

NAME:

DAWOOD SARFRAZ

ROLL NO:

20P-0153

SECTION:

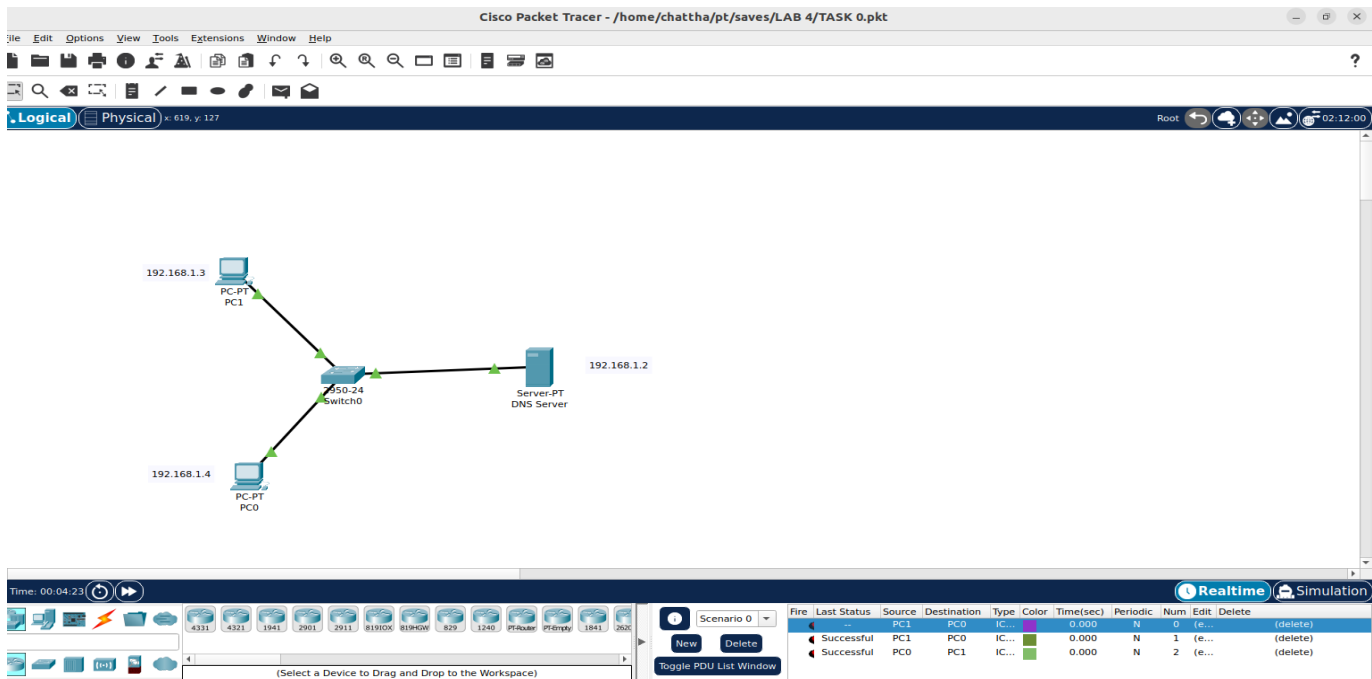
BSCS-5B

CN LAB:

04

FAST NUCES Peshawar Campus

TASK # 01:



DNS Server

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

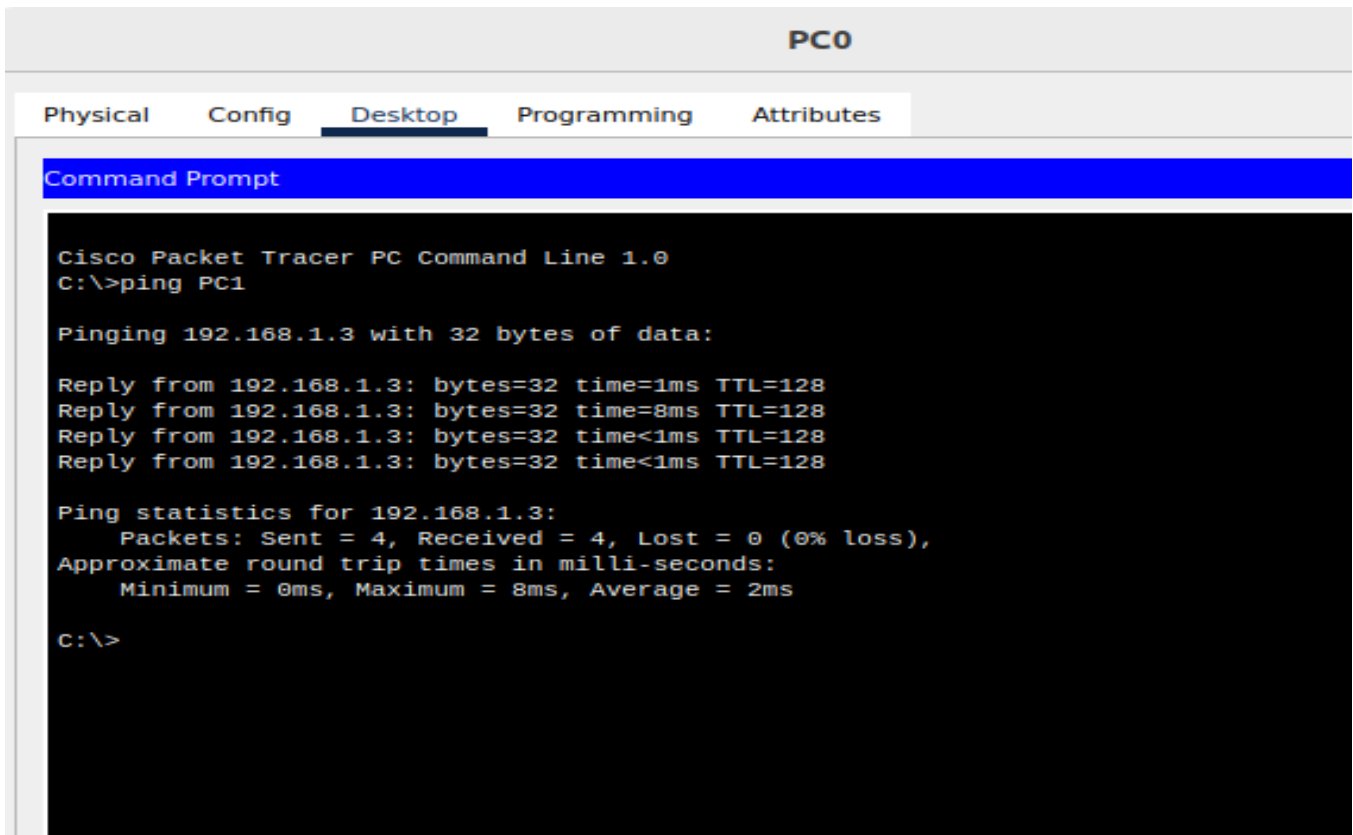
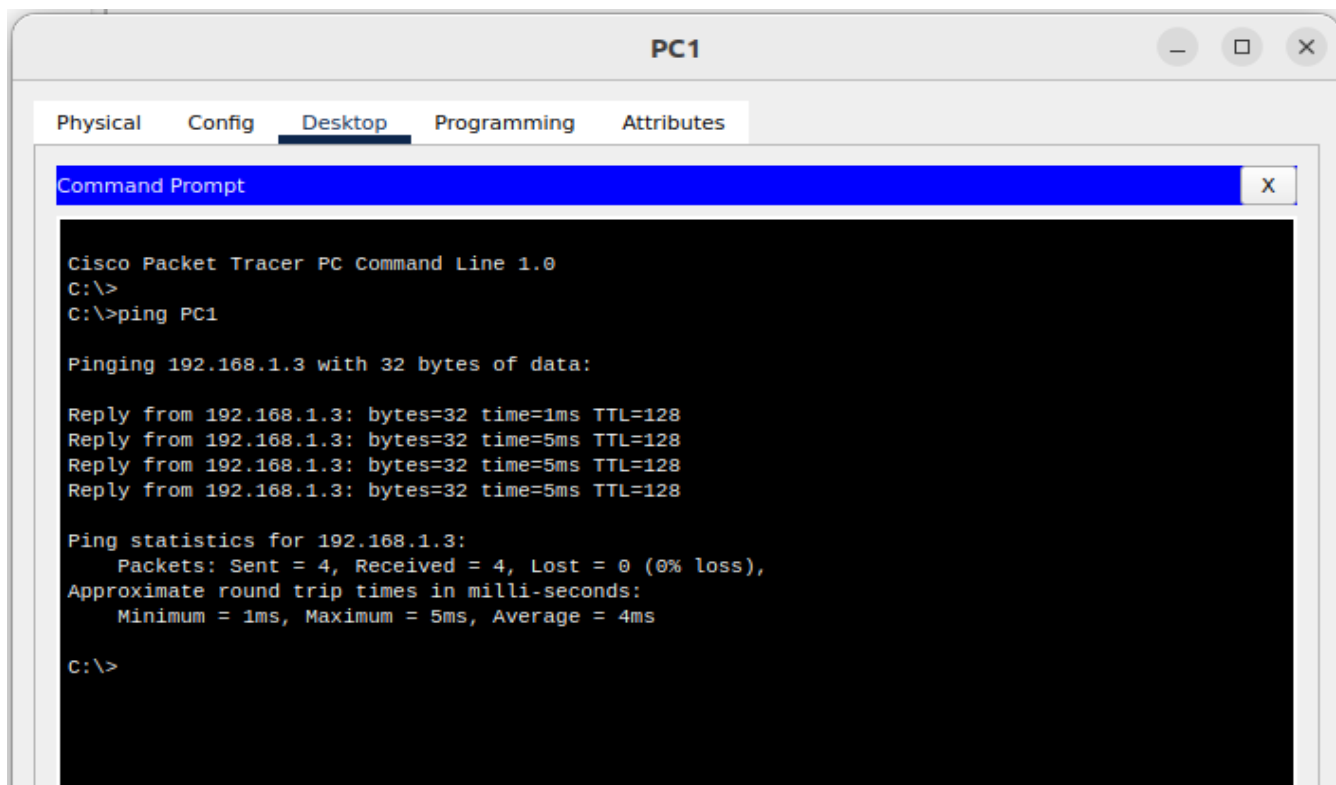
Resource Records

Name Type **A Record**

Address

Add **Save** **Remove**

No.	Name	Type	Detail
0	pc0	A Record	192.168.1.4
1	pc1	A Record	192.168.1.3
2	sserver0	A Record	192.168.1.2



TASK # 02:

Cisco Packet Tracer - /home/chattha/pt/saves/LAB 4/task 2.pkt

File Edit Options View Tools Extensions Window Help

Logical Physical x:47, y:101 Root 00:27:30

2621XM Router0 192.168.1.1

Switch-PT Switch1

PC-PT PC0

Laptop-PT Laptop0

Laptop-PT Laptop1

Time: 00:00:55 Realtime Simulation

Scenario 0

Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete

Successful	PC0	Laptop0	IC...	0.000	N	0	(e...	(delete)
Successful	Lapt...	Laptop0	IC...	0.000	N	1	(e...	(delete)
Successful	PC0	Laptop1	IC...	0.000	N	2	(e...	(delete)

