1.3

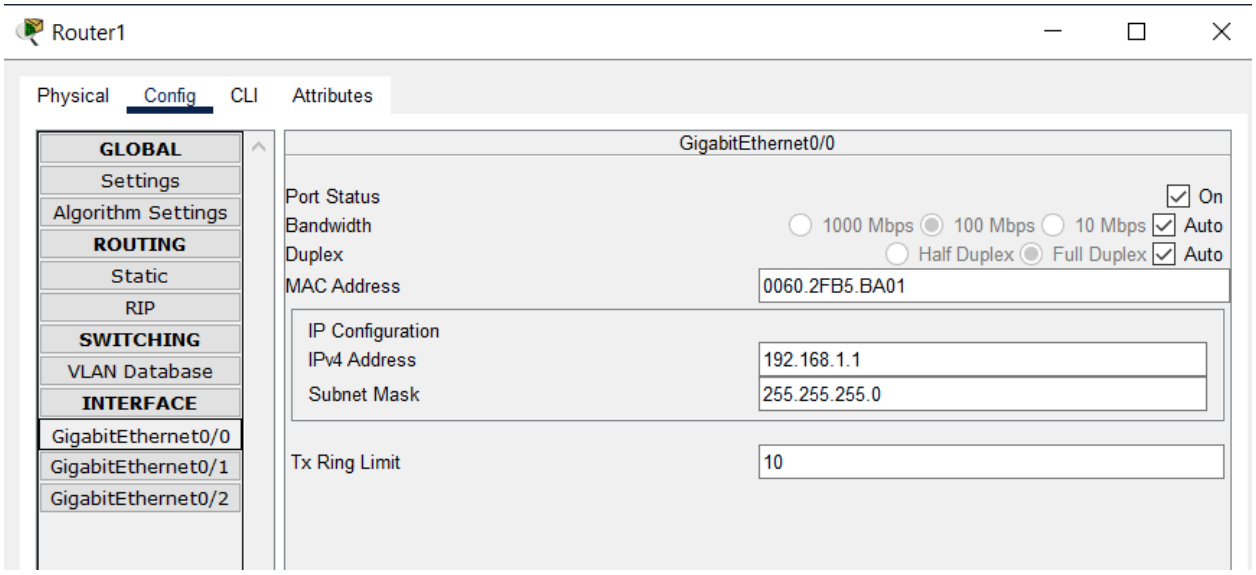
Laptop0

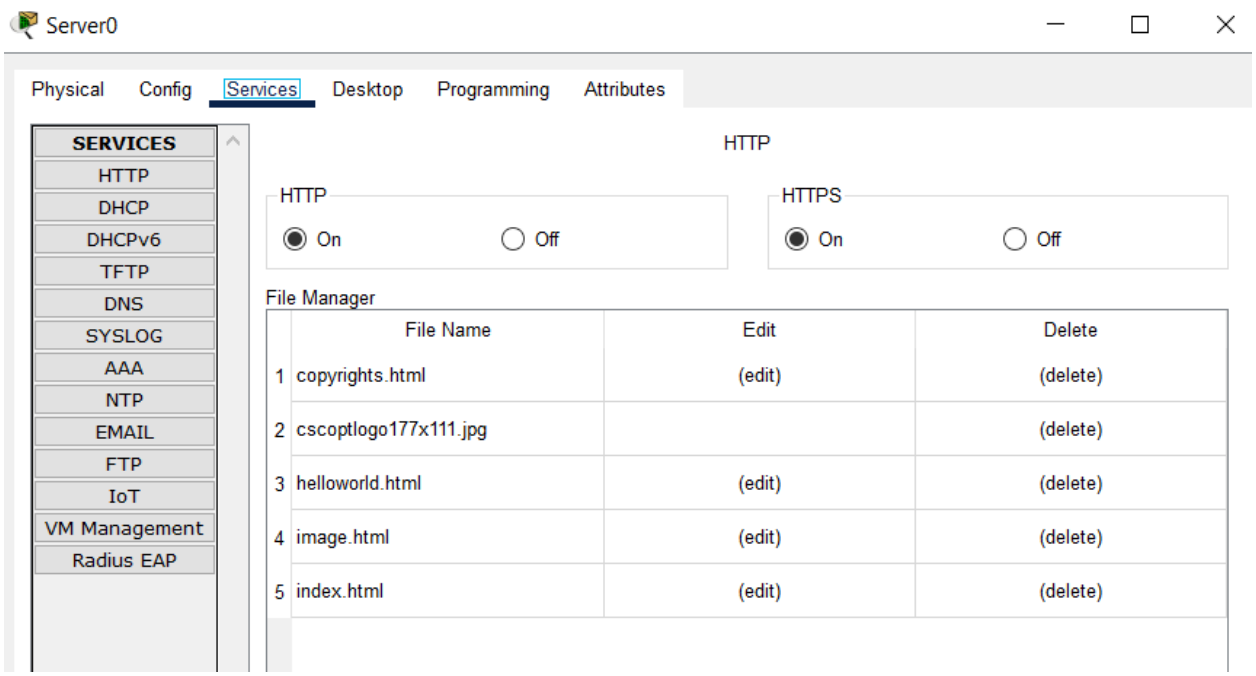
Physical Config Desktop Programming Attributes

WEP Key Needed for Connection

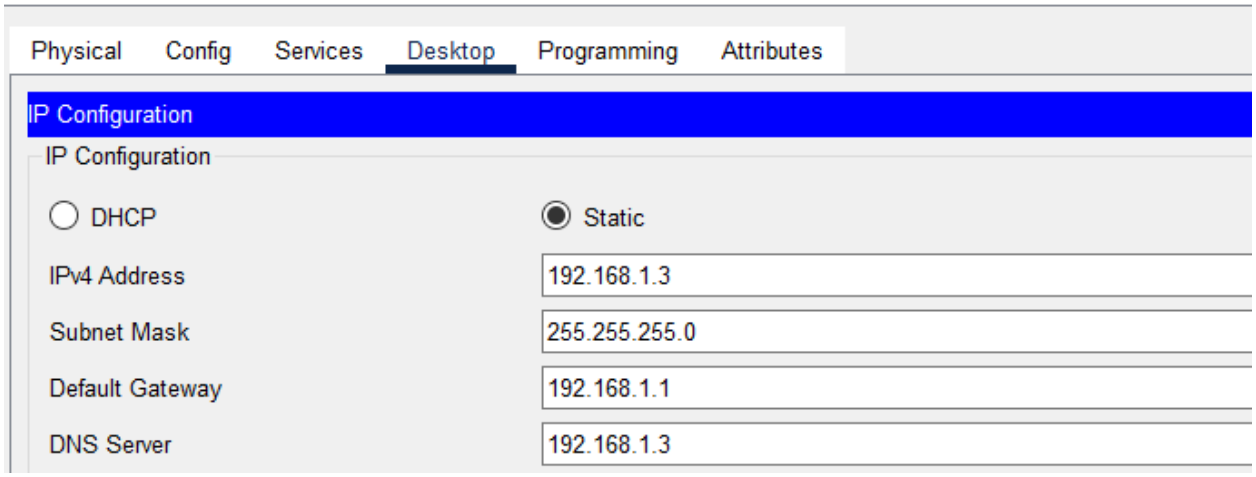
This wireless network has WEP encryption enabled. To connect to this network, select the level of WEP encryption. Enter the required passphrase or WEP key in the appropriate field below. Then click the **Connect**.

Security	WEP	Please select the wireless security method used by your existing wireless network.
WEP	64-bit	To use WEP encryption, select 64-bit or 128-bit
Passphrase		The Passphrase is case-sensitive and should be no more than 16 characters in length.
WEP Key 1	0123456789	When entering this manually, it should be 10 characters for 64-bit encryption or 26 characters for 128-bit encryption. Valid hexadecimal characters are "A" through "F" and numbers "0" through "9".

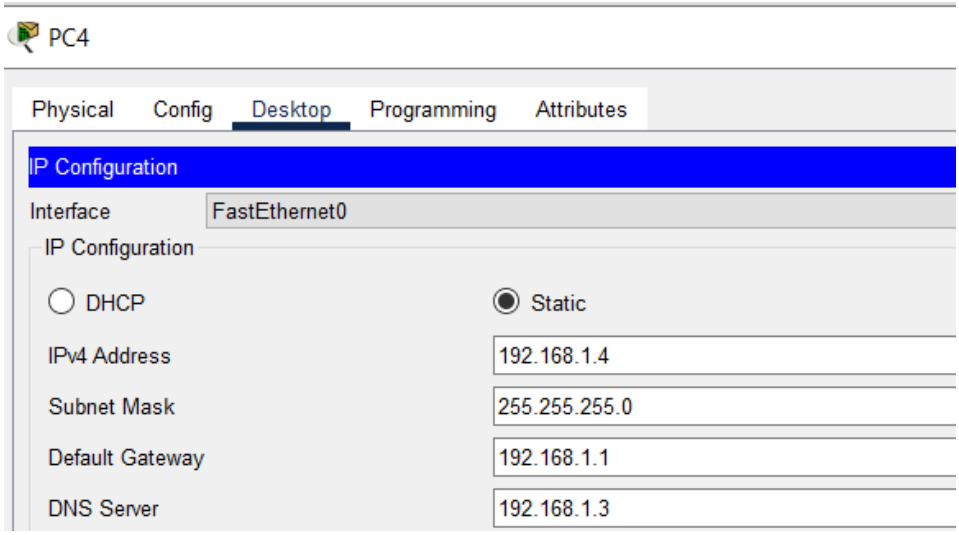

Router1
Physical
Config
CLI
Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
SWITCHING
VLAN Database
INTERFACE
GigabitEthernet0/0
GigabitEthernet0/1
GigabitEthernet0/2
GigabitEthernet0/0
Port Status
On
Bandwidth
1000 Mbps
100 Mbps
10 Mbps
Auto
Duplex
Half Duplex
Full Duplex
Auto
MAC Address
0060.2FB5.BA01
IP Configuration
IPv4 Address
192.168.1.1
Subnet Mask
255.255.255.0
Tx Ring Limit
10


Server0
Physical
Config
Services
Desktop
Programming
Attributes
SERVICES
HTTP
DHCP
DHCPv6
TFTP
DNS
SYSLOG
AAA
NTP
EMAIL
FTP
IoT
VM Management
Radius EAP
HTTP
HTTP
On
Off
HTTPS
On
Off
File Manager
File Name
Edit
Delete
1 copyrights.html (edit) (delete)
2 cscoptlogo177x111.jpg (delete)
3 helloworld.html (edit) (delete)
4 image.html (edit) (delete)
5 index.html (edit) (delete)

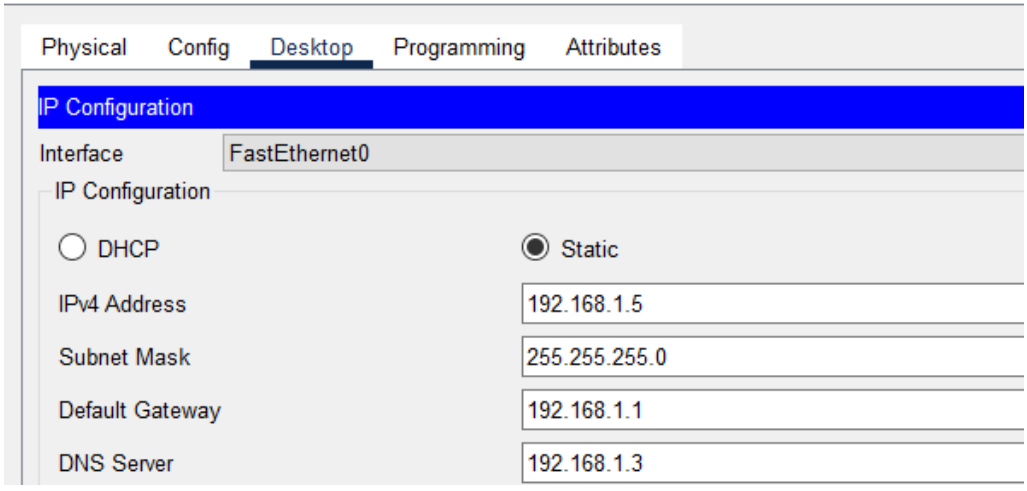
Server0

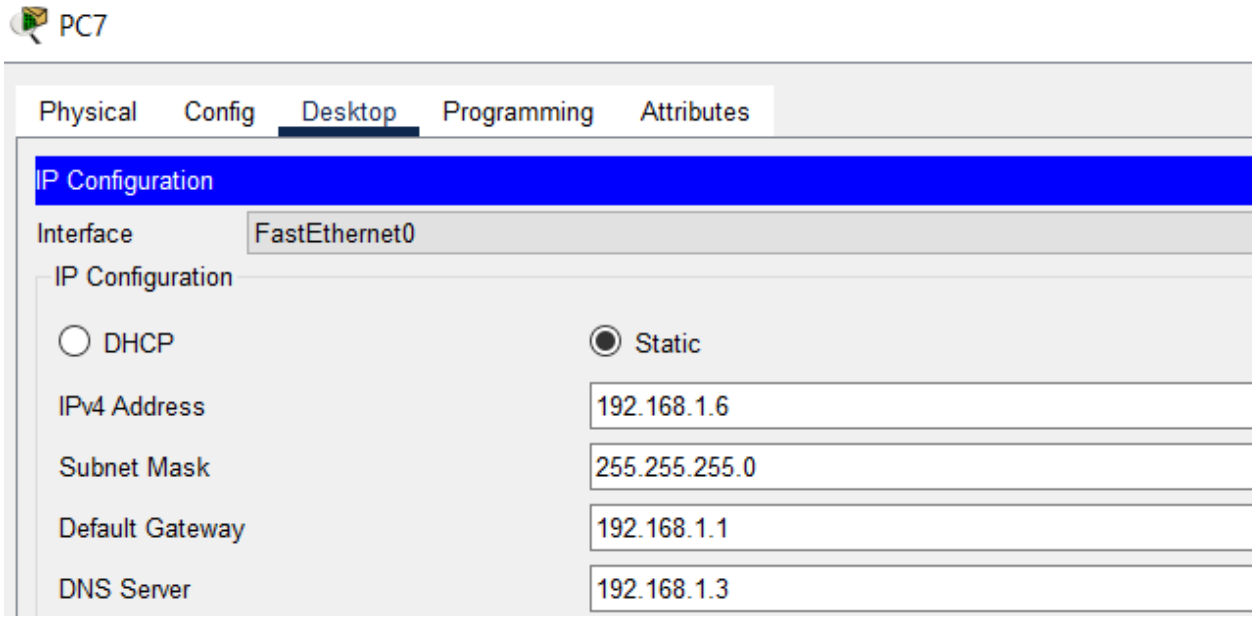


PC4



PC0

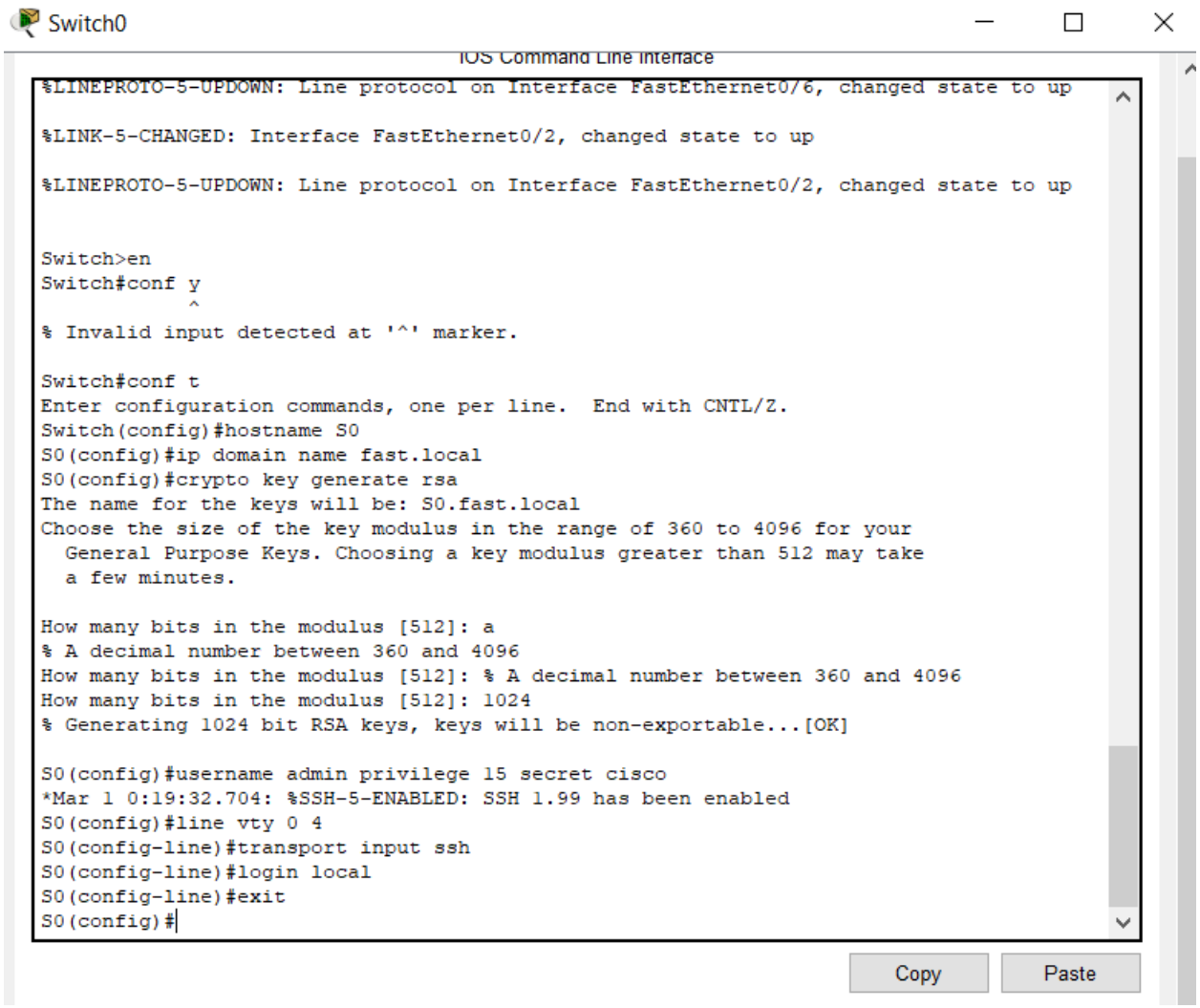


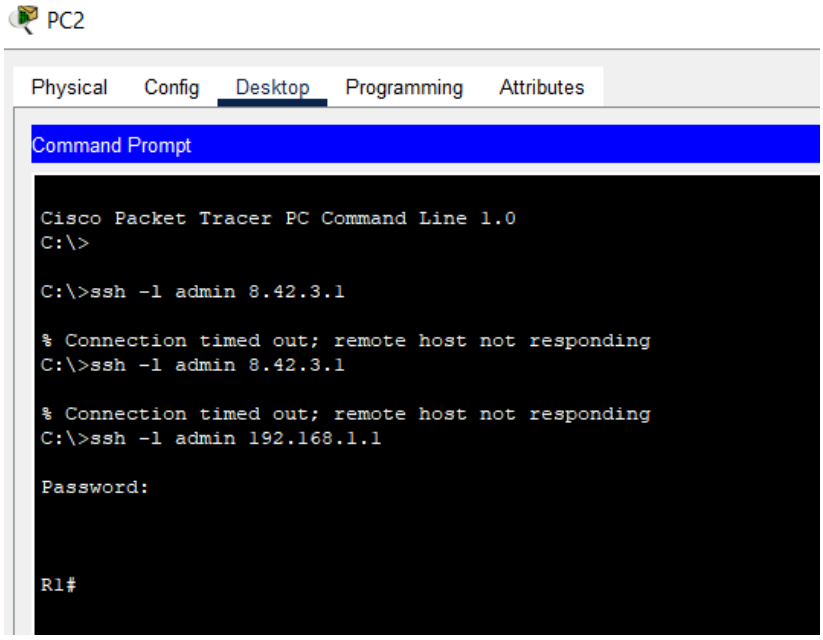


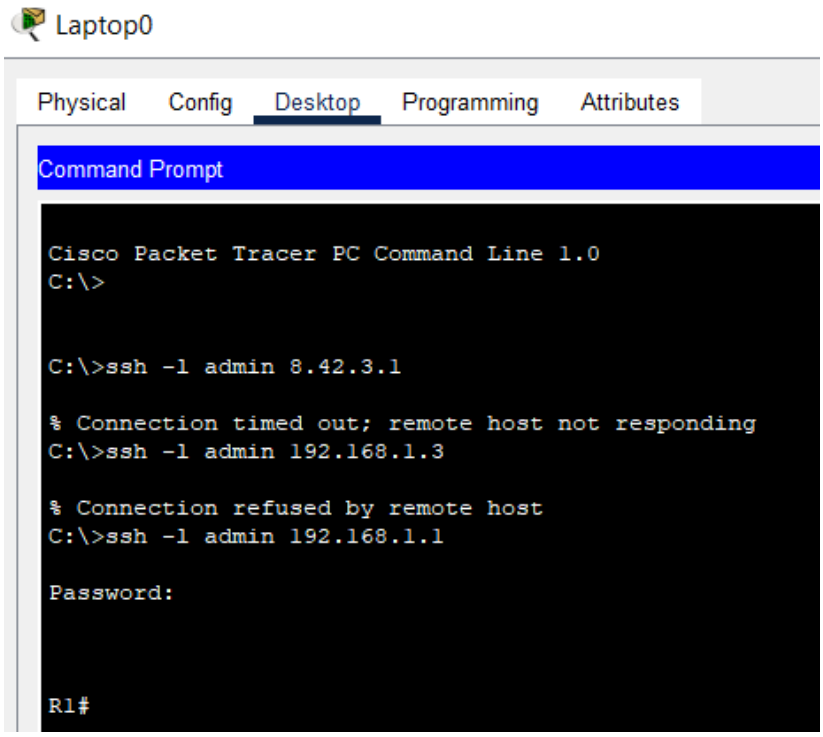
3. SSH on router and switch

```
Router(config)#hostname R1
R1(config)#ip domain name fast.local
R1(config)#crypto key generate rsa
The name for the keys will be: R1.fast.local
Choose the size of the key modulus in the range of 360 to 4096 for your
  General Purpose Keys. Choosing a key modulus greater than 512 may take
  a few minutes.

How many bits in the modulus [512]: 1024
% Generating 1024 bit RSA keys, keys will be non-exportable...[OK]

R1(config)#username admin privilege 15 secret cisco
*Mar 1 0:37:35.710: %SSH-5-ENABLED: SSH 1.99 has been enabled
R1(config)#line vty 0 4
R1(config-line)#transport input ssh
R1(config-line)#login local
R1(config-line)#exit
R1(config)#
```

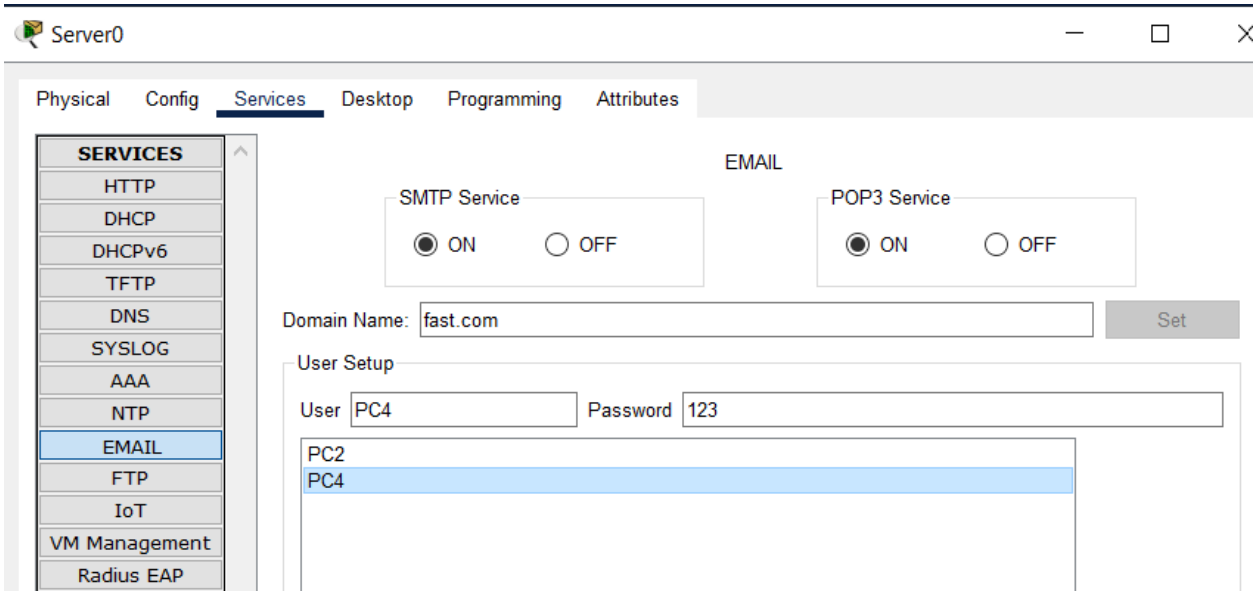
Copy Paste

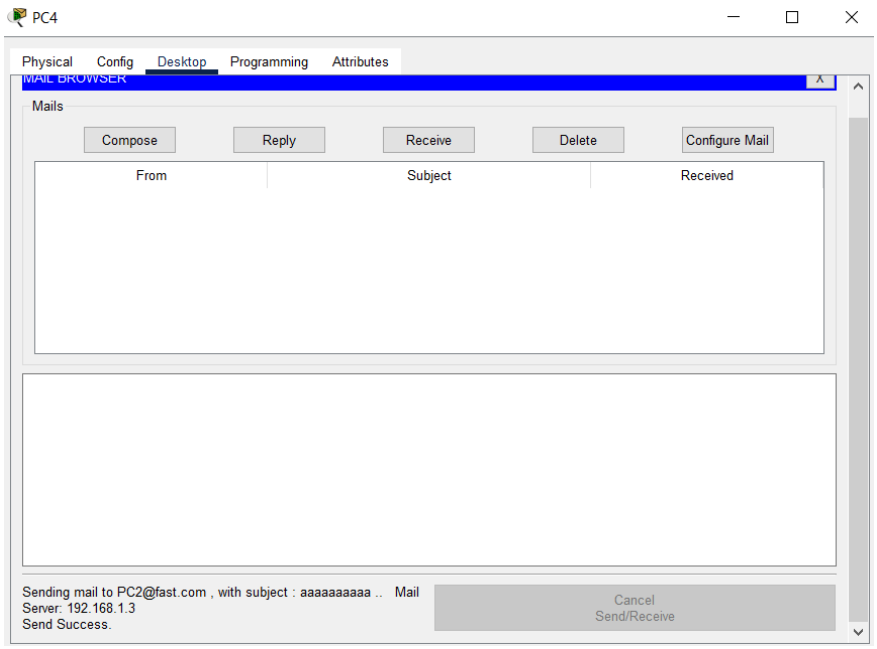

Switch0
IOS Command Line Interface
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/6, changed state to up
%LINK-5-CHANGED: Interface FastEthernet0/2, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/2, changed state to up
Switch>en
Switch#conf y
^
% Invalid input detected at '^' marker.
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#hostname S0
S0(config)#ip domain name fast.local
S0(config)#crypto key generate rsa
The name for the keys will be: S0.fast.local
Choose the size of the key modulus in the range of 360 to 4096 for your
General Purpose Keys. Choosing a key modulus greater than 512 may take
a few minutes.
How many bits in the modulus [512]: a
% A decimal number between 360 and 4096
How many bits in the modulus [512]: % A decimal number between 360 and 4096
How many bits in the modulus [512]: 1024
% Generating 1024 bit RSA keys, keys will be non-exportable...[OK]
S0(config)#username admin privilege 15 secret cisco
*Mar 1 0:19:32.704: %SSH-5-ENABLED: SSH 1.99 has been enabled
S0(config)#line vty 0 4
S0(config-line)#transport input ssh
S0(config-line)#login local
S0(config-line)#exit
S0(config)#
Copy
Paste

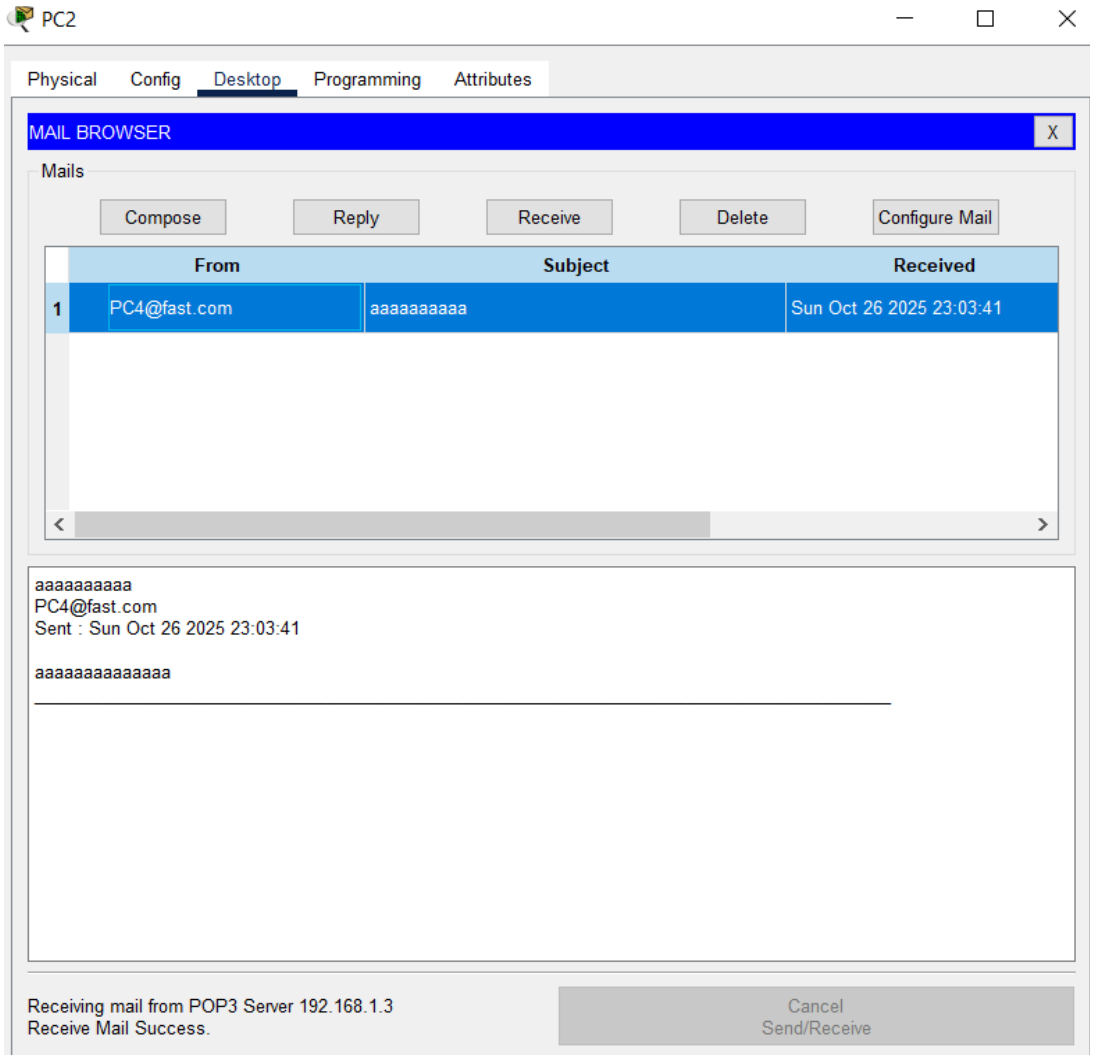

PC2
Physical
Config
Desktop
Programming
Attributes
Command Prompt
Cisco Packet Tracer PC Command Line 1.0
C:\>
C:\>ssh -l admin 8.42.3.1
% Connection timed out; remote host not responding
C:\>ssh -l admin 8.42.3.1
% Connection timed out; remote host not responding
C:\>ssh -l admin 192.168.1.1
Password:
R1#

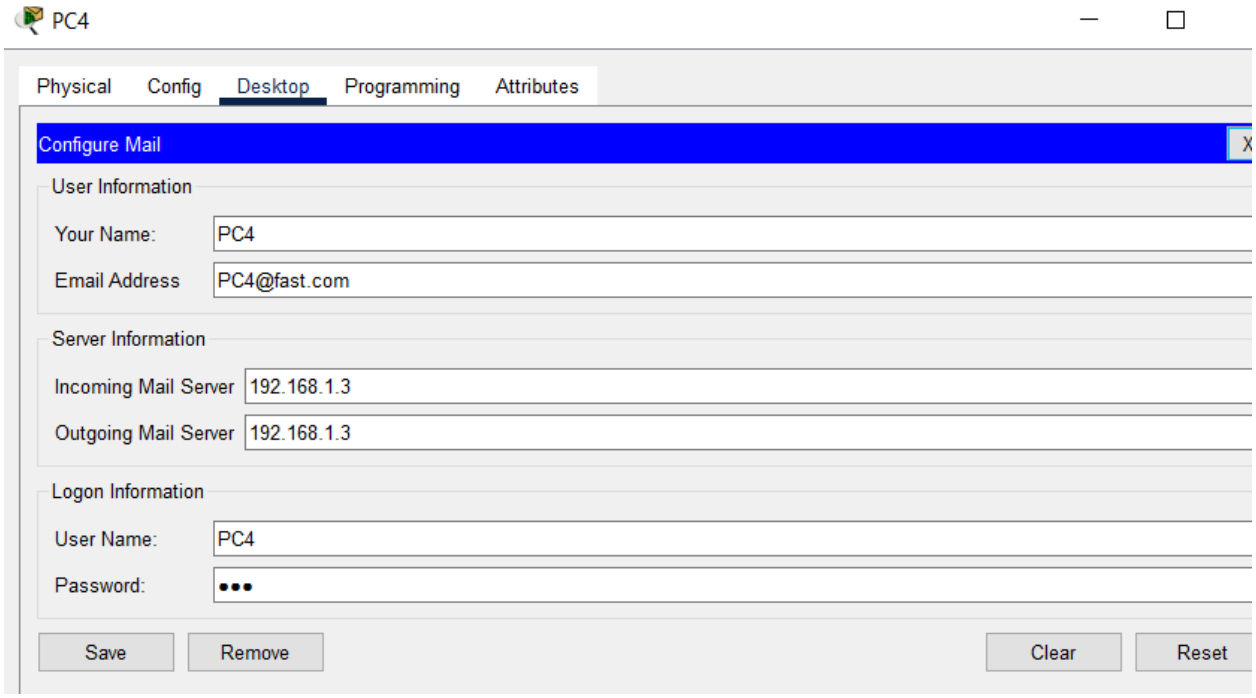

Laptop0
Physical
Config
Desktop
Programming
Attributes
Command Prompt
Cisco Packet Tracer PC Command Line 1.0
C:\>
C:\>ssh -l admin 8.42.3.1
% Connection timed out; remote host not responding
C:\>ssh -l admin 192.168.1.3
% Connection refused by remote host
C:\>ssh -l admin 192.168.1.1
Password:
R1#

