

Continuous Assessment-II

Dissertation submitted in fulfilment of the requirements for the Degree of

BACHELOR OF TECHNOLOGY

in

COMPUTER SCIENCE AND ENGINEERING

– DATA SCIENCE WITH MACHINE LEARNING

By

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October 2025

1. Introduction

CSE Solutions, a mid-sized enterprise, requires a network infrastructure for its 5-floor office building. This report details the network design, addressing the need for efficient communication and scalability. The design incorporates a mix of star and bus topologies, a VLSM-based IP addressing scheme, and dynamic routing to ensure seamless inter-floor connectivity.

2. Topology Selection

The network design employs a hybrid topology:

- **Floors 1-3:** Star topology. Each floor has a dedicated switch, and all computers on that floor connect to that switch. This provides high performance and fault tolerance.
- **Floors 4-5:** Bus topology. The switches on these floors are connected in a bus configuration.
-

3. IP Addressing Scheme and Subnet Allocation

The network uses public IP addresses. VLSM is used for efficient address allocation.

- **Floors 1-3:** Class B addressing (172.16.0.0/16)
- **Floors 4-5:** Class A addressing (10.0.0.0/8)
-

Subnet Allocation Table

Floor	Subnet Address	Subnet Mask	IP Address Range	Broadcast Address	Server(s)
Floor 1	172.16.0.0 /28	255.255.255.240	172.16.0.1 - 172.16.0.14	172.16.0.15	HTTP
Floor	172.16.0.16	255.255.255.240	172.16.0.17	172.16.0.31	DNS

2	/28		- 172.16.0.30		
Floor 3	172.16.0.32 /28	255.255.255.240	172.16.0.33 - 172.16.0.46	172.16.0.47	FTP
Floor 4	10.0.0.0 /28	255.255.255.240	10.0.0.1 - 10.0.0.14	10.0.0.15	None
Floor 5	10.0.0.16 /28	255.255.255.240	10.0.0.17 - 10.0.0.30	10.0.0.31	DHCP, Email

4.Router Interface IP Addresses and Subnet Masks

Router	Interface To	IP Address	Subnet Mask
Router 1	Floor 1	172.16.0.1/17	255.255.128.0
Router 1	Router 2	192.168.1.1/30	255.255.255.252
Router 2	Floor 2	172.16.128.1/23	255.255.254.0
Router 2	Router 1	192.168.1.2/30	255.255.255.252
Router 2	Router 3	192.168.1.5/30	255.255.255.252
Router 3	Floor 3	172.16.130.1/17	255.255.128.0
Router 3	Router 2	192.168.1.6/30	255.255.255.252
Router 3	Router 4	192.168.1.9/30	255.255.255.252
Router 4	Floor 4	10.0.0.1/26	255.255.255.192
Router 4	Router 3	192.168.1.10/30	255.255.255.252

Router 4	Router 5	192.168.1.13/30	255.255.255.252
Router 5	Floor 5	10.0.0.65/23	255.255.254.0
Router 5	Router 4	192.168.1.14/30	255.255.255.252

4. Routing Strategy

Dynamic routing using RIP is implemented to facilitate communication between floors. Routers are configured as follows:

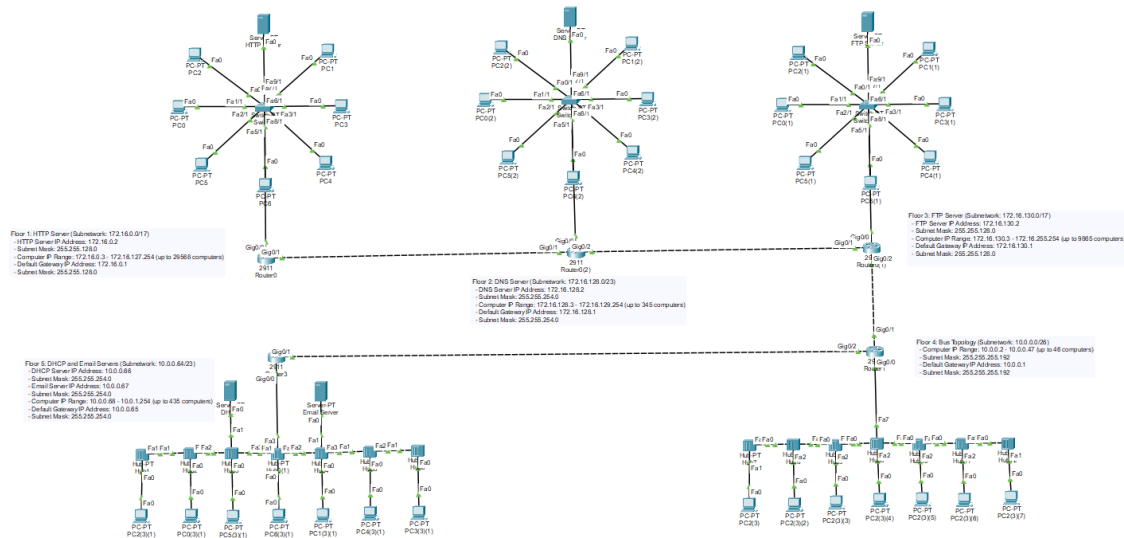
- **Routers:** 5 routers are used.
 - Router 1: Connects to the switch on Floor 1.
 - Router 2: Connects to the switch on Floor 2.
 - Router 3: Connects to the switch on Floor 3.
 - Router 4: Connects to the switch on Floors 4 and 5.
 - Router 5: Connects to Router 1, 2, 3, and 4.
- **Inter-Floor Connectivity:** Routers 1, 2, 3, and 4 connect to Router 5 in a star topology.

