



2024-2025 BAHAR DÖNEMİ
BİLGİSAYAR AĞLARI ÖDEV 5

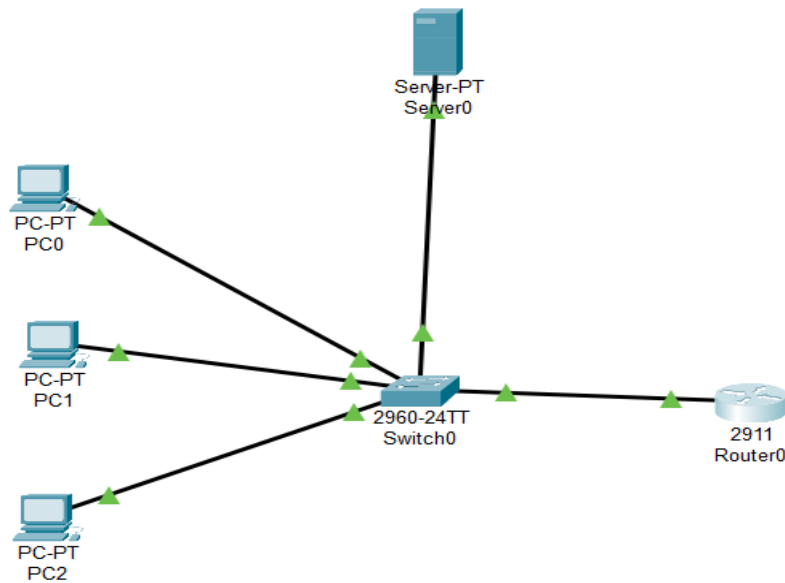
REŞİDE ALTUN

22100011028

ALPEREN EROĞLU

NETWORK – 1 (192.168.1.0/24)

1.



2.

```
Router0
Physical Config CLI Attributes
IOS Command Line Interface

Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface gigabitEthernet 0/0
Router(config-if)#no shutdown

Router(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0, changed state to up

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

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

Router(config-if)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console
enable
Router#enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface gigabitEthernet 0/0
Router(config-if)#ip address 192.168.1.1 255.255.255.0
Router(config-if)#no shutdown
Router(config-if)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console
|
Router#show ip interface brief
Interface IP-Address OK? Method Status Protocol
GigabitEthernet0/0 192.168.1.1 YES manual up up
GigabitEthernet0/1 unassigned YES unset administratively down down
GigabitEthernet0/2 unassigned YES unset administratively down down
Vlan1 unassigned YES unset administratively down down
Router#
```

3.

PC0

Physical Config **Desktop** Programming Attributes

IP Configuration X

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 192.168.1.2

Subnet Mask 255.255.255.0

Default Gateway 192.168.1.1

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::2E0:8FFF:FEB9:6BE7

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

PC1

Physical Config **Desktop** Programming Attributes

IP Configuration X

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 192.168.1.3

Subnet Mask 255.255.255.0

Default Gateway 192.168.1.1

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::201:96FF:FE29:C85

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

PC2

Physical Config **Desktop** Programming Attributes

IP Configuration [X]

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 192.168.1.4

Subnet Mask 255.255.255.0

Default Gateway 192.168.1.1

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::20C:85FF:FE2A:455D

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

Server0

Physical Config Services **Desktop** Programming Attributes

IP Configuration [X]

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 192.168.1.5

Subnet Mask 255.255.255.0

Default Gateway 192.168.1.1

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::260:5CFF:FE43:836D

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

Cihaz	IP Address	Subnet Mask	Default Gateway
PC0	192.168.1.2	255.255.255.0	192.168.1.1
PC1	192.168.1.3	255.255.255.0	192.168.1.1
PC2	192.168.1.4	255.255.255.0	192.168.1.1
Server0	192.168.1.5	255.255.255.0	192.168.1.1

4.

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: network1

Default Gateway: 192.168.1.1

DNS Server: 8.8.8.8

Start IP Address: 192 168 1 10

Subnet Mask: 255 255 255 0

Maximum Number of Users: 100

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
network1	192.168.1.1	8.8.8.8	192.168.1.10	255.255.255.0	100	0.0.0.0	0.0.0.0
serverPool	0.0.0.0	0.0.0.0	169.254.0.0	255.255.0.0	512	0.0.0.0	0.0.0.0

5.

PC0

Physical Config **Desktop** Programming Attributes

IP Configuration

Interface: FastEthernet0

IP Configuration

☒ DHCP ☐ Static DHCP request successful.

