



Submitted by,

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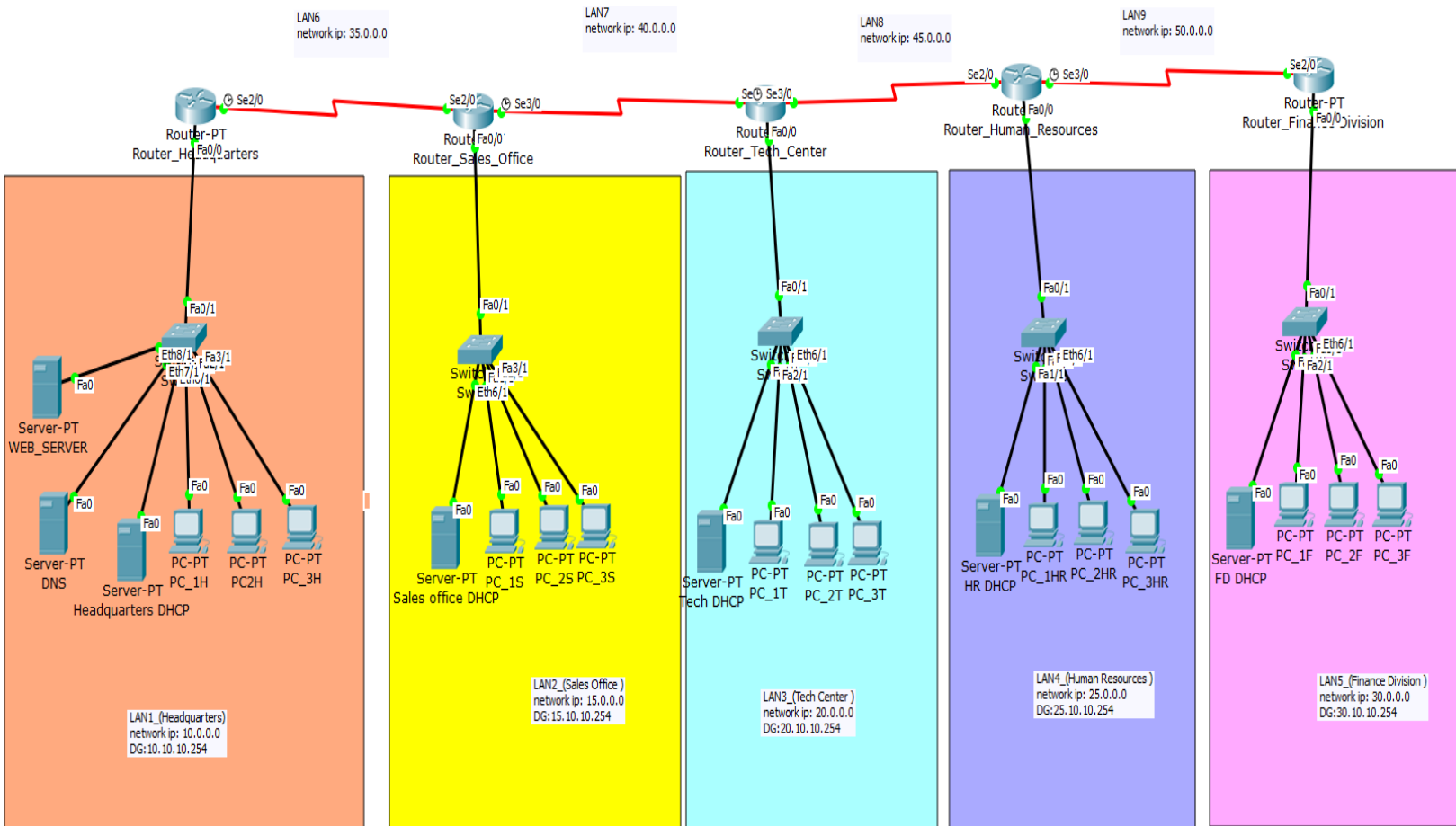
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Problem Statement

A corporate campus is expanding its network to connect five buildings: Headquarters, Sales Office, Tech Center, Human Resources, and Finance Division. Each building needs a dedicated router, a subnet with DHCP, and three client PCs. Routers must communicate via OSPF for efficient routing. The Headquarters will host a DNS and Web Server accessible from all buildings. The network must also support browser-based simulations of key business processes like employee onboarding and asset management.

LAN	Network IP (with Default Gateway)
LAN1 - Headquarters	10.0.0.0 (DG: 10.10.10.254)
LAN2 - Sales Office	15.0.0.0 (DG: 15.10.10.254)
LAN3 - Tech Center	20.0.0.0 (DG: 20.10.10.254)
LAN4 - Human Resources	25.0.0.0 (DG: 25.10.10.254)
LAN5 - Finance Division	30.0.0.0 (DG: 30.10.10.254)
LAN6	35.0.0.0
LAN7	40.0.0.0
LAN8	45.0.0.0
LAN9	50.0.0.0

Network Design



DHCP Configuration

Headquarters DHCP Configuration

IP Configuration X

Interface **FastEthernet0**

IP Configuration

☐ DHCP ☒ Static

IP Address

Subnet Mask

Default Gateway

DNS Server

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address

Link Local Address

IPv6 Gateway

IPv6 DNS Server

Headquarters DHCP

Physical Config Services Desktop Custom Interface

SERVICES

HTTP

DHCP

DHCPv6

TFTP

DNS

SYSLOG

AAA

NTP

EMAIL

FTP

DHCP

Interface **FastEthernet0** Service ☒ On ☐ Off

Pool Name

Default Gateway

DNS Server

Start IP Address :

Subnet Mask:

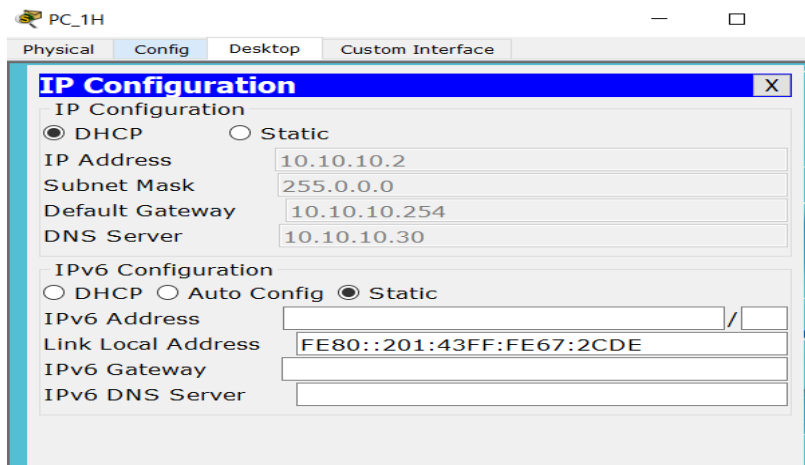
Maximum number of Users :

