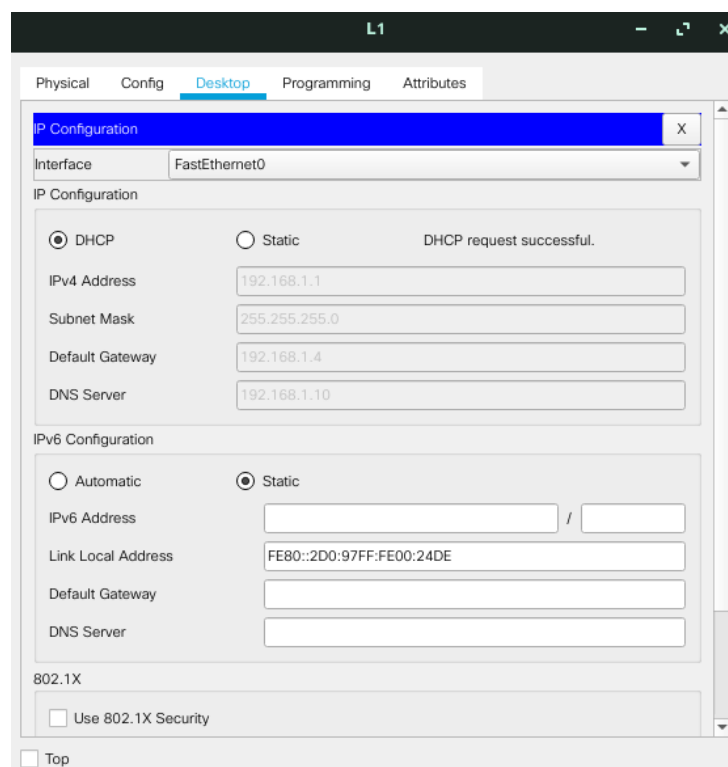
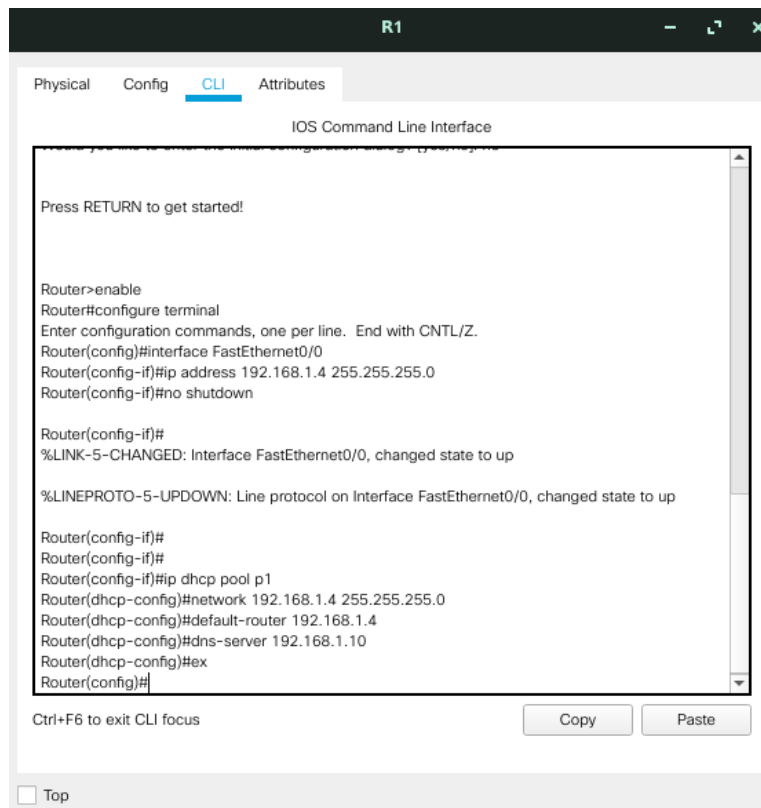


Computer Networks

Surprise Quiz

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20P-0117
BSSE-5A

Q1:



L2

Physical Config **Desktop** Programming Attributes

IP Configuration X

Interface FastEthernet0

IP Configuration

☒ DHCP ☐ Static DHCP request successful.

