Name : Ammaar Naeem Laghari

Roll No : 20P-0180

Section: BCS-5B

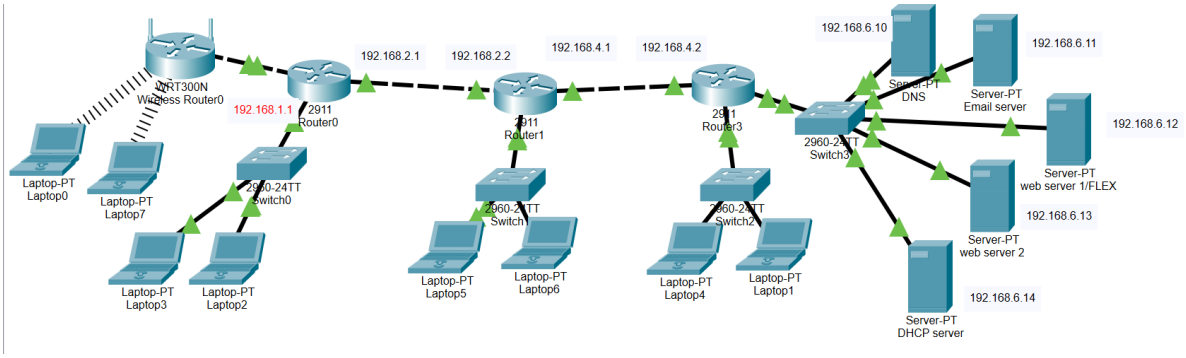
Course Name: Computer Networks LAB

Submitted to : Mam Hurmat Hidayat

Q1:

Step 1:

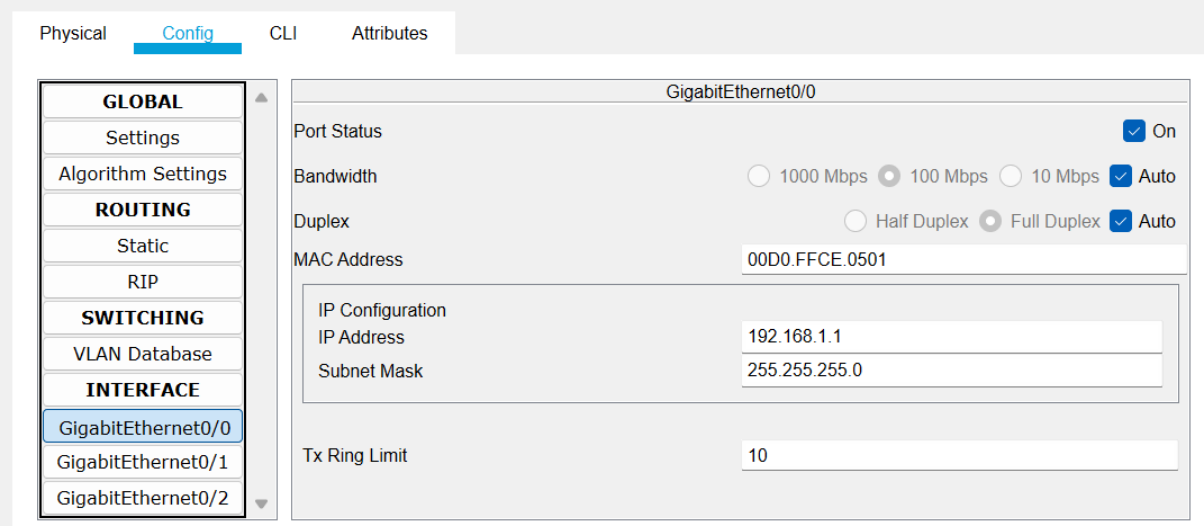
Build a Network topology.

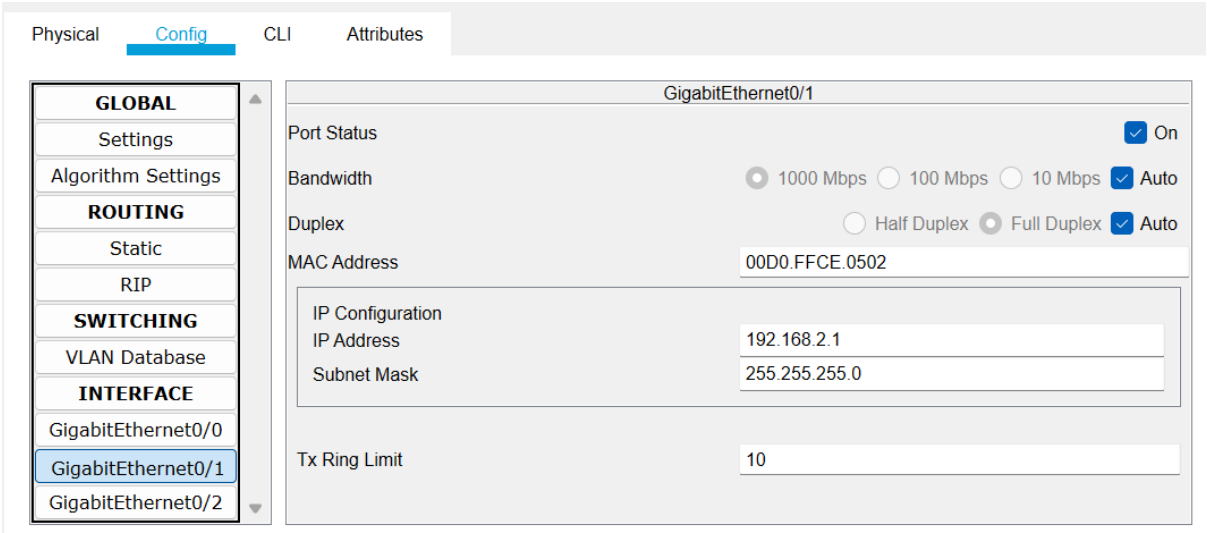


Step 2

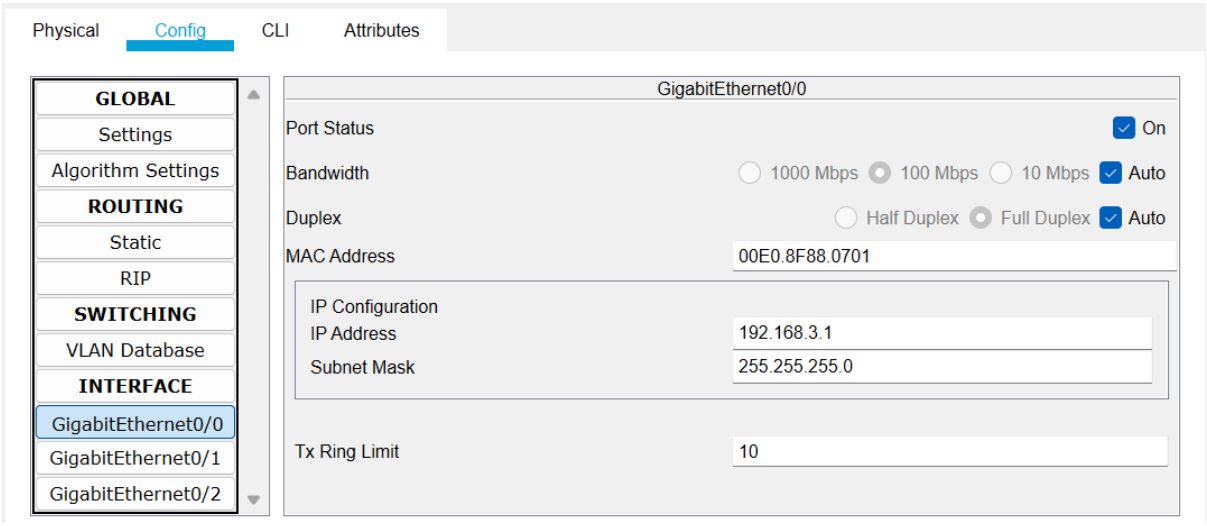
Configure the routers.