TFTP Server:

Add Save Remove

Pool Name	Default Gateway	DNS Server	Start IP Address	Subnet Mask	Max Users	TFTP Server
server...	10.10.10....	10.10....	10.10.10.2	255.0....	512	0.0.0.0

PC_1H Configuration (Headquarters PC1)



PC_1H

Physical Config Desktop Custom Interface

IP Configuration

IP Configuration

☒ DHCP ☐ Static

IP Address: 10.10.10.2

Subnet Mask: 255.0.0.0

Default Gateway: 10.10.10.254

DNS Server: 10.10.10.30

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

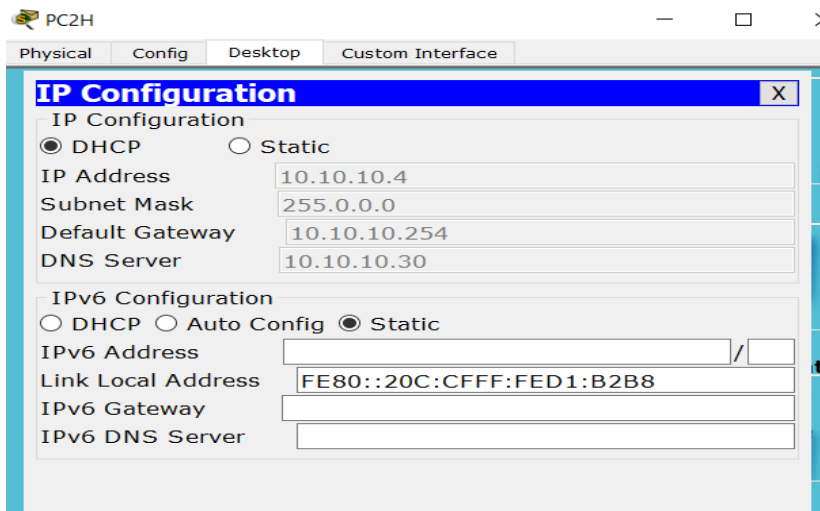
IPv6 Address: /

Link Local Address: FE80::201:43FF:FE67:2CDE

IPv6 Gateway:

IPv6 DNS Server:

PC_2H Configuration (Headquarters PC2)



PC2H

Physical Config Desktop Custom Interface

IP Configuration

IP Configuration

☒ DHCP ☐ Static

IP Address: 10.10.10.4

Subnet Mask: 255.0.0.0

Default Gateway: 10.10.10.254

DNS Server: 10.10.10.30

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

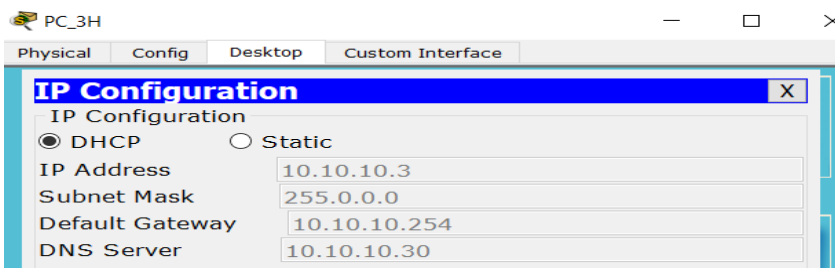
IPv6 Address: /

Link Local Address: FE80::20C:CFFF:FED1:B2B8

IPv6 Gateway:

IPv6 DNS Server:

PC_3H Configuration (Headquarters PC3)



PC_3H

Physical Config Desktop Custom Interface

IP Configuration

IP Configuration

☒ DHCP ☐ Static

IP Address: 10.10.10.3

Subnet Mask: 255.0.0.0

Default Gateway: 10.10.10.254

DNS Server: 10.10.10.30

Sales Office DHCP Configurations:

Sales office DHCP

Physical Config Services Desktop Custom Interface

IP Configuration

Interface: FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IP Address: 15.10.10.1

Subnet Mask: 255.0.0.0

Default Gateway: 15.10.10.254

DNS Server: 10.10.10.30

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address: /

Link Local Address: FE80::260:70FF:FE15:2B5D

IPv6 Gateway:

IPv6 DNS Server:

Sales office DHCP

Physical Config Services Desktop Custom Interface

SERVICES

- HTTP
- DHCP
- DHCPv6
- TFTP
- DNS
- SYSLOG
- AAA
- NTP
- EMAIL
- FTP

DHCP

Interface: FastEthernet0 Service: ☒ On ☐ Off

Pool Name: serverPool

Default Gateway: 15.10.10.254

DNS Server: 10.10.10.30

Start IP Address : 15 10 10 2

Subnet Mask: 255 0 0 0

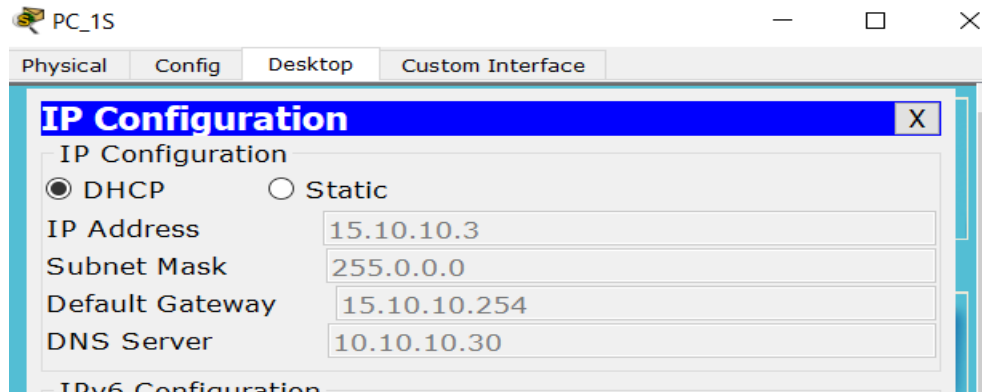
Maximum number of Users : 512

TFTP Server: 0.0.0.0

Add Save Remove

Pool Name	Default Gateway	DNS Server	Start IP Address	Subnet Mask	Max Users	TFTP Server
server...	15.10.10....	10.10....	15.10.10.2	255.0....	512	0.0.0.0

PC_1S Configuration (Sales Office PC1)



