

Computer Networks

Lab 04

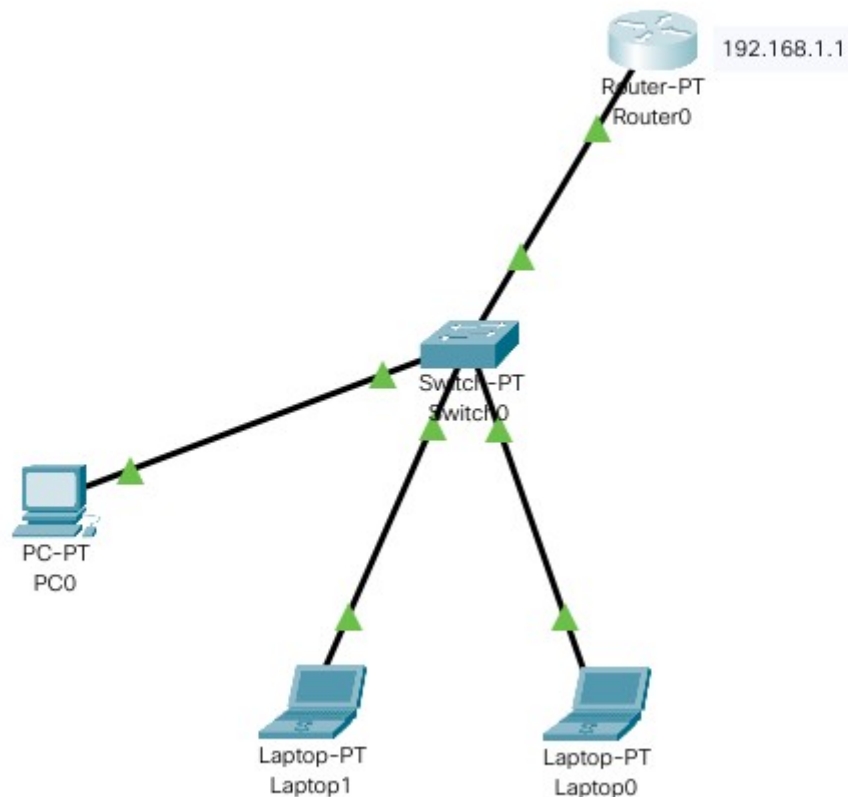
Hamza Shahid

20P-0117

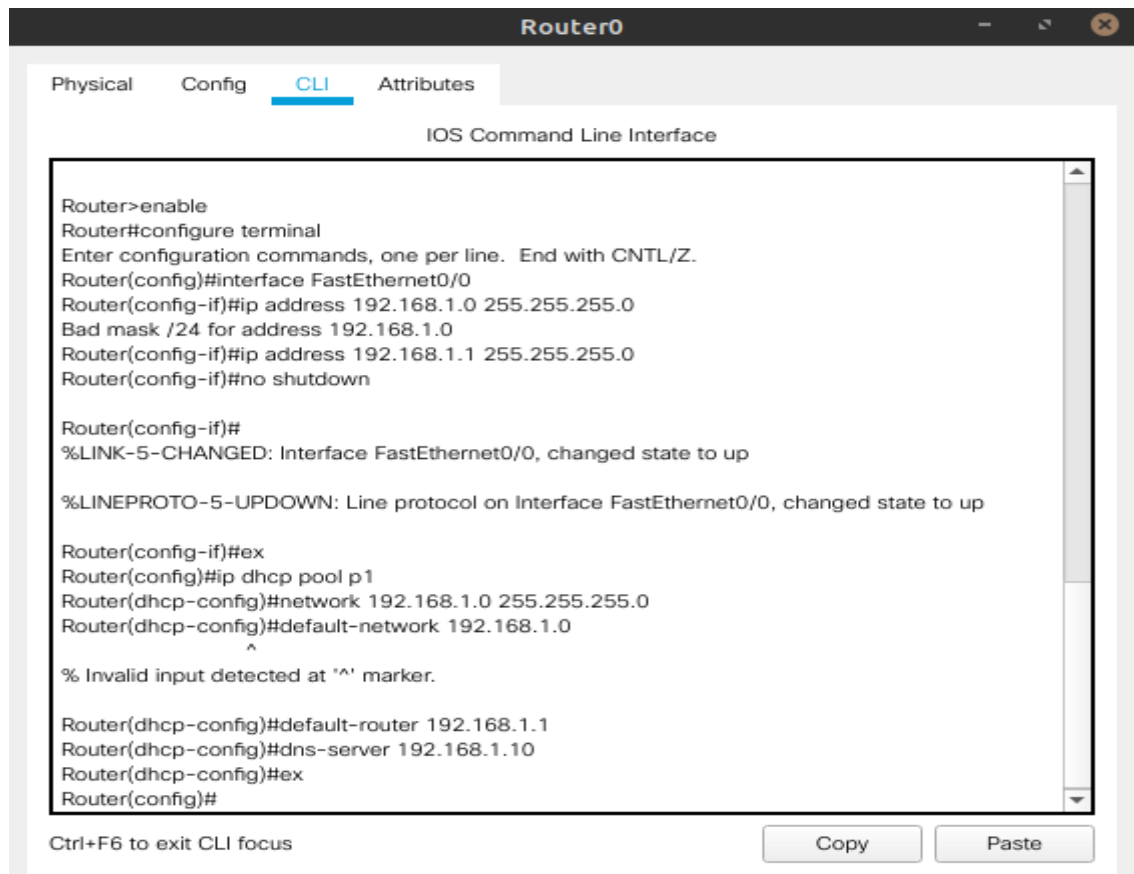
BSSE-5A