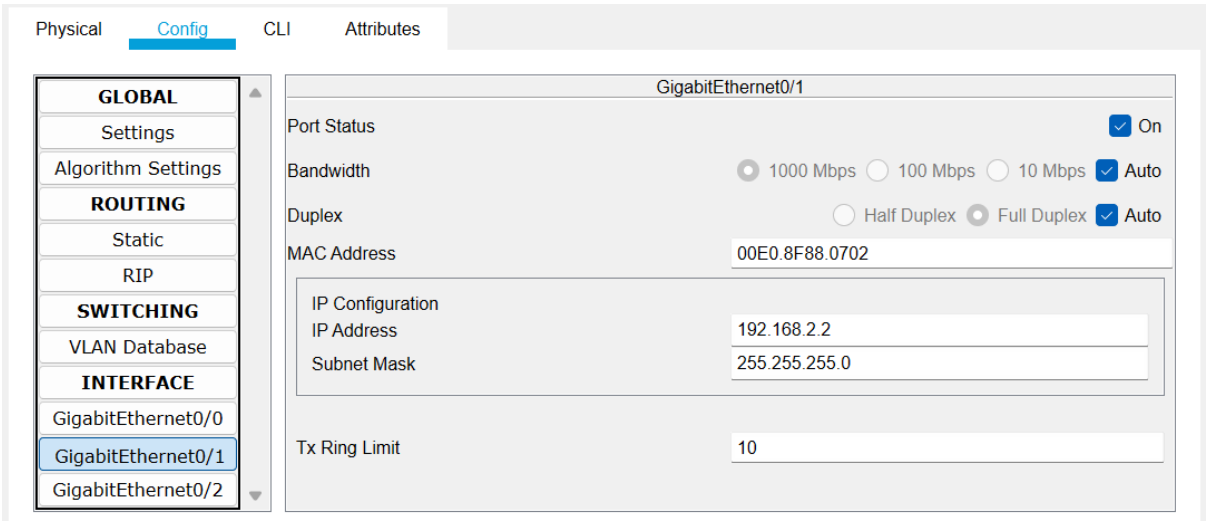
Router 1:

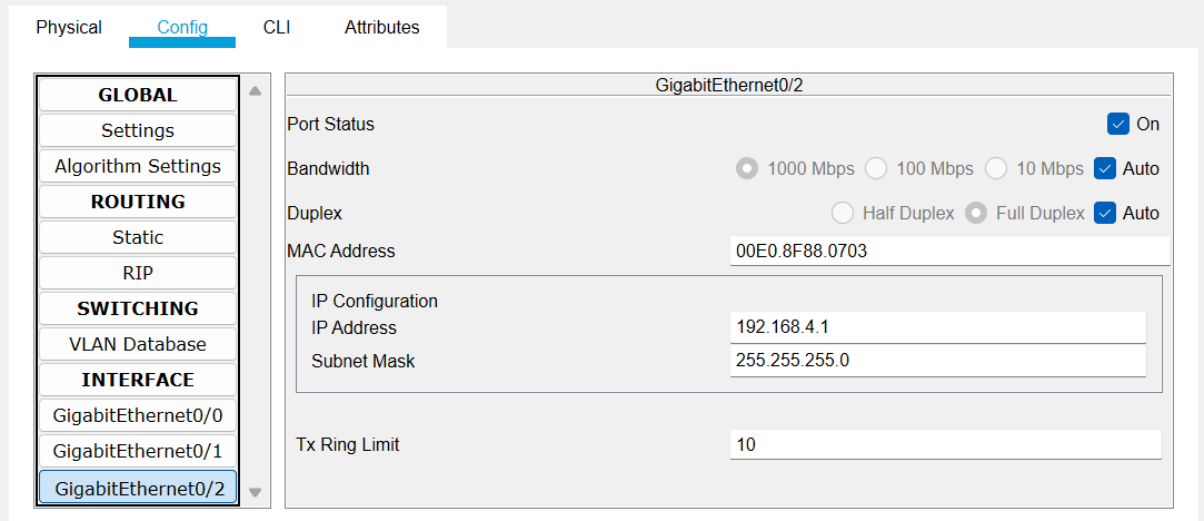



Physical
Config
CLI
Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
SWITCHING
VLAN Database
INTERFACE
GigabitEthernet0/0
GigabitEthernet0/1
GigabitEthernet0/2
GigabitEthernet0/1
Port Status
On
Bandwidth
1000 Mbps
100 Mbps
10 Mbps
Auto
Duplex
Half Duplex
Full Duplex
Auto
MAC Address
00D0.FFCE.0502
IP Configuration
IP Address
192.168.2.1
Subnet Mask
255.255.255.0
Tx Ring Limit
10

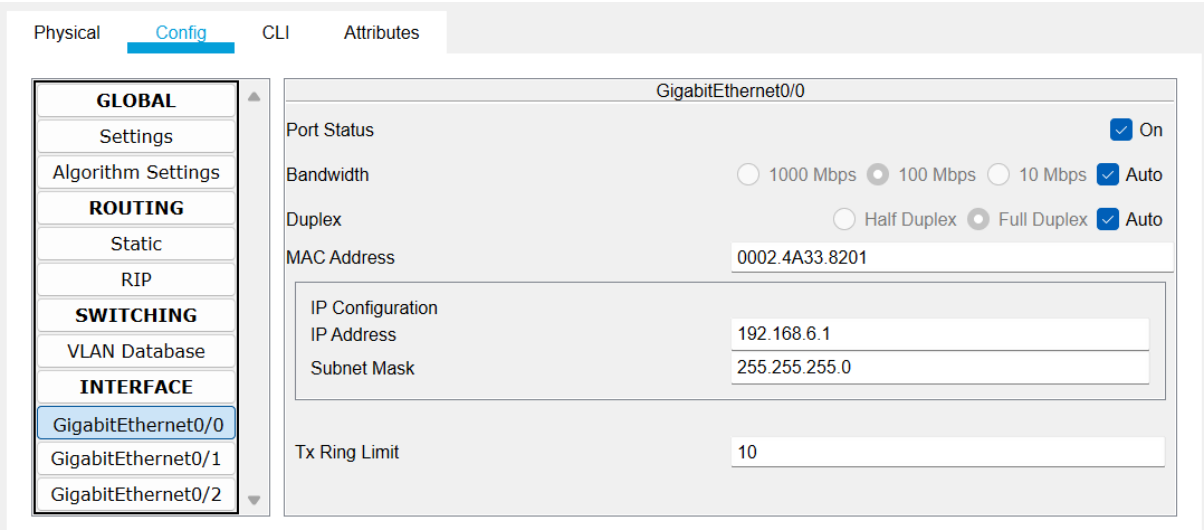
Router 2

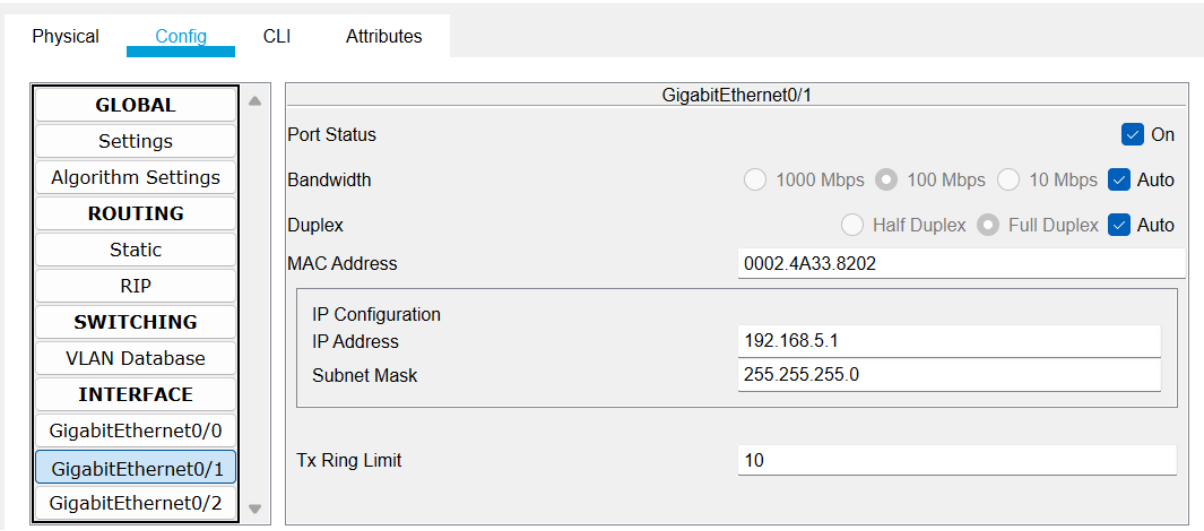

Physical
Config
CLI
Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
SWITCHING
VLAN Database
INTERFACE
GigabitEthernet0/0
GigabitEthernet0/1
GigabitEthernet0/2
GigabitEthernet0/0
Port Status
On
Bandwidth
1000 Mbps
100 Mbps
10 Mbps
Auto
Duplex
Half Duplex
Full Duplex
Auto
MAC Address
00E0.8F88.0701
IP Configuration
IP Address
192.168.3.1
Subnet Mask
255.255.255.0
Tx Ring Limit
10