5. Innovations and Scalability

- **Hybrid Topology Optimization:** The combination of star and bus topologies optimizes both performance and cost. The star topology on Floors 1-3 provides high performance and fault tolerance for critical services. The bus topology on Floors 4-5 provides a cost-effective solution.
- **VLSM for Efficient Addressing:** VLSM ensures efficient use of the IP address space by allocating the minimum number of addresses required per floor.
- **Dynamic Routing:** RIP automates route propagation and adaptation to network changes, simplifying management and improving resilience.
- **Scalability:** The design can be scaled by adding more switches and routers as the company grows. The VLSM scheme allows

for easy expansion of the IP address allocation.

6. Deployment & Monitoring



Total Number of Networks:

- LAN Networks (One per floor): 5
- Point-to-Point Networks (Between routers): 4 (Router 1 to Router 5, Router 2 to Router 5, Router 3 to Router 5, Router 4 to Router 5)
- Total Networks: 9
-

Total Number of LANs:

- Each floor has 1 LAN.
- There are 5 floors.
- Total LANs: 5
-

Total Number of Default Gateways:

Each LAN has a unique default gateway (router interface IP) to handle outbound traffic.

- 1 per floor = 5 default gateways

Routing tables

Router 1:

```

Router0
Physical Config CLI Attributes

IOS Command Line Interface

If you require further assistance please contact us by sending email to
export@cisco.com.

Cisco CISCO2911/K9 (revision 1.0) with 491520K/32768K bytes of memory.
Processor board ID FTX152400KS
3 Gigabit Ethernet interfaces
DRAM configuration is 64 bits wide with parity disabled.
255K bytes of non-volatile configuration memory.
249856K bytes of ATA System CompactFlash 0 (Read/Write)

Press RETURN to get started!

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed state to up

Router>
Router>
Router>
Router>show ip route
Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

 10.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
R    10.0.0.0/23 [120/4] via 20.0.0.2, 00:00:23, GigabitEthernet0/1
R    10.0.0.0/26 [120/3] via 20.0.0.2, 00:00:23, GigabitEthernet0/1
 20.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C    20.0.0.0/8 is directly connected, GigabitEthernet0/1
L    20.0.0.1/32 is directly connected, GigabitEthernet0/1
R    30.0.0.0/8 [120/1] via 20.0.0.2, 00:00:23, GigabitEthernet0/1
R    40.0.0.0/8 [120/2] via 20.0.0.2, 00:00:23, GigabitEthernet0/1
R    50.0.0.0/8 [120/3] via 20.0.0.2, 00:00:23, GigabitEthernet0/1
 172.16.0.0/16 is variably subnetted, 4 subnets, 3 masks
C    172.16.0.0/17 is directly connected, GigabitEthernet0/0
L    172.16.0.1/32 is directly connected, GigabitEthernet0/0
--More--
  
```

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Router 2:

Router0

Physical Config CLI Attributes

IOS Command Line Interface

If you require further assistance please contact us by sending email to export@cisco.com.

Cisco CISCO2911/K9 (revision 1.0) with 491520K/32768K bytes of memory.
Processor board ID FTX152400KS
3 Gigabit Ethernet interfaces
DRAM configuration is 64 bits wide with parity disabled.
255K bytes of non-volatile configuration memory.
249856K bytes of ATA System CompactFlash 0 (Read/Write)

Press RETURN to get started!

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

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed state to up

Router>

Router>

Router>

Router>show ip route

Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
* - candidate default, U - per-user static route, o - ODR
P - periodic downloaded static route

Gateway of last resort is not set

10.0.0.0/8 is variably subnetted, 2 subnets, 2 masks

R 10.0.0.0/23 [120/4] via 20.0.0.2, 00:00:23, GigabitEthernet0/1

R 10.0.0.0/26 [120/3] via 20.0.0.2, 00:00:23, GigabitEthernet0/1

20.0.0.0/8 is variably subnetted, 2 subnets, 2 masks

C 20.0.0.0/8 is directly connected, GigabitEthernet0/1

L 20.0.0.1/32 is directly connected, GigabitEthernet0/1

R 30.0.0.0/8 [120/1] via 20.0.0.2, 00:00:23, GigabitEthernet0/1

R 40.0.0.0/8 [120/2] via 20.0.0.2, 00:00:23, GigabitEthernet0/1

R 50.0.0.0/8 [120/3] via 20.0.0.2, 00:00:23, GigabitEthernet0/1

172.16.0.0/16 is variably subnetted, 4 subnets, 3 masks

C 172.16.0.0/17 is directly connected, GigabitEthernet0/0

L 172.16.0.1/32 is directly connected, GigabitEthernet0/0

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Router 3:

Router0(1)

Physical Config CLI Attributes

IOS Command Line Interface

If you require further assistance please contact us by sending email to export@cisco.com.