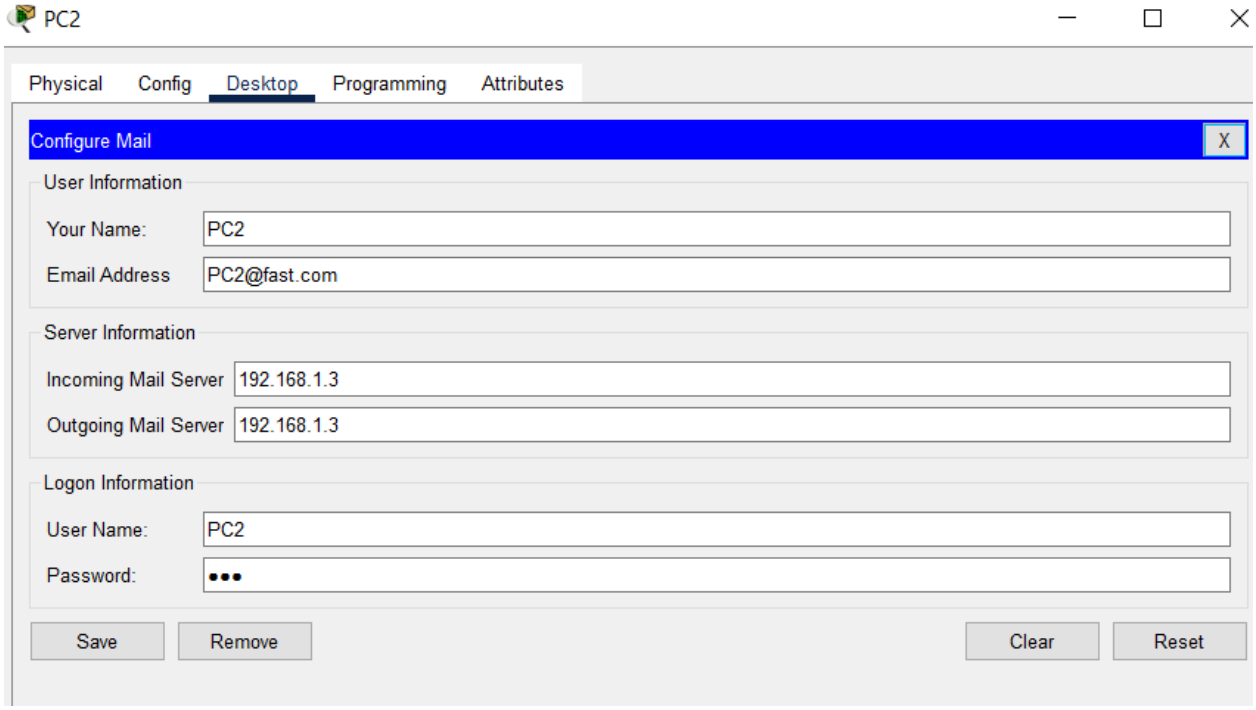
4.


Server0
Physical
Config
Services
Desktop
Programming
Attributes
SERVICES
HTTP
DHCP
DHCPv6
TFTP
DNS
SYSLOG
AAA
NTP
EMAIL
FTP
IoT
VM Management
Radius EAP
EMAIL
SMTP Service
ON
OFF
POP3 Service
ON
OFF
Domain Name:
fast.com
Set
User Setup
User
PC4
Password
123
PC2
PC4

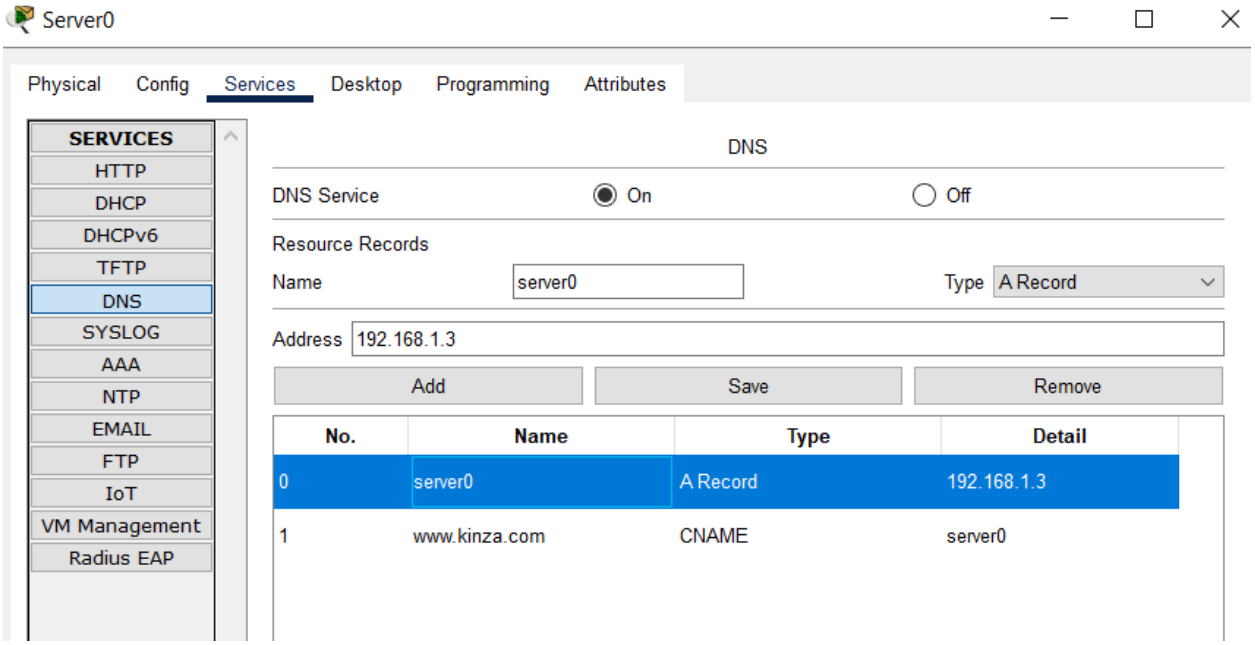

PC4
Physical
Config
Desktop
Programming
Attributes
MAIL BROWSER
Mails
Compose
Reply
Receive
Delete
Configure Mail
From
Subject
Received
Sending mail to PC2@fast.com , with subject : aaaaaaaaaa .. Mail Server: 192.168.1.3
Send Success.
Cancel
Send/Receive

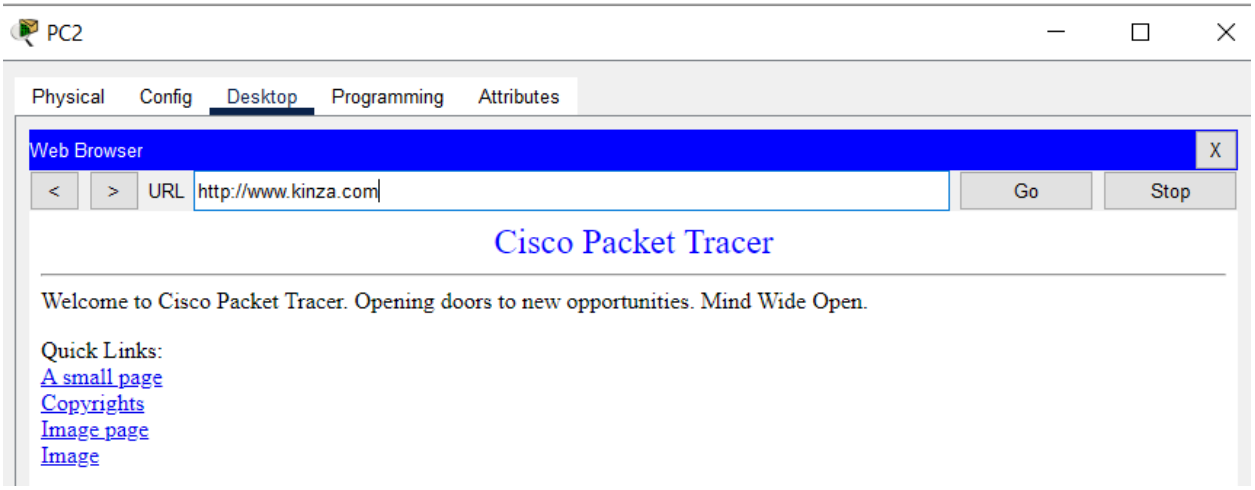

PC2
Physical
Config
Desktop
Programming
Attributes
MAIL BROWSER
X
Mails
Compose
Reply
Receive
Delete
Configure Mail
From
Subject
Received
1
PC4@fast.com
aaaaaaaaaa
Sun Oct 26 2025 23:03:41
aaaaaaaaaa
PC4@fast.com
Sent : Sun Oct 26 2025 23:03:41
aaaaaaaaaaaaa
Receiving mail from POP3 Server 192.168.1.3
Receive Mail Success.
Cancel
Send/Receive

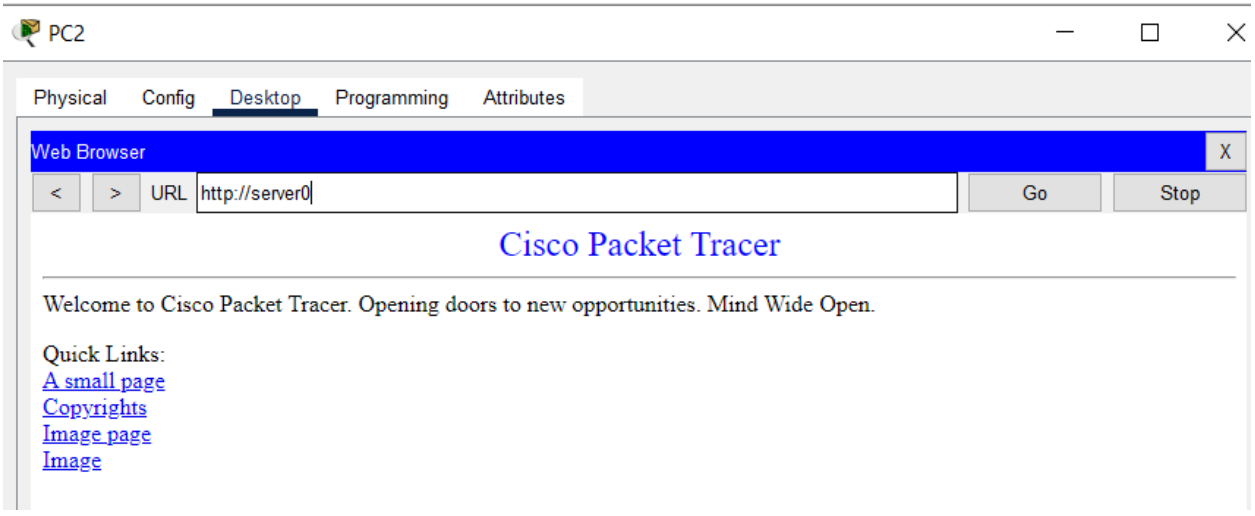

PC4
Physical
Config
Desktop
Programming
Attributes
Configure Mail
X
User Information
Your Name:
PC4
Email Address
PC4@fast.com
Server Information
Incoming Mail Server
192.168.1.3
Outgoing Mail Server
192.168.1.3
Logon Information
User Name:
PC4
Password:
Save
Remove
Clear
Reset

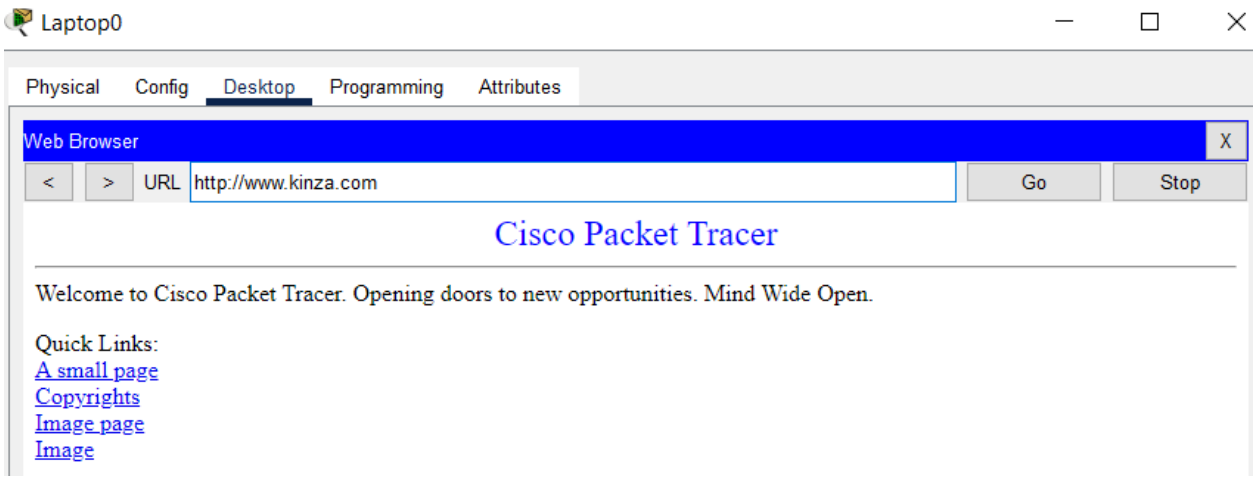

PC2
Physical
Config
Desktop
Programming
Attributes
Configure Mail
X
User Information
Your Name:
PC2
Email Address
PC2@fast.com
Server Information
Incoming Mail Server
192.168.1.3
Outgoing Mail Server
192.168.1.3
Logon Information
User Name:
PC2
Password:
Save
Remove
Clear
Reset

5.

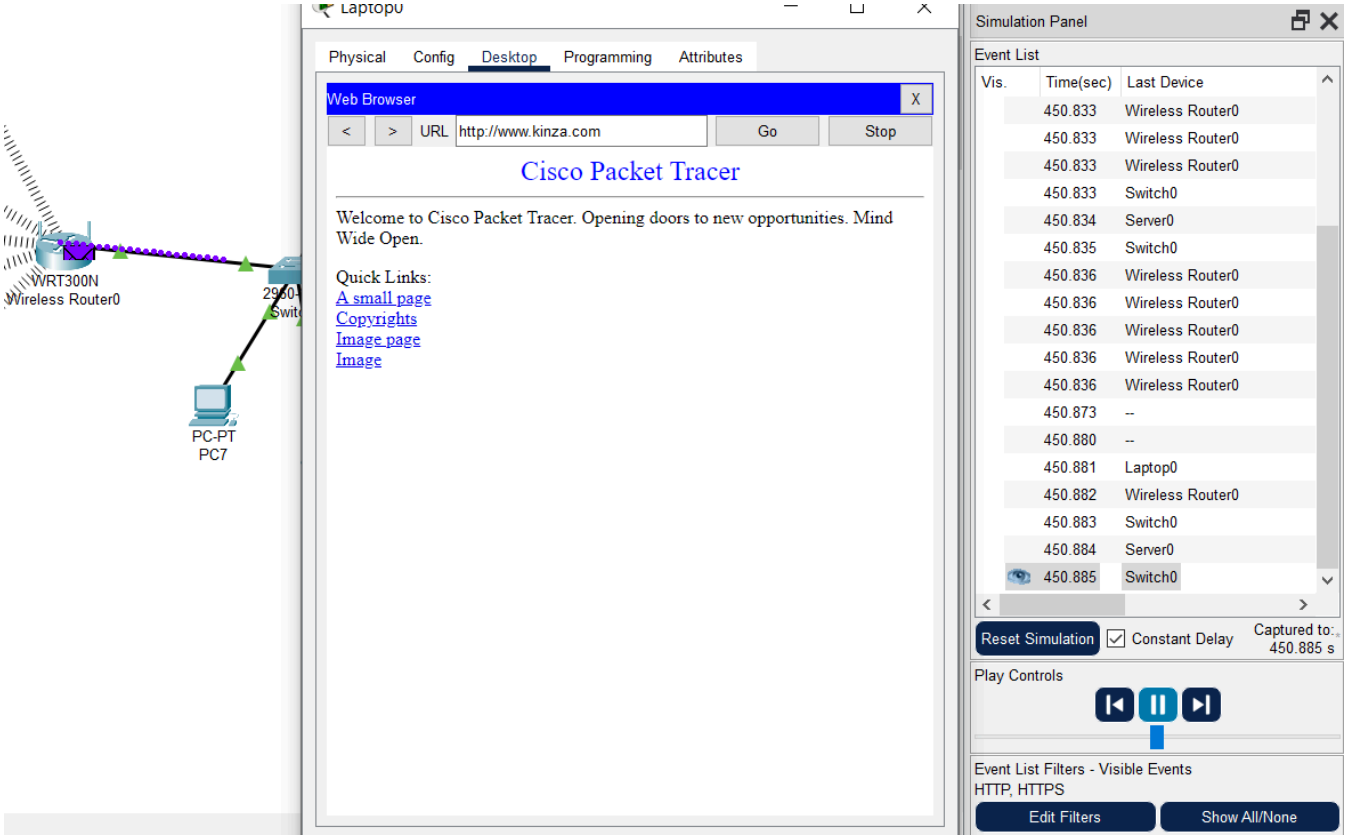

Server0
Physical
Config
Services
Desktop
Programming
Attributes
SERVICES
HTTP
DHCP
DHCPv6
TFTP
DNS
SYSLOG
AAA
NTP
EMAIL
FTP
IoT
VM Management
Radius EAP
DNS
DNS Service
On
Off
Resource Records
Name
server0
Type
A Record
Address
192.168.1.3
Add
Save
Remove
No.
Name
Type
Detail
0
server0
A Record
192.168.1.3
1
www.kinza.com
CNAME
server0


PC2
Physical
Config
Desktop
Programming
Attributes
Web Browser
X
<
>
URL
http://www.kinza.com
Go
Stop
Cisco Packet Tracer
Welcome to Cisco Packet Tracer. Opening doors to new opportunities. Mind Wide Open.
Quick Links:
A small page
Copyrights
Image page
Image


PC2
Physical
Config
Desktop
Programming
Attributes
Web Browser
X
<
>
URL
http://server0
Go
Stop
Cisco Packet Tracer
Welcome to Cisco Packet Tracer. Opening doors to new opportunities. Mind Wide Open.
Quick Links:
A small page
Copyrights
Image page
Image


Laptop0
Physical
Config
Desktop
Programming
Attributes
Web Browser
X
<
>
URL
http://www.kinza.com
Go
Stop
Cisco Packet Tracer
Welcome to Cisco Packet Tracer. Opening doors to new opportunities. Mind Wide Open.
Quick Links:
A small page
Copyrights
Image page
Image

6.


WRT300N
Wireless Router0
PC-PT
PC7
Laptop0
Physical
Config
Desktop
Programming
Attributes
Web Browser
X
<
>
URL
http://www.kinza.com
Go
Stop
Cisco Packet Tracer
Welcome to Cisco Packet Tracer. Opening doors to new opportunities. Mind Wide Open.
Quick Links:
A small page
Copyrights
Image page
Image
Simulation Panel
Event List
Vis.
Time(sec)
Last Device
450.833 Wireless Router0
450.833 Wireless Router0
450.833 Wireless Router0
450.833 Switch0
450.834 Server0
450.835 Switch0
450.836 Wireless Router0
450.836 Wireless Router0
450.836 Wireless Router0
450.836 Wireless Router0
450.836 Wireless Router0
450.873 --
450.880 --
450.881 Laptop0
450.882 Wireless Router0
450.883 Switch0
450.884 Server0
450.885 Switch0
Reset Simulation
Constant Delay
Captured to: 450.885 s
Play Controls
Event List Filters - Visible Events
HTTP, HTTPS
Edit Filters
Show All/None

Simulation Panel

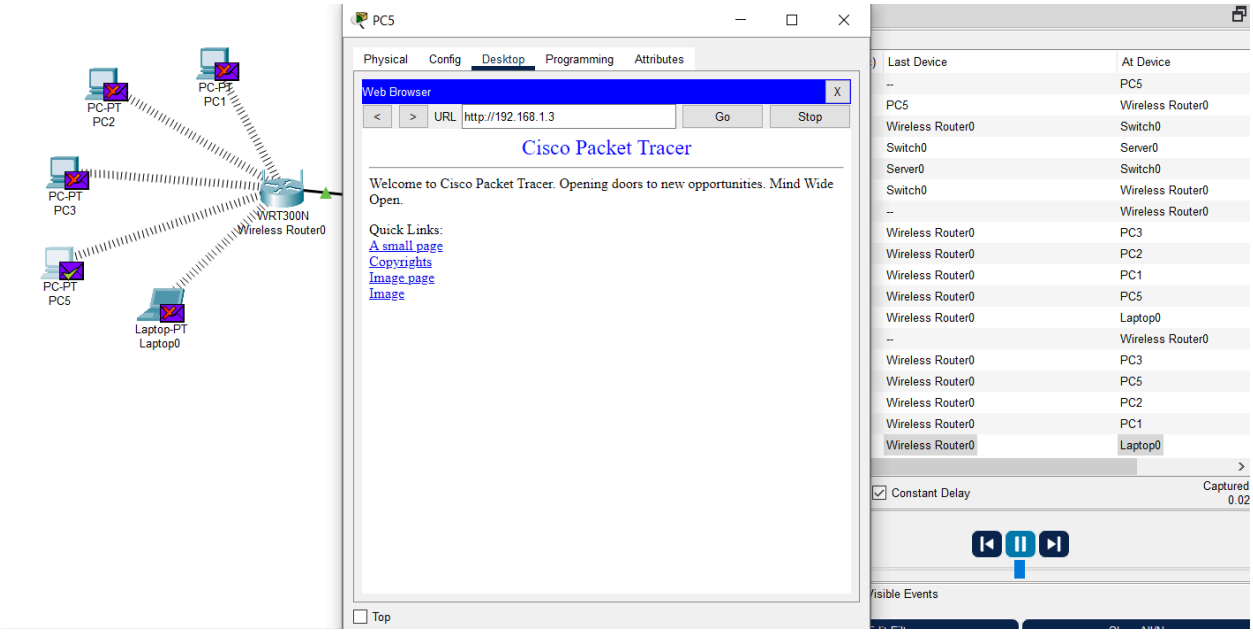
Event List

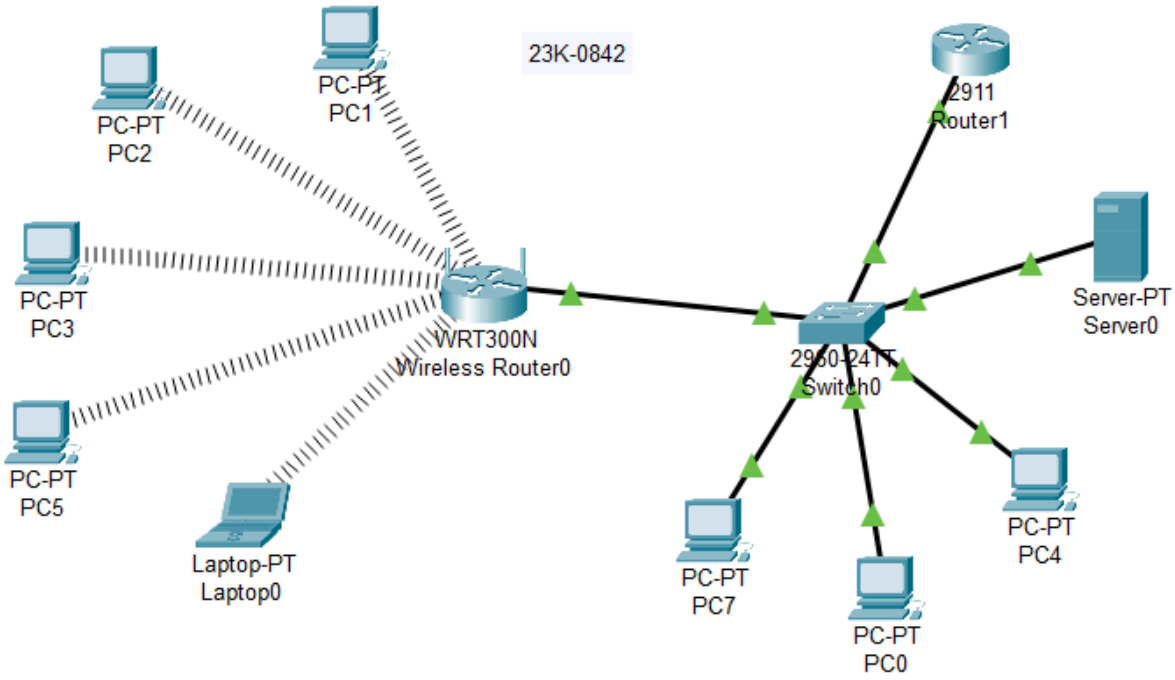
Vis.	Time(sec)	Last Device	At Device	Type
	450.880	--	Laptop0	HTTP
	450.881	Laptop0	Wireless Router0	HTTP
	450.882	Wireless Router0	Switch0	HTTP
	450.883	Switch0	Server0	HTTP
	450.884	Server0	Switch0	HTTP
	450.885	Switch0	Wireless Router0	HTTP
	450.890	--	Wireless Router0	HTTP
	450.891	Wireless Router0	PC3	HTTP
	450.891	Wireless Router0	PC2	HTTP
	450.891	Wireless Router0	PC1	HTTP
	450.891	Wireless Router0	PC5	HTTP
	450.891	Wireless Router0	Laptop0	HTTP
	450.892	--	Wireless Router0	HTTP
	450.893	Wireless Router0	PC3	HTTP
	450.893	Wireless Router0	PC2	HTTP
	450.893	Wireless Router0	PC1	HTTP
	450.893	Wireless Router0	PC5	HTTP
	450.893	Wireless Router0	Laptop0	HTTP

Reset Simulation | Constant Delay | Captured to: 650.802 s

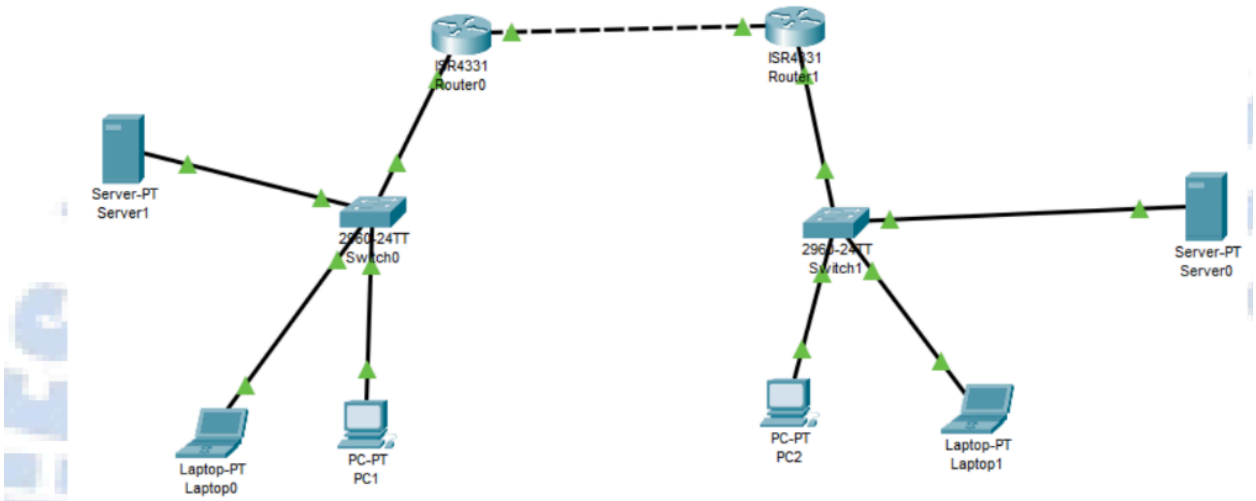
Play Controls

Event List Filters - Visible Events
HTTP, HTTPS

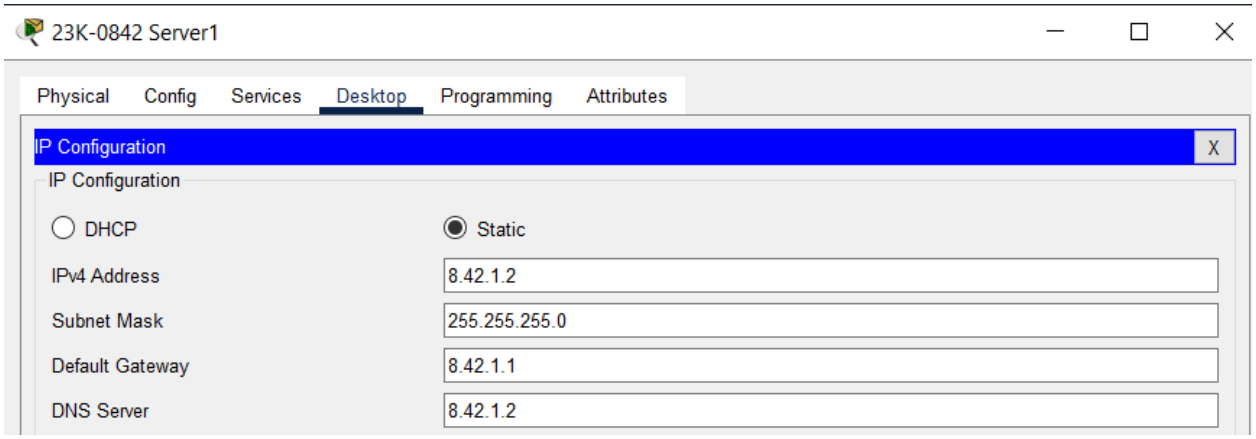

PC-PT
PC2
PC-PT
PC1
PC-PT
PC3
WRT300N
Wireless Router0
PC-PT
PC5
Laptop-PT
Laptop0
PC5
Physical
Config
Desktop
Programming
Attributes
Web Browser
URL
http://192.168.1.3
Go
Stop
Cisco Packet Tracer
Welcome to Cisco Packet Tracer. Opening doors to new opportunities. Mind Wide Open.
Quick Links:
A small page
Copyrights
Image page
Image
Top
Last Device
At Device
PC5
Wireless Router0
Switch0
Server0
Constant Delay
Captured
0.02
Visible Events

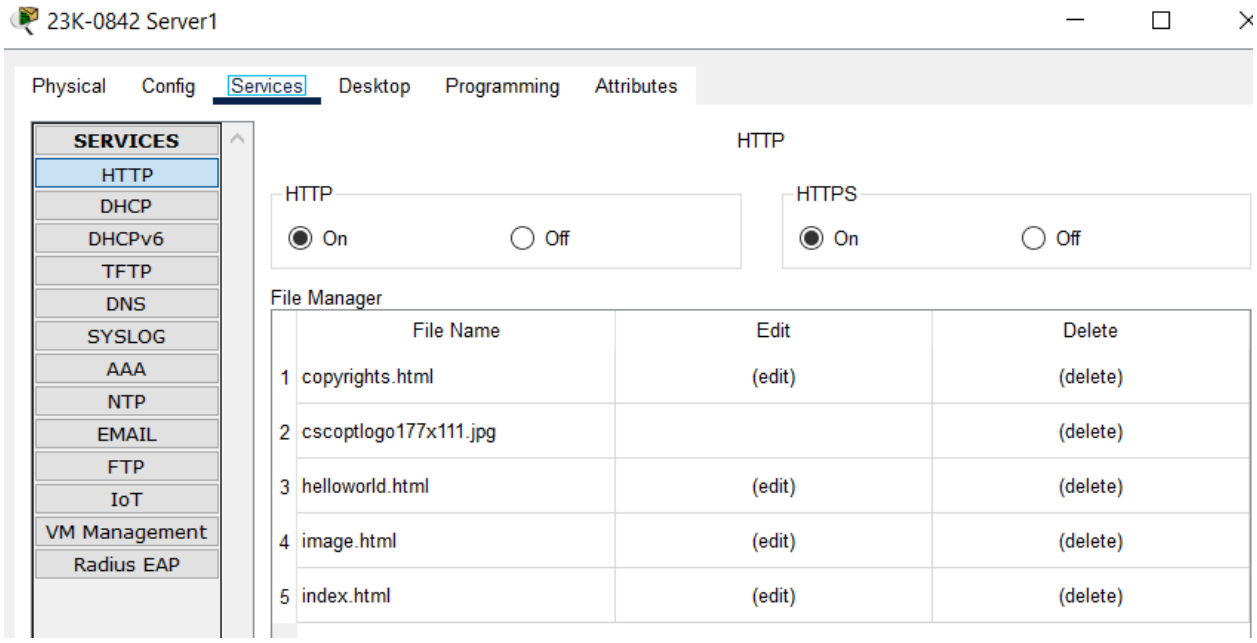

23K-0842
PC-PT
PC2
PC-PT
PC1
2911
Router1
PC-PT
PC3
WRT300N
Wireless Router0
Server-PT
Server0
2960-24TT
Switch0
PC-PT
PC5
Laptop-PT
Laptop0
PC-PT
PC7
PC-PT
PC4
PC-PT
PC0

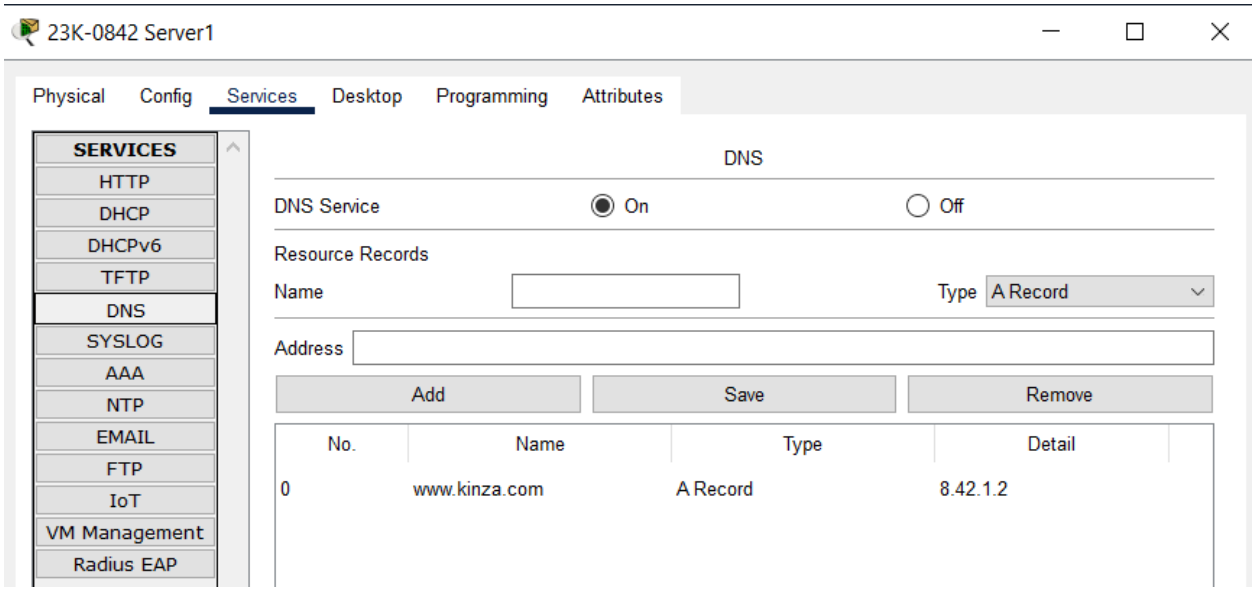
Lab Exercise – II

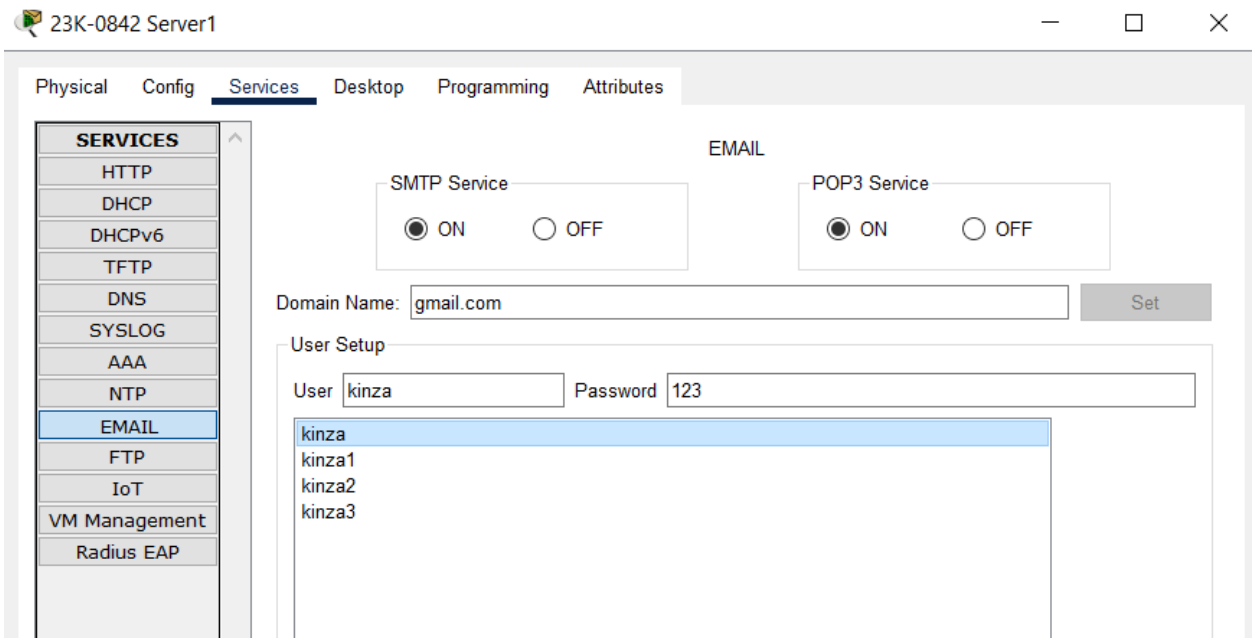


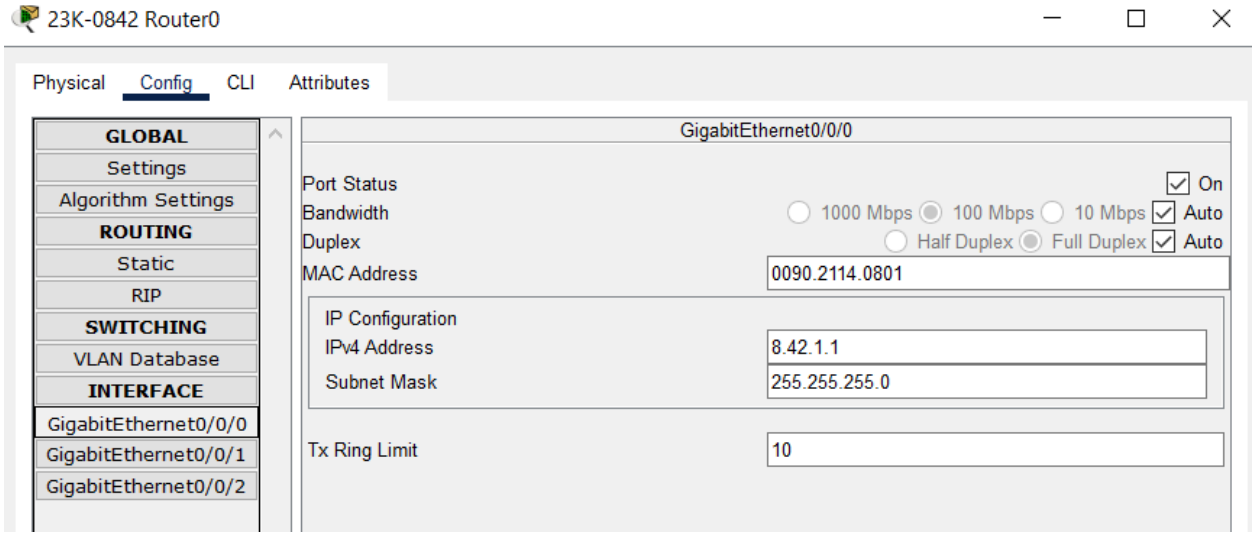
1. Perform Static Nat on Router0 and Dynamic Nat on Router1.
2. Do send mail from PC1 to PC2 and Laptop1 to Laptop0.
3. Do hit the website from PC1.

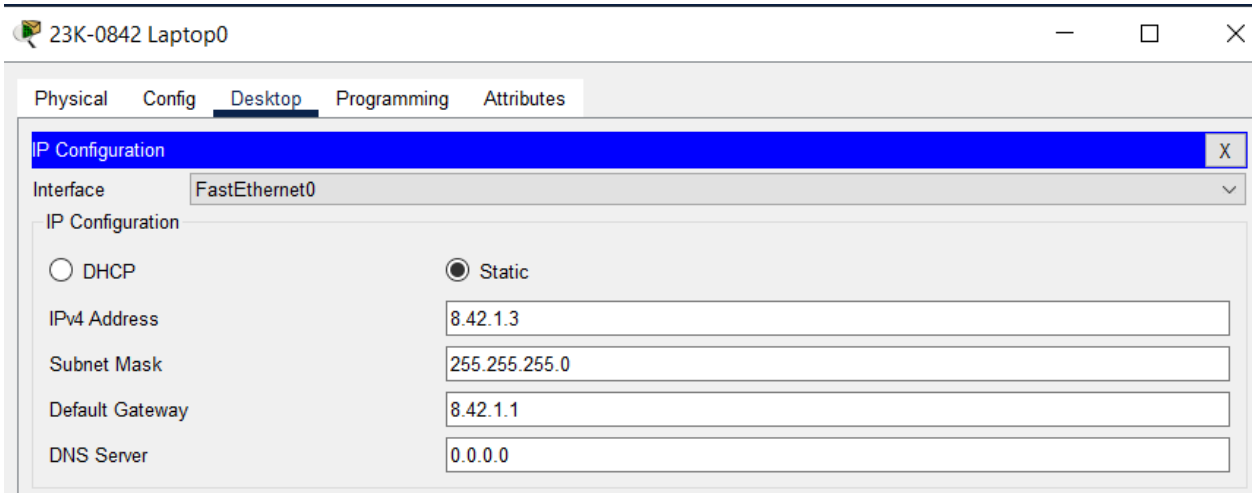


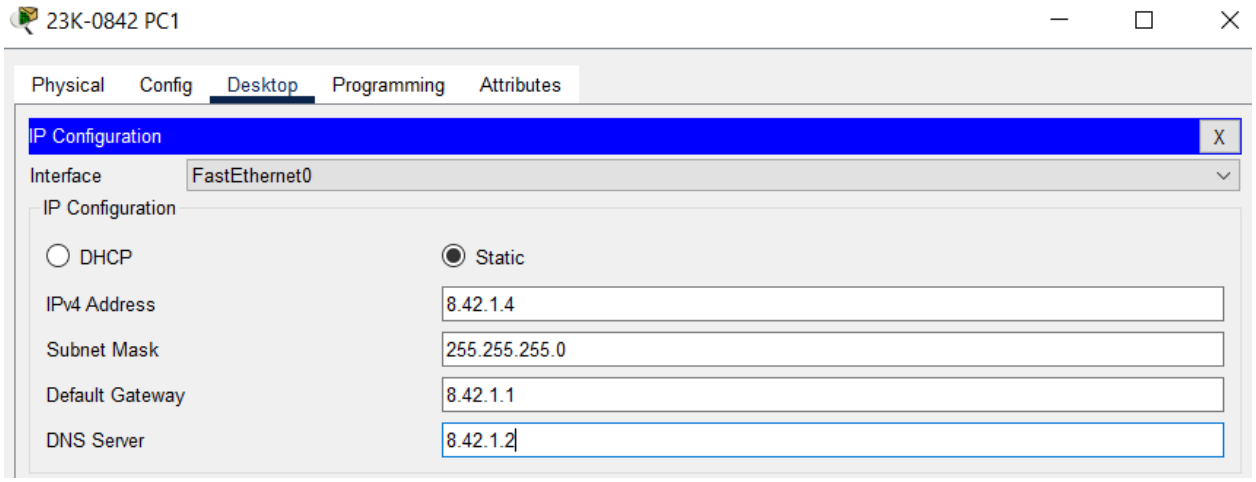

23K-0842 Server1
Physical
Config
Services
Desktop
Programming
Attributes
SERVICES
HTTP
DHCP
DHCPv6
TFTP
DNS
SYSLOG
AAA
NTP
EMAIL
FTP
IoT
VM Management
Radius EAP
HTTP
HTTP
On
Off
HTTPS
On
Off
File Manager
File Name
Edit
Delete
1 copyrights.html (edit) (delete)
2 cscoptlogo177x111.jpg (delete)
3 helloworld.html (edit) (delete)
4 image.html (edit) (delete)
5 index.html (edit) (delete)

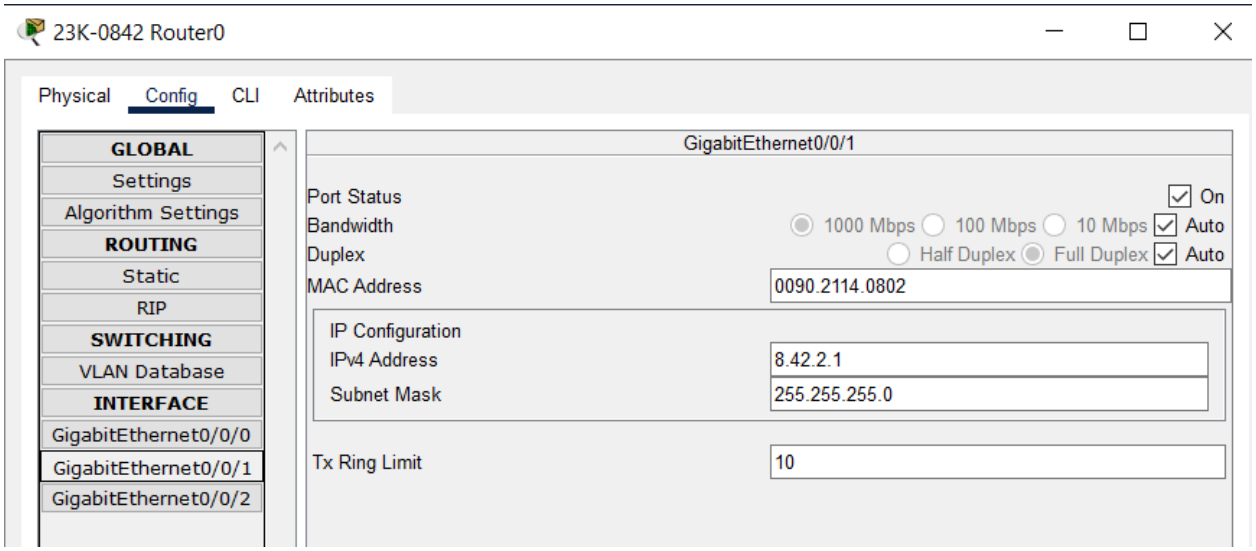

23K-0842 Server1
Physical
Config
Services
Desktop
Programming
Attributes
SERVICES
HTTP
DHCP
DHCPv6
TFTP
DNS
SYSLOG
AAA
NTP
EMAIL
FTP
IoT
VM Management
Radius EAP
DNS
DNS Service
On
Off
Resource Records
Name
Type
A Record
Address
Add
Save
Remove
No.
Name
Type
Detail
0 www.kinza.com A Record 8.42.1.2

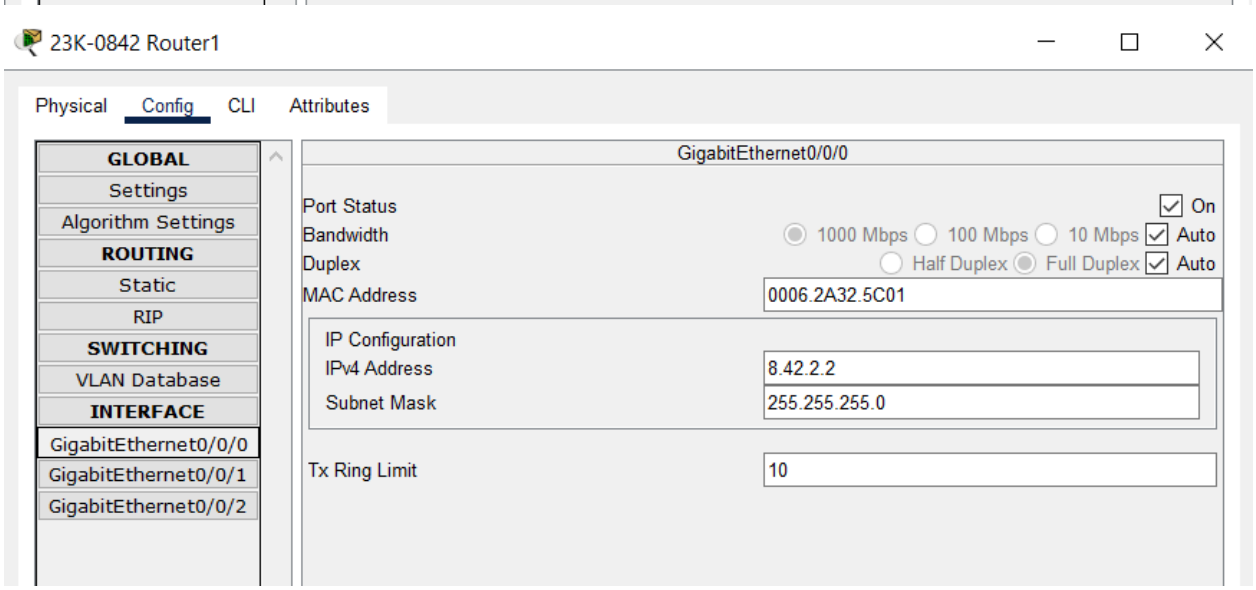

23K-0842 Server1
Physical
Config
Services
Desktop
Programming
Attributes
SERVICES
HTTP
DHCP
DHCPv6
TFTP
DNS
SYSLOG
AAA
NTP
EMAIL
FTP
IoT
VM Management
Radius EAP
EMAIL
SMTP Service
ON
OFF
POP3 Service
ON
OFF
Domain Name: gmail.com
Set
User Setup
User kinza
Password 123
kinza
kinza1
kinza2
kinza3

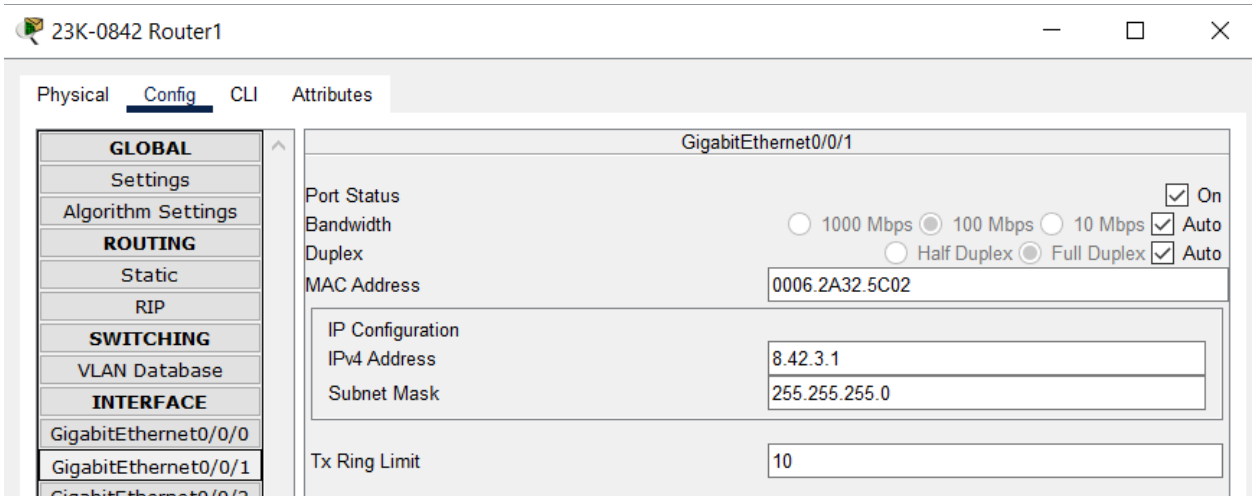

23K-0842 Router0
Physical
Config
CLI
Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
SWITCHING
VLAN Database
INTERFACE
GigabitEthernet0/0/0
GigabitEthernet0/0/1
GigabitEthernet0/0/2
GigabitEthernet0/0/0
Port Status
On
Bandwidth
1000 Mbps
100 Mbps
10 Mbps
Auto
Duplex
Half Duplex
Full Duplex
Auto
MAC Address
0090.2114.0801
IP Configuration
IPv4 Address
8.42.1.1
Subnet Mask
255.255.255.0
Tx Ring Limit
10

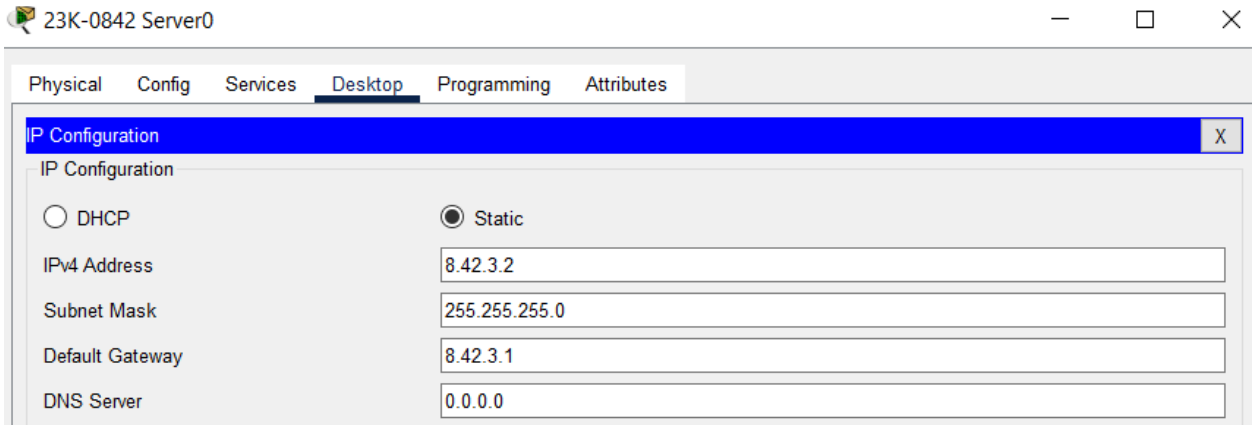

23K-0842 Laptop0
Physical
Config
Desktop
Programming
Attributes
IP Configuration
X
Interface
FastEthernet0
IP Configuration
DHCP
Static
IPv4 Address
8.42.1.3
Subnet Mask
255.255.255.0
Default Gateway
8.42.1.1
DNS Server
0.0.0.0

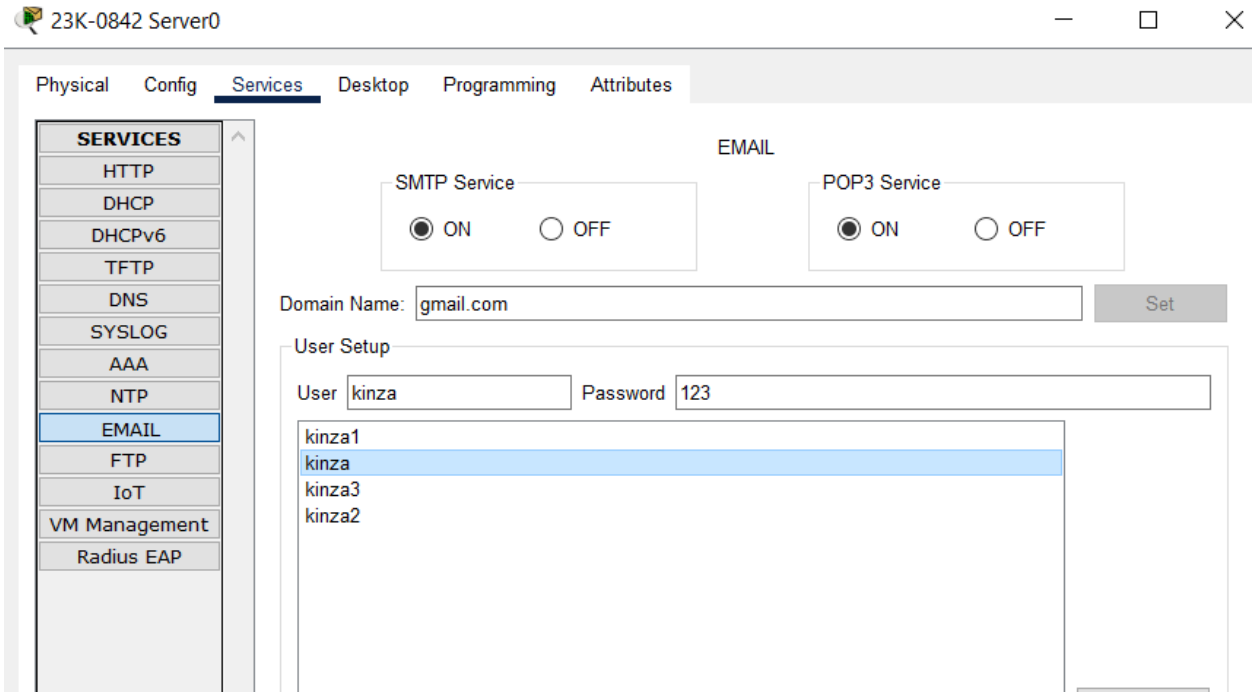

23K-0842 PC1
Physical
Config
Desktop
Programming
Attributes
IP Configuration
X
Interface
FastEthernet0
IP Configuration
DHCP
Static
IPv4 Address
8.42.1.4
Subnet Mask
255.255.255.0
Default Gateway
8.42.1.1
DNS Server
8.42.1.2

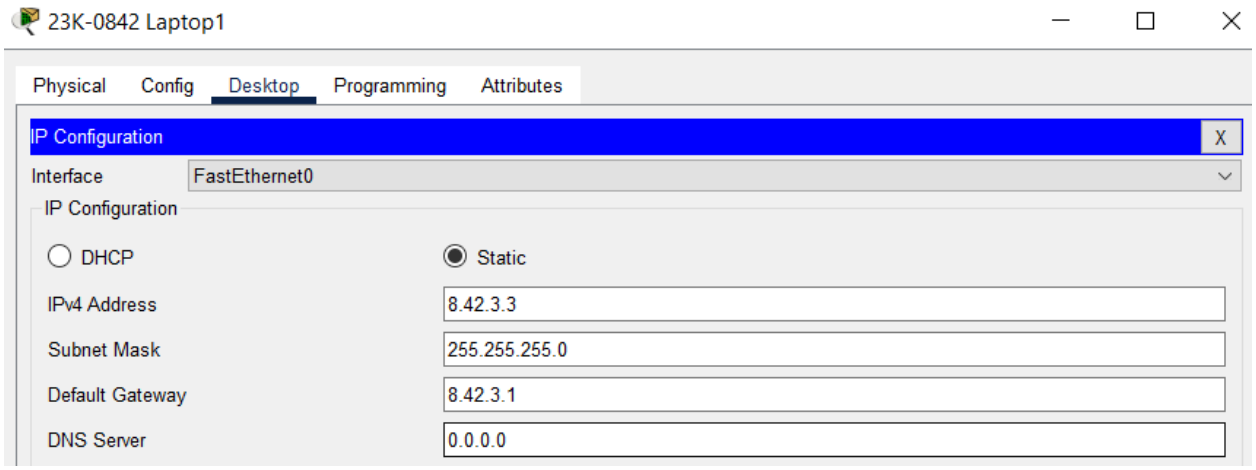

23K-0842 Router0
Physical
Config
CLI
Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
SWITCHING
VLAN Database
INTERFACE
GigabitEthernet0/0/0
GigabitEthernet0/0/1
GigabitEthernet0/0/2
GigabitEthernet0/0/1
Port Status
On
Bandwidth
1000 Mbps
100 Mbps
10 Mbps
Auto
Duplex
Half Duplex
Full Duplex
Auto
MAC Address
0090.2114.0802
IP Configuration
IPv4 Address
8.42.2.1
Subnet Mask
255.255.255.0
Tx Ring Limit
10

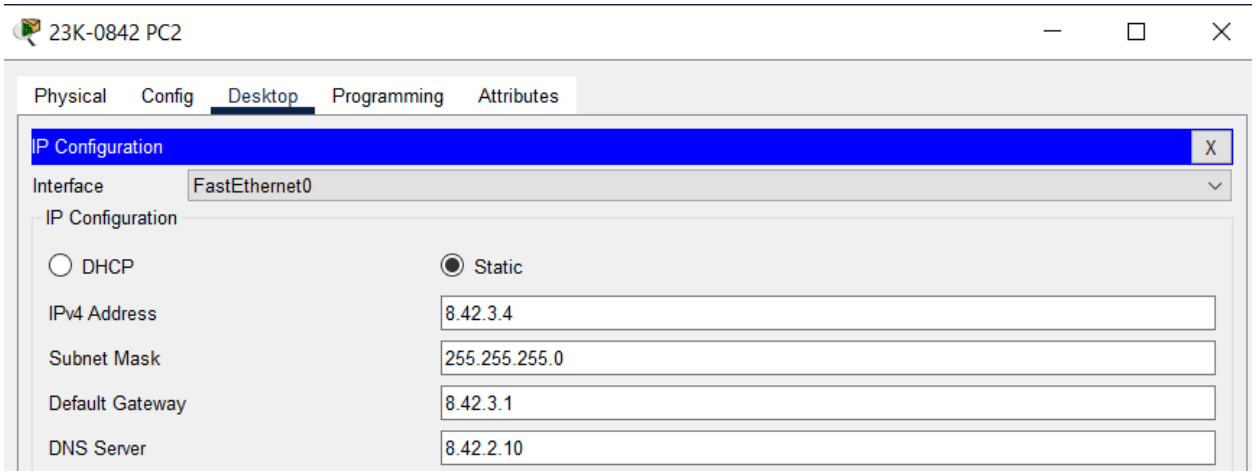

23K-0842 Router1
Physical
Config
CLI
Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
SWITCHING
VLAN Database
INTERFACE
GigabitEthernet0/0/0
GigabitEthernet0/0/1
GigabitEthernet0/0/2
GigabitEthernet0/0/0
Port Status
On
Bandwidth
1000 Mbps
100 Mbps
10 Mbps
Auto
Duplex
Half Duplex
Full Duplex
Auto
MAC Address
0006.2A32.5C01
IP Configuration
IPv4 Address
8.42.2.2
Subnet Mask
255.255.255.0
Tx Ring Limit
10

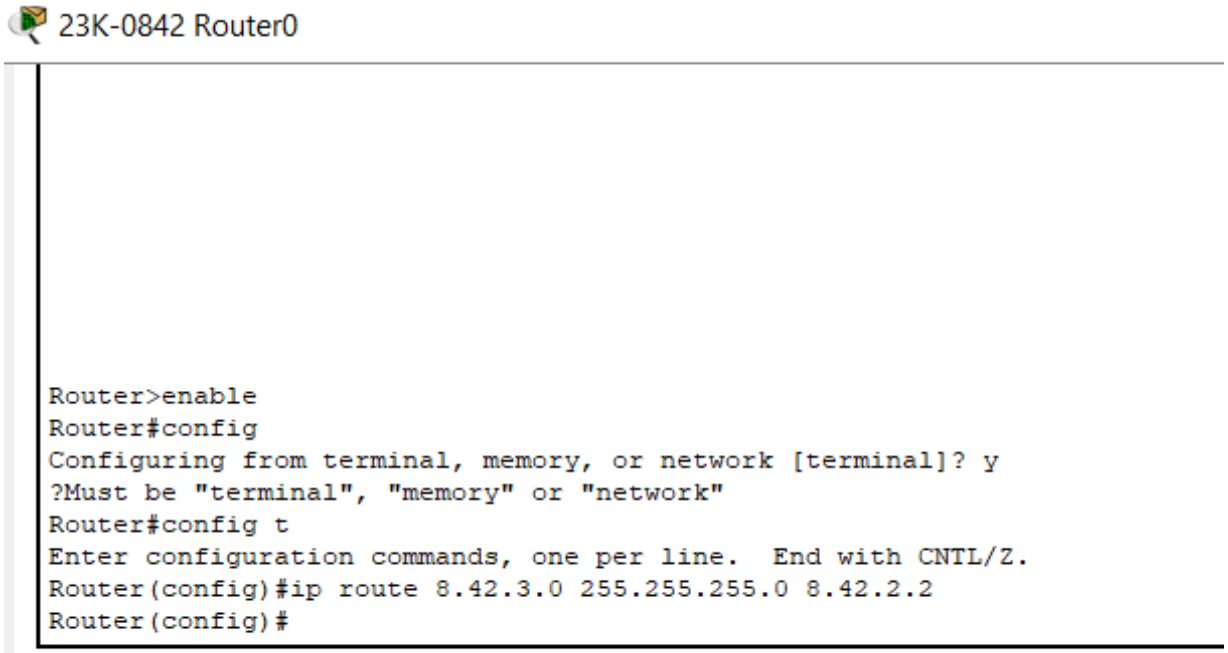

23K-0842 Router1
Physical
Config
CLI
Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
SWITCHING
VLAN Database
INTERFACE
GigabitEthernet0/0/0
GigabitEthernet0/0/1
GigabitEthernet0/0/1
Port Status
On
Bandwidth
1000 Mbps
100 Mbps
10 Mbps
Auto
Duplex
Half Duplex
Full Duplex
Auto
MAC Address
0006.2A32.5C02
IP Configuration
IPv4 Address
8.42.3.1
Subnet Mask
255.255.255.0
Tx Ring Limit
10


23K-0842 Server0
Physical
Config
Services
Desktop
Programming
Attributes
IP Configuration
X
IP Configuration
DHCP
Static
IPv4 Address
8.42.3.2
Subnet Mask
255.255.255.0
Default Gateway
8.42.3.1
DNS Server
0.0.0.0


23K-0842 Server0
Physical
Config
Services
Desktop
Programming
Attributes
SERVICES
HTTP
DHCP
DHCPv6
TFTP
DNS
SYSLOG
AAA
NTP
EMAIL
FTP
IoT
VM Management
Radius EAP
EMAIL
SMTP Service
ON
OFF
POP3 Service
ON
OFF
Domain Name:
gmail.com
Set
User Setup
User
kinza
Password
123
kinza1
kinza
kinza3
kinza2