PC_1S

Physical Config Desktop Custom Interface

IP Configuration X

IP Configuration

☒ DHCP ☐ Static

IP Address 15.10.10.3

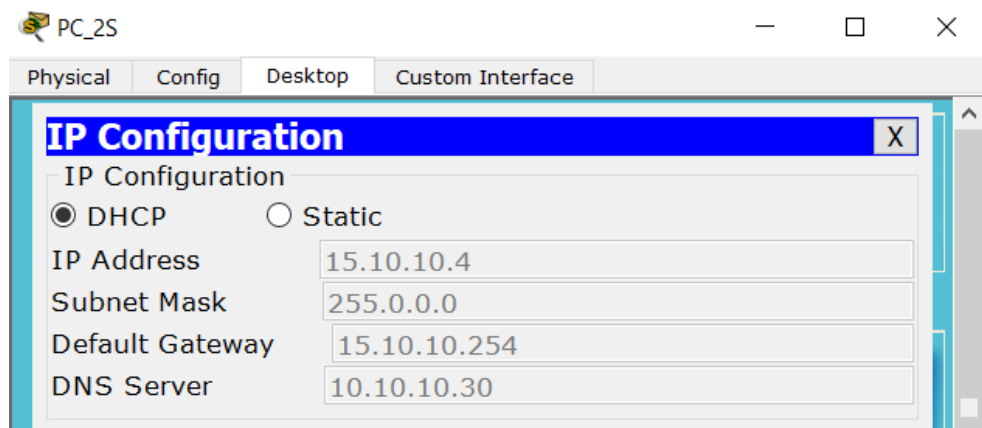
Subnet Mask 255.0.0.0

Default Gateway 15.10.10.254

DNS Server 10.10.10.30

IPv6 Configuration

PC_2S Configuration (Sales Office PC2)



PC_2S

Physical Config Desktop Custom Interface

IP Configuration X

IP Configuration

☒ DHCP ☐ Static

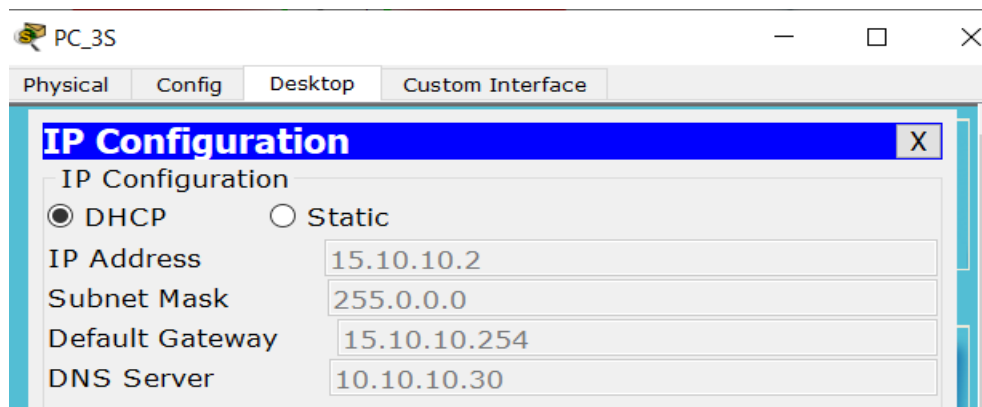
IP Address 15.10.10.4

Subnet Mask 255.0.0.0

Default Gateway 15.10.10.254

DNS Server 10.10.10.30

PC_3S Configuration (Sales Office PC3)



PC_3S

Physical Config Desktop Custom Interface

IP Configuration X

IP Configuration

☒ DHCP ☐ Static

IP Address 15.10.10.2

Subnet Mask 255.0.0.0

Default Gateway 15.10.10.254

DNS Server 10.10.10.30

Tech Center DHCP Configuration:

Tech DHCP

Physical Config Services Desktop Custom Interface

IP Configuration

Interface: FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IP Address: 20.10.10.1

Subnet Mask: 255.0.0.0

Default Gateway: 20.10.10.254

DNS Server: 10.10.10.30

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address: /

Link Local Address: FE80::290:21FF:FE9D:2D74

IPv6 Gateway:

IPv6 DNS Server:

Tech DHCP

Physical Config Services Desktop Custom Interface

SERVICES

- HTTP
- DHCP
- DHCPv6
- TFTP
- DNS
- SYSLOG
- AAA
- NTP
- EMAIL
- FTP

DHCP

Interface: FastEthernet0 Service: ☒ On ☐ Off

Pool Name: serverPool

Default Gateway: 20.10.10.254

DNS Server: 10.10.10.30

Start IP Address : 20 10 10 2

Subnet Mask: 255 0 0 0

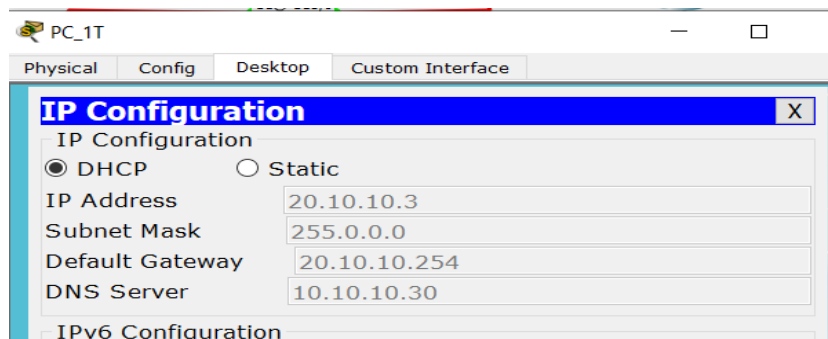
Maximum number of Users : 512

TFTP Server: 0.0.0.0

Add Save Remove

Pool Name	Default Gateway	DNS Server	Start IP Address	Subnet Mask	Max Users	TFTP Server
server...	20.10.10.254	10.10.10.30	20.10.10.2	255.0.0.0	512	0.0.0.0

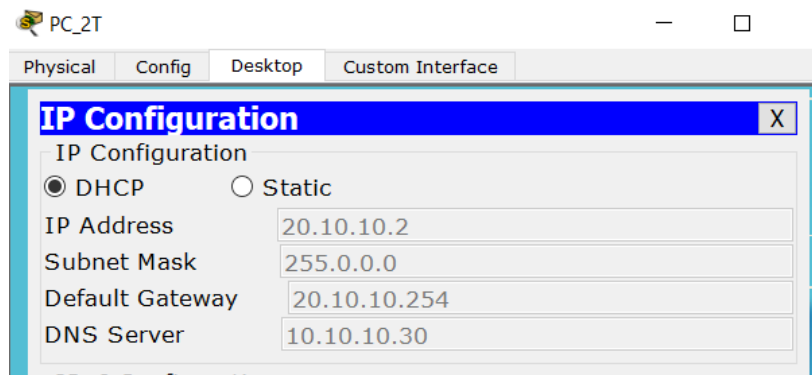
PC_1T Configuration (Tech Center PC1)



The screenshot shows a configuration window for PC_1T. The window has a title bar with a PC icon and the text "PC_1T". Below the title bar are four tabs: "Physical", "Config", "Desktop", and "Custom Interface". The "Config" tab is selected. Inside the "Config" tab, there is a sub-tab titled "IP Configuration" with a close button "X". The "IP Configuration" sub-tab contains a section titled "IP Configuration" with two radio buttons: "DHCP" (selected) and "Static". Below the radio buttons are four text input fields: "IP Address" with the value "20.10.10.3", "Subnet Mask" with the value "255.0.0.0", "Default Gateway" with the value "20.10.10.254", and "DNS Server" with the value "10.10.10.30". Below these fields is a section titled "IPv6 Configuration" which is currently collapsed.