IPv4 Address: 192.168.1.2

Subnet Mask: 255.255.255.0

Default Gateway: 0.0.0.0

DNS Server: 8.8.8.8

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address: /

Link Local Address: FE80::2E0:8FFF:FEB9:6BE7

Default Gateway:

DNS Server:

802.1X

☐ Use 802.1X Security

Authentication: MD5

Username:

Password:

PC1

Physical Config **Desktop** Programming Attributes

IP Configuration X

Interface FastEthernet0

IP Configuration

☒ DHCP ☐ Static DHCP request successful.

IPv4 Address 192.168.1.3

Subnet Mask 255.255.255.0

Default Gateway 0.0.0.0

DNS Server 8.8.8.8

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::201:96FF:FE29:C85

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

PC2

Physical Config **Desktop** Programming Attributes

IP Configuration X

Interface FastEthernet0

IP Configuration

☒ DHCP ☐ Static DHCP request successful.

IPv4 Address 192.168.1.4

Subnet Mask 255.255.255.0

Default Gateway 0.0.0.0

DNS Server 8.8.8.8

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::20C:85FF:FE2A:455D

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

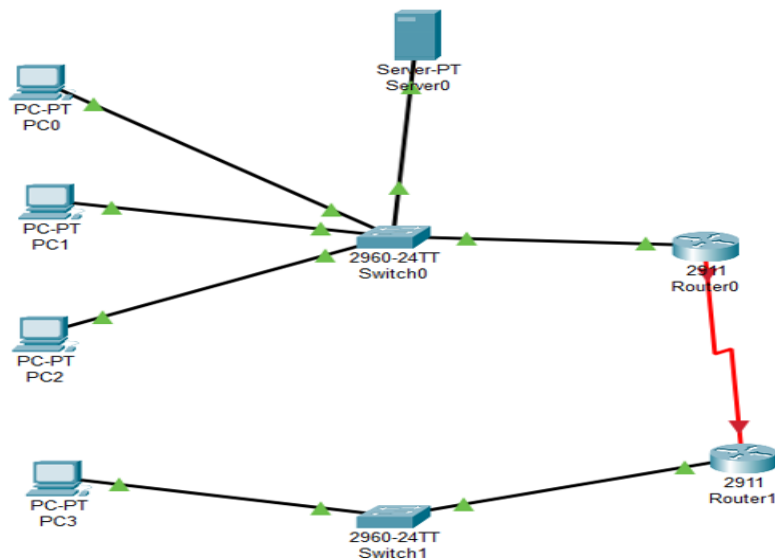
Authentication MD5

Username

Password

NETWORK – 2 (192.168.2.0/24)

6.