Toggle PDU List Window

```
Router(config-if)#configure terminal
^
% Invalid input detected at '^' marker.

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

Router#
Router#
Router#enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface FastEthernet0/0
Router(config-if)#ip address 192.168.1.1 255.255.255.0
Router(config-if)#no shutdown
Router(config-if)#
Router(config-if)#
Router(config-if)#
Router(config-if)#
Router(config-if)#
```

Ctrl+F6 to exit CLI focus

Activities PacketTracer Sep 13 3:31 PM

Computer Networks Lab 4 updated...
Computer Networks Lab 4_updated.pdf 76.2%

Router(config)#ex
Router(config)#ip dhcp pool P1
Router(dhcp-config)#network 192.168.1.1 255.255.255.0
Router(dhcp-config)#default-router 192.168.1.1
Router(dhcp-config)#dns-server 192.168.1.10
Router(dhcp-config)#ex

We can add ip dhcp excluded-address command to our configuration so as to configure the router to exclude addresses 192.168.1.1 through 192.168.1.10 when assigning addresses to clients. The ip dhcp excluded-address command may be used to reserve addresses that are statically assigned to key hosts.

So add the above command under the global configuration mode.

Router(config)#ip dhcp excluded-address 192.168.1.1 192.168.1.10

Computer Networks Lab 4 Page 13 of 22

Now go to every PC and on their IP configuration tabs, enable DHCP. Every PC should be able to obtain an IP address, default gateway and DNS server, as defined in step 2.

For example, to enable DHCP on PC1:

Click PC1>Desktop>IP configuration. Then enable DHCP:

Physical Config Desktop Custom Interface

IP Configuration

IP Configuration Static

IP Address 192.168.1.13

Subnet Mask 255.255.255.0

Default Gateway 192.168.1.1

DNS Server 192.168.1.10

Router0

Physical Config CLI Attributes

IOS Command Line Interface

```
Router(config-if)#  
Router(config-if)#Router1>enable  
% Invalid input detected at '^' marker.  
Router(config-if)#  
Router(config-if)#  
Router(config-if)#  
Router(config-if)#exit  
Router(config)#interface FastEthernet0/0  
Router(config-if)#  
Router(config-if)#enable  
% Invalid input detected at '^' marker.  
Router(config-if)#configure terminal  
% Invalid input detected at '^' marker.  
Router(config-if)#  
Router#  
%SYS-5-CONFIG_I: Configured from console by console  
Router#  
Router#  
Router#enable  
Router#configure terminal  
Enter configuration commands, one per line. End with CNTL/Z.  
Router(config)#interface FastEthernet0/0  
Router(config-if)#ip address 192.168.1.1 255.255.255.0  
Router(config-if)#no shutdown  
Router(config-if)#  
Router(config-if)#  
Router(config-if)#  
Router(config-if)#ex  
Router(config)#ip dhcp pool P1  
Router(dhcp-config)#network 192.168.1.1 255.255.255.0  
Router(dhcp-config)#DHCPD-4-PING_CONFLICT: DHCP address conflict: server pinged 192.168.1.1.  
default-router 192.168.1.1  
Router(dhcp-config)#default-router 192.168.1.1  
Router(dhcp-config)#network 192.168.1.1 255.255.255.0  
Router(dhcp-config)#default-router 192.168.1.1  
Router(dhcp-config)#dns-server 192.168.1.10  
Router(dhcp-config)#ex  
Router(config)#ip dhcp excluded-address 192.168.1.1 192.168.1.10  
Router(config)#
```