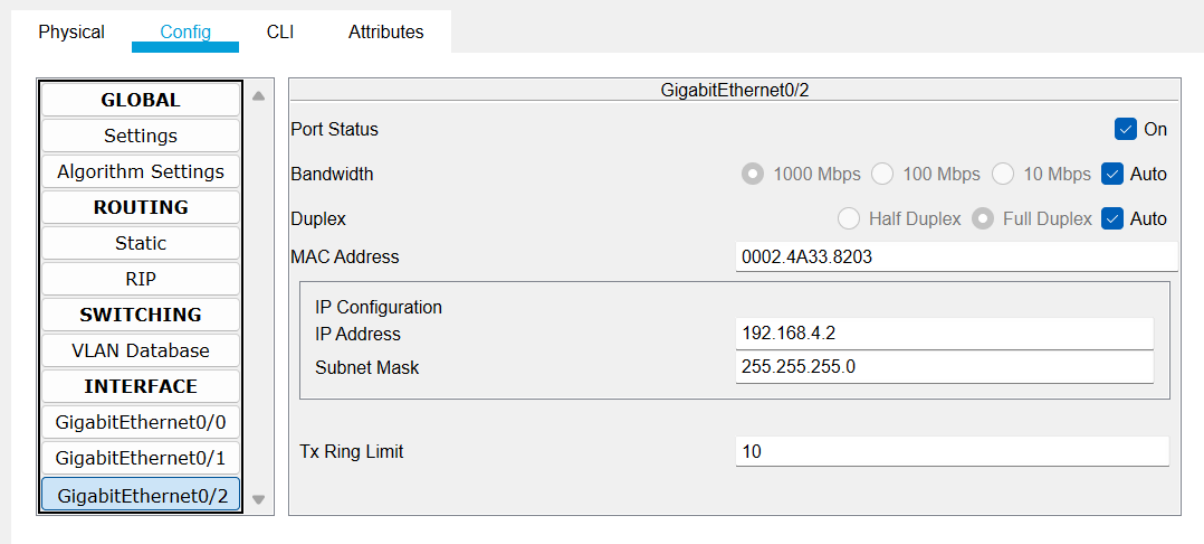

Physical
Config
CLI
Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
SWITCHING
VLAN Database
INTERFACE
GigabitEthernet0/0
GigabitEthernet0/1
GigabitEthernet0/2
GigabitEthernet0/1
Port Status
On
Bandwidth
1000 Mbps
100 Mbps
10 Mbps
Auto
Duplex
Half Duplex
Full Duplex
Auto
MAC Address
00E0.8F88.0702
IP Configuration
IP Address
192.168.2.2
Subnet Mask
255.255.255.0
Tx Ring Limit
10


Physical
Config
CLI
Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
SWITCHING
VLAN Database
INTERFACE
GigabitEthernet0/0
GigabitEthernet0/1
GigabitEthernet0/2
GigabitEthernet0/2
Port Status
On
Bandwidth
1000 Mbps
100 Mbps
10 Mbps
Auto
Duplex
Half Duplex
Full Duplex
Auto
MAC Address
00E0.8F88.0703
IP Configuration
IP Address
192.168.4.1
Subnet Mask
255.255.255.0
Tx Ring Limit
10

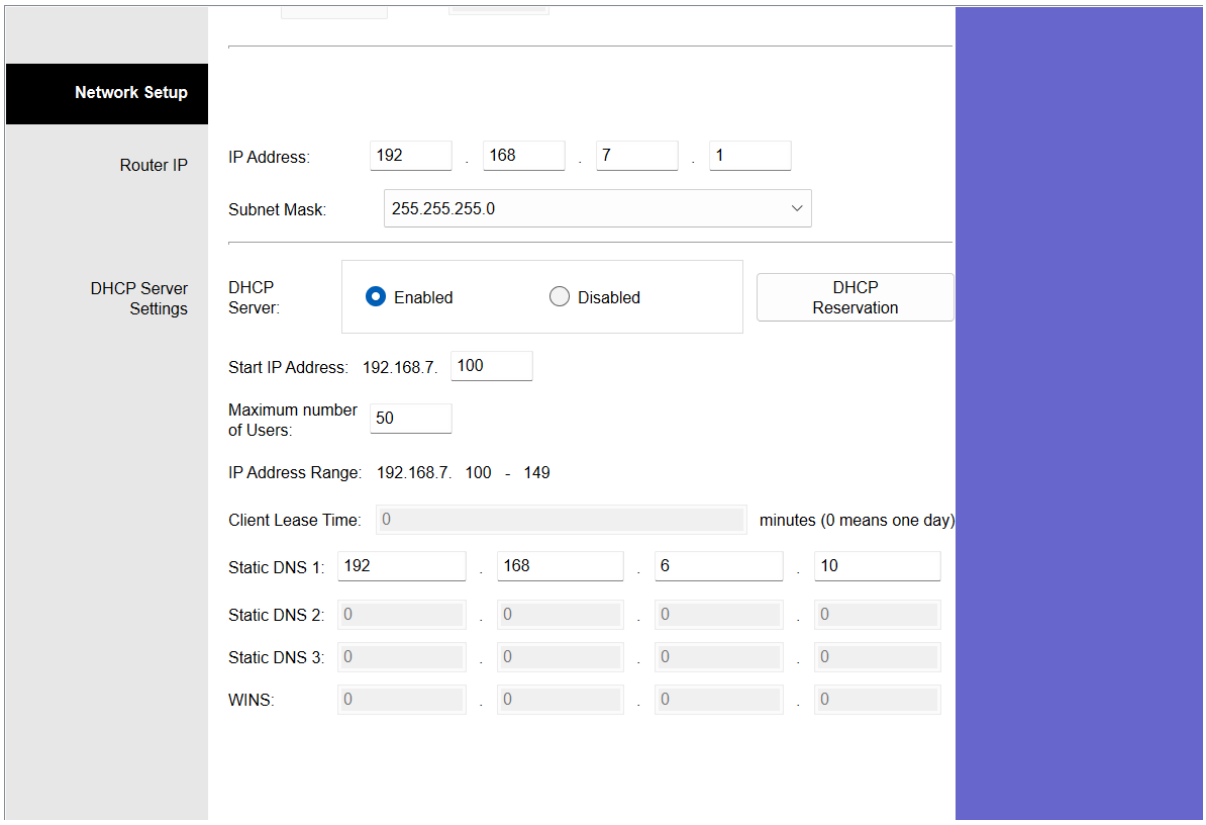
Router 3


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
0002.4A33.8201
IP Configuration
IP Address
192.168.6.1
Subnet Mask
255.255.255.0
Tx Ring Limit
10


Physical
Config
CLI
Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
SWITCHING
VLAN Database
INTERFACE
GigabitEthernet0/0
GigabitEthernet0/1
GigabitEthernet0/2
GigabitEthernet0/1
Port Status
On
Bandwidth
1000 Mbps
100 Mbps
10 Mbps
Auto
Duplex
Half Duplex
Full Duplex
Auto
MAC Address
0002.4A33.8202
IP Configuration
IP Address
192.168.5.1
Subnet Mask
255.255.255.0
Tx Ring Limit
10



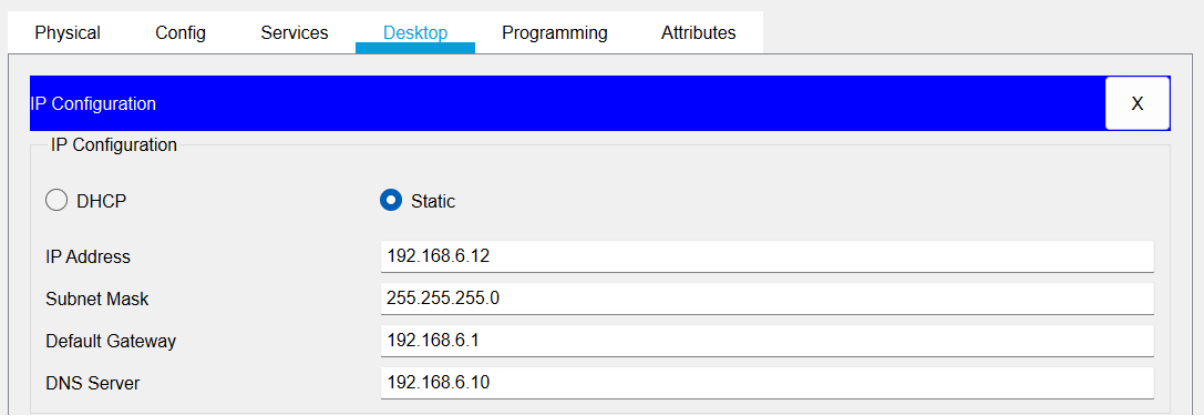
Wireless router:

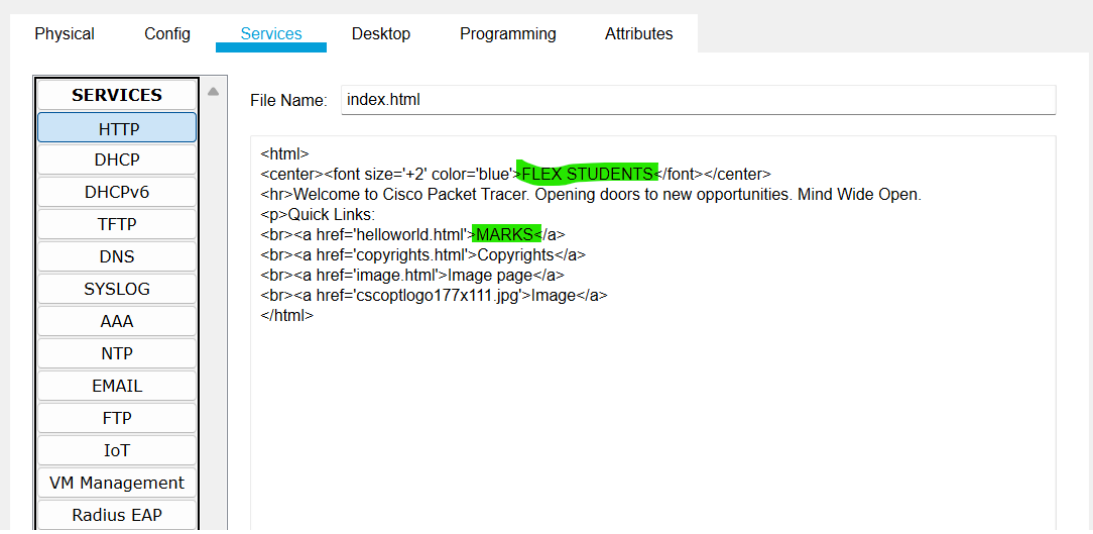


Step 3:

Web servers Configuration.

