

Academic year: 2023-2024

Semester: Fall

Faculty Name: Prof. S.Gopikrishnan

Student name: Aman Sahu

Branch/ Class: B.Tech

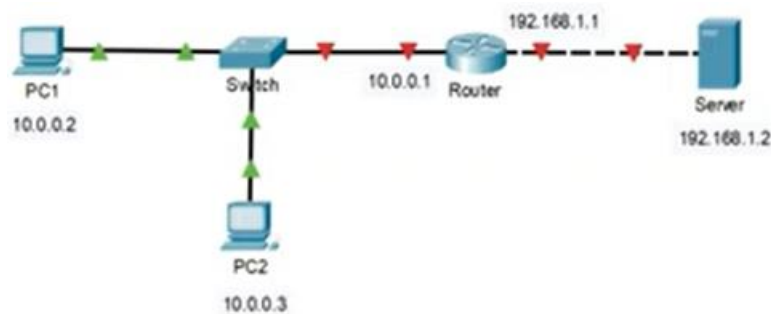
Date:

School: SCOPE

Reg. no.: 22BCE7224

SMTP Server

Q1:

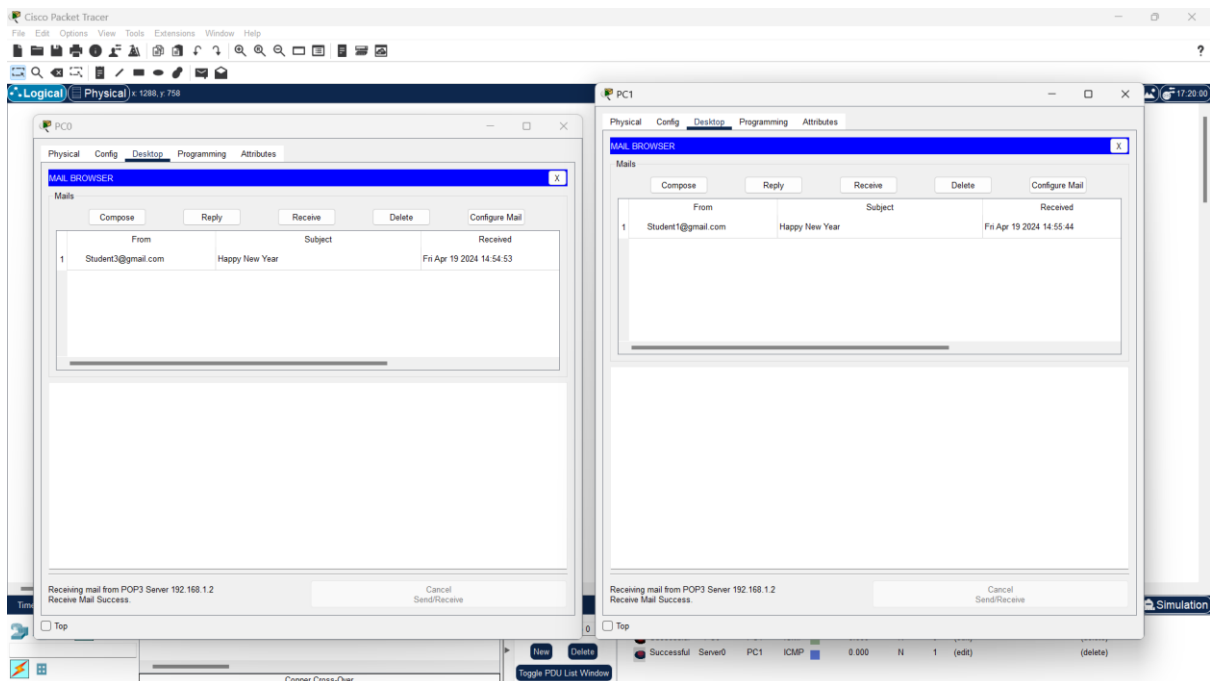
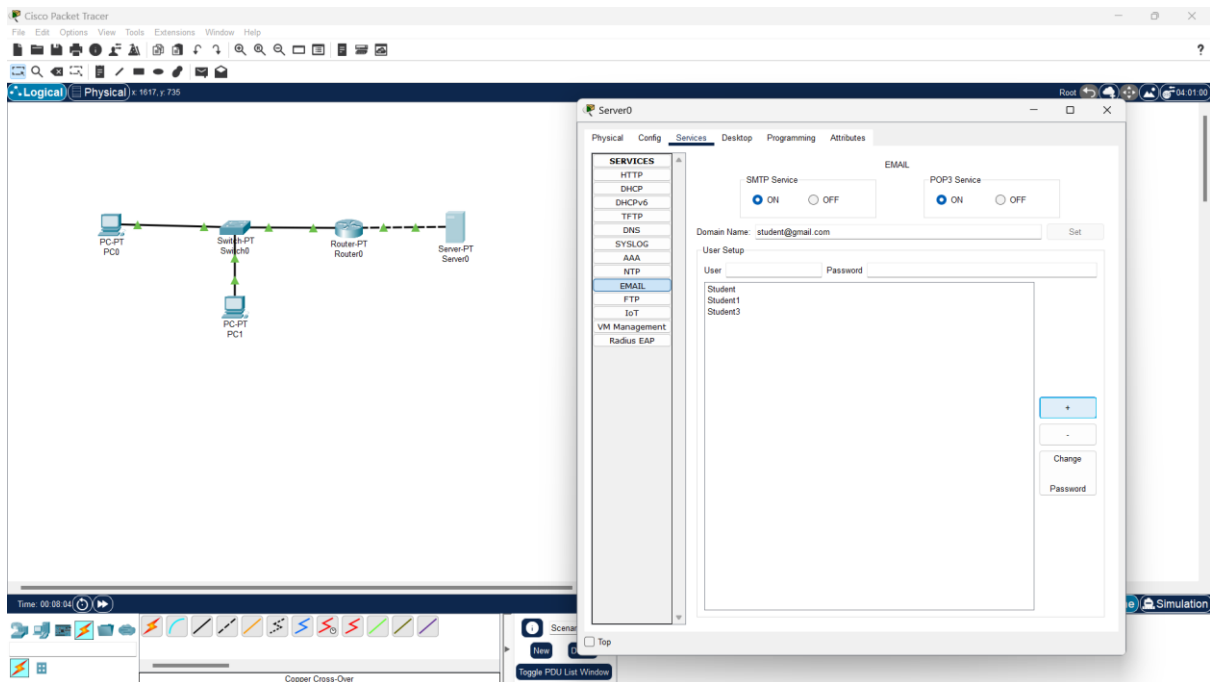