Task 01:

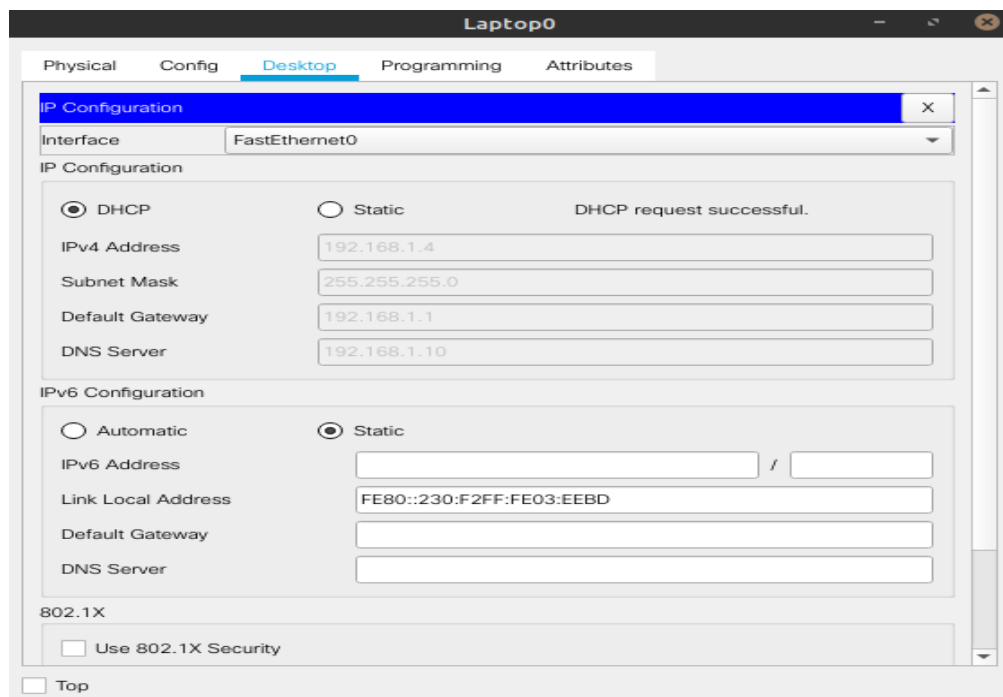
- First you need to drag 2 laptops, 1 PC and a router.
- Configure static IP address of server.



- Now configure DHCP service on server by following steps:
 - Click on server and click on CLI
 - `ip dhcp pool name_of_dhcp_pool`
 - `network network_ip subnet_mask`
 - `default-network network_ip`
 - `default-router router_ip`
 - `dns-server default_gateway_of_router`
 - `ex`

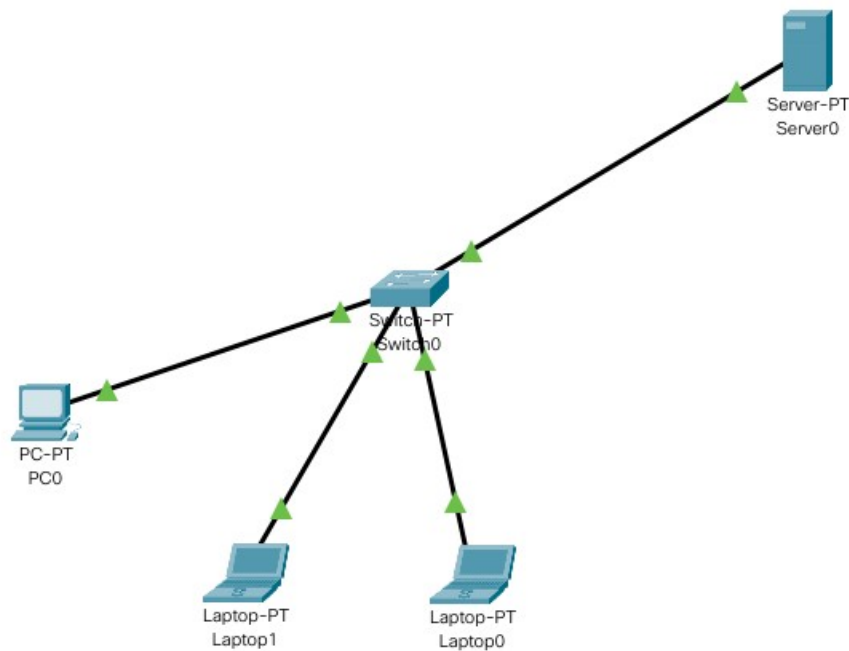


- Now click on each PC / laptop.
- And enable DHCP instead of Static
- And all addresses will be assigned by router.



Task 02:

- Set up the network we made above.
- This time just connect the router with the server.



- Now set up DHCP pool by clicking on server and then click on services tab.
- Then choose DHCP, click on add and fill all the info required like pool name, gateway address and DNS server etc.
- Then click on save. The pool will be listed below.

Server0

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

MY_LANI

Default Gateway

192.168.1.1

DNS Server

192.168.1.2

Start IP Address :

192

168

1

0

Subnet Mask:

255

255

255

0

Maximum Number of Users :

256

TFTP Server:

0.0.0.0

WLC Address:

0.0.0.0

Add

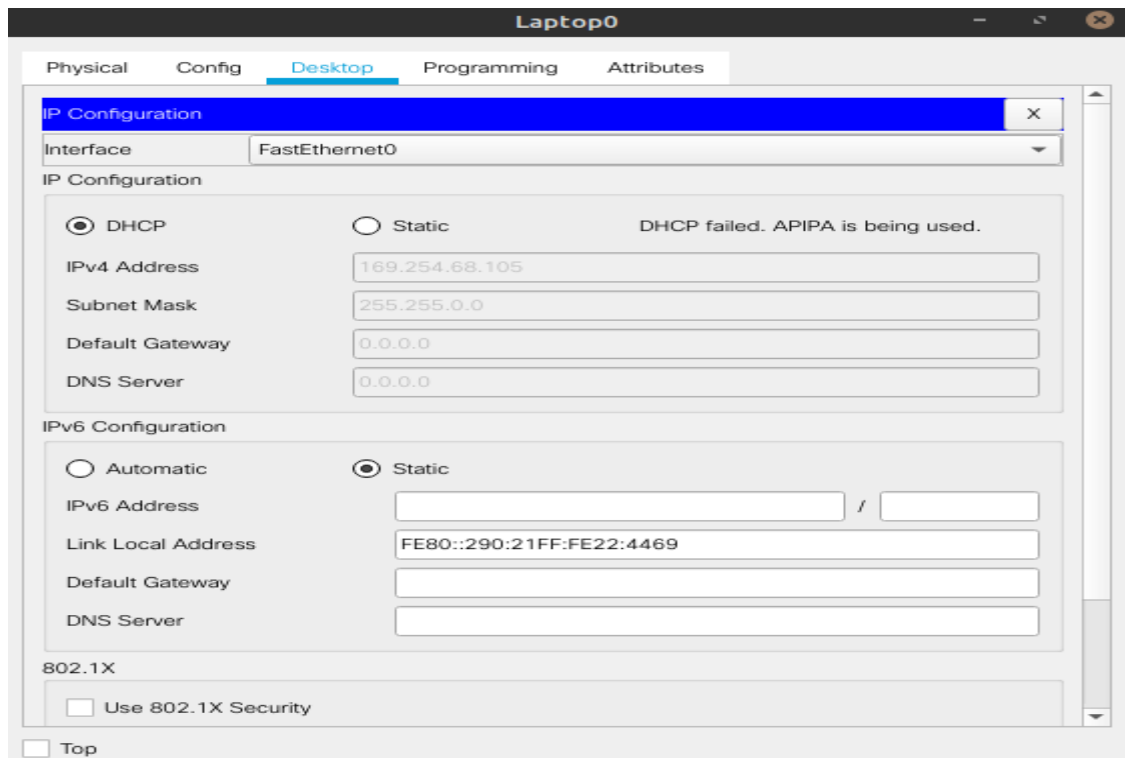
Save

Remove

Pool Name	Default Gateway	DNS Server	Start IP Address	Subnet Mask	Max User	TFTP Server	WLC Address
MY_LANI	192.168.1.1	192.168.1.2	192.168.1.0	255.255.25...	256	0.0.0.0	0.0.0.0
serverPool	0.0.0.0	0.0.0.0	192.168.1.0	255.255.25...	512	0.0.0.0	0.0.0.0

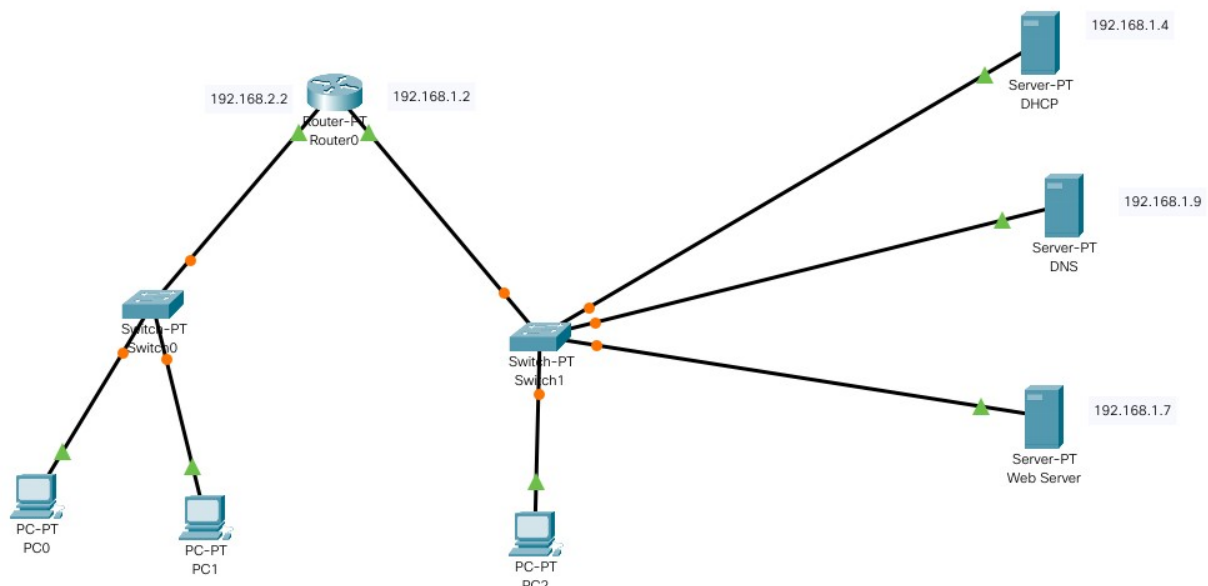
☐ Top

- Then click on Desktop and assign IP address to DHCP.
- Now click on each PC and click on DHCP instead of server.
- All the addresses will be assigned to them by server.