Web server 1:


Physical
Config
Services
Desktop
Programming
Attributes
IP Configuration
X
IP Configuration
DHCP
Static
IP Address
192.168.6.12
Subnet Mask
255.255.255.0
Default Gateway
192.168.6.1
DNS Server
192.168.6.10


Physical
Config
Services
Desktop
Programming
Attributes
SERVICES
HTTP
DHCP
DHCPv6
TFTP
DNS
SYSLOG
AAA
NTP
EMAIL
FTP
IoT
VM Management
Radius EAP
File Name:
index.html
<html>
<font size='+2' color='blue'>FLEX STUDENTS</font>
<hr>Welcome to Cisco Packet Tracer. Opening doors to new opportunities. Mind Wide Open.
<p>Quick Links:

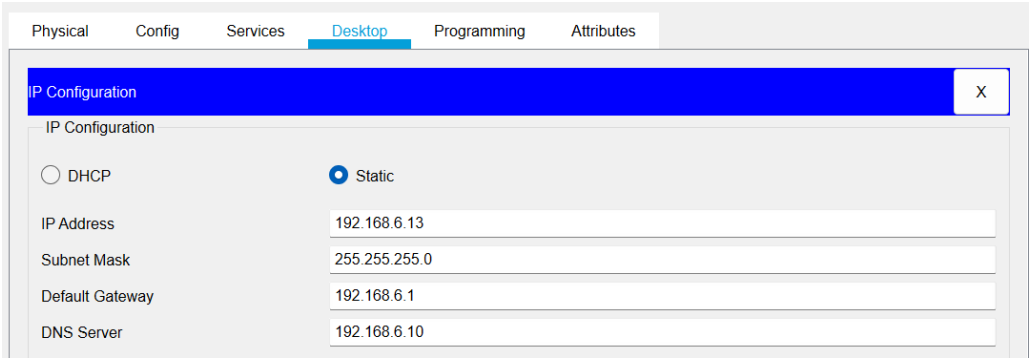
<a href='helloworld.html'>MARKS</a>

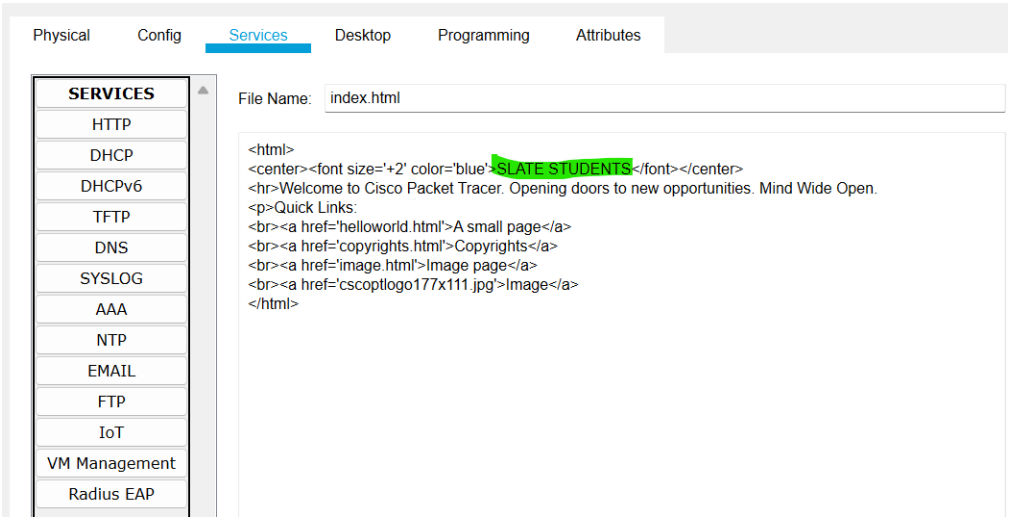
<a href='copyrights.html'>Copyrights</a>

<a href='image.html'>Image page</a>

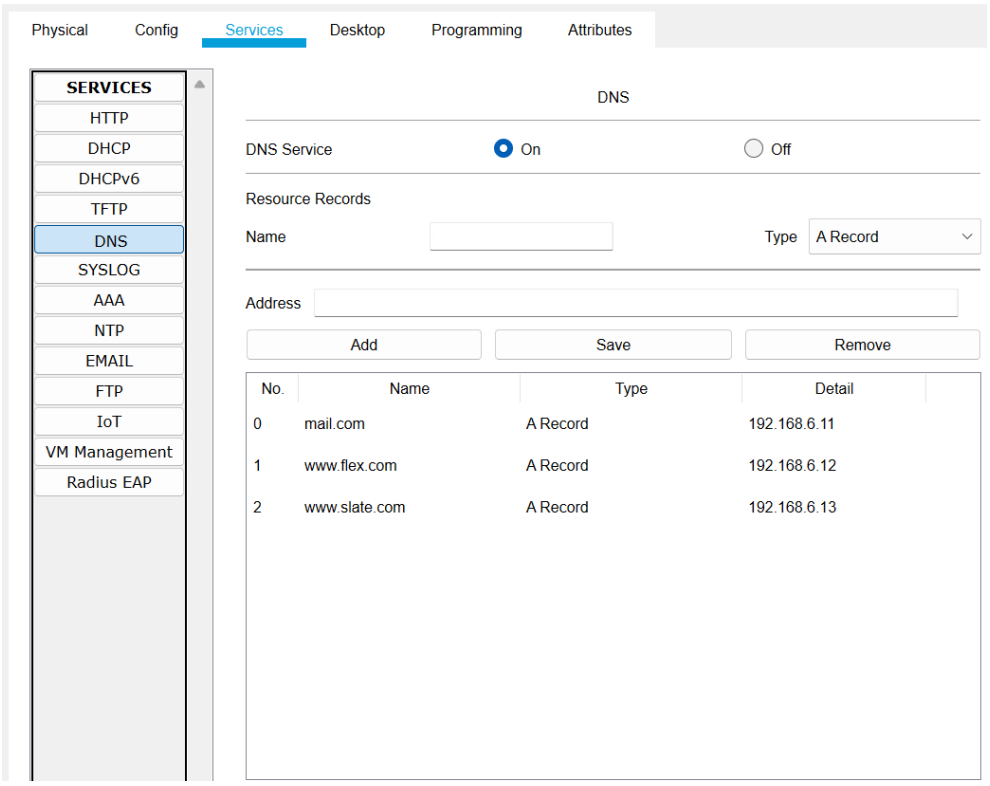
<a href='cscoptlogo177x111.jpg'>Image</a>
</html>

Web server 2:



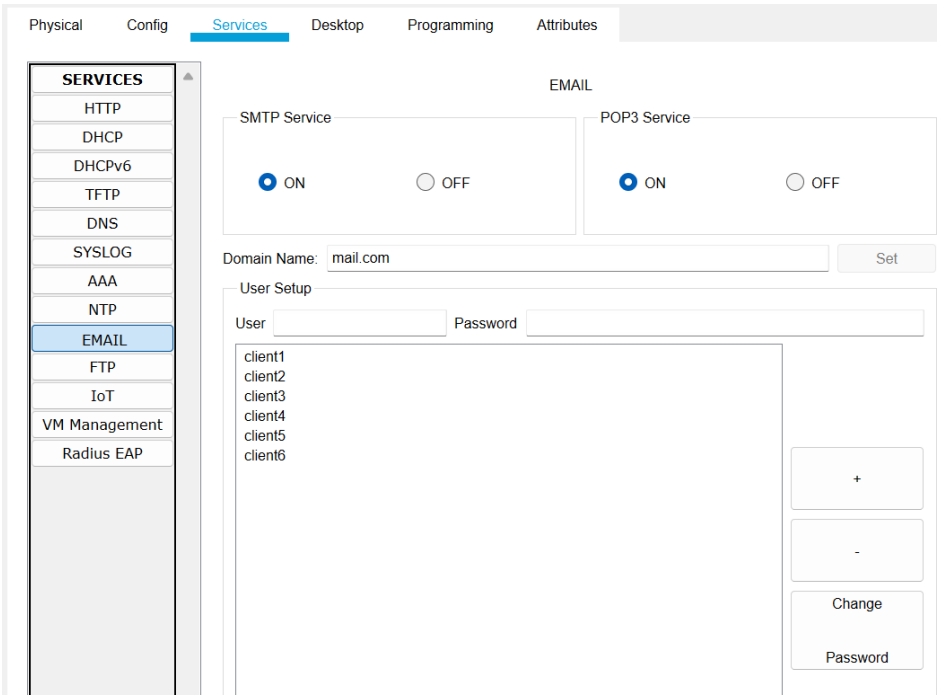


Step 4: DNS server configuration.



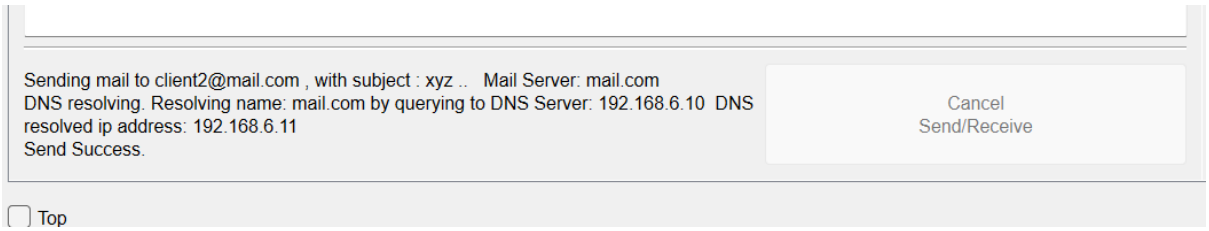
Step 5:

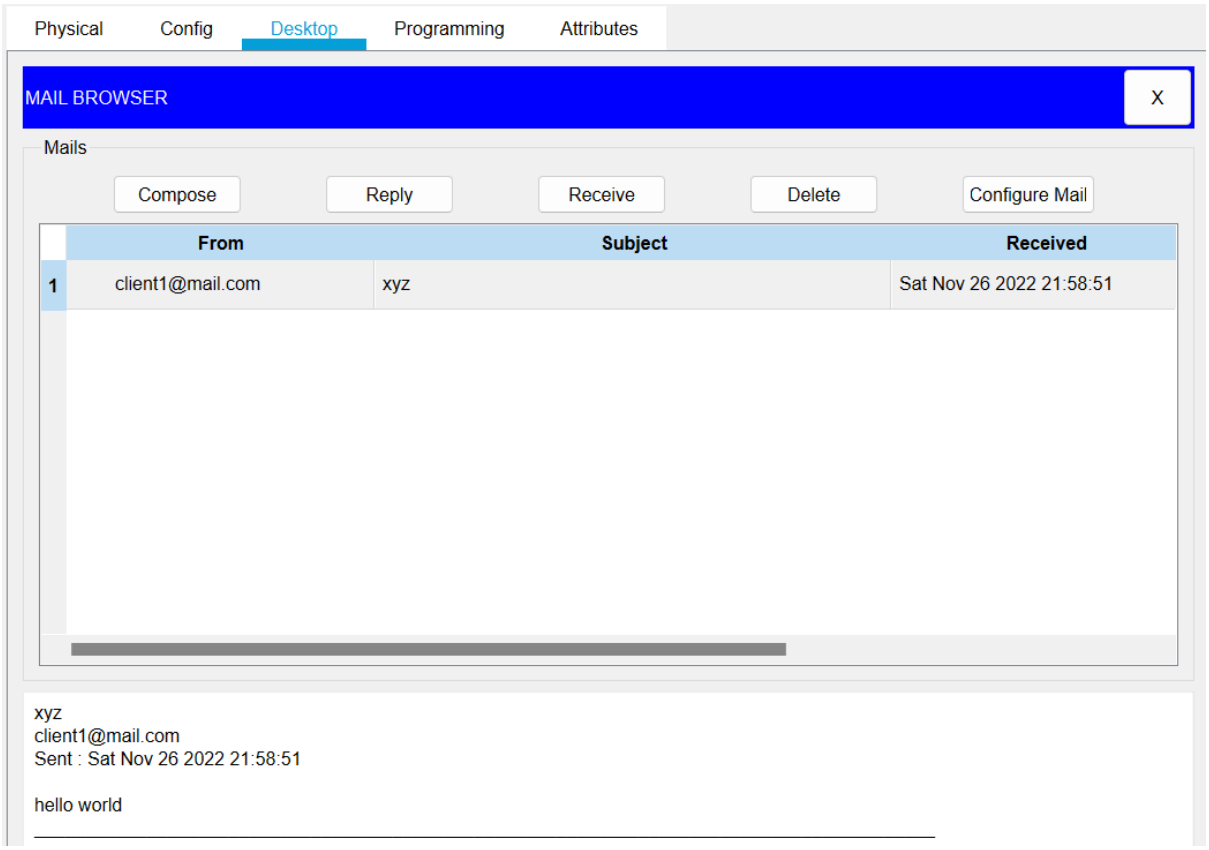
Email server configuration

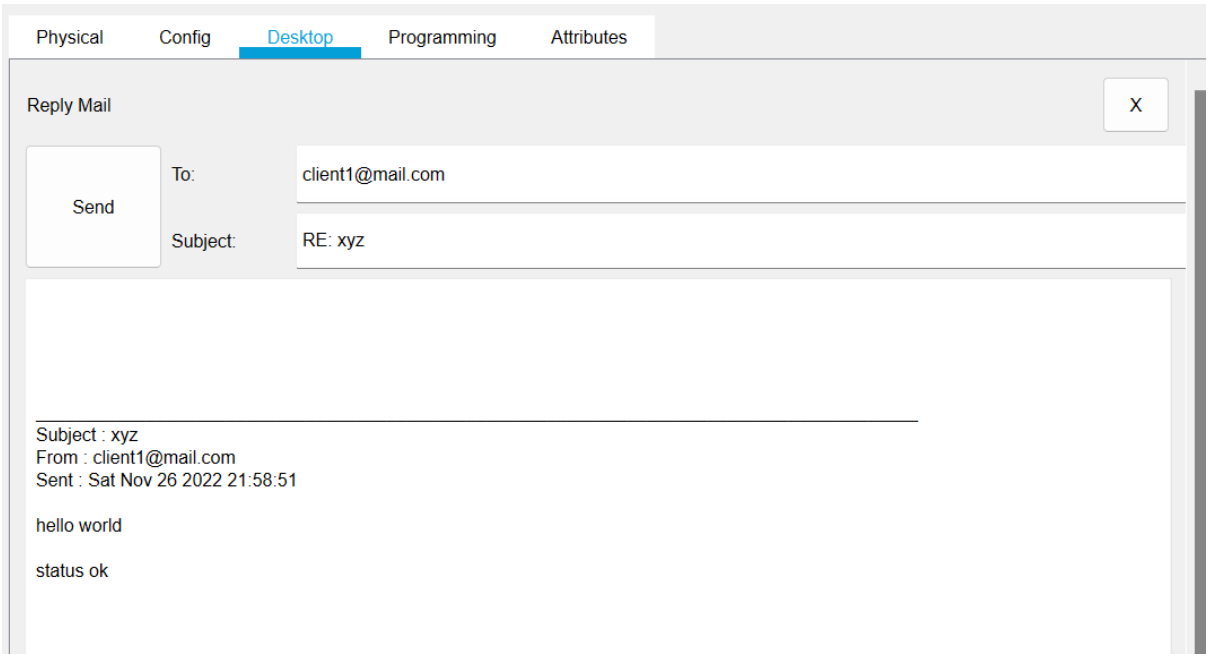


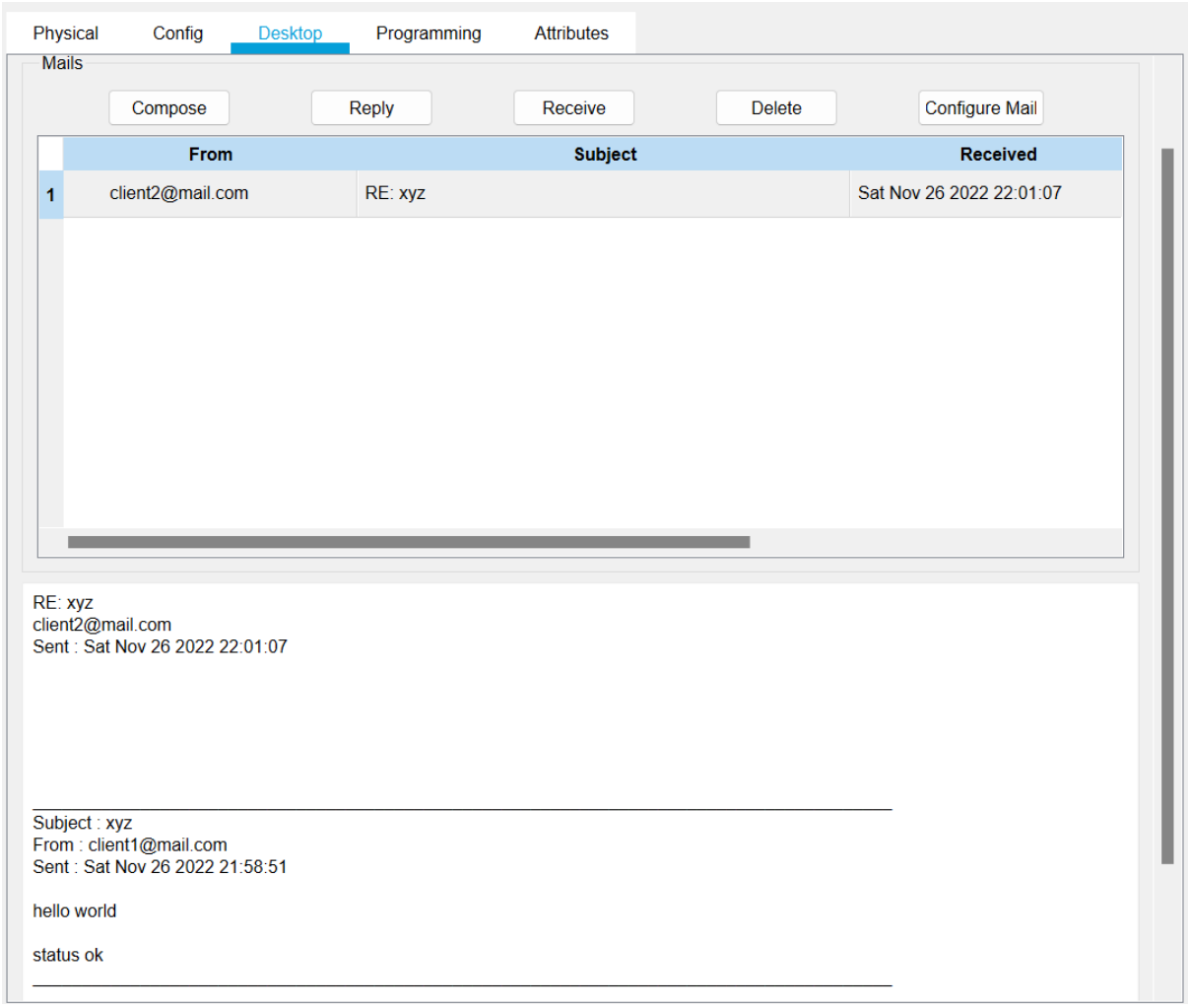
Step 6:

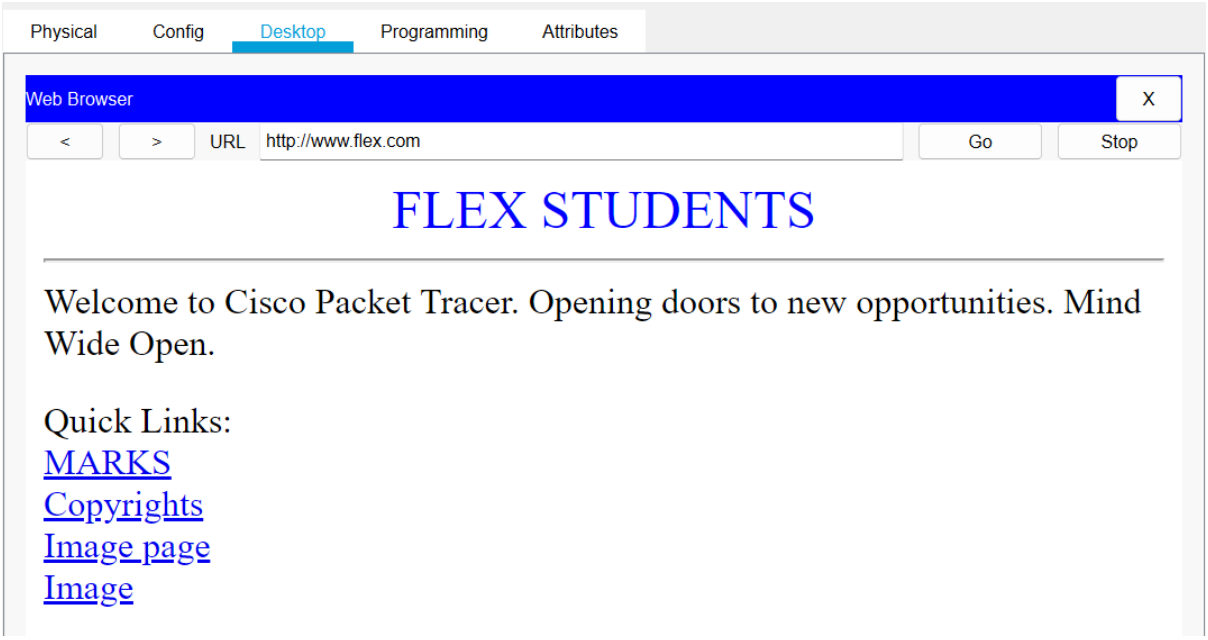
Check Email received and reply

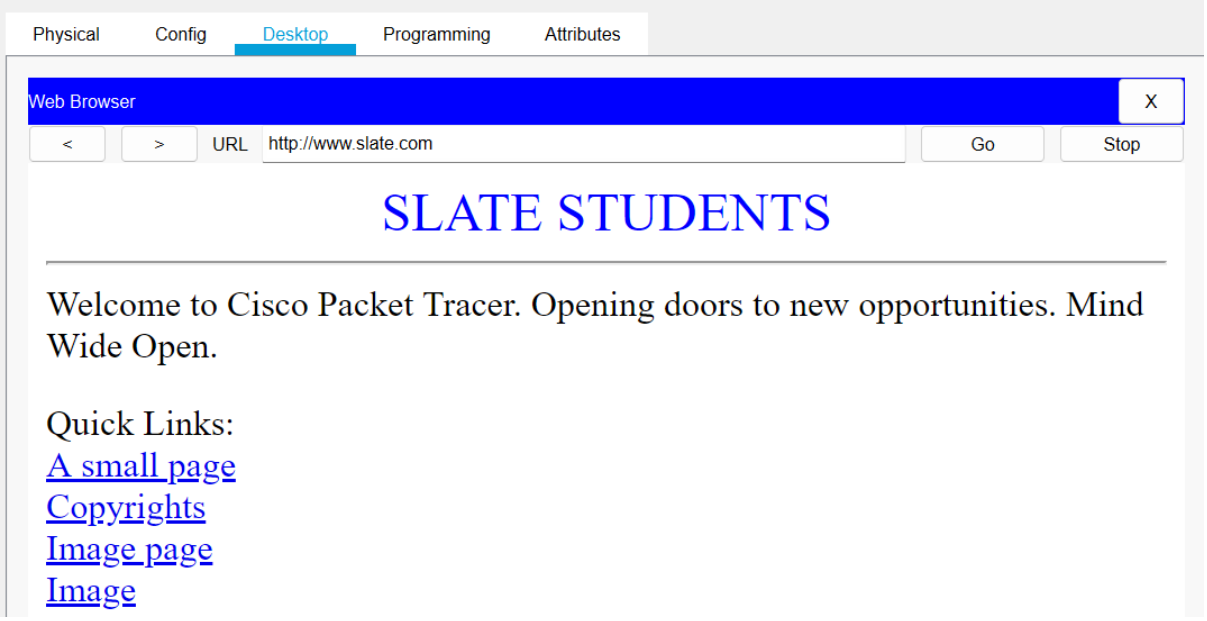



Physical
Config
Desktop
Programming
Attributes
MAIL BROWSER
X
Mails
Compose
Reply
Receive
Delete
Configure Mail
From
Subject
Received
1
client1@mail.com
xyz
Sat Nov 26 2022 21:58:51
xyz
client1@mail.com
Sent : Sat Nov 26 2022 21:58:51
hello world


Physical
Config
Desktop
Programming
Attributes
Reply Mail
X
Send
To:
client1@mail.com
Subject:
RE: xyz
Subject : xyz
From : client1@mail.com
Sent : Sat Nov 26 2022 21:58:51
hello world
status ok


Physical
Config
Desktop
Programming
Attributes
Mails
Compose
Reply
Receive
Delete
Configure Mail
From
Subject
Received
1
client2@mail.com
RE: xyz
Sat Nov 26 2022 22:01:07
RE: xyz
client2@mail.com
Sent : Sat Nov 26 2022 22:01:07
Subject : xyz
From : client1@mail.com
Sent : Sat Nov 26 2022 21:58:51
hello world
status ok


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



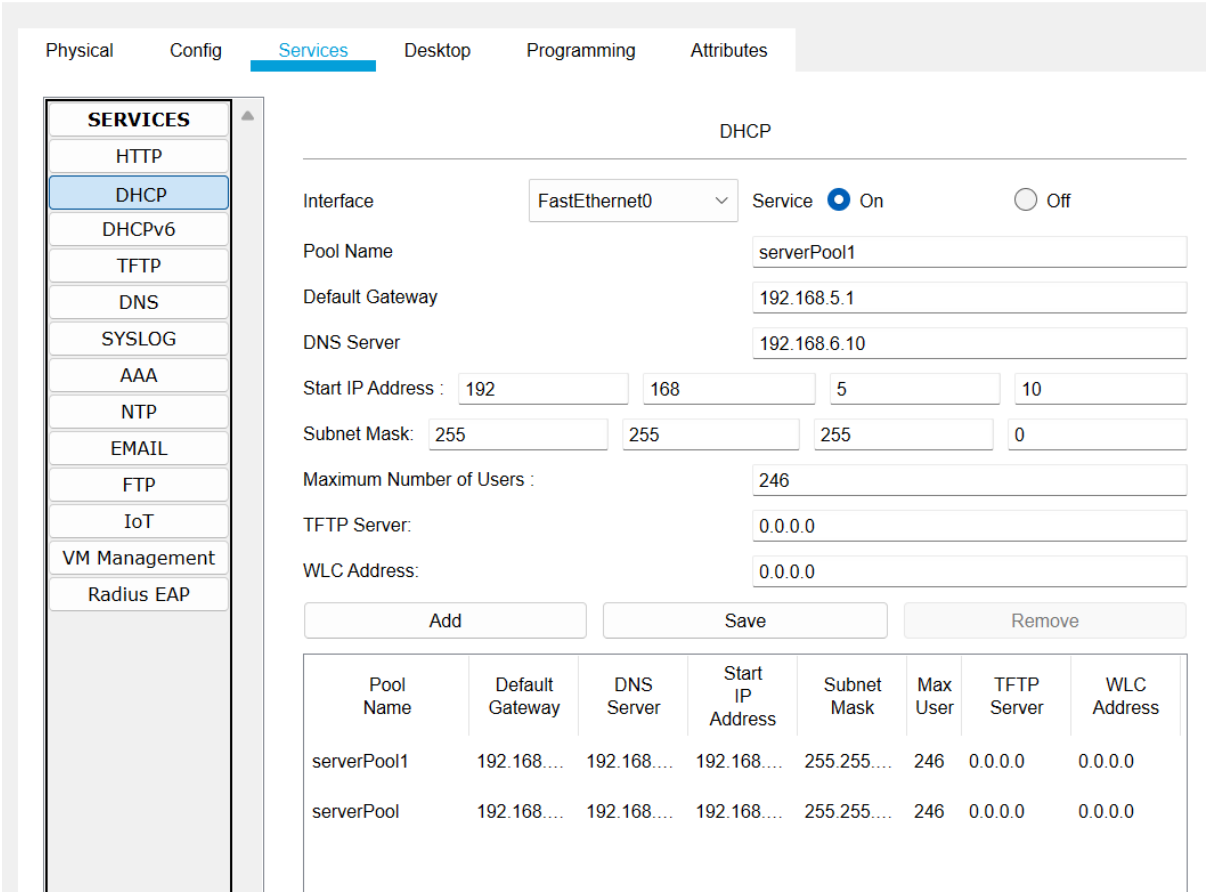
Step 7:

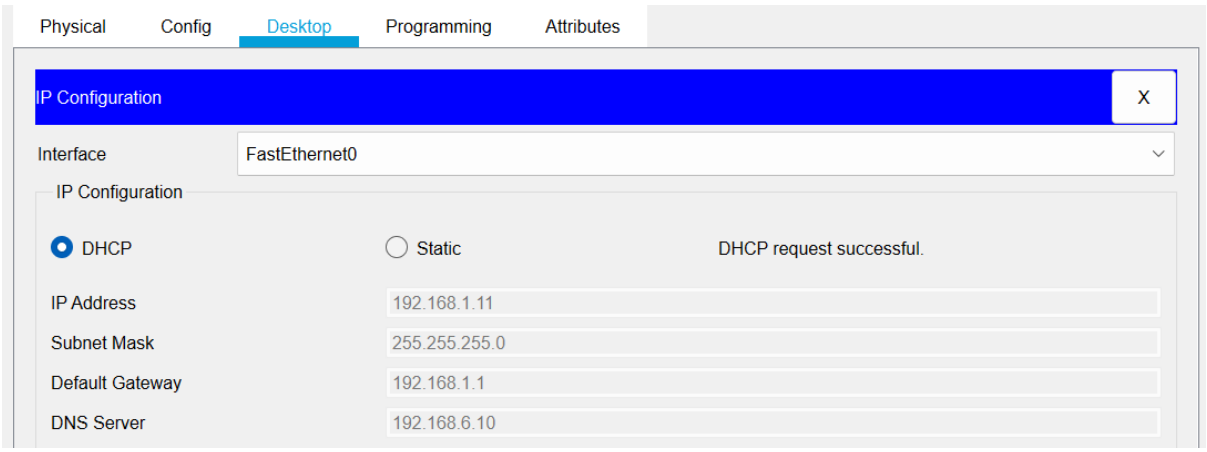
Making DHCP pool in router for assigning ip address dynamically.

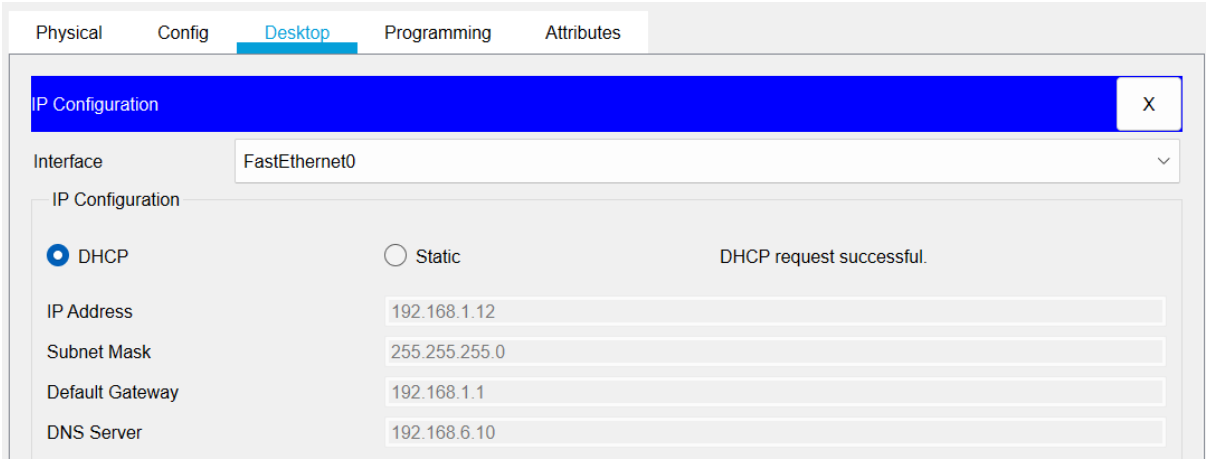
Router 1:

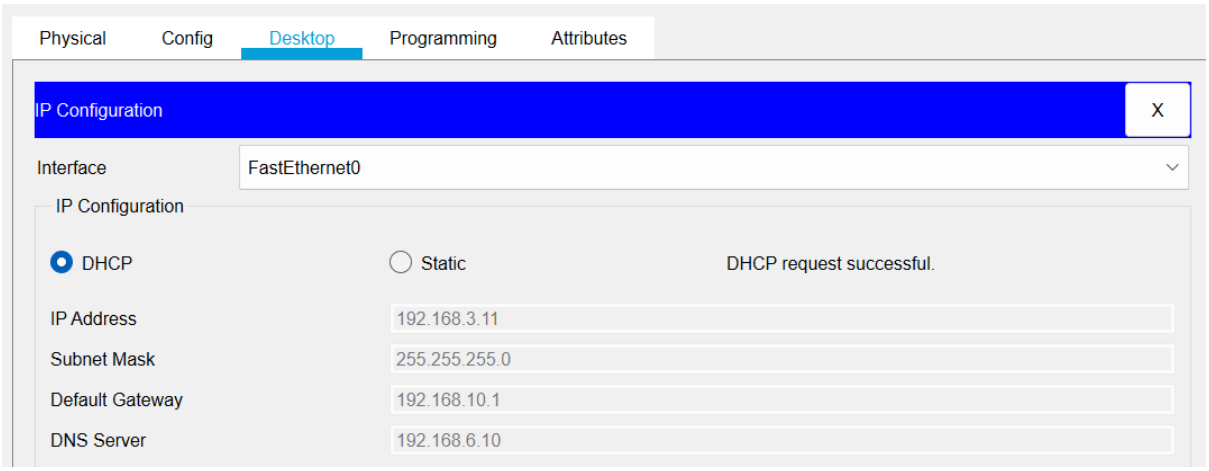
```
Router>
Router>en
Router#config t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#ip dhcp pool IPD
Router(dhcp-config)#network 192.168.1.0 255.255.255.0
Router(dhcp-config)#default-router 192.168.1.1
Router(dhcp-config)#dns-server 192.168.6.10
Router(dhcp-config)#
Router(dhcp-config)#exit
Router(config)#
Router(config)#ip dhcp excluded-address 192.168.1.1 192.168.1.10
```

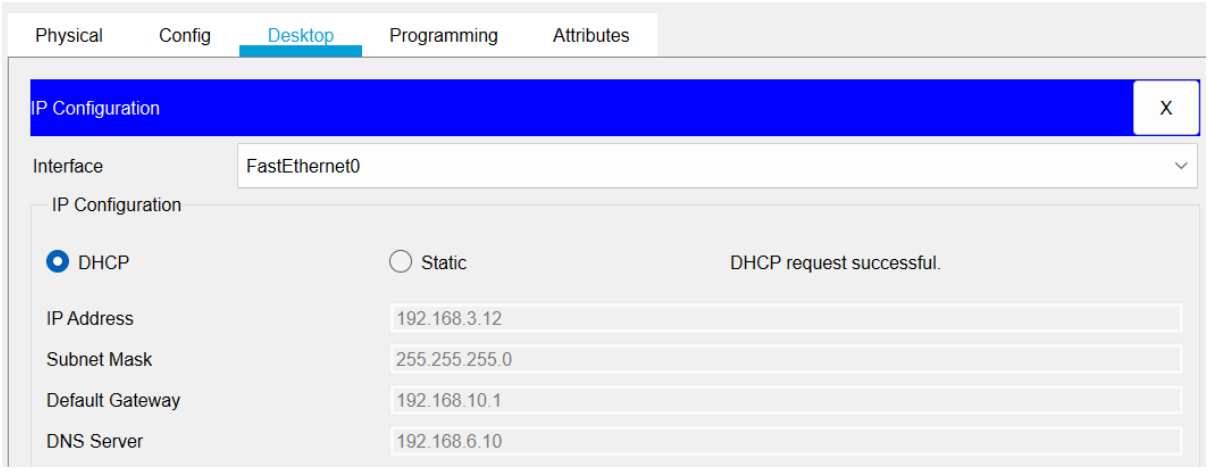
DHCP Server:

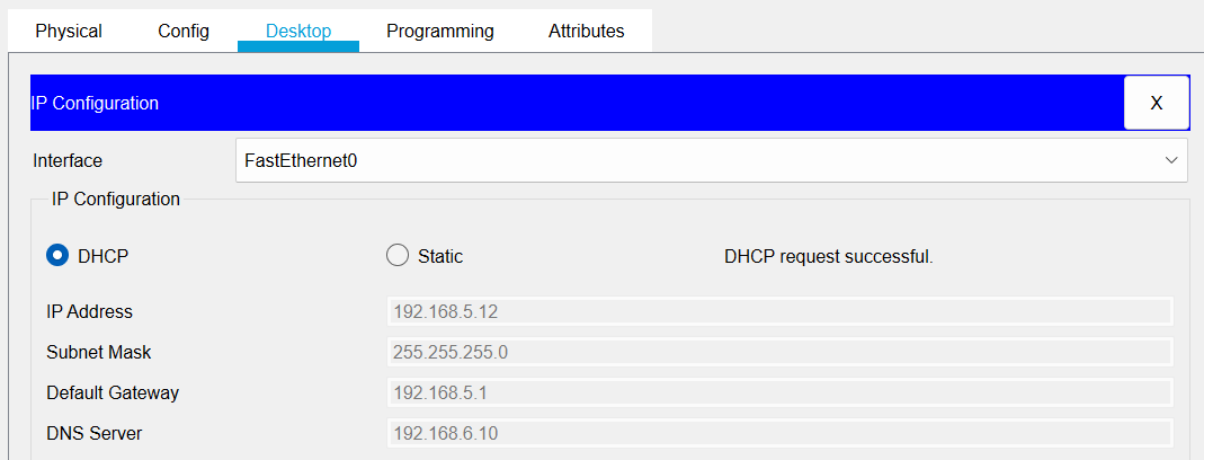

Physical
Config
Services
Desktop
Programming
Attributes
SERVICES
HTTP
DHCP
DHCPv6
TFTP
DNS
SYSLOG
AAA
NTP
EMAIL
FTP
IoT
VM Management
Radius EAP
DHCP
Interface
FastEthernet0
Service
On
Off
Pool Name
serverPool1
Default Gateway
192.168.5.1
DNS Server
192.168.6.10
Start IP Address :
192
168
5
10
Subnet Mask:
255
255
255
0
Maximum Number of Users :
246
TFTP Server:
0.0.0.0
WLC Address:
0.0.0.0
Add
Save
Remove
Pool Name
Default Gateway
DNS Server
Start IP Address
Subnet Mask
Max User
TFTP Server
WLC Address
serverPool1
192.168....
192.168....
192.168....
255.255....
246
0.0.0.0
0.0.0.0
serverPool
192.168....
192.168....
192.168....
255.255....
246
0.0.0.0
0.0.0.0

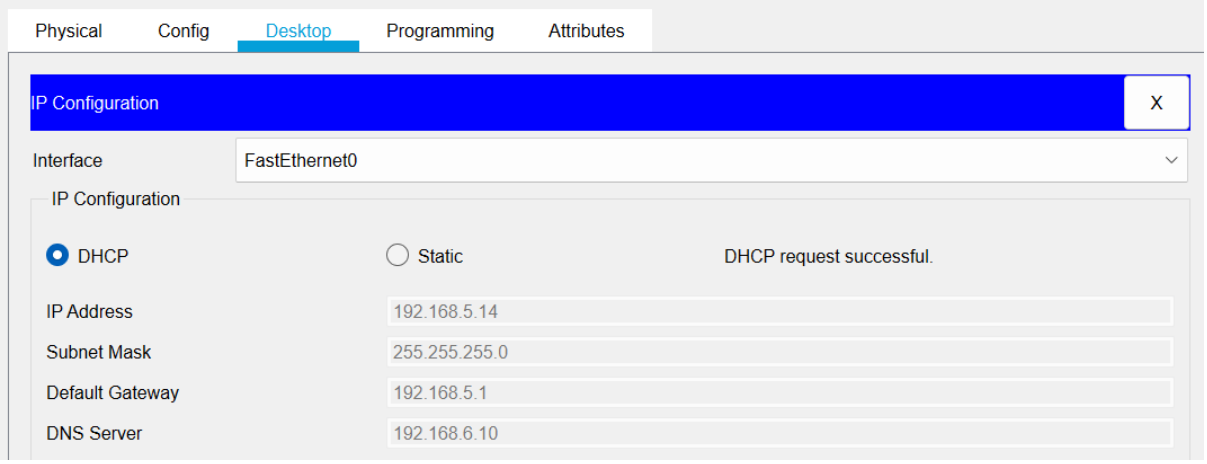

Physical
Config
Desktop
Programming
Attributes
IP Configuration
X
Interface
FastEthernet0
IP Configuration
DHCP
Static
DHCP request successful.
IP Address
192.168.1.11
Subnet Mask
255.255.255.0
Default Gateway
192.168.1.1
DNS Server
192.168.6.10


Physical
Config
Desktop
Programming
Attributes
IP Configuration
X
Interface
FastEthernet0
IP Configuration
DHCP
Static
DHCP request successful.
IP Address
192.168.1.12
Subnet Mask
255.255.255.0
Default Gateway
192.168.1.1
DNS Server
192.168.6.10


Physical
Config
Desktop
Programming
Attributes
IP Configuration
X
Interface
FastEthernet0
IP Configuration
DHCP
Static
DHCP request successful.
IP Address
192.168.3.11
Subnet Mask
255.255.255.0
Default Gateway
192.168.10.1
DNS Server
192.168.6.10


Physical
Config
Desktop
Programming
Attributes
IP Configuration
X
Interface
FastEthernet0
IP Configuration
DHCP
Static
DHCP request successful.
IP Address
192.168.3.12
Subnet Mask
255.255.255.0
Default Gateway
192.168.10.1
DNS Server
192.168.6.10


Physical
Config
Desktop
Programming
Attributes
IP Configuration
X
Interface
FastEthernet0
IP Configuration
DHCP
Static
DHCP request successful.
IP Address
192.168.5.12
Subnet Mask
255.255.255.0
Default Gateway
192.168.5.1
DNS Server
192.168.6.10


Physical
Config
Desktop
Programming
Attributes
IP Configuration
X
Interface
FastEthernet0
IP Configuration
DHCP
Static
DHCP request successful.
IP Address
192.168.5.14
Subnet Mask
255.255.255.0
Default Gateway
192.168.5.1
DNS Server
192.168.6.10

THE END