Ctrl+F6 to exit CLI focus

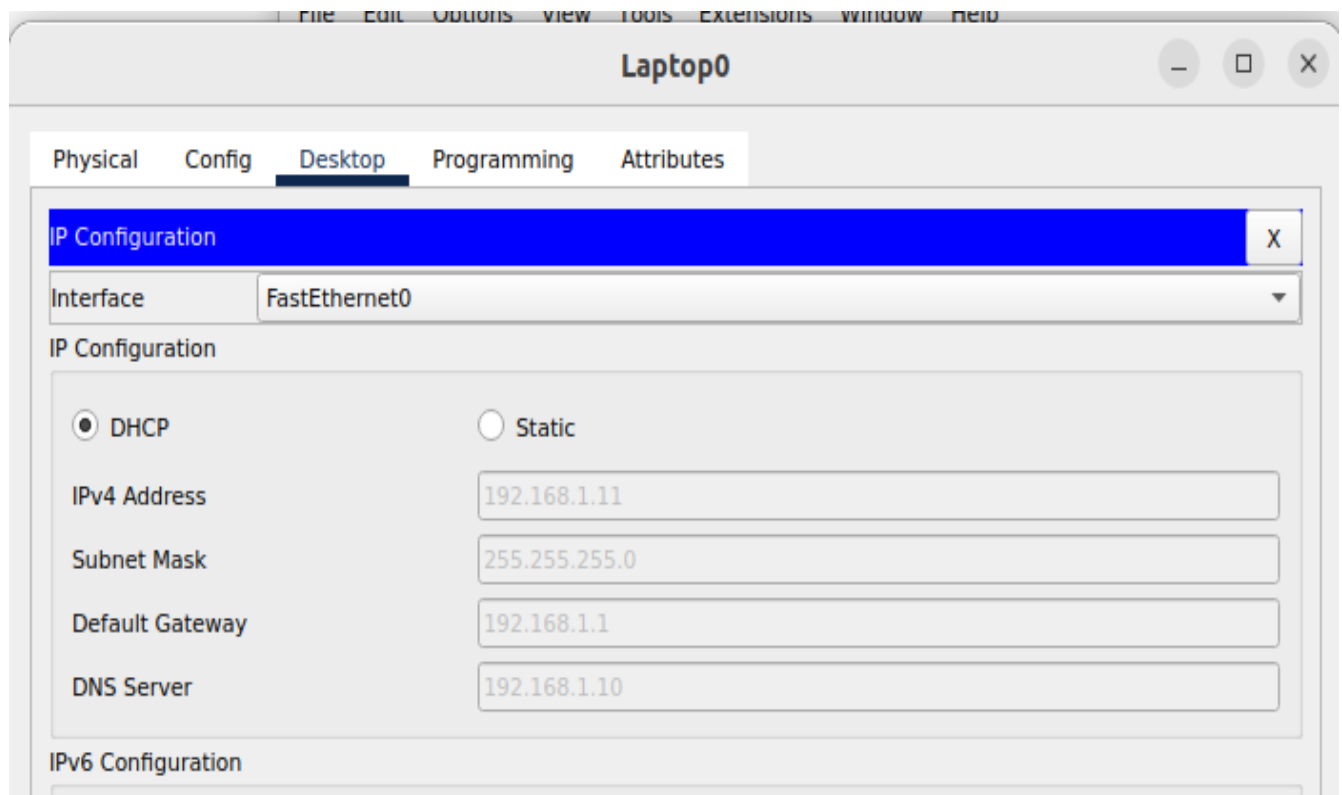
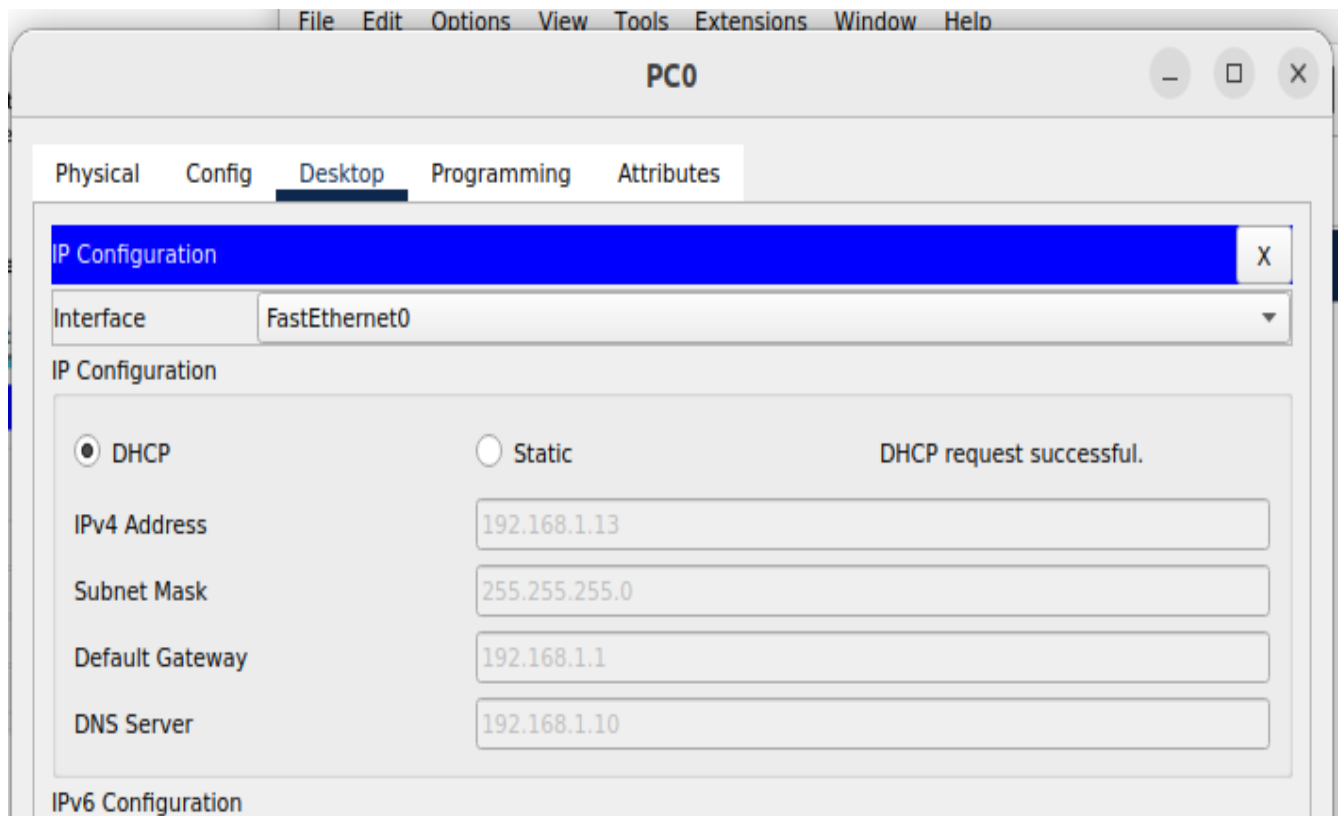
Copy Paste