23K-0842 Laptop1
Physical
Config
Desktop
Programming
Attributes
IP Configuration
X
Interface
FastEthernet0
IP Configuration
DHCP
Static
IPv4 Address
8.42.3.3
Subnet Mask
255.255.255.0
Default Gateway
8.42.3.1
DNS Server
0.0.0.0


23K-0842 PC2
Physical
Config
Desktop
Programming
Attributes
IP Configuration
X
Interface
FastEthernet0
IP Configuration
DHCP
Static
IPv4 Address
8.42.3.4
Subnet Mask
255.255.255.0
Default Gateway
8.42.3.1
DNS Server
8.42.2.10


23K-0842 Router0
Router>enable
Router#config
Configuring from terminal, memory, or network [terminal]? y
?Must be "terminal", "memory" or "network"
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#ip route 8.42.3.0 255.255.255.0 8.42.2.2
Router(config)#

23K-0842 Router0

Physical Config CLI Attributes

IOS Command Line Interface

```
Router>enable
Router#config
Configuring from terminal, memory, or network [terminal]? y
?Must be "terminal", "memory" or "network"
Router#config t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#ip route 8.42.3.0 255.255.255.0 8.42.2.2
Router(config)#
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#show ip route
Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

     8.0.0.0/8 is variably subnetted, 5 subnets, 2 masks
C       8.42.1.0/24 is directly connected, GigabitEthernet0/0/0
L       8.42.1.1/32 is directly connected, GigabitEthernet0/0/0
C       8.42.2.0/24 is directly connected, GigabitEthernet0/0/1
L       8.42.2.1/32 is directly connected, GigabitEthernet0/0/1
S       8.42.3.0/24 [1/0] via 8.42.2.2
```

23K-0842 Router1

```
Router>enable
Router#config t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#ip route 8.42.1.0 255.255.255.0 8.42.2.1
Router(config)#
```

23K-0842 Router1

Physical Config CLI Attributes

IOS Command Line Interface

```
Router>enable
Router#config t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#ip route 8.42.1.0 255.255.255.0 8.42.2.1
Router(config)#show ip route
                ^
% Invalid input detected at '^' marker.

Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#show ip route
Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

     8.0.0.0/8 is variably subnetted, 5 subnets, 2 masks
S       8.42.1.0/24 [1/0] via 8.42.2.1
C       8.42.2.0/24 is directly connected, GigabitEthernet0/0/0
L       8.42.2.2/32 is directly connected, GigabitEthernet0/0/0
C       8.42.3.0/24 is directly connected, GigabitEthernet0/0/1
```

Checking connectivity using ping:

23K-0842 Laptop1

Physical Config Desktop Programming Attributes

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 8.42.1.2

Pinging 8.42.1.2 with 32 bytes of data:

Request timed out.
Reply from 8.42.1.2: bytes=32 time<1ms TTL=126
Reply from 8.42.1.2: bytes=32 time=1ms TTL=126
Reply from 8.42.1.2: bytes=32 time<1ms TTL=126

Ping statistics for 8.42.1.2:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>ping 8.42.1.1

Pinging 8.42.1.1 with 32 bytes of data:

Reply from 8.42.1.1: bytes=32 time<1ms TTL=254
Reply from 8.42.1.1: bytes=32 time<1ms TTL=254
Reply from 8.42.1.1: bytes=32 time<1ms TTL=254
Reply from 8.42.1.1: bytes=32 time<1ms TTL=254

Ping statistics for 8.42.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

23K-0842 Laptop0

Physical Config Desktop Programming Attributes

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 8.42.3.2

Pinging 8.42.3.2 with 32 bytes of data:

Request timed out.
Reply from 8.42.3.2: bytes=32 time<1ms TTL=126
Reply from 8.42.3.2: bytes=32 time<1ms TTL=126
Reply from 8.42.3.2: bytes=32 time<1ms TTL=126

Ping statistics for 8.42.3.2:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 8.42.3.1

Pinging 8.42.3.1 with 32 bytes of data:

Reply from 8.42.3.1: bytes=32 time<1ms TTL=254
Reply from 8.42.3.1: bytes=32 time<1ms TTL=254
Reply from 8.42.3.1: bytes=32 time<1ms TTL=254
Reply from 8.42.3.1: bytes=32 time<1ms TTL=254

Ping statistics for 8.42.3.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

23K-0842 Router0

```
L       8.42.2.1/32 is directly connected, GigabitEthernet0/0/1
S       8.42.3.0/24 [1/0] via 8.42.2.2

Router#enable
Router#config t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#ip nat inside source static 8.42.1.2 8.42.2.10
Router(config)#interface gig0/0
%Invalid interface type and number
Router(config)#ip nat inside
% Incomplete command.
Router(config)#interface gig0/0/0
Router(config-if)#ip nat inside
Router(config-if)#exit
Router(config)#interface gig0/0/1
Router(config-if)#ip nat outside
Router(config-if)#
```

23K-0842 Router1

Physical Config CLI Attributes

IOS Command Line Interface

```
Press RETURN to get started.




Router>enable
Router#config t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#ip nat pool DYN_POOL 8.42.2.20 8.42.2.30 netmask 255.255.255.0
Router(config)#access-list 1 permit 8.42.3.0 0.0.0.255
Router(config)#ip nat inside source list 1 pool DYN_POOL
Router(config)#interface gig0/0/1
Router(config-if)#ip nat inside
Router(config-if)#exit
Router(config)#interface gig0/0/0
Router(config-if)#ip nat outside
Router(config-if)#exit
Router(config)#
```

23K-0842 Router0

Physical Config CLI Attributes

IOS Command Line Interface

```
Press RETURN to get started.



Router>show ip nat translations
Pro  Inside global     Inside local       Outside local      Outside global
---  8.42.2.10         8.42.1.2           ---                ---

Router>
```

23K-0842 Laptop0

Physical Config Desktop Programming Attributes

Command Prompt

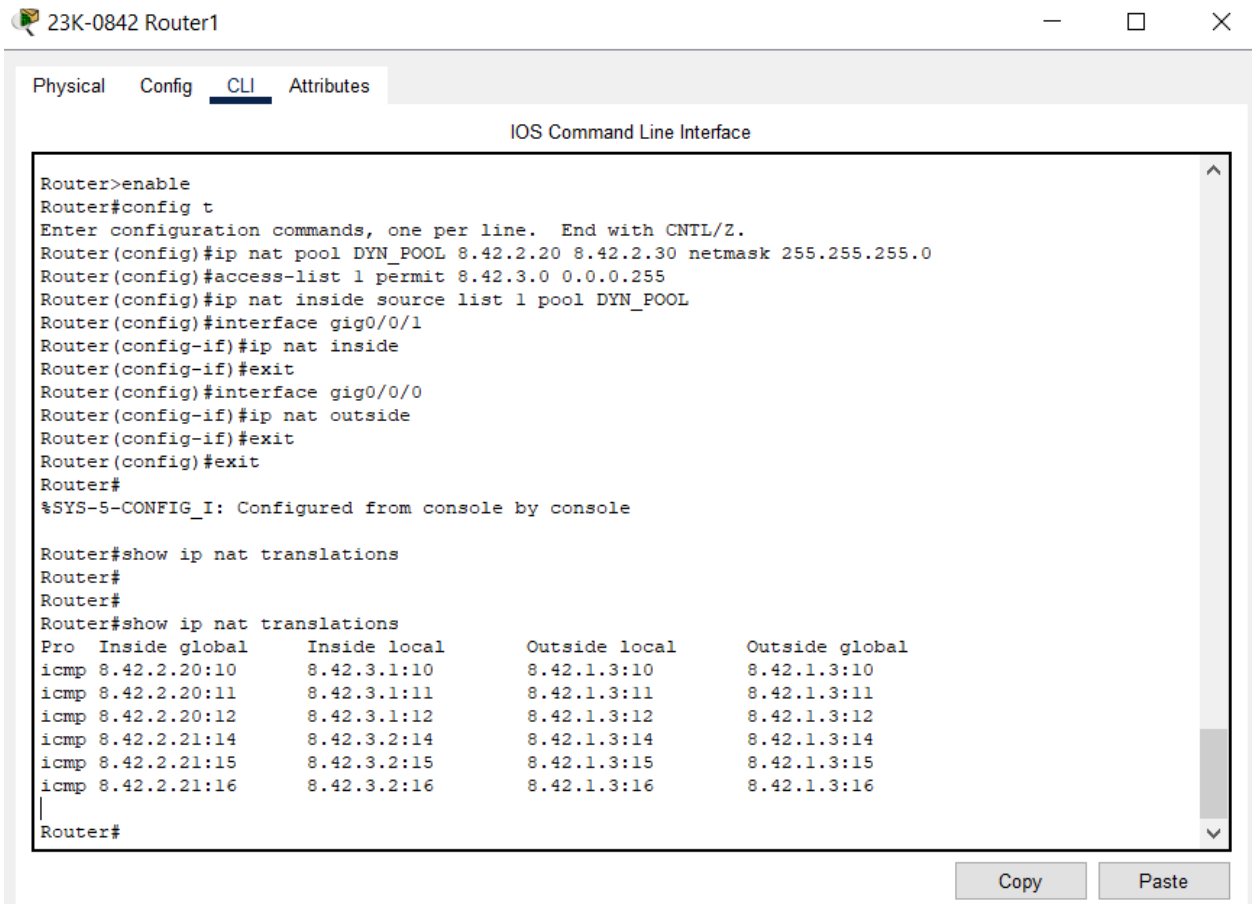
```
C:\>ping 8.42.3.1

Pinging 8.42.3.1 with 32 bytes of data:

Request timed out.
Reply from 8.42.2.20: bytes=32 time<1ms TTL=254
Reply from 8.42.2.20: bytes=32 time<1ms TTL=254
Reply from 8.42.2.20: bytes=32 time<1ms TTL=254

Ping statistics for 8.42.3.1:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 8.42.3.2

Pinging 8.42.3.2 with 32 bytes of data:

Request timed out.
Reply from 8.42.2.21: bytes=32 time<1ms TTL=126
Reply from 8.42.2.21: bytes=32 time<1ms TTL=126
Reply from 8.42.2.21: bytes=32 time<1ms TTL=126

Ping statistics for 8.42.3.2:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

23K-0842 PC1

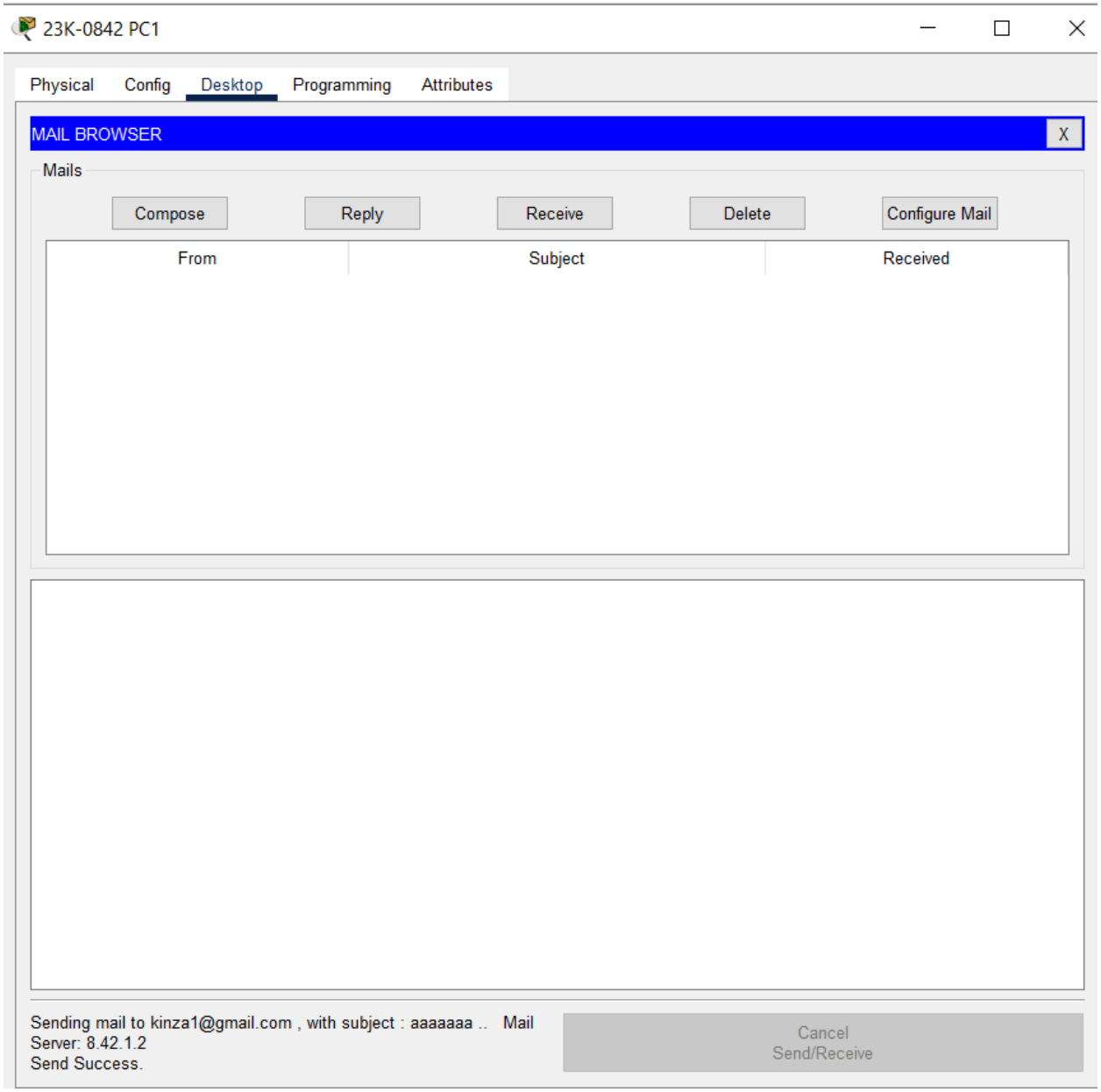
Physical | Config | Desktop | Programming | Attributes

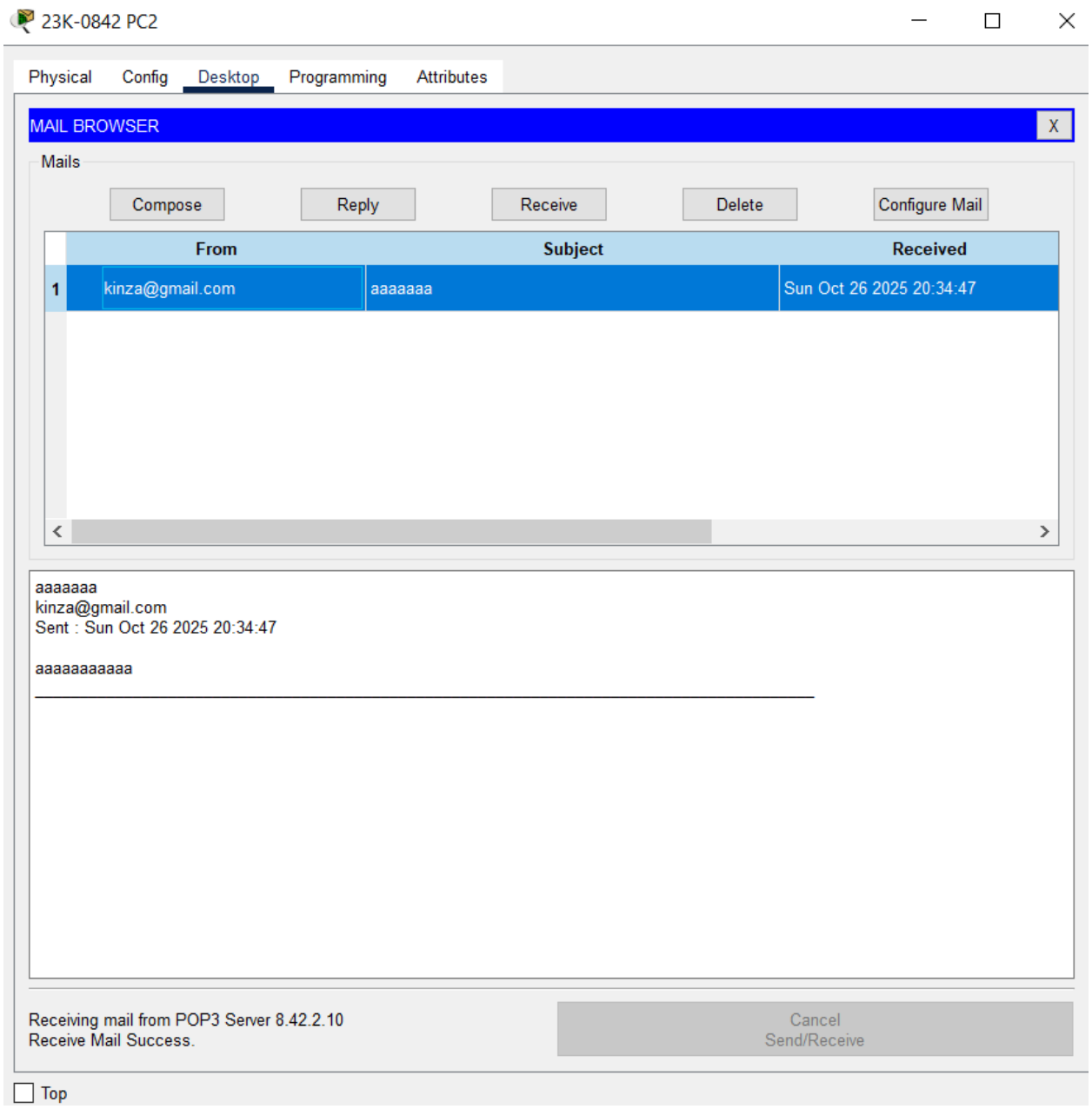
Command Prompt

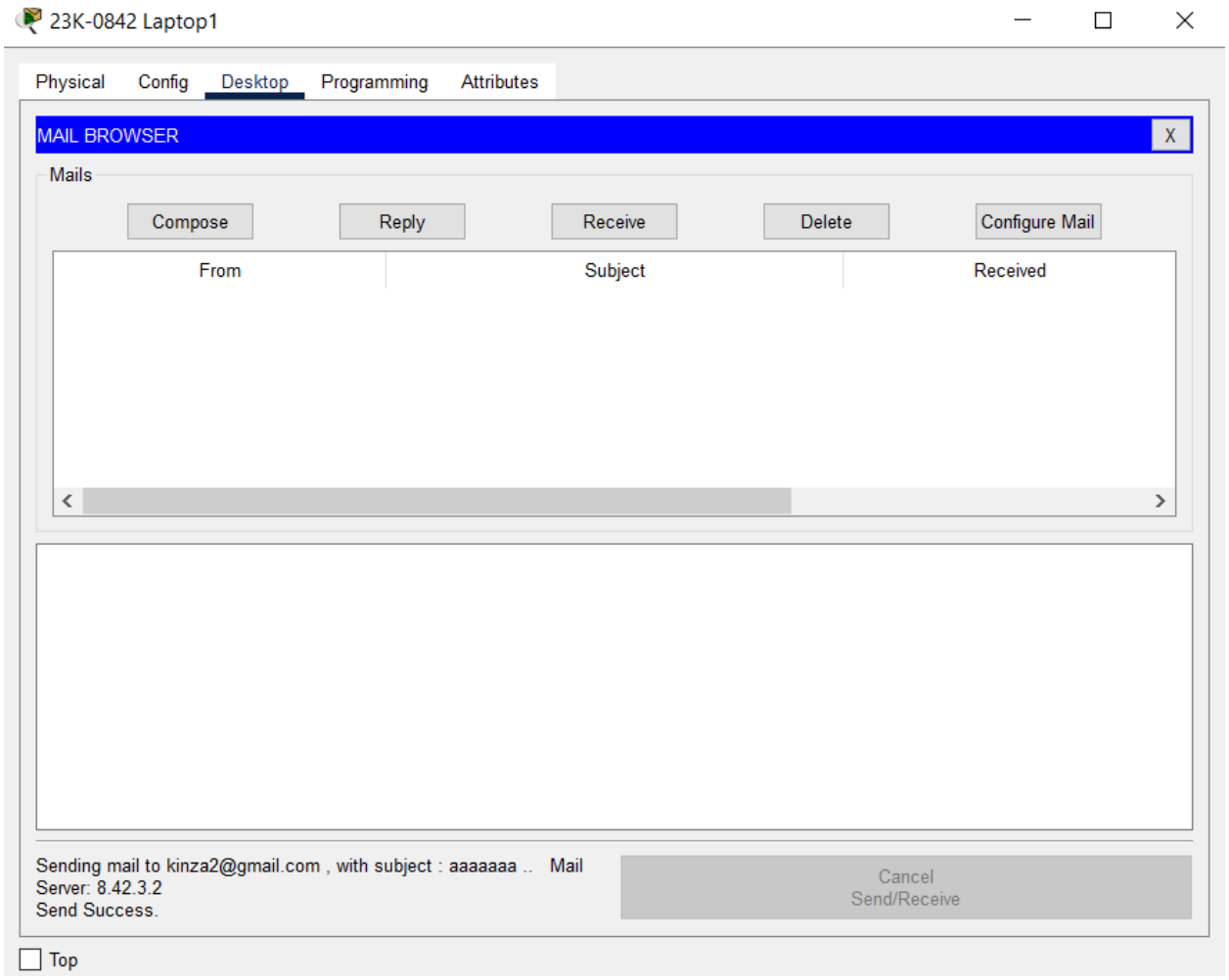
```
C:\>ping 8.42.3.1