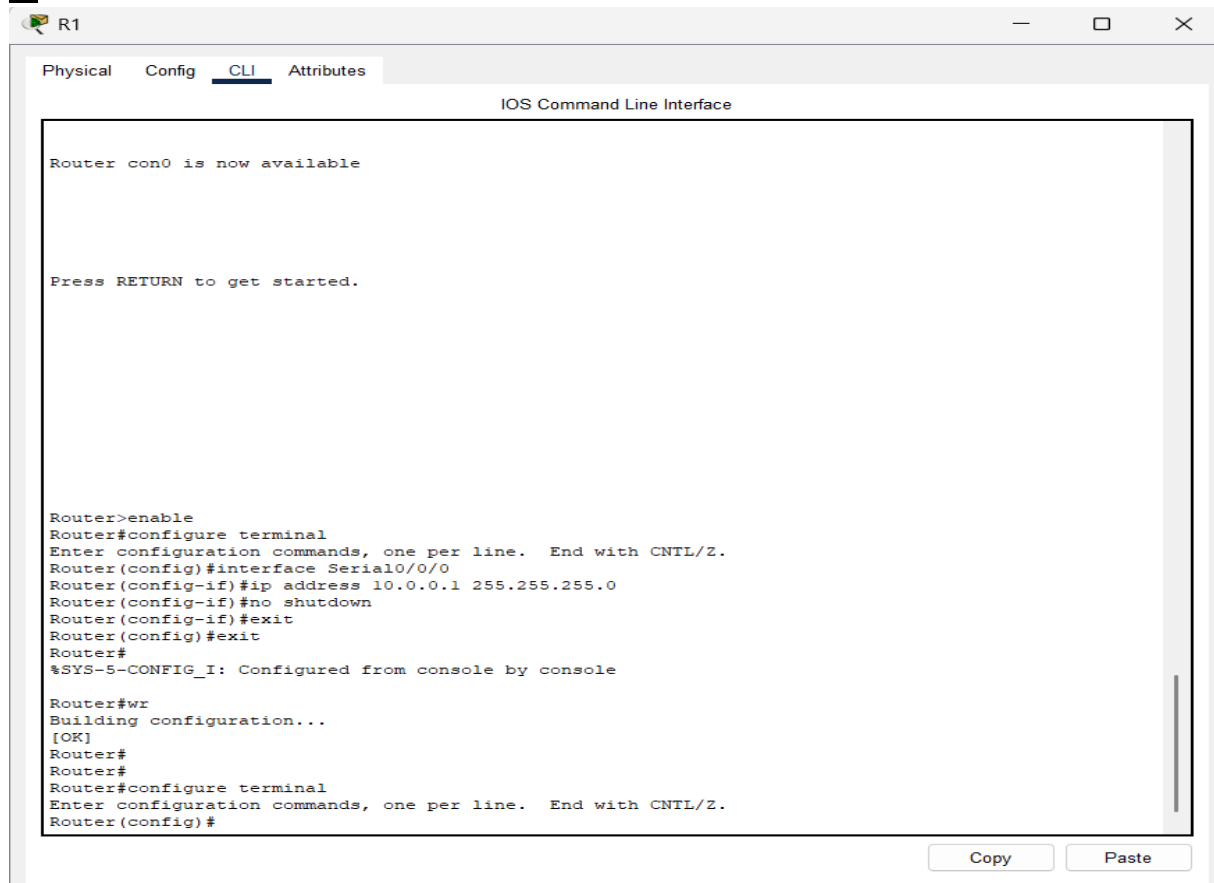


7.

```
R2
Physical Config CLI Attributes
IOS Command Line Interface
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#conf t
%Invalid hex value
Router(config)#interface GigabitEthernet0/0
Router(config-if)#ip address 192.168.2.1 255.255.255.0
Router(config-if)#no shutdown
Router(config-if)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
Router#wr
Building configuration...
[OK]
Router#show interface GigabitEthernet0/0
GigabitEthernet0/0 is up, line protocol is up (connected)
  Hardware is CN Gigabit Ethernet, address is 00e0.b085.b701 (bia 00e0.b085.b701)
  Internet address is 192.168.2.1/24
  MTU 1500 bytes, BW 1000000 Kbit, DLY 100 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Full-duplex, 100Mb/s, media type is RJ45
  output flow-control is unsupported, input flow-control is unsupported
  ARP type: ARPA, ARP Timeout 04:00:00,
  Last input 00:00:08, output 00:00:05, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0 (size/max/drops); Total output drops: 0
  Queueing strategy: fifo
  Output queue :0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    0 packets input, 0 bytes, 0 no buffer
    Received 0 broadcasts, 0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort
    0 watchdog, 1017 multicast, 0 pause input
    0 input packets with dribble condition detected
```

8.



The screenshot shows the R1 router's CLI interface. The window title is 'R1'. The tabs are 'Physical', 'Config', 'CLI' (selected), and 'Attributes'. The main area is titled 'IOS Command Line Interface'. It displays the following text:

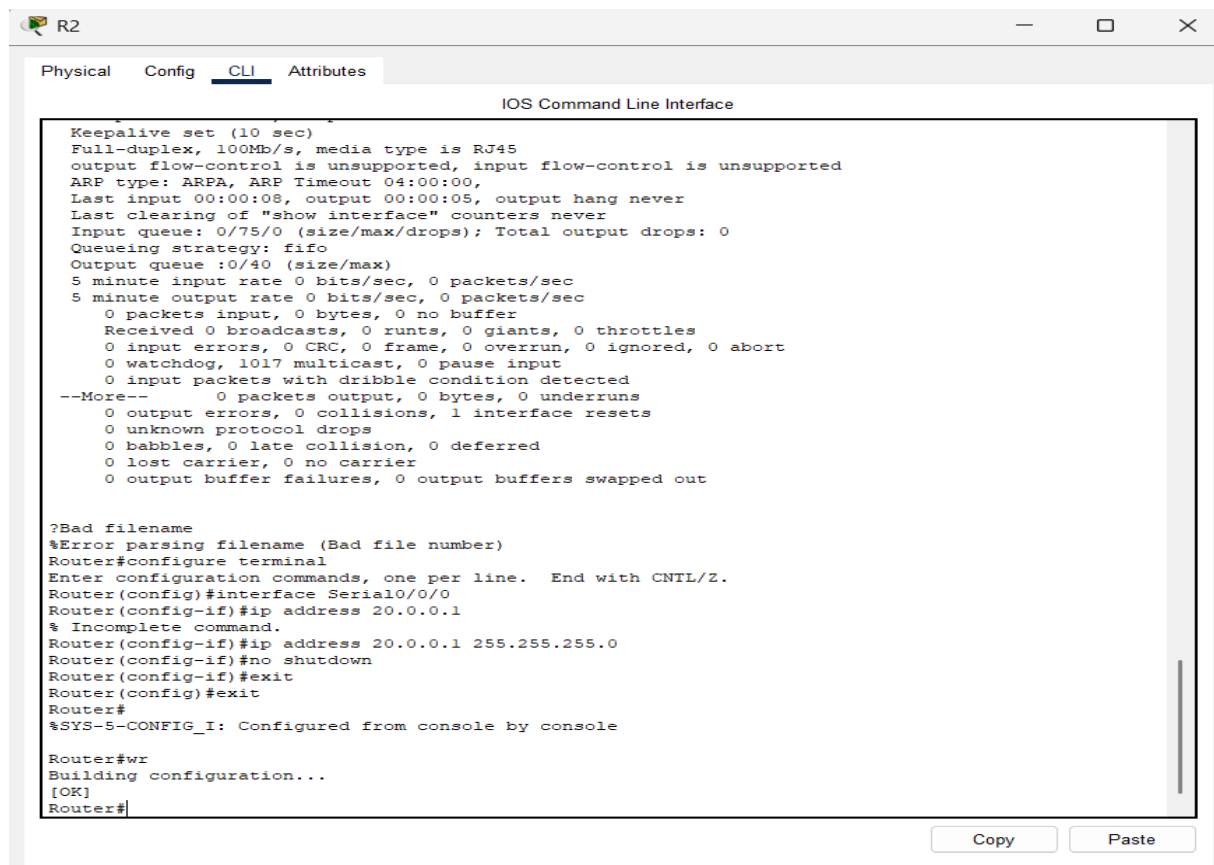
```
Router con0 is now available

Press RETURN to get started.

Router>enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface Serial0/0/0
Router(config-if)#ip address 10.0.0.1 255.255.255.0
Router(config-if)#no shutdown
Router(config-if)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#wr
Building configuration...
[OK]
Router#
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#
```

At the bottom right, there are 'Copy' and 'Paste' buttons.



The screenshot shows the R2 router's CLI interface. The window title is 'R2'. The tabs are 'Physical', 'Config', 'CLI' (selected), and 'Attributes'. The main area is titled 'IOS Command Line Interface'. It displays the following text:

```
Keepalive set (10 sec)
Full-duplex, 100Mb/s, media type is RJ45
output flow-control is unsupported, input flow-control is unsupported
ARP type: ARPA, ARP Timeout 04:00:00,
Last input 00:00:08, output 00:00:05, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0 (size/max/drops); Total output drops: 0
Queueing strategy: fifo
Output queue :0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
  0 packets input, 0 bytes, 0 no buffer
    Received 0 broadcasts, 0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort
  0 watchdog, 1017 multicast, 0 pause input
  0 input packets with dribble condition detected
--More--      0 packets output, 0 bytes, 0 underruns
    0 output errors, 0 collisions, 1 interface resets
    0 unknown protocol drops
    0 babbles, 0 late collision, 0 deferred
    0 lost carrier, 0 no carrier
    0 output buffer failures, 0 output buffers swapped out

?Bad filename
%Error parsing filename (Bad file number)
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface Serial0/0/0
Router(config-if)#ip address 20.0.0.1
% Incomplete command.
Router(config-if)#ip address 20.0.0.1 255.255.255.0
Router(config-if)#no shutdown
Router(config-if)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#wr
Building configuration...
[OK]
Router#
```

At the bottom right, there are 'Copy' and 'Paste' buttons.

9.

The image shows two Cisco Packet Tracer routers, R1 and R2, with their CLI windows open. Both routers are in the 'Config' tab, and the 'CLI' sub-tab is selected. The 'IOS Command Line Interface' window is visible, showing the configuration process.