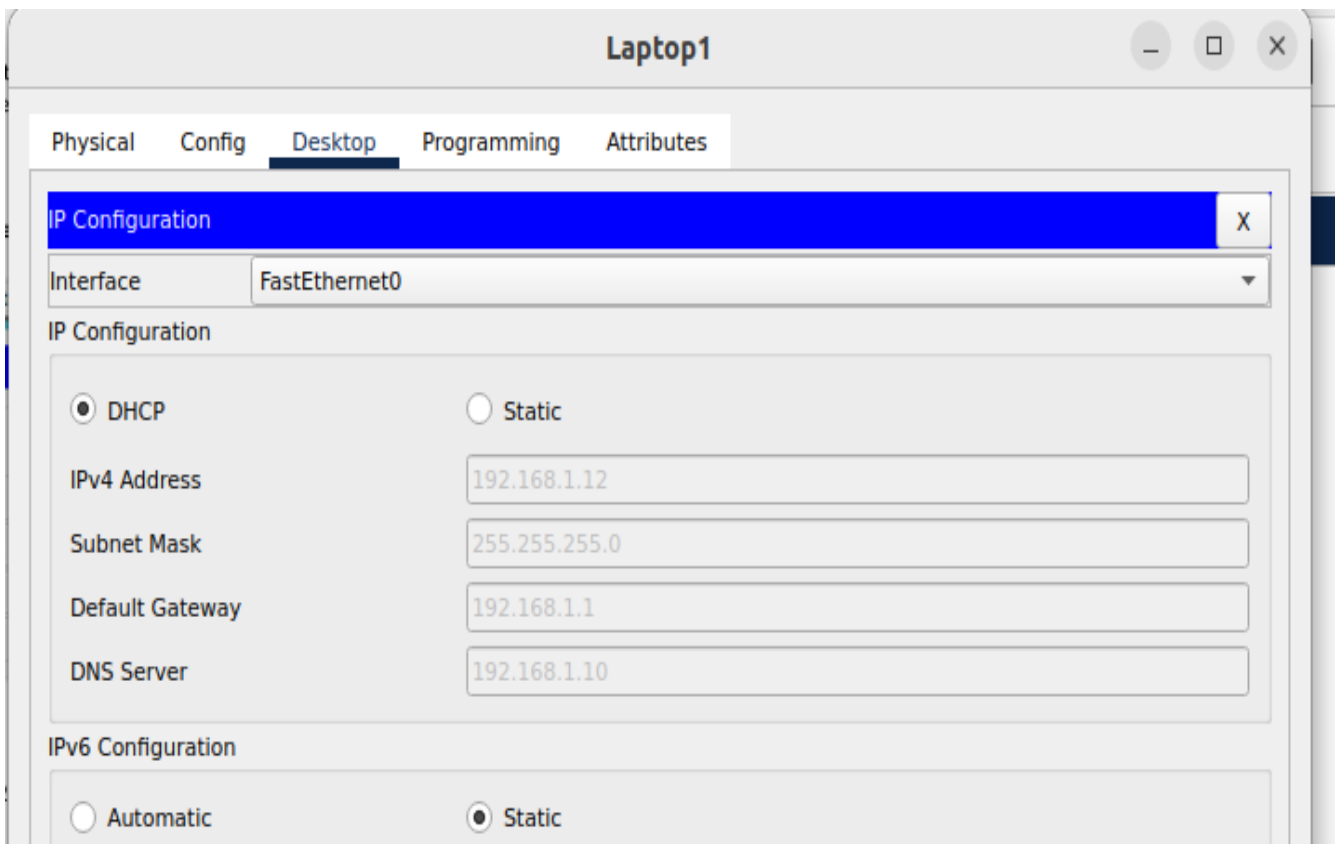
```
Router#  
Router#  
Router#enable  
Router#configure terminal  
Enter configuration commands, one per line. End with CNTL/Z.  
Router(config)#interface FastEthernet0/0  
Router(config-if)#ip address 192.168.1.1 255.255.255.0  
Router(config-if)#no shutdown  
Router(config-if)#  
Router(config-if)#  
Router(config-if)#  
Router(config-if)#  
Router(config-if)#ex  
Router(config)#ip dhcp pool P1  
Router(dhcp-config)#network 192.168.1.1 255.255.255.0  
Router(dhcp-config)#%DHCPD-4-PING_CONFLICT: DHCP address conflict: server pinged 192.168.1.1.  
default-router 192.168.1.1  
Router(dhcp-config)#default-router 192.168.1.1  
Router(dhcp-config)#network 192.168.1.1 255.255.255.0  
Router(dhcp-config)#default-router 192.168.1.1  
Router(dhcp-config)#dns-server 192.168.1.10  
Router(dhcp-config)#ex  
Router(config)#ip dhcp excluded-address 192.168.1.1 192.168.1.10  
Router(config)#
```

Ctrl+F6 to exit CLI focus

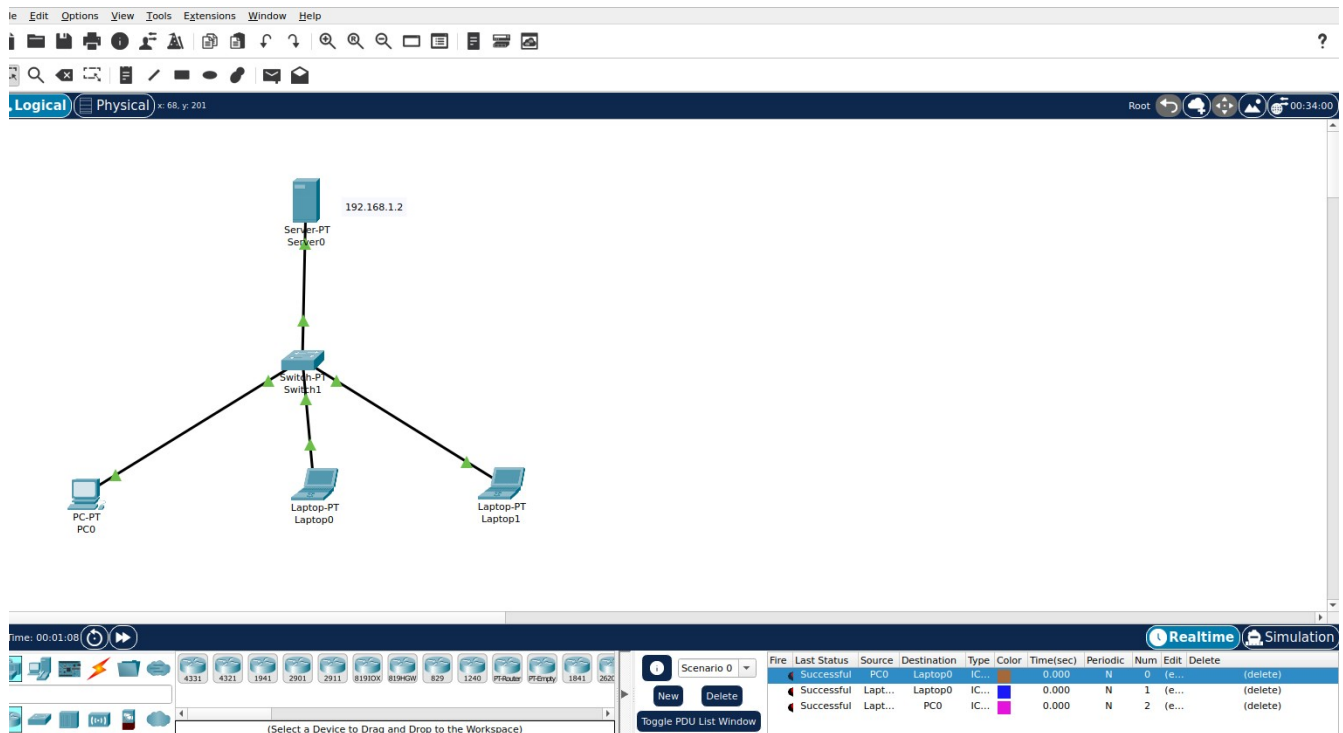
Copy

Paste





TASK # 03:



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_LAN

Default Gateway

192.168.1.1

DNS Server

192.168.1.2

Start IP Address :

169

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
serverPool	0.0.0.0	0.0.0.0	169.25...	255.25...	255	0.0.0.0	0.0.0.0

Server0

Physical

Config

Services

Desktop

Programming

Attributes

IP Configuration

X

IP Configuration

☐ DHCP

☒ Static

IPv4 Address

192.168.1.2

Subnet Mask

255.255.255.0

Default Gateway

192.168.1.1

DNS Server

192.168.1.2

IPv6 Configuration

☐ Automatic

☒ Static

IPv6 Address

/

Link Local Address

FE80::260:70FF:FE17:8527

Default Gateway

DNS Server

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_POOL

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
serverPool	0.0.0.0	0.0.0.0	192.16...	255.25...	255	0.0.0.0	0.0.0.0

Server0

Physical Config Services **Desktop** Programming Attributes

IP Configuration X

IP Configuration

☐ DHCP ☒ Static

IPv4 Address: 192.168.1.2

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.1.1

DNS Server: 192.168.1.2

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address: /

Link Local Address: FE80::260:70FF:FE17:8527

Default Gateway:

Server0

Physical Config Services **Desktop** Programming Attributes

IP Configuration

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 192.168.1.2

Subnet Mask 255.255.255.0

Default Gateway 192.168.1.1

DNS Server 192.168.1.2

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::260:70FF:FE17:8527

Default Gateway

PC0

Physical Config **Desktop** Programming Attributes

IP Configuration

Interface FastEthernet0

IP Configuration

☒ DHCP ☐ Static

IPv4 Address 192.168.1.11

Subnet Mask 255.255.255.0

Default Gateway 192.168.1.1

DNS Server 192.168.1.10

IPv6 Configuration

☒ Automatic ☐ Static

IPv6 Address /

Link Local Address FE80::201:42FF:FE1B:A148

Default Gateway

Laptop0

Physical

Config

Desktop

Programming

Attributes

IP Configuration

X

InterfaceFastEthernet0

IP Configuration

☒ DHCP

☐ Static

IPv4 Address192.168.1.12

Subnet Mask255.255.255.0

Default Gateway192.168.1.1

DNS Server192.168.1.10

IPv6 Configuration

☐ Automatic

☒ Static

IPv6 Address

Link Local AddressFE80::200:CFF:FE14:233E

Default Gateway

DNS Server

802.1X

Laptop1

Physical

Config

Desktop

Programming

Attributes

IP Configuration

X

InterfaceFastEthernet0

IP Configuration

☒ DHCP

☐ Static

IPv4 Address192.168.1.13

Subnet Mask255.255.255.0

Default Gateway192.168.1.1

DNS Server192.168.1.10

IPv6 Configuration

☐ Automatic

☒ Static

IPv6 Address

Link Local AddressFE80::2E0:8FFF:FEE7:4A60

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

TASK # 04:

```
Router(config-if)#ip address 192.168.2.2 255.255.255.0
Router(config-if)#
Router(config-if)#ip dhcp pool P1
Router(dhcp-config)#
Router(dhcp-config)#network 192.168.1.0 255.255.255.0
Router(dhcp-config)#default-router 192.168.1.2
Router(dhcp-config)#ip dhcp pool P2
Router(dhcp-config)#network 192.168.2.0 255.255.255.0
Router(dhcp-config)#default-router 192.168.2.2
Router(dhcp-config)#
Router(dhcp-config)#
Router(dhcp-config)#
Router(dhcp-config)#
Router(dhcp-config)#
```

Ctrl+F6 to exit CLI focus

☐ Top

DHCP

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

P2

Default Gateway

192.168.2.2

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
P2	192.16...	192.16...	192.16...	255.25...	256	0.0.0.0	0.0.0.0
serverPool	0.0.0.0	0.0.0.0	192.16...	255.25...	255	0.0.0.0	0.0.0.0

PhysicalConfigServicesDesktopProgrammingAttributes

IP Configuration

IP Configuration

☐ DHCP

☒ Static

IPv4 Address

192.168.1.4

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::20A:F3FF:FE5D:5B93

Default Gateway

DNS Server

802.1X

PhysicalConfigServicesDesktopProgrammingAttributes

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.dhcp.com	A Record	192.168.1.4

DNS

PhysicalConfigServicesDesktopProgrammingAttributes

IP ConfigurationX

IP Configuration

☐ DHCP

☒ Static

IPv4 Address

192.168.1.9

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:C9FF:FEE4:7AEB

Default Gateway

DNS Server

DNS

PhysicalConfigServicesDesktopProgrammingAttributes

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.dhco.com	A Record	192.168.1.4

Web Server

PhysicalConfigServicesDesktopProgrammingAttributes

IP Configuration

IP Configuration

☐ DHCP

☒ Static

IPv4 Address

192.168.1.7

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::206:2AFF:FE09:2D75

Default Gateway

DNS Server

Web Server

PhysicalConfigServicesDesktopProgrammingAttributes

SERVICES

HTTP

DHCP

DHCPv6

TFTP

DNS

SYSLOG

AAA

NTP

EMAIL

FTP

IoT

VM Management

Radius EAP

HTTP

☒ On

☐ Off

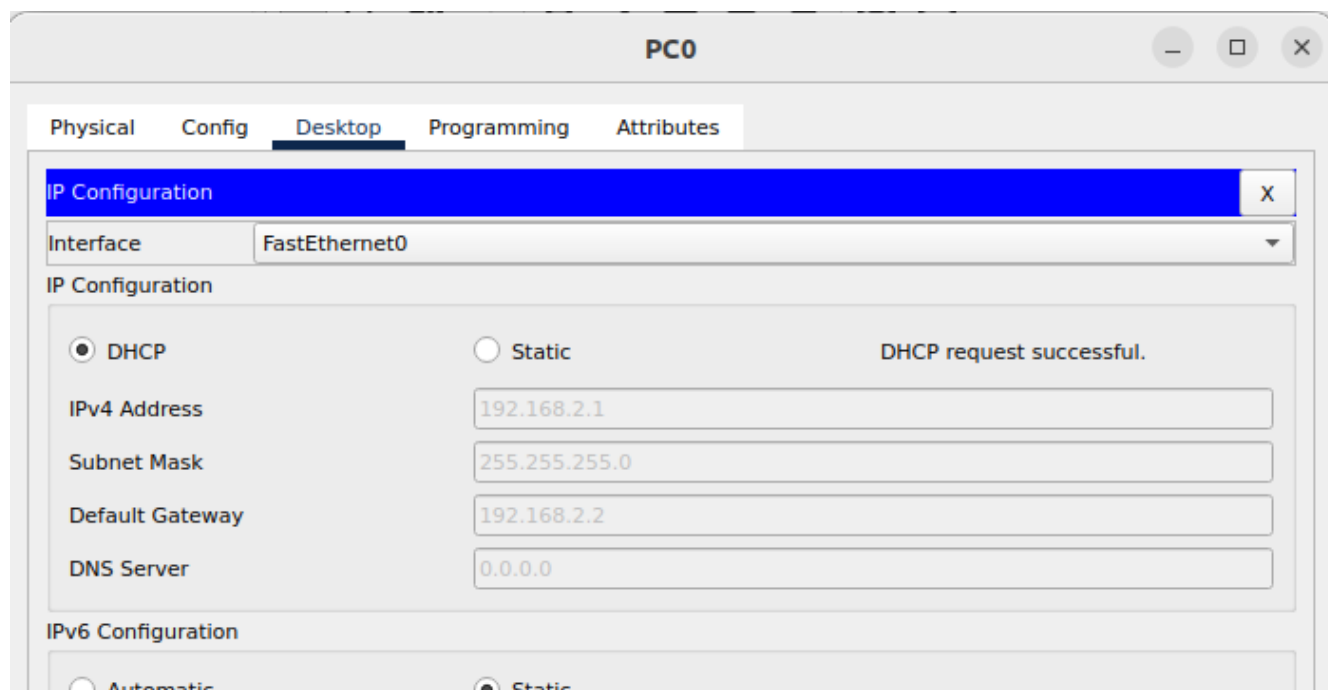
HTTPS

☒ 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)



PC2

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::2E0:8FFF:FE52:6C8

Default Gateway

DNS Server

PC1

Physical

Config

Desktop

Programming

Attributes

IP Configuration

X

Interface

FastEthernet0

IP Configuration

☒ DHCP

☐ Static

DHCP request successful.

IPv4 Address

192.168.1.1

Subnet Mask

255.255.255.0

Default Gateway

0.0.0.0

DNS Server

192.168.1.9

IPv6 Configuration

☐ Automatic

☒ Static

IPv6 Address

/

Link Local Address

FE80::206:2AFF:FE23:797

Default Gateway

DNS Server

```

Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface FastEthernet0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet0/1
Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet0/1
Router(config-if)#
Router(config-if)#
Router(config-if)#ip dhcp pool P1
Router(dhcp-config)#network 192.168.1.0 255.255.255.0
Router(dhcp-config)#default-router 192.168.1.2
Router(dhcp-config)#ip dhcp pool P2
Router(dhcp-config)#network 192.168.2.0 255.255.255.0
Router(dhcp-config)#default-router 192.168.2.2
Router(dhcp-config)#

```

Ctrl+F6 to exit CLI focus

Copy

Paste

Top

DHCP

Physical Config Services **Desktop** Programming Attributes

IP Configuration

X

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 192.168.1.4

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::20A:F3FF:FE5D:5B93

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

DNS

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

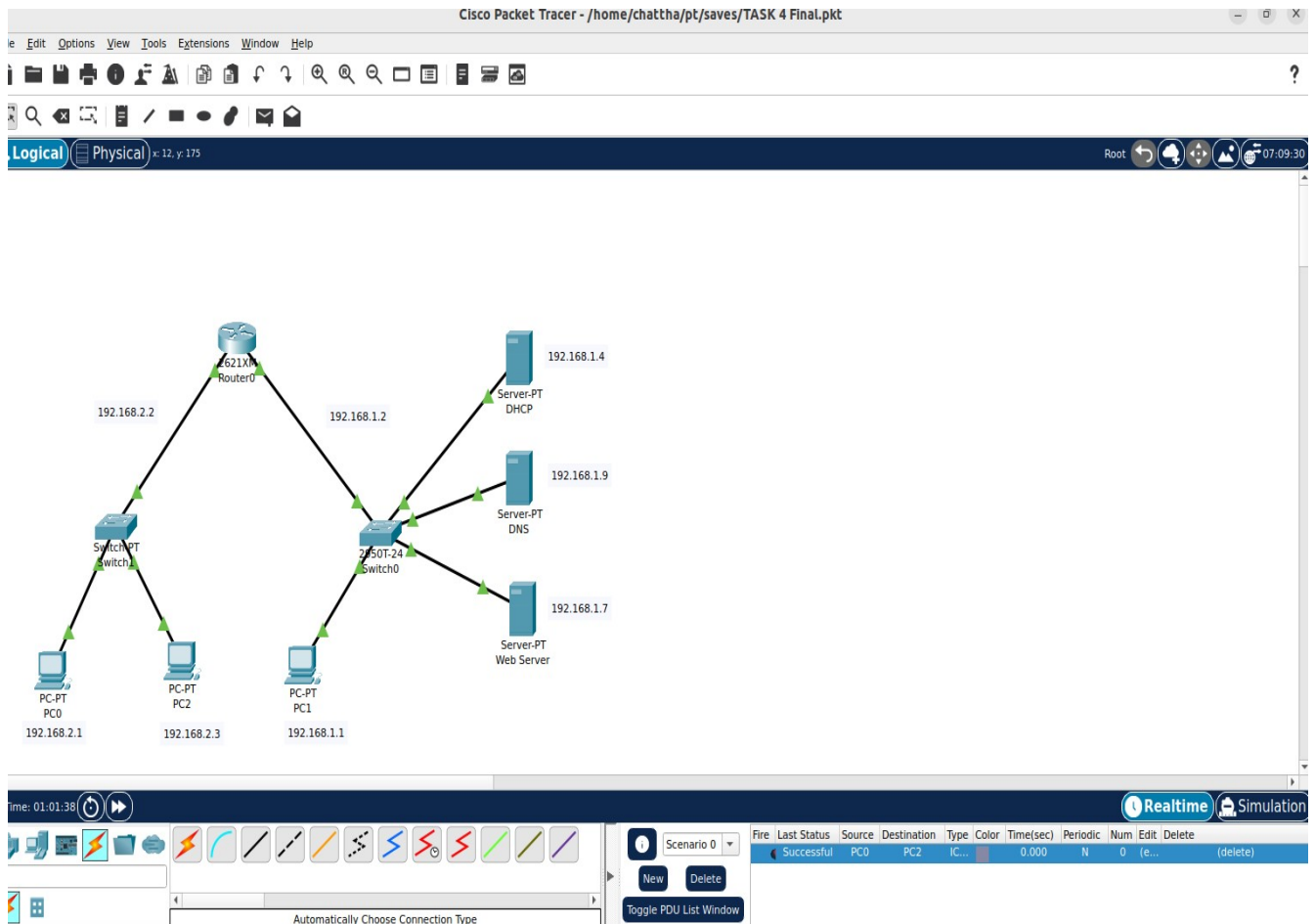
Address

Add

Save

Remove

No.	Name	Type	Detail
0	www.dhco.com	A Record	192.168.1.4
1	www.webserver.com	A Record	192.168.1.7



```
C:\>ping PC1
Ping request could not find host PC1. Please check the name and try again.
C:\>ping pc1
Ping request could not find host pc1. Please check the name and try again.
C:\>ping 192.168.2.3

Pinging 192.168.2.3 with 32 bytes of data:

Reply from 192.168.2.3: bytes=32 time<1ms TTL=128
Reply from 192.168.2.3: bytes=32 time<1ms TTL=128
Reply from 192.168.2.3: bytes=32 time<1ms TTL=128
Reply from 192.168.2.3: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.2.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>|
```