Cisco CISCO2911/K9 (revision 1.0) with 491520K/32768K bytes of memory.
Processor board ID FTX152400KS
3 Gigabit Ethernet interfaces
DRAM configuration is 64 bits wide with parity disabled.
255K bytes of non-volatile configuration memory.
249856K bytes of ATA System CompactFlash 0 (Read/Write)

Press RETURN to get started!

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/2, changed state to up

Router>
Router>
Router>show ip route
Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
* - candidate default, U - per-user static route, o - ODR
P - periodic downloaded static route

Gateway of last resort is not set

10.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
R 10.0.0.0/23 [120/2] via 40.0.0.2, 00:00:07, GigabitEthernet0/2
R 10.0.0.0/26 [120/1] via 40.0.0.2, 00:00:07, GigabitEthernet0/2
R 20.0.0.0/8 [120/1] via 30.0.0.1, 00:00:21, GigabitEthernet0/1
30.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C 30.0.0.0/8 is directly connected, GigabitEthernet0/1
L 30.0.0.2/32 is directly connected, GigabitEthernet0/1
40.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C 40.0.0.0/8 is directly connected, GigabitEthernet0/2
L 40.0.0.1/32 is directly connected, GigabitEthernet0/2
R 50.0.0.0/8 [120/1] via 40.0.0.2, 00:00:07, GigabitEthernet0/2
172.16.0.0/16 is variably subnetted, 4 subnets, 3 masks
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Router 4:

Router1

Physical Config CLI Attributes

IOS Command Line Interface

If you require further assistance please contact us by sending email to export@cisco.com.

Cisco CISCO2911/K9 (revision 1.0) with 491520K/32768K bytes of memory.
Processor board ID FTX152400KS
3 Gigabit Ethernet interfaces
DRAM configuration is 64 bits wide with parity disabled.
255K bytes of non-volatile configuration memory.
249856K bytes of ATA System CompactFlash 0 (Read/Write)

Press RETURN to get started!

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/2, changed state to up

Router>
Router>show ip route

Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
* - candidate default, U - per-user static route, o - ODR
P - periodic downloaded static route

Gateway of last resort is not set

10.0.0.0/8 is variably subnetted, 3 subnets, 3 masks
R 10.0.0.0/23 [120/1] via 50.0.0.2, 00:00:19, GigabitEthernet0/2
C 10.0.0.0/26 is directly connected, GigabitEthernet0/0
L 10.0.0.1/32 is directly connected, GigabitEthernet0/0
R 20.0.0.0/8 [120/2] via 40.0.0.1, 00:00:21, GigabitEthernet0/1
R 30.0.0.0/8 [120/1] via 40.0.0.1, 00:00:21, GigabitEthernet0/1
40.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C 40.0.0.0/8 is directly connected, GigabitEthernet0/1
L 40.0.0.2/32 is directly connected, GigabitEthernet0/1
50.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C 50.0.0.0/8 is directly connected, GigabitEthernet0/2
L 50.0.0.1/32 is directly connected, GigabitEthernet0/2

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Router 5:

Router3

Physical Config CLI Attributes

IOS Command Line Interface

<http://www.cisco.com/wwl/export/crypto/tool/stqrg.html>

If you require further assistance please contact us by sending email to export@cisco.com.

Cisco CISC02911/K9 (revision 1.0) with 491520K/32768K bytes of memory.
Processor board ID FTX152400KS
3 Gigabit Ethernet interfaces
DRAM configuration is 64 bits wide with parity disabled.
255K bytes of non-volatile configuration memory.
249856K bytes of ATA System CompactFlash 0 (Read/Write)

Press RETURN to get started!

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed state to up

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

Router>
Router>
Router>show ip route

Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
* - candidate default, U - per-user static route, o - ODR
P - periodic downloaded static route

Gateway of last resort is not set

10.0.0.0/8 is variably subnetted, 3 subnets, 3 masks
C 10.0.0.0/23 is directly connected, GigabitEthernet0/0
R 10.0.0.0/26 [120/1] via 50.0.0.1, 00:00:22, GigabitEthernet0/1
L 10.0.0.65/32 is directly connected, GigabitEthernet0/0
R 20.0.0.0/8 [120/3] via 50.0.0.1, 00:00:22, GigabitEthernet0/1
R 30.0.0.0/8 [120/2] via 50.0.0.1, 00:00:22, GigabitEthernet0/1
R 40.0.0.0/8 [120/1] via 50.0.0.1, 00:00:22, GigabitEthernet0/1
50.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C 50.0.0.0/8 is directly connected, GigabitEthernet0/1
L 50.0.0.2/32 is directly connected, GigabitEthernet0/1
172.16.0.0/16 is variably subnetted, 3 subnets, 2 masks
R 172.16.0.0/17 [120/4] via 50.0.0.1, 00:00:22, GigabitEthernet0/1