Objectives:

1. Design a network as given in the figure.
2. Configure all the routers with any routing scheme.
3. Configure all the servers.
4. Verify the SMTP server is working.

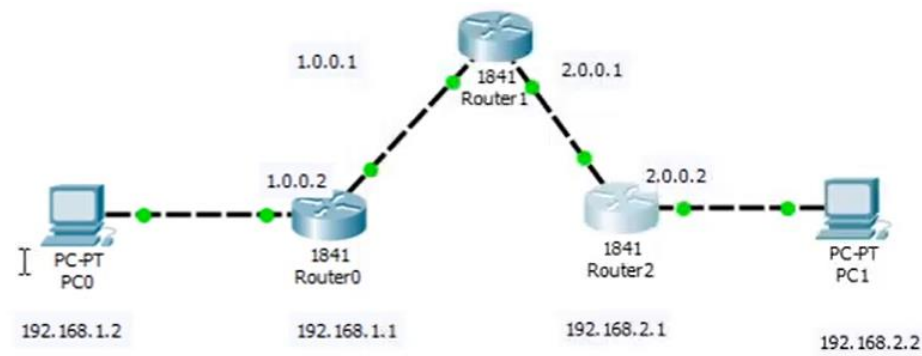
Verification and expected output:

1. Send a text email from PC1 to PC2 and Vice versa.
2. Take the screenshot of SMTP EMAIL configuration



Tunnelling

Q2:



Objectives:

1. Design a network as given in the figure.
2. Configure all the routers with any routing scheme.
3. Configure all the servers.
4. Verify the Tunnelling is working.