Pinging 8.42.3.1 with 32 bytes of data:

Reply from 8.42.2.21: bytes=32 time<1ms TTL=254
Reply from 8.42.2.21: bytes=32 time<1ms TTL=254
Reply from 8.42.2.21: bytes=32 time<1ms TTL=254
Reply from 8.42.2.21: bytes=32 time<1ms TTL=254

Ping statistics for 8.42.3.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 8.42.3.3

Pinging 8.42.3.3 with 32 bytes of data:

Request timed out.
Reply from 8.42.2.22: bytes=32 time<1ms TTL=126
Reply from 8.42.2.22: bytes=32 time<1ms TTL=126
Reply from 8.42.2.22: bytes=32 time<1ms TTL=126

Ping statistics for 8.42.3.3:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 8.42.3.4

Pinging 8.42.3.4 with 32 bytes of data:

Request timed out.
Reply from 8.42.2.23: bytes=32 time<1ms TTL=126
Reply from 8.42.2.23: bytes=32 time<1ms TTL=126
Reply from 8.42.2.23: bytes=32 time<1ms TTL=126

Ping statistics for 8.42.3.4:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```


23K-0842 Router1
Physical
Config
CLI
Attributes
IOS Command Line Interface
Router>enable
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#ip nat pool DYN_POOL 8.42.2.20 8.42.2.30 netmask 255.255.255.0
Router(config)#access-list 1 permit 8.42.3.0 0.0.0.255
Router(config)#ip nat inside source list 1 pool DYN_POOL
Router(config)#interface gig0/0/1
Router(config-if)#ip nat inside
Router(config-if)#exit
Router(config)#interface gig0/0/0
Router(config-if)#ip nat outside
Router(config-if)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console
Router#show ip nat translations
Router#
Router#
Router#show ip nat translations
Pro Inside global Inside local Outside local Outside global
icmp 8.42.2.20:10 8.42.3.1:10 8.42.1.3:10 8.42.1.3:10
icmp 8.42.2.20:11 8.42.3.1:11 8.42.1.3:11 8.42.1.3:11
icmp 8.42.2.20:12 8.42.3.1:12 8.42.1.3:12 8.42.1.3:12
icmp 8.42.2.21:14 8.42.3.2:14 8.42.1.3:14 8.42.1.3:14
icmp 8.42.2.21:15 8.42.3.2:15 8.42.1.3:15 8.42.1.3:15
icmp 8.42.2.21:16 8.42.3.2:16 8.42.1.3:16 8.42.1.3:16
Router#
Copy
Paste

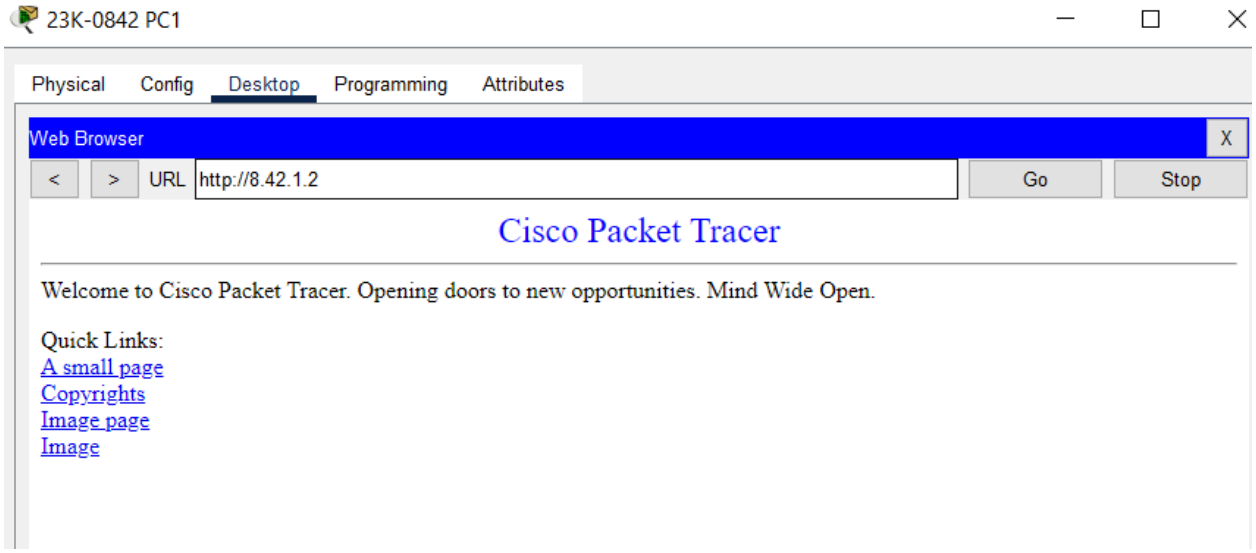
2. Sending mail from PC1 to PC2.

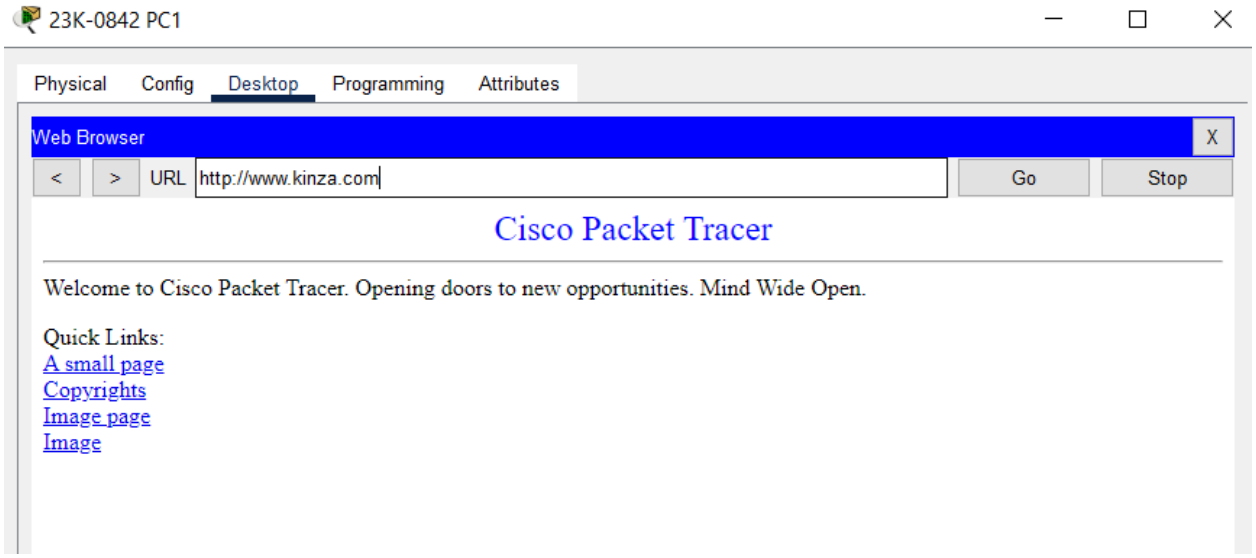


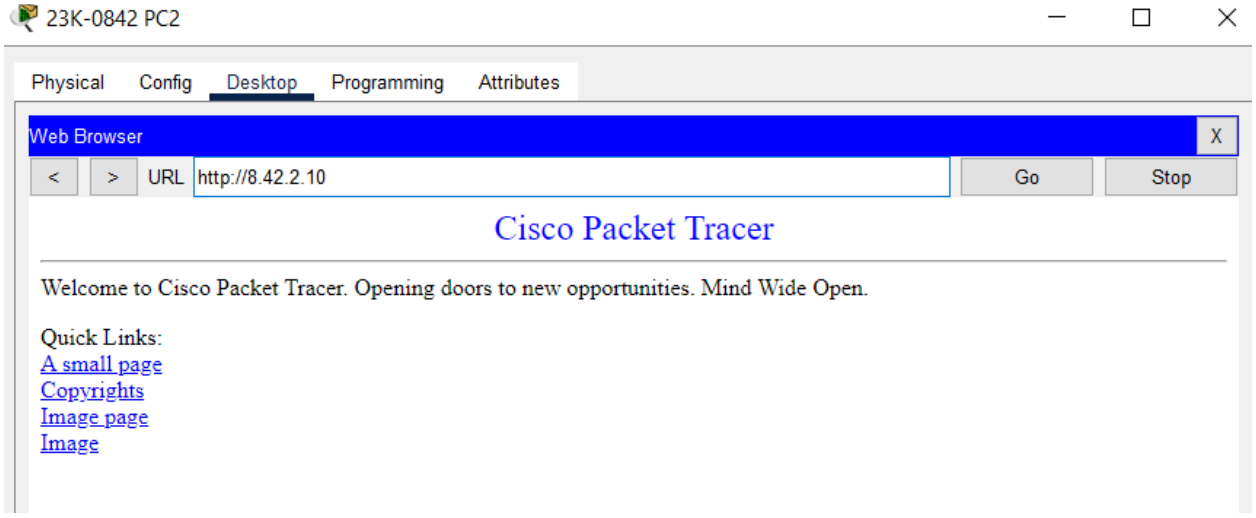

23K-0842 PC2
Physical
Config
Desktop
Programming
Attributes
MAIL BROWSER
X
Mails
Compose
Reply
Receive
Delete
Configure Mail
From
Subject
Received
1
kinza@gmail.com
aaaaaaa
Sun Oct 26 2025 20:34:47
aaaaaaa
kinza@gmail.com
Sent : Sun Oct 26 2025 20:34:47
aaaaaaaaaa
Receiving mail from POP3 Server 8.42.2.10
Receive Mail Success.
Cancel
Send/Receive
Top


23K-0842 Laptop1
Physical
Config
Desktop
Programming
Attributes
MAIL BROWSER
X
Mails
Compose
Reply
Receive
Delete
Configure Mail
From
Subject
Received
Sending mail to kinza2@gmail.com , with subject : aaaaaaa .. Mail
Server: 8.42.3.2
Send Success.
Cancel
Send/Receive
Top

3. Hitting the website from PC1(and PC2).







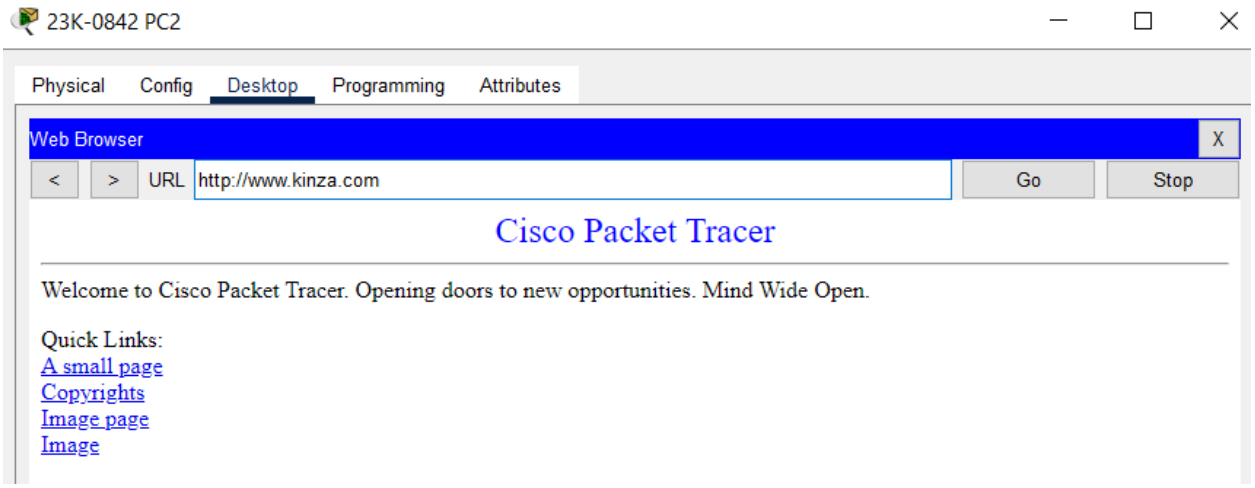

23K-0842 PC2
Physical
Config
Desktop
Programming
Attributes
Web Browser
X
<
>
URL
http://www.kinza.com
Go
Stop
Cisco Packet Tracer
Welcome to Cisco Packet Tracer. Opening doors to new opportunities. Mind Wide Open.
Quick Links:
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Image page
Image