R1 Configuration:

```
Router>enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface Serial0/0/0
Router(config-if)#ip address 10.0.0.1 255.255.255.0
Router(config-if)#no shutdown
Router(config-if)#exit
Router(config)#exit
Router#
%SYS-S-CONFIG_I: Configured from console by console

Router#wr
Building configuration...
[OK]
Router#
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#exit
Router#
%SYS-S-CONFIG_I: Configured from console by console

Router#wr
Building configuration...
[OK]
Router#
Router#
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#ip route 0.0.0.0 0.0.0.0 Serial0/0/0
%Default route without gateway, if not a point-to-point interface, may impact performance
Router(config)#exit
Router#
%SYS-S-CONFIG_I: Configured from console by console

Router#wr
Building configuration...
[OK]
Router#
```

R2 Configuration:


```
0 packets input, 0 bytes, 0 no buffer
Received 0 broadcasts, 0 runts, 0 giants, 0 throttles
0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort
0 watchdog, 1017 multicast, 0 pause input
0 input packets with dribble condition detected
--More-- 0 packets output, 0 bytes, 0 underruns
0 output errors, 0 collisions, 1 interface resets
0 unknown protocol drops
0 babbles, 0 late collision, 0 deferred
0 lost carrier, 0 no carrier
0 output buffer failures, 0 output buffers swapped out

?Bad filename
%Error parsing filename (Bad file number)
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface Serial0/0/0
Router(config-if)#ip address 20.0.0.1
% Incomplete command.
Router(config-if)#ip address 20.0.0.1 255.255.255.0
Router(config-if)#no shutdown
Router(config-if)#exit
Router(config)#exit
Router#
%SYS-S-CONFIG_I: Configured from console by console

Router#wr
Building configuration...
[OK]
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#ip route 0.0.0.0 0.0.0.0 Serial0/0/0
%Default route without gateway, if not a point-to-point interface, may impact performance
Router(config)#exit
Router#
%SYS-S-CONFIG_I: Configured from console by console

Router#wr
Building configuration...
[OK]
Router#
```

10.

 PC3

Physical Config Desktop Programming Attributes

Command Prompt

```
C:\>ping 192.168.1.2

Pinging 192.168.1.2 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.168.1.2:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>ping 192.168.1.2

Pinging 192.168.1.2 with 32 bytes of data:

Request timed out.
Reply from 192.168.1.2: bytes=32 time=1ms TTL=126
Reply from 192.168.1.2: bytes=32 time=1ms TTL=126
Reply from 192.168.1.2: bytes=32 time=13ms TTL=126

Ping statistics for 192.168.1.2:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 13ms, Average = 5ms

C:\>clear
Invalid Command.

C:\>
C:\>ping 192.168.1.2

Pinging 192.168.1.2 with 32 bytes of data:

Reply from 192.168.1.2: bytes=32 time=8ms TTL=126
Reply from 192.168.1.2: bytes=32 time=1ms TTL=126
Reply from 192.168.1.2: bytes=32 time=1ms TTL=126
Reply from 192.168.1.2: bytes=32 time=1ms TTL=126

Ping statistics for 192.168.1.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 8ms, Average = 2ms

C:\>
```

☐ Top

DHCP Relay Konfigürasyonu

11.

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: POOL1

Default Gateway: 192.168.2.1

DNS Server: 8.8.8.8

Start IP Address: 192.168.2.10

Subnet Mask: 255.255.255.0

Maximum Number of Users: 100

TFTP Server: 0.0.0.0

WLC Address: 0.0.0.0

Buttons: Add Save Remove

Pool Name	Default Gateway	DNS Server	Start IP Address	Subnet Mask	Max User	TFTP Server	WLC Address
POOL1	192.168.2.1	8.8.8.8	192.168.2.10	255.255.255.0	100	0.0.0.0	0.0.0.0
network1	192.168.1.1	8.8.8.8	192.168.1.10	255.255.255.0	100	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	512	0.0.0.0	0.0.0.0

12.

R2

Physical Config **CLI** Attributes

IOS Command Line Interface

Press RETURN to get started.

```
Router>enable
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface GigabitEthernet0/0
Router(config-if)#ip helper-address 192.168.1.x
^
% Invalid input detected at '^' marker.
Router(config-if)#ip helper-address 192.168.1.x
^
% Invalid input detected at '^' marker.
Router(config-if)#ip helper-address 192.168.2.10
Router(config-if)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console
Router#wr
Building configuration...
[OK]
Router#
```

Buttons: Copy Paste

13.

PC3

Physical Config **Desktop** Programming Attributes

IP Configuration [X]

Interface: FastEthernet0

IP Configuration

☒ DHCP ☐ Static DHCP request successful.

IPv4 Address: 192.168.2.10

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.2.1

DNS Server: 8.8.8.8

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address: /

Link Local Address: FE80::260:5CFF:FE5A:AD9

Default Gateway:

DNS Server:

802.1X

☐ Use 802.1X Security

Authentication: MD5

Username:

Password: