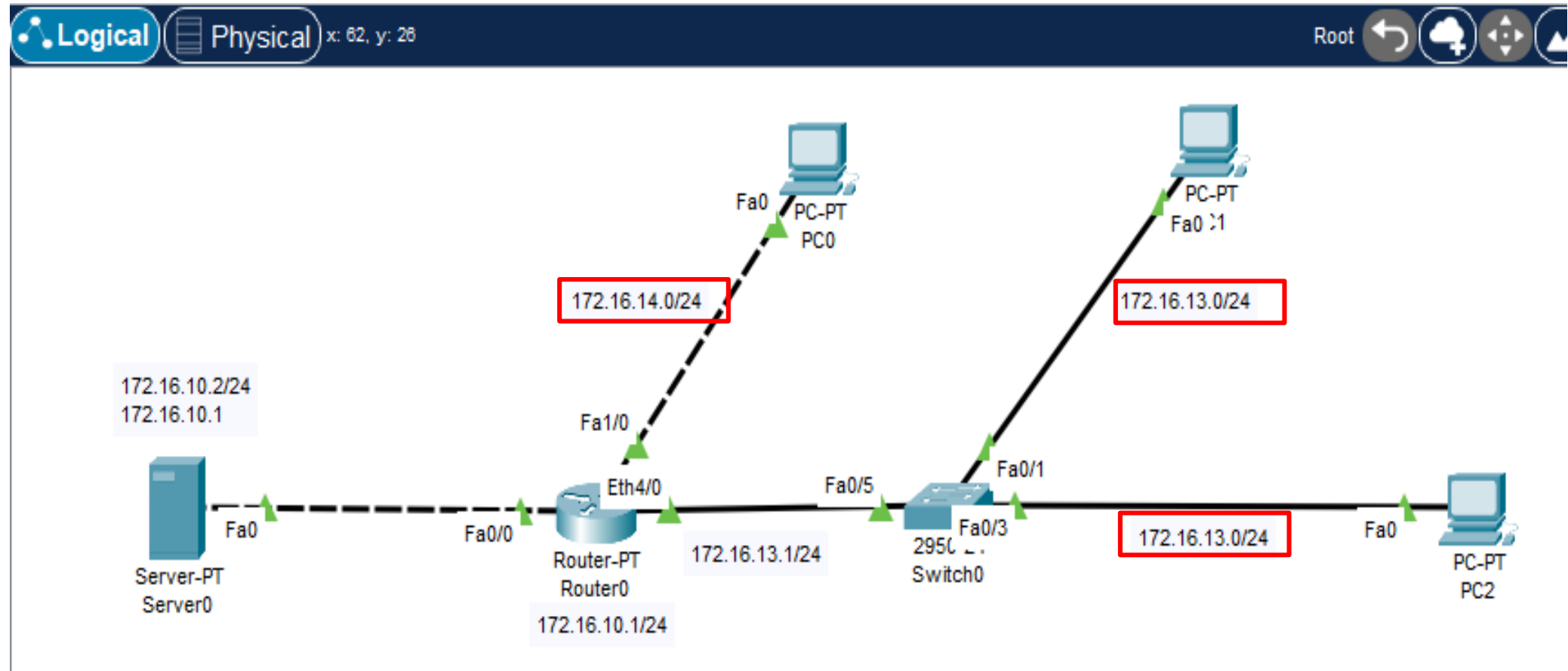


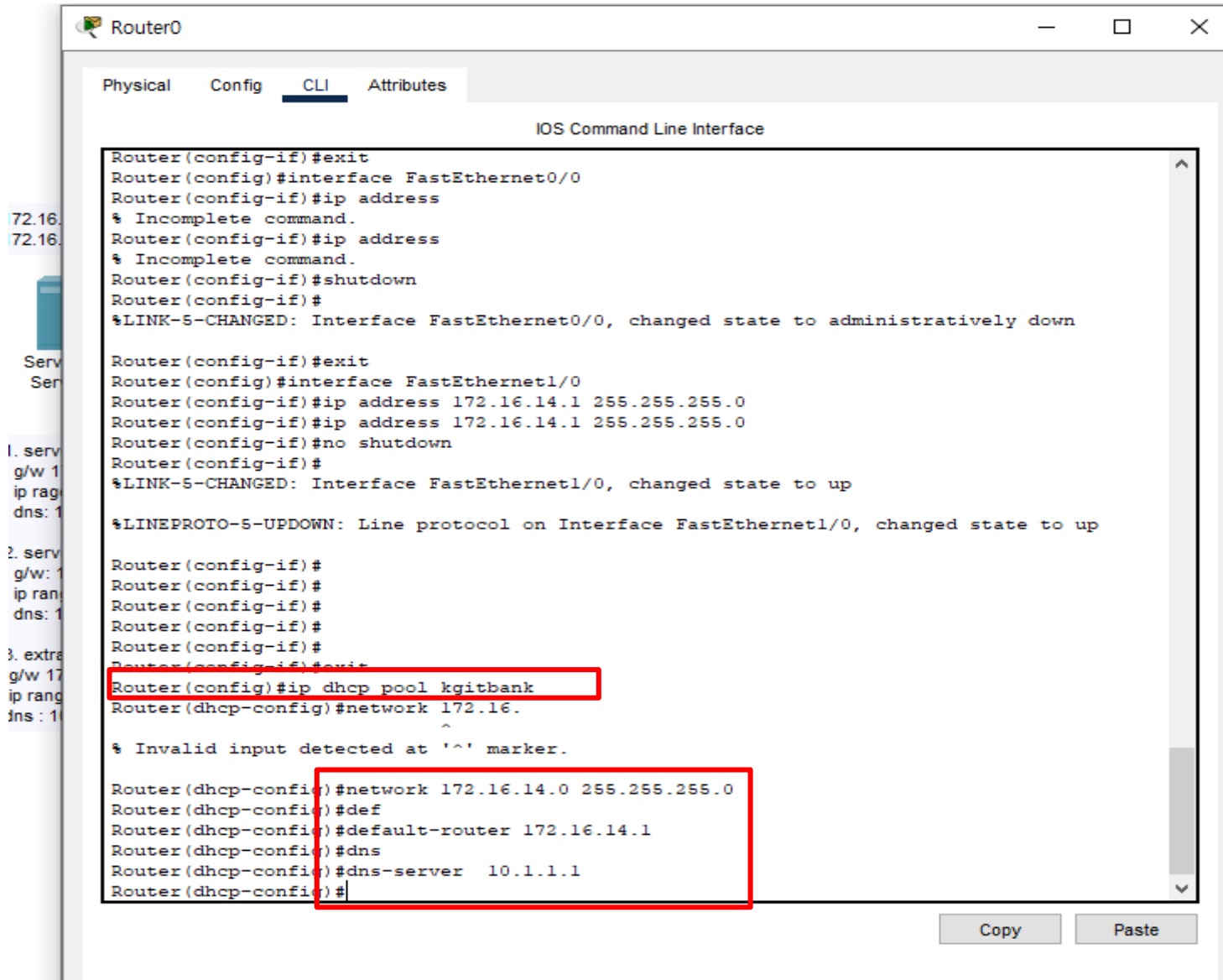
2024-08-20

네트워크

DHCP 1 Router 1 Switch



DHCP 1Router 1Switch



The screenshot shows a Cisco Router CLI window titled "Router0" with tabs for Physical, Config, CLI, and Attributes. The CLI tab is active, displaying the "IOS Command Line Interface". The configuration process is as follows:

```
Router(config-if)#exit
Router(config)#interface FastEthernet0/0
Router(config-if)#ip address
% Incomplete command.
Router(config-if)#ip address
% Incomplete command.
Router(config-if)#shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to administratively down

Router(config-if)#exit
Router(config)#interface FastEthernet1/0
Router(config-if)#ip address 172.16.14.1 255.255.255.0
Router(config-if)#ip address 172.16.14.1 255.255.255.0
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)#
Router(config-if)#
Router(config-if)#
Router(config-if)#
Router(config-if)#
Router(config-if)#exit
Router(config)#ip dhcp pool kgitbank
Router(dhcp-config)#network 172.16.
^
% Invalid input detected at '^' marker.

Router(dhcp-config)#network 172.16.14.0 255.255.255.0
Router(dhcp-config)#def
Router(dhcp-config)#default-router 172.16.14.1
Router(dhcp-config)#dns
Router(dhcp-config)#dns-server 10.1.1.1
Router(dhcp-config)#
```

Red boxes highlight the following commands in the original image:

- `Router(config-if)#exit`
- `Router(config)#ip dhcp pool kgitbank`
- `Router(dhcp-config)#network 172.16.14.0 255.255.255.0`
- `Router(dhcp-config)#def`
- `Router(dhcp-config)#default-router 172.16.14.1`
- `Router(dhcp-config)#dns`
- `Router(dhcp-config)#dns-server 10.1.1.1`
- `Router(dhcp-config)#`

At the bottom of the window, there are "Copy" and "Paste" buttons.

DHCP 1Router 1Switch

PC0

Physical Config Desktop Programming Attributes

IP Configuration

Interface: FastEthernet0

IP Configuration

☒ DHCP ☐ Static

IPv4 Address: 172.16.14.2

Subnet Mask: 255.255.255.0

Default Gateway: 172.16.14.1

DNS Server: 10.1.1.1

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address: /

Link Local Address: FE80::20C:CFFF:FE1A:783B

Default Gateway:

DNS Server:

802.1X

☐ Use 802.1X Security

Authentication: MD5

Username:

Password:

PC-PT PC2

DHCP 1Router 1Switch

```
% Invalid input detected at '^' marker.  
  
Router(dhcp-config)#network 172.16.14.0 255.255.255.0  
Router(dhcp-config)#def  
Router(dhcp-config)#default-router 172.16.14.1  
Router(dhcp-config)#dns  
Router(dhcp-config)#dns-server 10.1.1.1  
Router(dhcp-config)#exit  
Router(config)#ip dhcp exclu  
Router(config)#ip dhcp excluded-address 172.16.14.1 172.16.14.50  
Router(config)#
```

Copy

PC0

Physical Config Desktop Programming Attributes

IP Configuration

Interface: FastEthernet0

IP Configuration

☒ DHCP ☐ Static DHCP request successful.

IPv4 Address: 172.16.14.51

Subnet Mask: 255.255.255.0

Default Gateway: 172.16.14.1

DNS Server: 10.1.1.1

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address: /

Link Local Address: FE80::20C:CFFF:FE1A:783B

Default Gateway:

DNS Server:

802.1X

☐ Use 802.1X Security

Authentication: MD5

Username:

Password:

DHCP 1Router 1Switch

```
Router(config)#ip dhcp excluded-address 172.16.14.1 172.16.14.50
Router(config)#
Router(config)#
Router(config)#
Router(config)#interface FastEthernet0/0
Router(config-if)#ip address 172.16.10.2 255.255.255.0
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
%IP-4-DUPADDR: Duplicate address 172.16.10.2 on FastEthernet0/0, sourced by
00D0.BAC6.254B
ip address 172.16.10.1 255.255.255.0
Router(config-if)#shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to administratively down

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to down
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)#
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Ethernet4/0
Router(config-if)#ip add
% Incomplete command.
Router(config-if)#ip address 172.16.13.1 255.255.255.0
Router(config-if)#
Router(config-if)#ip help
Router(config-if)#ip helper-address 172.16.10.2
Router(config-if)#no sh
Router(config-if)#
```

Copy

Paste



PC-P1
PC2

DHCP 1Router 1Switch

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 serverPool2

Default Gateway 172.16.13.1

DNS Server 10.1.1.1

Start IP Address : 172 16 13 50

Subnet Mask: 255 255 255 0

Maximum Number of Users : 50

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
serverPool2	172.16.13.1	10.1.1.1	172.16.13.50	255.255.255.0	50	0.0.0.0	0.0.0.0
serverPool	172.16.13.1	10.1.1.1	172.16.10.0	255.255.255.0	50	0.0.0.0	0.0.0.0
extraPool	172.16.14.1	10.1.1.2	172.16.14.5	255.255.255.0	50	0.0.0.0	0.0.0.0

PC1

Physical Config **Desktop** Programming Attributes

IP Configuration

Interface FastEthernet0

IP Configuration

☒ DHCP ☐ Static

IPv4 Address 172.16.13.50

Subnet Mask 255.255.255.0

Default Gateway 172.16.13.1

DNS Server 10.1.1.1

PC2

Physical Config **Desktop** Programming Attributes

IP Configuration

Interface FastEthernet0

IP Configuration

☒ DHCP ☐ Static

IPv4 Address 172.16.13.51

Subnet Mask 255.255.255.0

Default Gateway 172.16.13.1

DNS Server 10.1.1.1

네트워크 용어

Router(config-if) #ip dhcp pool servermanager

- 이 명령어는 servermanager라는 이름의 DHCP 풀을 생성하는 것입니다. 이 풀은 네트워크 장치들에게 할당할 IP 주소와 기타 네트워크 설정을 정의하는 역할을 합니다.

네트워크 용어

```
Router(dhcp-config)#network 172.16.14.0 255.255.255.0
```

이 명령어는 DHCP 풀에 사용할 네트워크 범위를 정의합니다.

172.16.14.0은 네트워크 주소이고, 255.255.255.0은 서브넷 마스크입니다. 이 설정은 라우터가 172.16.14.0/24 네트워크 내의 IP 주소들을 DHCP 클라이언트에게 할당할 수 있게 합니다.

네트워크 용어

```
Router(dhcp-config)#default-router 172.16.14.1
```

이 명령어는 DHCP 클라이언트들이 기본 게이트웨이로 사용할 IP 주소를 정의합니다.

172.16.14.1은 네트워크 장치들이 인터넷이나 다른 네트워크로 나가기 위해 사용하는 기본 라우터의 IP 주소입니다.

네트워크 용어

```
Router(dhcp-config)#dns-server 10.1.1.2
```

이 명령어는 DHCP 클라이언트들이 사용할 DNS 서버의 IP 주소를 지정합니다.

10.1.1.2는 네트워크 장치들이 도메인 이름을 IP 주소로 변환하기 위해 사용하는 DNS 서버의 IP 주소입니다.

네트워크 용어

- Router(dhcp-config)#exit
- 이 명령어는 현재 DHCP 설정 모드에서 빠져나가도록 합니다.
즉, DHCP 풀 설정을 종료하고 이전 설정 모드로 돌아갑니다.
- DHCP : IP 자동 할당이라고 생각하면 편하다