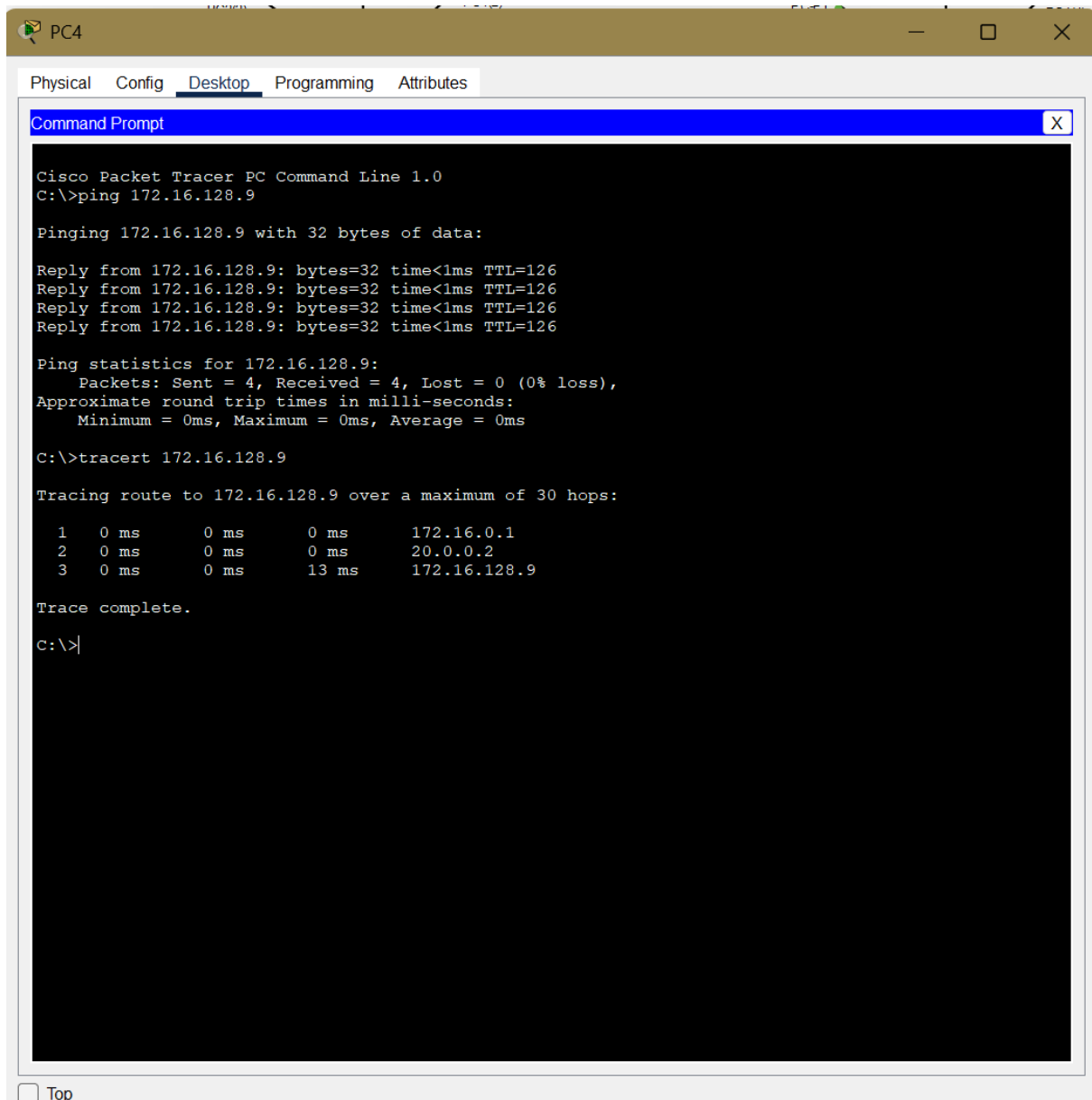
--More--

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Ping and TracerT

Ping and tracert from floor 1 to floor 2



The screenshot shows a Cisco Packet Tracer PC Command Line window for a device named PC4. The window has tabs for Physical, Config, Desktop, Programming, and Attributes, with Desktop selected. The Command Prompt shows the following output:

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 172.16.128.9

Pinging 172.16.128.9 with 32 bytes of data:

Reply from 172.16.128.9: bytes=32 time<1ms TTL=126
Reply from 172.16.128.9: bytes=32 time<1ms TTL=126
Reply from 172.16.128.9: bytes=32 time<1ms TTL=126
Reply from 172.16.128.9: bytes=32 time<1ms TTL=126

Ping statistics for 172.16.128.9:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>tracert 172.16.128.9

Tracing route to 172.16.128.9 over a maximum of 30 hops:

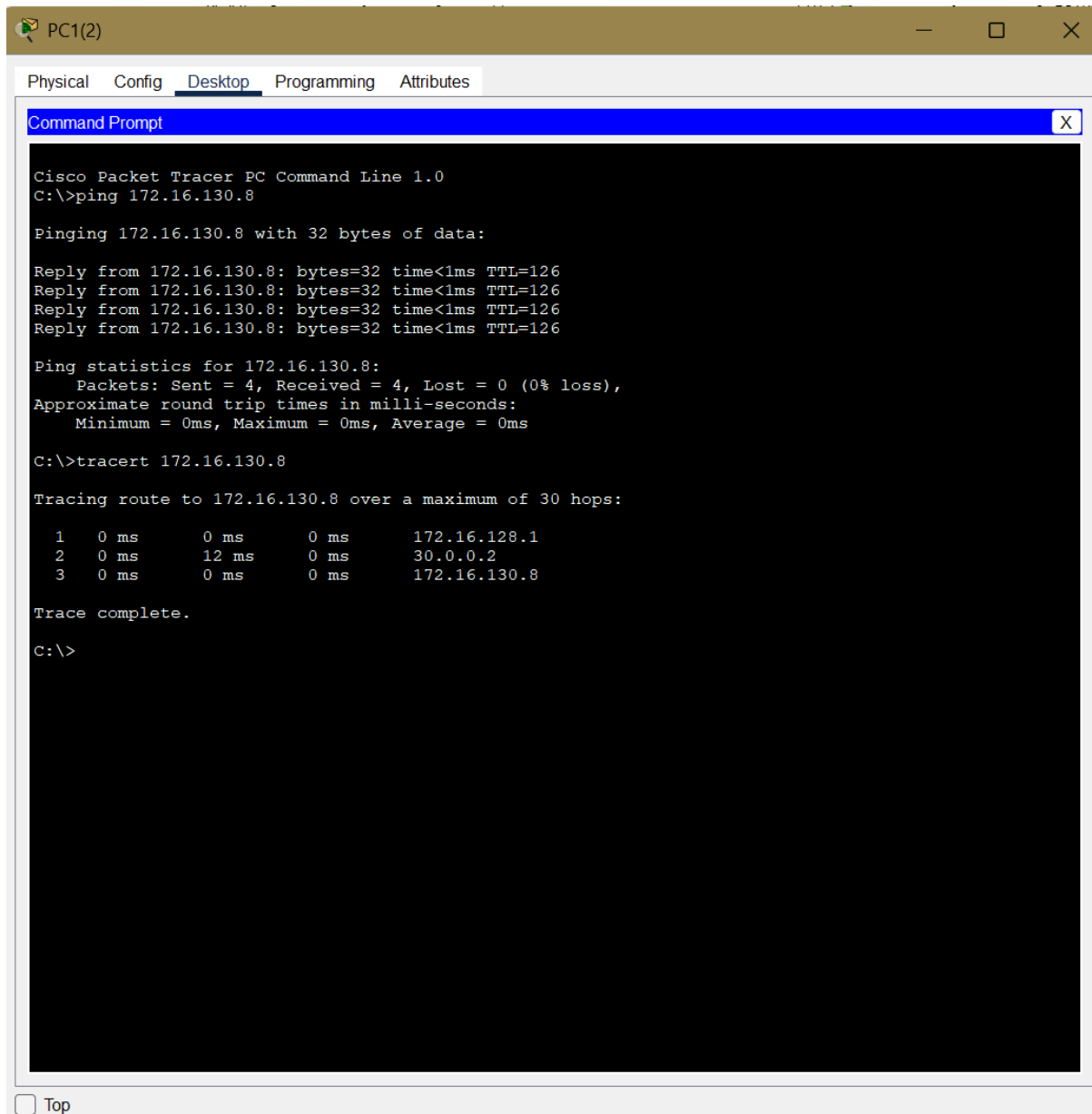
  1  0 ms      0 ms      0 ms      172.16.0.1
  2  0 ms      0 ms      0 ms      20.0.0.2
  3  0 ms      0 ms     13 ms     172.16.128.9

Trace complete.

C:\>|
```

At the bottom of the window, there is a checkbox labeled "Top" which is currently unchecked.

Ping and tracert from floor 2 to floor 3



The screenshot shows a Cisco Packet Tracer PC Command Line window for PC1(2). The window has tabs for Physical, Config, Desktop, Programming, and Attributes. The Desktop tab is active, displaying a Command Prompt window. The Command Prompt shows the execution of a ping command to 172.16.130.8, which succeeds with 0% loss. It also shows a tracert command to the same IP, which traces the route through three hops: 172.16.128.1, 30.0.0.2, and 172.16.130.8.

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 172.16.130.8

Pinging 172.16.130.8 with 32 bytes of data:

Reply from 172.16.130.8: bytes=32 time<1ms TTL=126
Reply from 172.16.130.8: bytes=32 time<1ms TTL=126
Reply from 172.16.130.8: bytes=32 time<1ms TTL=126
Reply from 172.16.130.8: bytes=32 time<1ms TTL=126

Ping statistics for 172.16.130.8:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>tracert 172.16.130.8

Tracing route to 172.16.130.8 over a maximum of 30 hops:

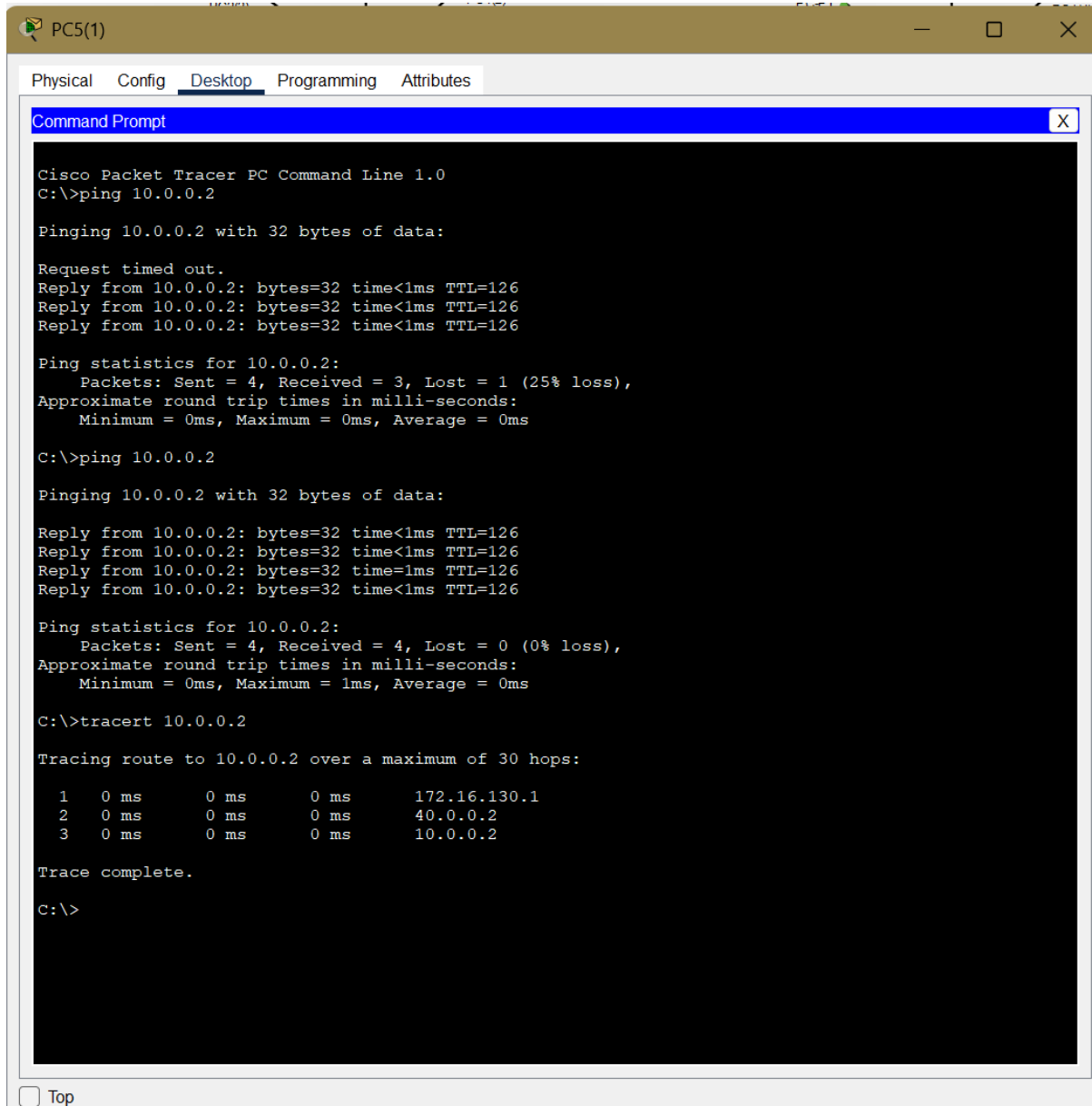
  0  0 ms    0 ms    0 ms    172.16.128.1
  1  0 ms    12 ms   0 ms    30.0.0.2
  2  0 ms    0 ms    0 ms    172.16.130.8

Trace complete.

C:\>
```

☐ Top

Ping and tracert from floor 3 to floor 4



The screenshot shows a Cisco Packet Tracer PC Command Line window for PC5(1). The window has tabs for Physical, Config, Desktop, Programming, and Attributes. The Desktop tab is active, showing a Command Prompt window. The Command Prompt displays the results of a ping and a tracert command from PC5(1) to 10.0.0.2.

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 10.0.0.2

Pinging 10.0.0.2 with 32 bytes of data:

Request timed out.
Reply from 10.0.0.2: bytes=32 time<1ms TTL=126
Reply from 10.0.0.2: bytes=32 time<1ms TTL=126
Reply from 10.0.0.2: bytes=32 time<1ms TTL=126

Ping statistics for 10.0.0.2:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 10.0.0.2

Pinging 10.0.0.2 with 32 bytes of data:

Reply from 10.0.0.2: bytes=32 time<1ms TTL=126
Reply from 10.0.0.2: bytes=32 time<1ms TTL=126
Reply from 10.0.0.2: bytes=32 time=1ms TTL=126
Reply from 10.0.0.2: bytes=32 time<1ms TTL=126

Ping statistics for 10.0.0.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>tracert 10.0.0.2

Tracing route to 10.0.0.2 over a maximum of 30 hops:

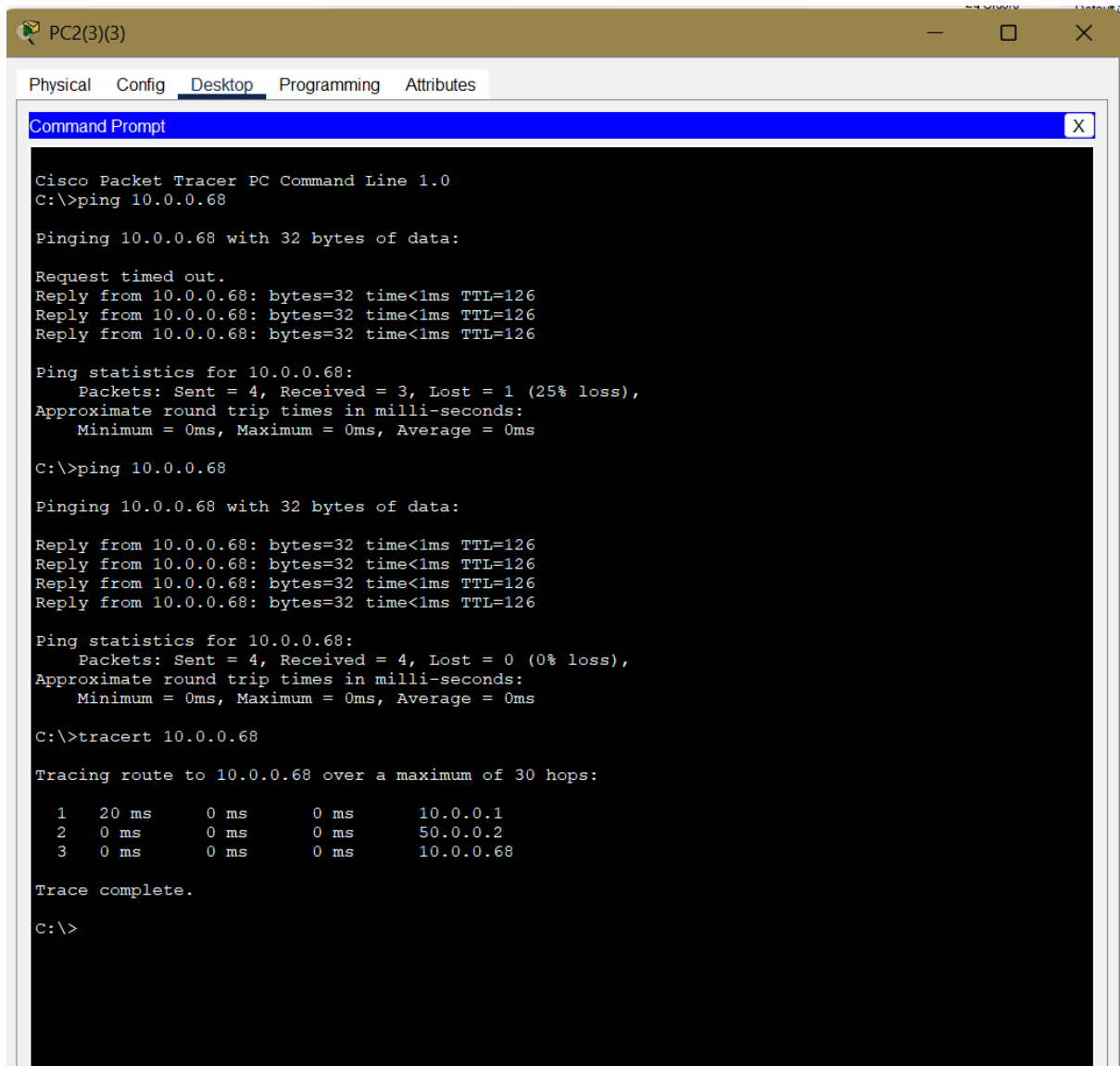
  1  0 ms    0 ms    0 ms    172.16.130.1
  2  0 ms    0 ms    0 ms    40.0.0.2
  3  0 ms    0 ms    0 ms    10.0.0.2

Trace complete.

C:\>
```

At the bottom of the window, there is a checkbox labeled "Top" which is currently unchecked.

Ping and tracert from floor 4 to floor 5



The screenshot shows a Cisco Packet Tracer PC Command Line window for PC2(3)(3). The window has tabs for Physical, Config, Desktop, Programming, and Attributes. The Desktop tab is active, displaying a Command Prompt window. The Command Prompt shows the results of a ping and a tracert command from PC2 to 10.0.0.68.

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 10.0.0.68

Pinging 10.0.0.68 with 32 bytes of data:

Request timed out.
Reply from 10.0.0.68: bytes=32 time<1ms TTL=126
Reply from 10.0.0.68: bytes=32 time<1ms TTL=126
Reply from 10.0.0.68: bytes=32 time<1ms TTL=126

Ping statistics for 10.0.0.68:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 10.0.0.68

Pinging 10.0.0.68 with 32 bytes of data:

Reply from 10.0.0.68: bytes=32 time<1ms TTL=126
Reply from 10.0.0.68: bytes=32 time<1ms TTL=126
Reply from 10.0.0.68: bytes=32 time<1ms TTL=126
Reply from 10.0.0.68: bytes=32 time<1ms TTL=126

Ping statistics for 10.0.0.68:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>tracert 10.0.0.68

Tracing route to 10.0.0.68 over a maximum of 30 hops:

  1  20 ms    0 ms      0 ms      10.0.0.1
  2  0 ms     0 ms      0 ms      50.0.0.2
  3  0 ms     0 ms      0 ms      10.0.0.68

Trace complete.

C:\>
```

Servers:

DHCP

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

serverPool

Default Gateway

10.0.0.65

DNS Server

0.0.0.0

Start IP Address :

10

0

0

68

Subnet Mask:

255

255

254

0

Maximum Number of Users :

444

TFTP Server:

0.0.0.0

WLC Address:

0.0.0.0

Add

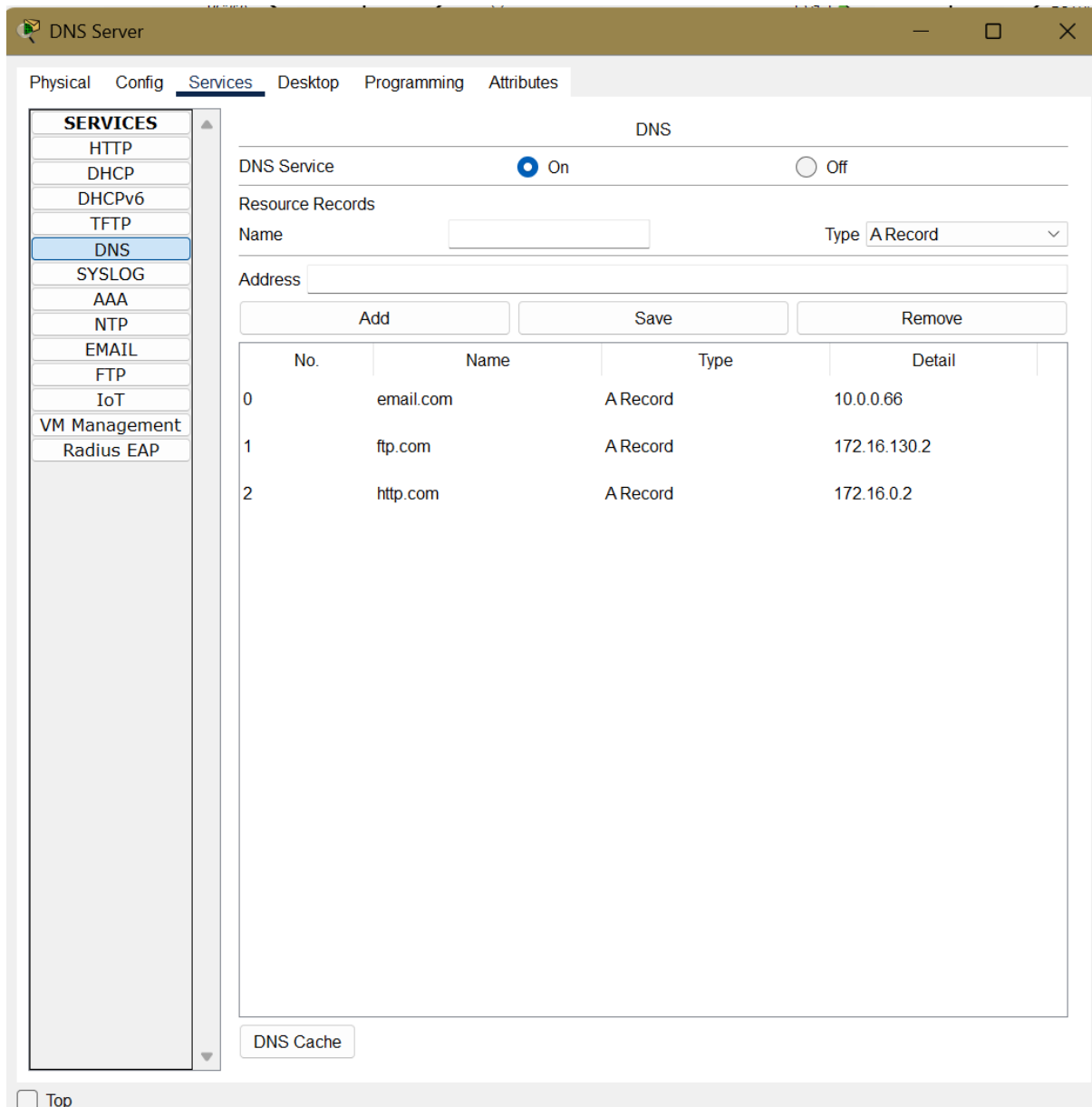
Save

Remove

Pool Name	Default Gateway	DNS Server	Start IP Address	Subnet Mask	Max User	TFTP Server	WLC Address
serverPool	10.0.0.65	0.0.0.0	10.0.0.68	255.255.2...	444	0.0.0.0	0.0.0.0

Top

DNS



7. GitHub Repository:

The full project (including configs, diagrams, and documentation) is uploaded to GitHub for tracking and collaboration. https://github.com/Aare007/CSE-307_CA_2.git

8. Conclusion:

This structured network design ensures efficient, scalable, and faulttolerant communication within Media Network Solutions. The mix of topologies, optimized IP addressing, and static routing provides a costeffective yet reliable solution for the enterprise.