IPv4 Address 192.168.1.2

Subnet Mask 255.255.255.0

Default Gateway 192.168.1.4

DNS Server 192.168.1.10

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::2E0:F9FF:FEE4:84DD

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

☐ Top

R1

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Router(config)#
Router(config)#
Router(config)#
Router(config)#
Router(config)#
Router(config)#
Router(config)#
Router(config)#
Router(config)#interface FastEthernet 1/0
Router(config-if)#ip address 192.168.2.1
% Incomplete command.
Router(config-if)#ip address 192.168.2.1 255.255.255.0
Router(config-if)#no shutdown

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet1/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet1/0, changed state to up

Router(config-if)#ip dhcp pool p2
Router(dhcp-config)#network 192.168.2.1 255.255.255.0
Router(dhcp-config)#default-router 192.168.2.1
Router(dhcp-config)#dns-server 192.168.2.10
Router(dhcp-config)#ex
Router(config)#
```

Ctrl+F6 to exit CLI focus

Copy Paste

☐ Top

L3

PhysicalConfigDesktopProgrammingAttributes

IP ConfigurationX

InterfaceFastEthernet0

IP Configuration

☒ DHCP☐ StaticDHCP request successful.

IPv4 Address192.168.2.2

Subnet Mask255.255.255.0

Default Gateway192.168.2.1

DNS Server192.168.2.10

IPv6 Configuration

☐ Automatic☒ Static

IPv6 Address/

Link Local AddressFE80::20B:BEFF:FE8B:588D

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

☐ Top

L4

PhysicalConfigDesktopProgrammingAttributes

IP ConfigurationX

InterfaceFastEthernet0

IP Configuration

☒ DHCP☐ StaticDHCP request successful.

IPv4 Address192.168.2.3

Subnet Mask255.255.255.0

Default Gateway192.168.2.1

DNS Server192.168.2.10

IPv6 Configuration

☐ Automatic☒ Static

IPv6 Address/

Link Local AddressFE80::205:5EFF:FE79:3D2

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

☐ Top

R2

Physical

Config

CLI

Attributes

IOS Command Line Interface

Press RETURN to get started!

Router>enable

Router#configure terminal

% Invalid input detected at '^' marker.

Router#configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#interface FastEthernet0/0

Router(config-if)#ip address 192.168.3.1 255.255.255.0

Router(config-if)#no shutdown

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)#ip dhcp pool p3

Router(dhcp-config)#network 192.168.3.1 255.255.255.0

Router(dhcp-config)#default-router 192.168.3.1

Router(dhcp-config)#dns-server 192.168.3.10

Router(dhcp-config)#ex

L5

Physical

Config

Desktop

Programming

Attributes

IP Configuration

InterfaceFastEthernet0

IP Configuration

DHCP

Static

DHCP request successful.

IPv4 Address192.168.3.2

Subnet Mask255.255.255.0

Default Gateway192.168.3.1

DNS Server192.168.3.10

IPv6 Configuration

Automatic

Static

IPv6 Address

/

Link Local Address

FE80::230:A3FF:FED6:B4B8

Default Gateway

DNS Server

802.1X

Use 802.1X Security

Top

R3

Physical

Config

CLI

Attributes

IOS Command Line Interface

```
Router>enable
Router#configure terminal
^
% Invalid input detected at '^' marker.

Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#
Router(config)#interface FastEthernet 0/0
Router(config-if)#ip address 192.168.4.1
% Incomplete command.
Router(config-if)#ip address 192.168.4.1 255.255.255.0
Router(config-if)#no shutdown

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)#ex
Router(config)#ip dhcp pool p4
Router(dhcp-config)#network 192.168.4.1 255.255.255.0
Router(dhcp-config)#default-router 192.168.4.1
Router(dhcp-config)#dns-server 192.168.4.10
Router(dhcp-config)#ex
Router(config)#
```

Ctrl+F6 to exit CLI focus

Copy

Paste

☐ Top

L6

Physical

Config

Desktop

Programming

Attributes

IP Configuration

InterfaceFastEthernet0

IP Configuration

☒ DHCP

☐ Static

DHCP request successful.

IPv4 Address

192.168.4.2

Subnet Mask

255.255.255.0

Default Gateway

192.168.4.1

DNS Server

192.168.4.10

IPv6 Configuration

☐ Automatic

☒ Static

IPv6 Address

/

Link Local Address

FE80::201:43FF:FE85:A8B

Default Gateway

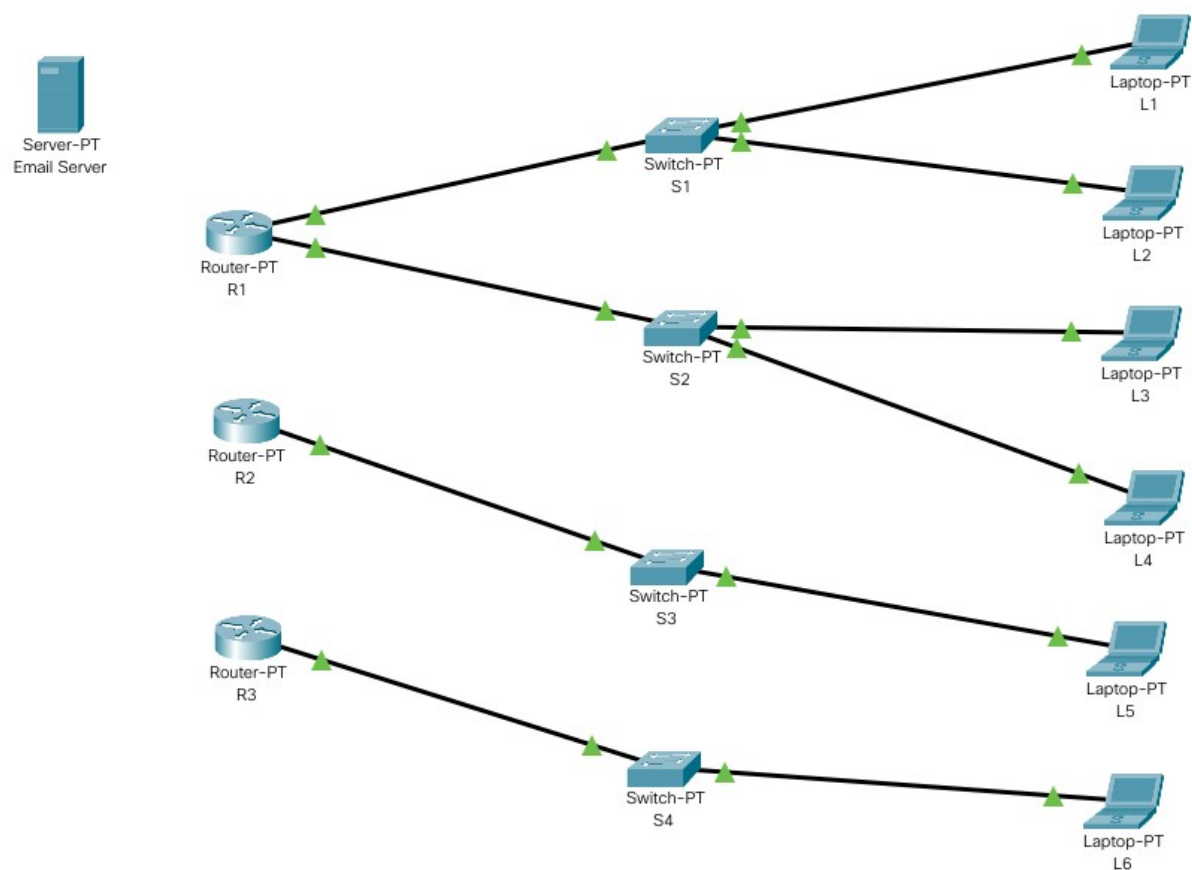
DNS Server

802.1X

☐ Use 802.1X Security

☐ Top

Topology:



Q2:

IP : 172.31.1.0 / 24

Binary (IP) : 10101101.00011111.00000001.00000000

Subnet : 11111111.11111111.11111111.00000000

AND : 10101101.00011111.00000001.00000000

=> Converting back to decimal

Net#IP : ~~172~~ 172.31.1.0

$$\begin{aligned} 1. \text{Subnets} &= 30 - 24 \\ &= 8 \end{aligned}$$

2. 3 bits must be borrowed for the required subnets. (By table)

$$5. \quad 254/8 \approx \text{32}$$

Decimal value of new subnet

255.255.255.33

Binary format

11111111.11111111.11111111.00100001

6. Subnet Table

Sub #	Sub Add	First Usable	Last Usable	Broadcast
0	172.31.1.0	172.31.1.1	172.31.1.32	172.31.1.33
1	172.31.1.34	172.31.1.35	172.31.1.67	172.31.1.68
2	172.31.1.69	172.31.1.70	172.31.1.92	172.31.1.93
3	172.31.1.94	172.31.1.95	172.31.1.127	172.31.1.128
4	172.31.1.129	172.31.1.130	172.31.1.152	172.31.1.153
5	172.31.1.154	172.31.1.155	172.31.1.	

Little mistake in calculations ~~but~~