Field	Value
IP Address	20.10.10.3
Subnet Mask	255.0.0.0
Default Gateway	20.10.10.254
DNS Server	10.10.10.30

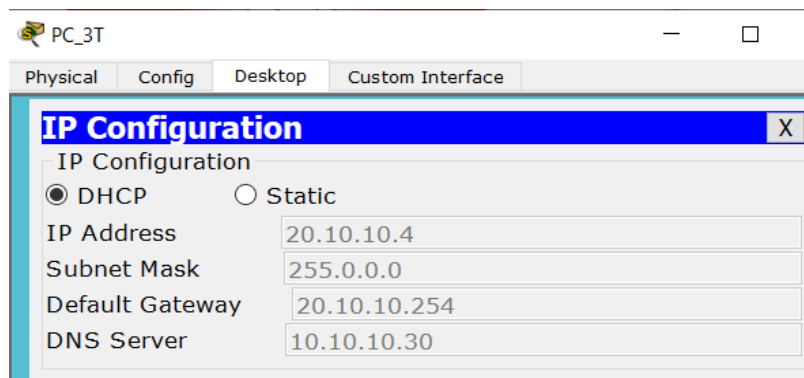
PC_2T Configuration (Tech Center PC2)



The screenshot shows a configuration window for PC_2T. The window has a title bar with a PC icon and the text "PC_2T". Below the title bar are four tabs: "Physical", "Config", "Desktop", and "Custom Interface". The "Config" tab is selected. Inside the "Config" tab, there is a sub-tab titled "IP Configuration" with a close button "X". The "IP Configuration" sub-tab contains a section titled "IP Configuration" with two radio buttons: "DHCP" (selected) and "Static". Below the radio buttons are four text input fields: "IP Address" with the value "20.10.10.2", "Subnet Mask" with the value "255.0.0.0", "Default Gateway" with the value "20.10.10.254", and "DNS Server" with the value "10.10.10.30". Below these fields is a section titled "IPv6 Configuration" which is currently collapsed.

Field	Value
IP Address	20.10.10.2
Subnet Mask	255.0.0.0
Default Gateway	20.10.10.254
DNS Server	10.10.10.30

PC_3T Configuration (Tech Center PC3)



The screenshot shows a configuration window for PC_3T. The window has a title bar with a PC icon and the text "PC_3T". Below the title bar are four tabs: "Physical", "Config", "Desktop", and "Custom Interface". The "Config" tab is selected. Inside the "Config" tab, there is a sub-tab titled "IP Configuration" with a close button "X". The "IP Configuration" sub-tab contains a section titled "IP Configuration" with two radio buttons: "DHCP" (selected) and "Static". Below the radio buttons are four text input fields: "IP Address" with the value "20.10.10.4", "Subnet Mask" with the value "255.0.0.0", "Default Gateway" with the value "20.10.10.254", and "DNS Server" with the value "10.10.10.30". Below these fields is a section titled "IPv6 Configuration" which is currently collapsed.

Field	Value
IP Address	20.10.10.4
Subnet Mask	255.0.0.0
Default Gateway	20.10.10.254
DNS Server	10.10.10.30

Human Resources DHCP Configuration:

HR DHCP

Physical Config Services Desktop Custom Interface

IP Configuration X

Interface: FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IP Address: 25.10.10.1

Subnet Mask: 255.0.0.0

Default Gateway: 25.10.10.254

DNS Server: 10.10.10.30

IPv6 Configuration

HR DHCP

Physical Config Services Desktop Custom Interface

SERVICES

- HTTP
- DHCP
- DHCPv6
- TFTP
- DNS
- SYSLOG
- AAA
- NTP
- EMAIL
- FTP

DHCP

Interface: FastEthernet0 Service: ☒ On ☐ Off

Pool Name: serverPool

Default Gateway: 25.10.10.254

DNS Server: 10.10.10.30

Start IP Address : 25 10 10 2

Subnet Mask: 255 0 0 0

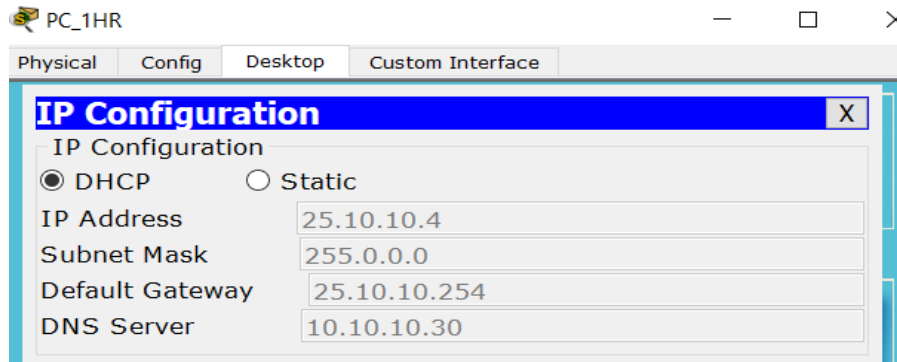
Maximum number of Users : 512

TFTP Server: 0.0.0.0

Add Save Remove

Pool Name	Default Gateway	DNS Server	Start IP Address	Subnet Mask	Maximum number of Users	TFTP Server
serverPool	25.10.10.254	10.10.10.30	25.10.10.2	255.0.0.0	512	0.0.0.0

PC_1HR Configuration (Human Resources PC1)



PC_1HR

Physical Config Desktop Custom Interface

IP Configuration X

IP Configuration

☒ DHCP ☐ Static

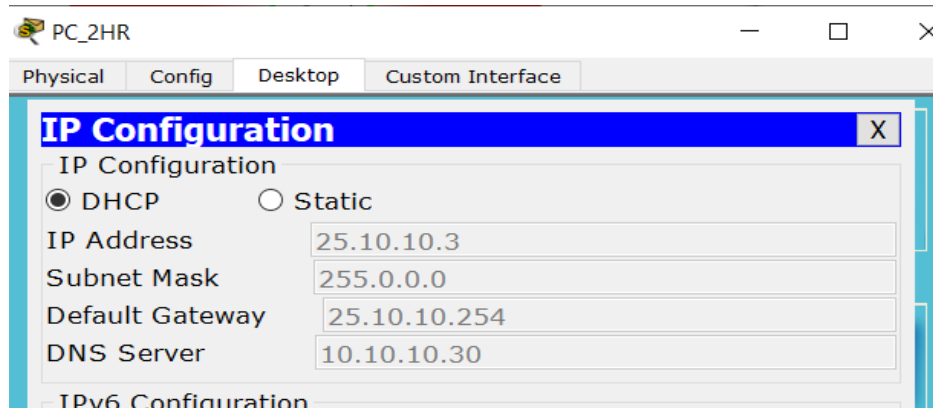
IP Address 25.10.10.4

Subnet Mask 255.0.0.0

Default Gateway 25.10.10.254

DNS Server 10.10.10.30

PC_2HR Configuration (Human Resources PC2)