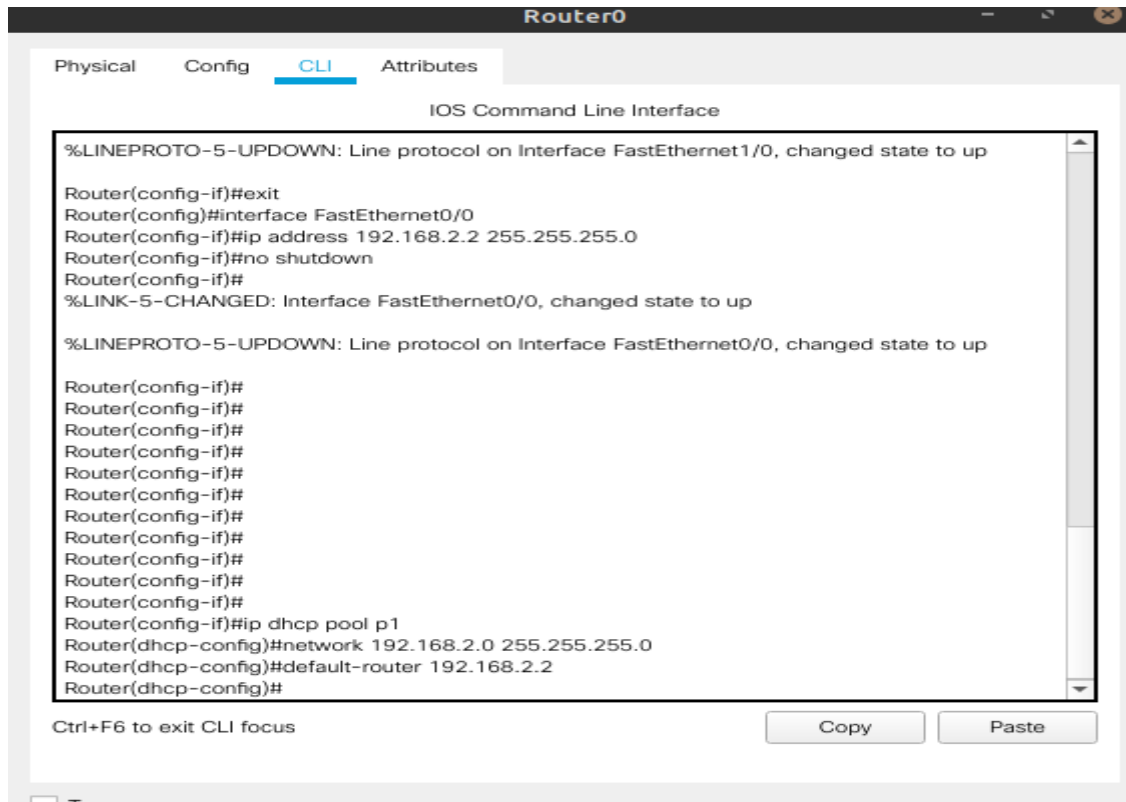


Final Task:

- Create the following topology by dragging them to screen.

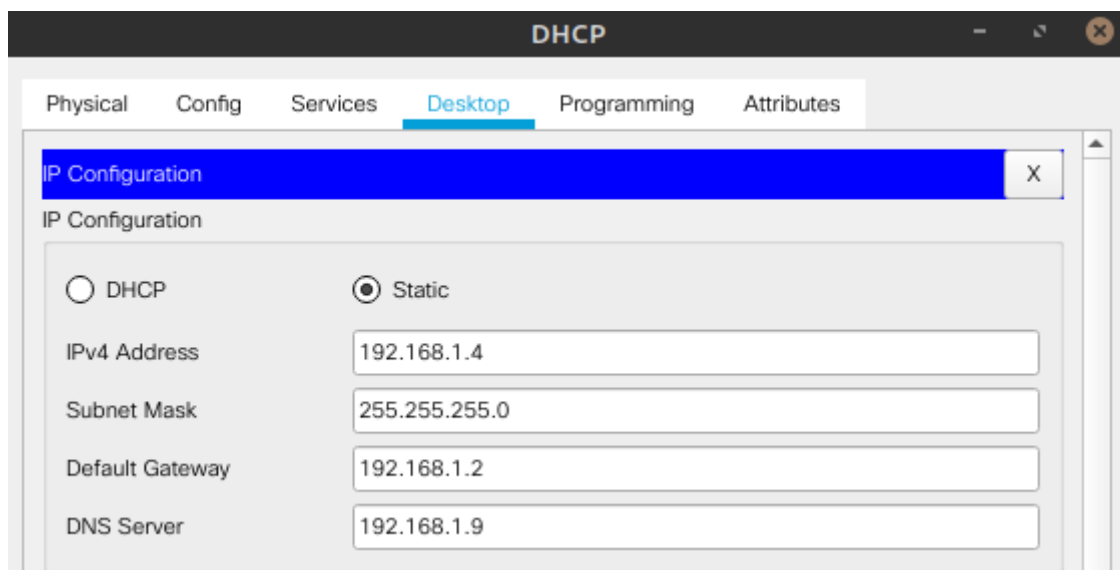


- Click on router and assign IP to both ports.
- Create pool only for the left side (router with the two PCs).



DHCP server:

- Click on DHCP. And assign IP, subnet, gateway and DNS server address.



- Now click on Services then on DHCP.
- Create pool for the server with the one PC.

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
p1

Default Gateway
192.168.1.2

DNS Server
192.168.1.9

Start IP Address :
192
168
1
0

Subnet Mask:
255
255
255
0

Maximum Number of Users :
256

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
p1	192.168.1.2	192.168.1.9	192.168.1.0	255.255.255.0	256	0.0.0.0	0.0.0.0
serverPool	0.0.0.0	0.0.0.0	192.168.1.0	255.255.255.0	255	0.0.0.0	0.0.0.0

DNS server:

- Now click on DNS server, then click on Services and then click on DNS.
- Add two DNS with the URL and IP of rest of the two servers.

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.webserver.com	A Record	192.168.1.7
1	www.dhcp.com	A Record	192.168.1.4

DNS Cache

Web server:

- Now click on server named “Web Server”.
- And assign IP, subnet, gateway and DNS server address.

The screenshot shows the 'Web Server' configuration window with the 'Desktop' tab selected. The 'IP Configuration' section has 'Static' selected, with fields for IPv4 Address (192.168.1.7), Subnet Mask (255.255.255.0), Default Gateway (192.168.1.2), and DNS Server (192.168.1.9). The 'IPv6 Configuration' section has 'Static' selected, with fields for IPv6 Address, Link Local Address (FE80::202:4AFF:FE9A:47D6), Default Gateway, and DNS Server. The '802.1X' section has 'Use 802.1X Security' unchecked and 'Authentication' set to MD5.

- You can also edit the html page by clicking on HTTP.

The screenshot shows the 'Web Server' configuration window with the 'Services' tab selected. On the left, a list of services includes HTTP, DHCP, DHCPv6, TFTP, DNS, SYSLOG, AAA, NTP, EMAIL, FTP, IoT, VM Management, and Radius EAP. The 'HTTP' service is selected. The main area shows the 'File Name' as 'index.html' and the HTML content:

```
<html>
<center><font size="+2" color="blue">Cisco Packet Tracer</font></center>
<h1>Welcome to the boring lab</h1>
<hr>Welcome to Cisco Packet Tracer. Opening doors to the boring
depressed world.
</html>
```

 At the bottom right, there are 'File Manager' and 'Save' buttons.

- Now go to every PC and enable DHCP.
- First created pool will assign the PC addresses by router.
- Second one pool will assign the addresses to the two PCs connected to server.

PC0

Physical Config **Desktop** Programming Attributes

IP Configuration [X]

Interface FastEthernet0

IP Configuration

☒ DHCP ☐ Static DHCP request successful.

IPv4 Address 192.168.2.1

Subnet Mask 255.255.255.0

Default Gateway 192.168.2.2

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::201:42FF:FE79:E32C

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

PC1

Physical Config **Desktop** Programming Attributes

IP Configuration [X]

Interface FastEthernet0

IP Configuration

☒ DHCP ☐ Static DHCP request successful.

IPv4 Address 192.168.2.3

Subnet Mask 255.255.255.0

Default Gateway 192.168.2.2

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::2D0:BCFF:FECA:7B7A

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

☐ Top

PC2

PhysicalConfigDesktopProgrammingAttributes

IP Configuration

InterfaceFastEthernet0

IP Configuration

☒ DHCP

☐ Static

DHCP request successful.

IPv4 Address

192.168.1.1

Subnet Mask

255.255.255.0

Default Gateway

192.168.1.2

DNS Server

192.168.1.9

IPv6 Configuration

☐ Automatic

☒ Static

IPv6 Address

 /

Link Local Address

FE80::201:42FF:FE81:852B

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Top