PC_2HR

Physical Config Desktop Custom Interface

IP Configuration X

IP Configuration

☒ DHCP ☐ Static

IP Address 25.10.10.3

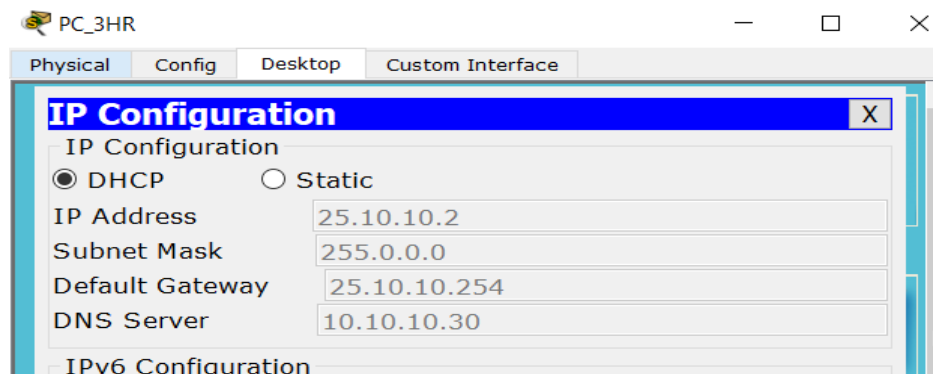
Subnet Mask 255.0.0.0

Default Gateway 25.10.10.254

DNS Server 10.10.10.30

IPv6 Configuration

PC_3HR Configuration (Human Resources PC3)



PC_3HR

Physical Config Desktop Custom Interface

IP Configuration X

IP Configuration

☒ DHCP ☐ Static

IP Address 25.10.10.2

Subnet Mask 255.0.0.0

Default Gateway 25.10.10.254

DNS Server 10.10.10.30

IPv6 Configuration

Finance Division DHCP Configuration:

FD DHCP

Physical Config Services Desktop Custom Interface

IP Configuration

Interface: FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IP Address: 30.10.10.1

Subnet Mask: 255.0.0.0

Default Gateway: 30.10.10.254

DNS Server: 10.10.10.30

IPv6 Configuration

FD DHCP

Physical Config Services Desktop Custom Interface

SERVICES

- HTTP
- DHCP
- DHCPv6
- TFTP
- DNS
- SYSLOG
- AAA
- NTP
- EMAIL
- FTP

DHCP

Interface: FastEthernet0 Service: ☒ On ☐ Off

Pool Name: serverPool

Default Gateway: 30.10.10.254

DNS Server: 10.10.10.30

Start IP Address : 30 10 10 2

Subnet Mask: 255 0 0 0

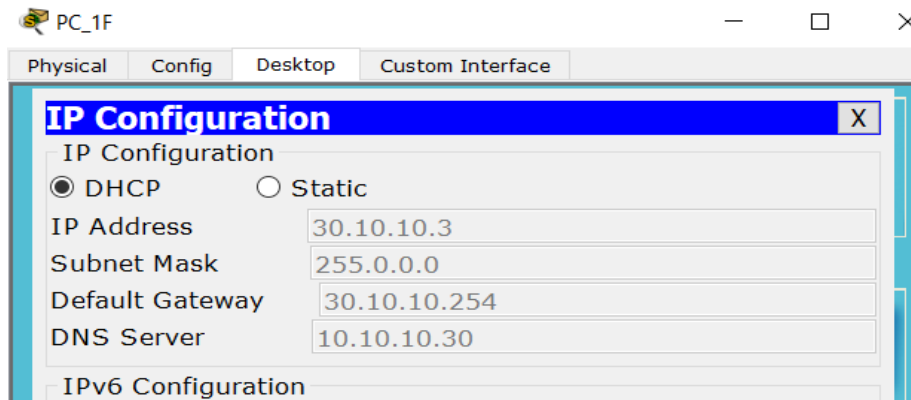
Maximum number of Users : 512

TFTP Server: 0.0.0.0

Add Save Remove

Pool Name	Default Gateway	DNS Server	Start IP Address	Subnet Mask	Max Users	TFTP Server
server...	30.10.10....	10.10....	30.10.10.2	255.0....	512	0.0.0.0

PC_1F Configuration (Finance Division PC1)



PC_1F

Physical Config Desktop Custom Interface

IP Configuration X

IP Configuration

☒ DHCP ☐ Static

IP Address 30.10.10.3

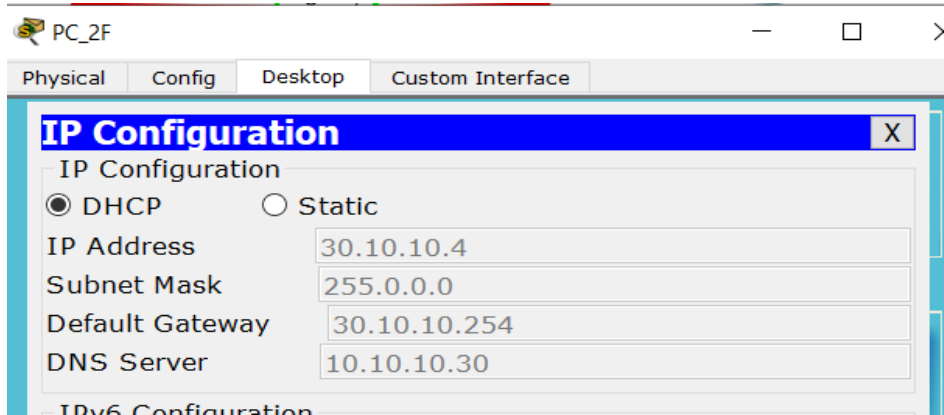
Subnet Mask 255.0.0.0

Default Gateway 30.10.10.254

DNS Server 10.10.10.30

IPv6 Configuration

PC_2F Configuration (Finance Division PC2)



PC_2F

Physical Config Desktop Custom Interface

IP Configuration X

IP Configuration

☒ DHCP ☐ Static

IP Address 30.10.10.4

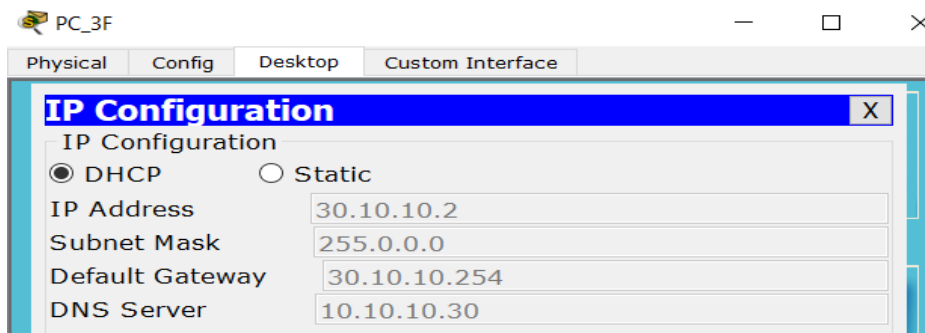
Subnet Mask 255.0.0.0

Default Gateway 30.10.10.254

DNS Server 10.10.10.30

IPv6 Configuration

PC_3F Configuration (Finance Division PC3)



PC_3F

Physical Config Desktop Custom Interface

IP Configuration X

IP Configuration

☒ DHCP ☐ Static

IP Address 30.10.10.2

Subnet Mask 255.0.0.0

Default Gateway 30.10.10.254

DNS Server 10.10.10.30

IPv6 Configuration

Router Configuration

Router Headquarters configuration:

```
Router>en
Router#config t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#int fa0/0
Router(config-if)#ip address 10.10.10.254 255.0.0.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

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

Router(config-if)#exit
Router(config)#int se2/0
Router(config-if)#ip address 35.10.10.1 255.0.0.0
Router(config-if)#no shut

%LINK-5-CHANGED: Interface Serial2/0, changed state to down
Router(config-if)#exit
Router(config)#
```

Router sales configuration:

```
Router>en
Router#config t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#int se2/0
Router(config-if)#ip address 35.10.10.2 255.0.0.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface Serial2/0, changed state to up

Router(config-if)#exit
Router(config)#int
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up

% Incomplete command.
Router(config)#int fa0/0
Router(config-if)#ip address 15.10.10.254 255.0.0.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

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

Router(config-if)#exit
Router(config)#int se3/0
Router(config-if)#ip address 40.10.10.1 255.0.0.0
Router(config-if)#no shut

%LINK-5-CHANGED: Interface Serial3/0, changed state to down
Router(config-if)#exit
Router(config)#|
```

Router Tech Center configuration:

```
Router>en
Router#config t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#int se2/0
Router(config-if)#ip address 40.10.10.2 255.0.0.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface Serial2/0, changed state to up

Router(config-if)#exit
Router(config)#int fa0/0
Router(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up

Router(config-if)#ip address 20.10.10.254 255.0.0.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
exit
Router(config)#exit

Router(config)#int se3/0
Router(config-if)#ip address 45.10.10.1 255.0.0.0
Router(config-if)#no shut

%LINK-5-CHANGED: Interface Serial3/0, changed state to down
Router(config-if)#exit
Router(config)#|
```

Router Human Resources configuration:

```
Router>en
Router#config t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#int se2/0
Router(config-if)#ip address 45.10.10.2 255.0.0.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface Serial2/0, changed state to up

Router(config-if)#exit
Router(config)#int fa0/0
Router(config-if)#2
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up

      ^
% Invalid input detected at '^' marker.

Router(config-if)#ip address 25.10.10.254 255.0.0.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

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

Router(config-if)#exit
Router(config)#int se3/0
Router(config-if)#ip address 50.10.10.1 255.0.0.0
Router(config-if)#no shut

%LINK-5-CHANGED: Interface Serial3/0, changed state to down
Router(config-if)#exit
Router(config)#|
```

Router Finance Division Configurations:

```
Router>en
Router#config t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#int se2/0
Router(config-if)#ip address 50.10.10.2 255.0.0.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface Serial2/0, changed state to up

Router(config-if)#exit
Router(config)#int fa0/0
Router(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up

Router(config-if)#ip address 30.10.10.254 255.0.0.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

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

Router(config-if)#exit
Router(config)#
```

OSPF Protocol Configuration

Router Headquarters OSPF Protocol

```
Router(config)#router ospf 1
Router(config-router)#network 10.0.0.0 0.255.255.255 area 1
Router(config-router)#network 35.0.0.0 0.255.255.255 area 1
Router(config-router)#exit
Router(config)#
```

Router sales OSPF Protocol

```
Router(config)#router ospf 1
Router(config-router)#network 35.0.0.0 0.255.255.255 area 1
Router(config-router)#network 15.0.0.0 0.255.255.255 area 1
Router(config-router)#network 40.0.0.0 0.255.255.255 area 1
Router(config-router)#exit
Router(config)#
```

Router Tech Center OSPF Protocol

```
Router(config)#router ospf 1
Router(config-router)#network 40.0.0.0 0.255.255.255 area 1
Router(config-router)#network 20.0.0.0 0.255.255.255 area 1
Router(config-router)#network 45.0.0.0 0.255.255.255 area 1
Router(config-router)#exit
Router(config)#
```

Router Human Resources OSPF Protocol

```
Router(config)#router ospf 1
Router(config-router)#network 45.0.0.0 0.255.255.255 area 1
Router(config-router)#network 50.0.0.0 0.255.255.255 area 1
Router(config-router)#network 25.0.0.0 0.255.255.255 area 1
Router(config-router)#exit
Router(config)#
```

Router Finance Division OSPF Protocol

```
Router(config)#router ospf 1
Router(config-router)#network 50.0.0.0 0.255.255.255 area 1
Router(config-router)#network 30.0.0.0 0.255.255.255 area 1
Router(config-router)#exit
Router(config)#
```

DNS Server Configuration

DNS Server Configuration of Headquarters:

DNS

Physical Config Services Desktop Custom Interface

IP Configuration X

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IP Address 10.10.10.30

Subnet Mask 255.0.0.0

Default Gateway 10.10.10.254

DNS Server 10.10.10.30

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address /

Link Local Address FE80::260:70FF:FE68:5800

IPv6 Gateway

IPv6 DNS Server

DNS

Physical Config Services Desktop Custom Interface

SERVICES

- HTTP
- DHCP
- DHCPv6
- TFTP
- DNS
- SYSLOG
- AAA
- NTP
- EMAIL
- FTP

DNS

DNS Service ☒ On ☐ Off

Resource Records

Name Type A Record

Address

Add Save Remove

No.	Name	Type	Detail
0	www.campusnet...	A Record	10.10.10.60

DNS Cache

WEB Server Configuration

Web Server Configuration of Headquarters:

IP Configuration

Interface: FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IP Address: 10.10.10.60

Subnet Mask: 255.0.0.0

Default Gateway: 10.10.10.254

DNS Server: 10.10.10.30

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address: /

Link Local Address: FE80::20A:F3FF:FEC6:CA54

IPv6 Gateway:

IPv6 DNS Server:

SERVICES

HTTP

☒ On ☐ Off

HTTPS

☒ On ☐ Off

File Manager

	File Name	Edit	Delete
1	copyrights.h...	(edit)	(delete)
2	cscoptlogo...		(delete)
3	helloworld....	(edit)	(delete)
4	image.html	(edit)	(delete)
5	index.html	(edit)	(delete)

New File Import

```
<html>
<center><font size='+2' color='blue'>Cisco
Packet Tracer</font></center>
<hr>Welcome to Cisco Packet Tracer. Opening
doors to new opportunities. Mind Wide Open.
<p>Quick Links:
<br><a href='helloworld.html'>employee
onboarding</a>
<br><a href='copyrights.html'>asset
management</a>
<br><a href='image.html'> invoice
processing</a>
</html>
```

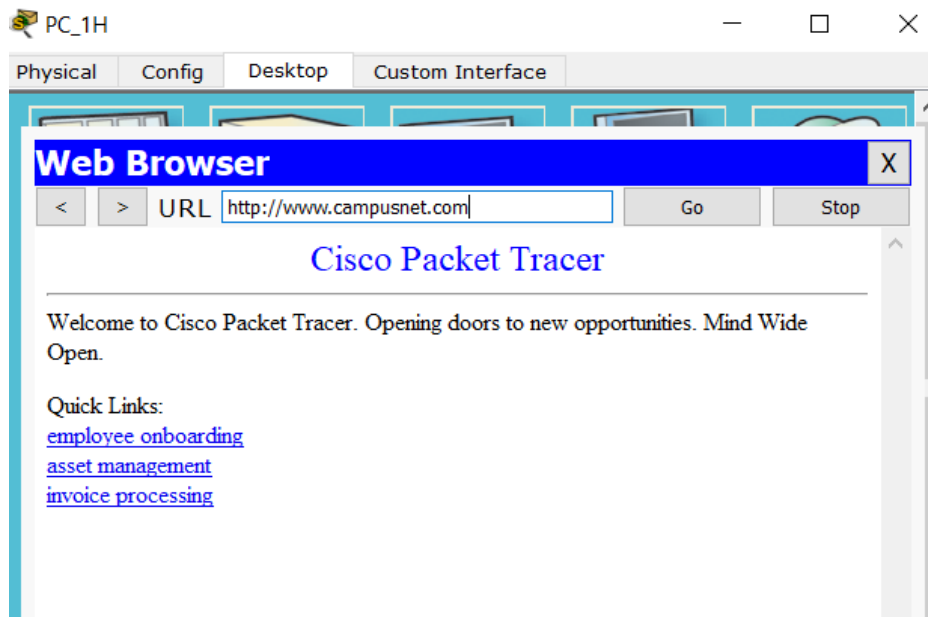
File Manager Save

Experimental Results

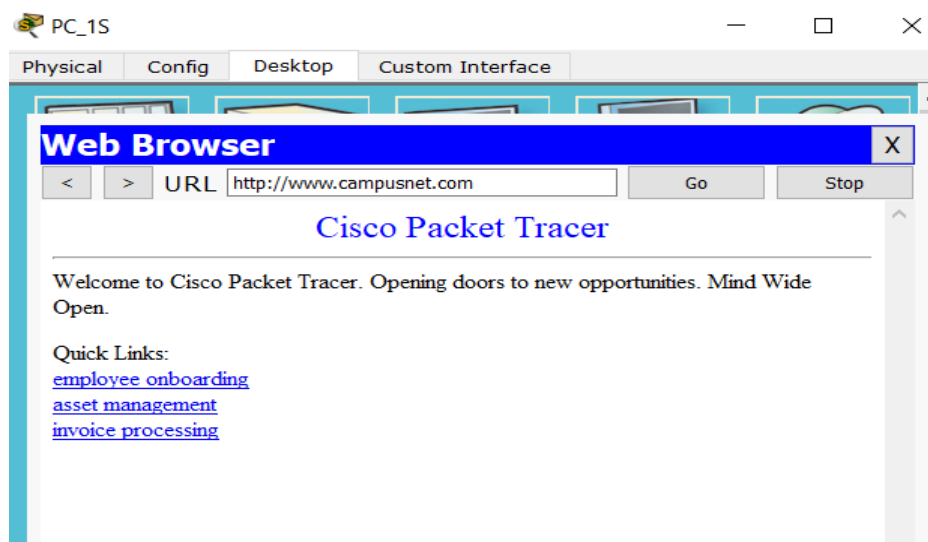
Accessing the website www.campusnet.com Across Networks

All LANs should have seamless browser access to www.campusnet.com, hosted at the Headquarters, using DNS and inter-router OSPF communication.

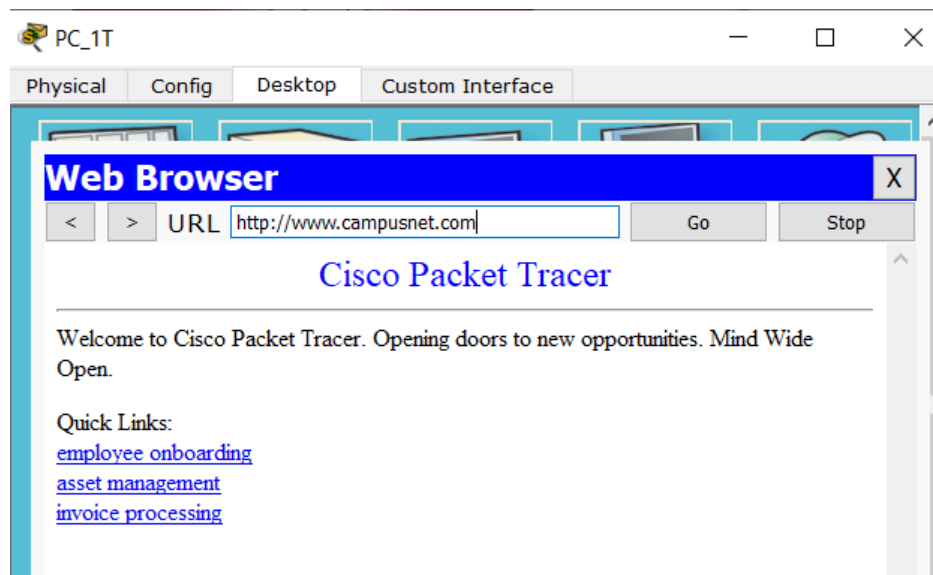
From PC_1H (LAN1: Headquarters):



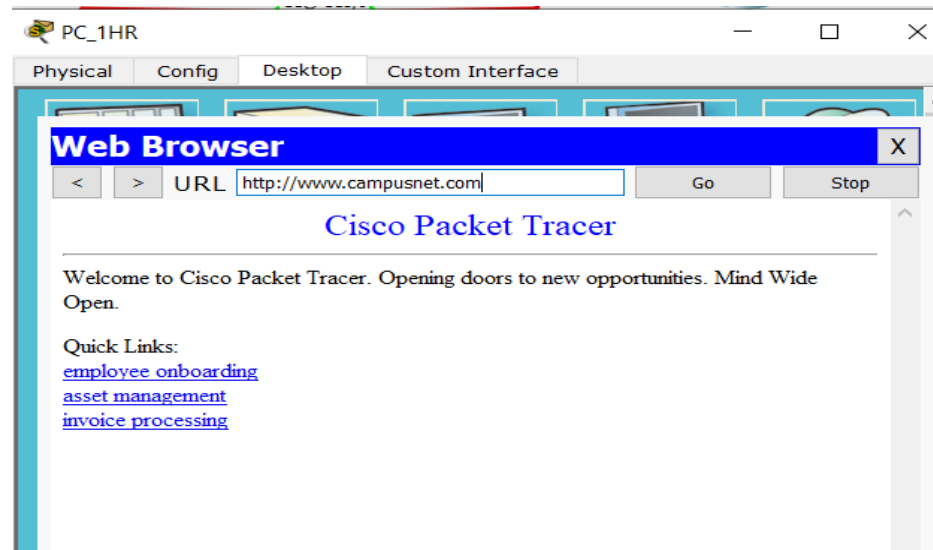
From PC_1S (LAN2- Sales Office):



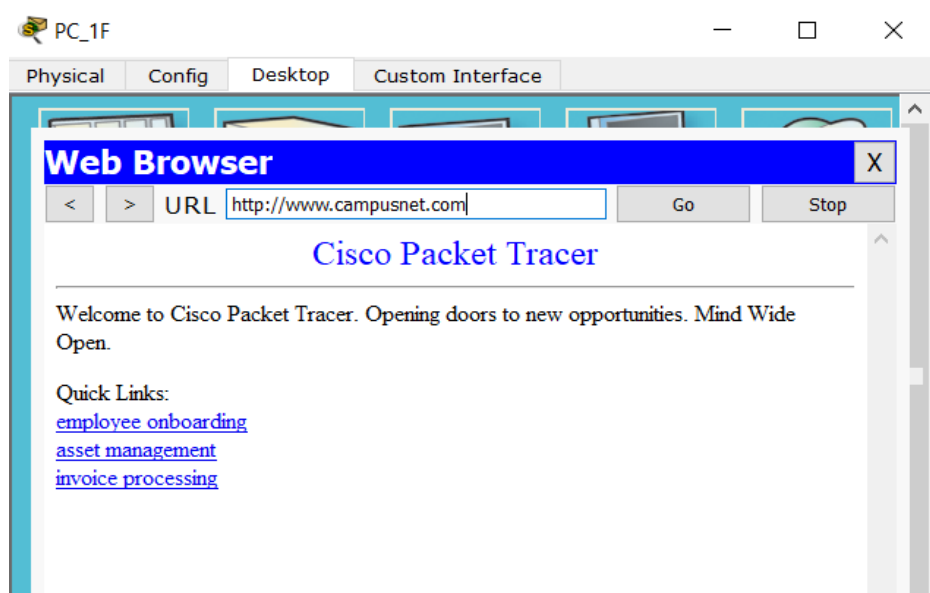
From PC_1T (LAN3- Tech Center):



From PC_1HR (LAN2- Human Resources):



From PC_F (LAN2-Finance Division):



LAN Connectivity Ping Test (PC_1H to Other LANs)



From PC_1H to PC_3S:

```
PC>ping 15.10.10.4

Pinging 15.10.10.4 with 32 bytes of data:

Reply from 15.10.10.4: bytes=32 time=5ms TTL=126
Reply from 15.10.10.4: bytes=32 time=1ms TTL=126
Reply from 15.10.10.4: bytes=32 time=1ms TTL=126
Reply from 15.10.10.4: bytes=32 time=1ms TTL=126

Ping statistics for 15.10.10.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 5ms, Average = 2ms
```

	Successful	PC_1H	PC_3S	ICMP		0.000	N	0	(edit)	(delete)
---	------------	-------	-------	------	---	-------	---	---	--------	----------



From PC_1H to PC_3T:

```
PC>ping 20.10.10.3

Pinging 20.10.10.3 with 32 bytes of data:

Reply from 20.10.10.3: bytes=32 time=14ms TTL=125
Reply from 20.10.10.3: bytes=32 time=30ms TTL=125
Reply from 20.10.10.3: bytes=32 time=2ms TTL=125
Reply from 20.10.10.3: bytes=32 time=4ms TTL=125

Ping statistics for 20.10.10.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 30ms, Average = 12ms
```

	Successful	PC_1H	PC_3T	ICMP		0.000	N	1	(edit)	(delete)
---	------------	-------	-------	------	---	-------	---	---	--------	----------



From PC_1H to PC_3HR:

```
PC>ping 25.10.10.2

Pinging 25.10.10.2 with 32 bytes of data:

Reply from 25.10.10.2: bytes=32 time=4ms TTL=124
Reply from 25.10.10.2: bytes=32 time=4ms TTL=124
Reply from 25.10.10.2: bytes=32 time=3ms TTL=124
Reply from 25.10.10.2: bytes=32 time=3ms TTL=124

Ping statistics for 25.10.10.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 3ms, Maximum = 4ms, Average = 3ms
```

	Successful	PC_1H	PC_3HR	ICMP		0.000	N	2	(edit)	(delete)
---	------------	-------	--------	------	---	-------	---	---	--------	----------



From PC_1H to PC_3F:

```
PC>ping 30.10.10.4

Pinging 30.10.10.4 with 32 bytes of data:

Reply from 30.10.10.4: bytes=32 time=21ms TTL=123
Reply from 30.10.10.4: bytes=32 time=4ms TTL=123
Reply from 30.10.10.4: bytes=32 time=5ms TTL=123
Reply from 30.10.10.4: bytes=32 time=5ms TTL=123

Ping statistics for 30.10.10.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 4ms, Maximum = 21ms, Average = 8ms
```

	Successful	PC_1H	PC_3F	ICMP		0.000	N	3	(edit)	(delete)
---	------------	-------	-------	------	---	-------	---	---	--------	----------

Here, Packets from PC_1H (Headquarters) were successfully delivered to PC_3 in Sales Office, Tech Center, Human Resources, and Finance Division with 0% packet loss. ICMP replies confirmed stable and low-latency communication

Conclusion

The network successfully connects five buildings using dedicated routers with the OSPF routing protocol. DHCP servers provide automatic IP assignment, and the DNS and Web servers at Headquarters are accessible from all locations. Ping tests confirmed stable communication with zero packet loss. The network supports both data communication and simulated business processes, meeting the project requirements effectively.