The screenshot shows the Cisco Packet Tracer interface with the network topology from the diagram. A command prompt window is open, displaying the following output:

```

Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.2.2

Pinging 192.168.2.2 with 32 bytes of data:
Reply from 192.168.2.2: bytes=32 time=1ms TTL=126
Reply from 192.168.2.2: bytes=32 time=1ms TTL=126
Reply from 192.168.2.2: bytes=32 time=1ms TTL=126
Reply from 192.168.2.2: bytes=32 time=1ms TTL=126

Ping statistics for 192.168.2.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>tracert 192.168.2.2

Tracing route to 192.168.2.2 over a maximum of 30 hops:
  0  0 ms  0 ms  0 ms  192.168.1.1
  1  1 ms  0 ms  0 ms  192.168.1.2
  2  0 ms  0 ms  0 ms  192.168.2.2

Trace complete.

C:\>

```

Cisco Packet Tracer - C:\Users\hpi\AppData\Local\Microsoft\Windows\NetCache\VE\CA36A6OK\11_..._2[1].pkt

File Edit Options View Tools Extensions Window Help

Logical Physical x 778, y 395

Time: 00:48:41

Scenario 0

Toggle PCU/ List Window

Router0

Physical Config CLI Attributes

IOS Command Line Interface

third-party authority to import, export, distribute or use encryption. Importers, exporters, distributors and users are responsible for compliance with U.S. and local country laws. By using this product you agree to comply with applicable laws and regulations. If you are unable to comply with U.S. and local laws, return this product immediately.

A summary of U.S. laws governing Cisco cryptographic products may be found at: <http://www.cisco.com/wl/export/crypto/tool/stqrg.html>

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

Cisco 1841 (revision 5.0) with 114688K/16384K bytes of memory.
Processor board ID FTX094721SE
M860 processor: part number 0, mask 49
2 FastEthernet/IEEE 802.3 interface(s)
191K bytes of NVRAM.
63488K bytes of ATA CompactFlash (Read/Write)
Cisco IOS Software, 1841 Software (C1841-ADVIPSERVICESK9-M), Version 12.4(15)T1, RELEASE SOFTWARE (fc2)
Technical Support: <http://www.cisco.com/techsupport>
Copyright (c) 1986-2007 by Cisco Systems, Inc.
Compiled Wed 18-Jul-07 04:52 by pt_team

Press RETURN to get started!

MLINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
MLINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up
MLINEPROTO-5-UPDOWN: Line protocol on Interface Tunnel1, changed state to up

Router>show ip interface brief

Interface	IP-Address	OK?	Method	Status	Protocol
FastEthernet0/0	192.168.1.1	YES	manual	up	up
FastEthernet0/1	1.0.0.2	YES	manual	up	up
Tunnel1	172.16.1.1	YES	manual	up	up
Vlan1	unassigned	YES	unset	administratively down	down

Router>

Copy Paste

Cisco Packet Tracer - C:\Users\hpi\AppData\Local\Microsoft\Windows\NetCache\VE\CA36A6OK\11_..._2[1].pkt

File Edit Options View Tools Extensions Window Help

Logical Physical x 991, y 329

Time: 00:49:30

Scenario 0

Toggle PCU/ List Window

Router2

Physical Config CLI Attributes

IOS Command Line Interface

third-party authority to import, export, distribute or use encryption. Importers, exporters, distributors and users are responsible for compliance with U.S. and local country laws. By using this product you agree to comply with applicable laws and regulations. If you are unable to comply with U.S. and local laws, return this product immediately.

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Copyright (c) 1986-2007 by Cisco Systems, Inc.
Compiled Wed 18-Jul-07 04:52 by pt_team

Press RETURN to get started!

MLINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
MLINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up
MLINEPROTO-5-UPDOWN: Line protocol on Interface Tunnel2, changed state to up

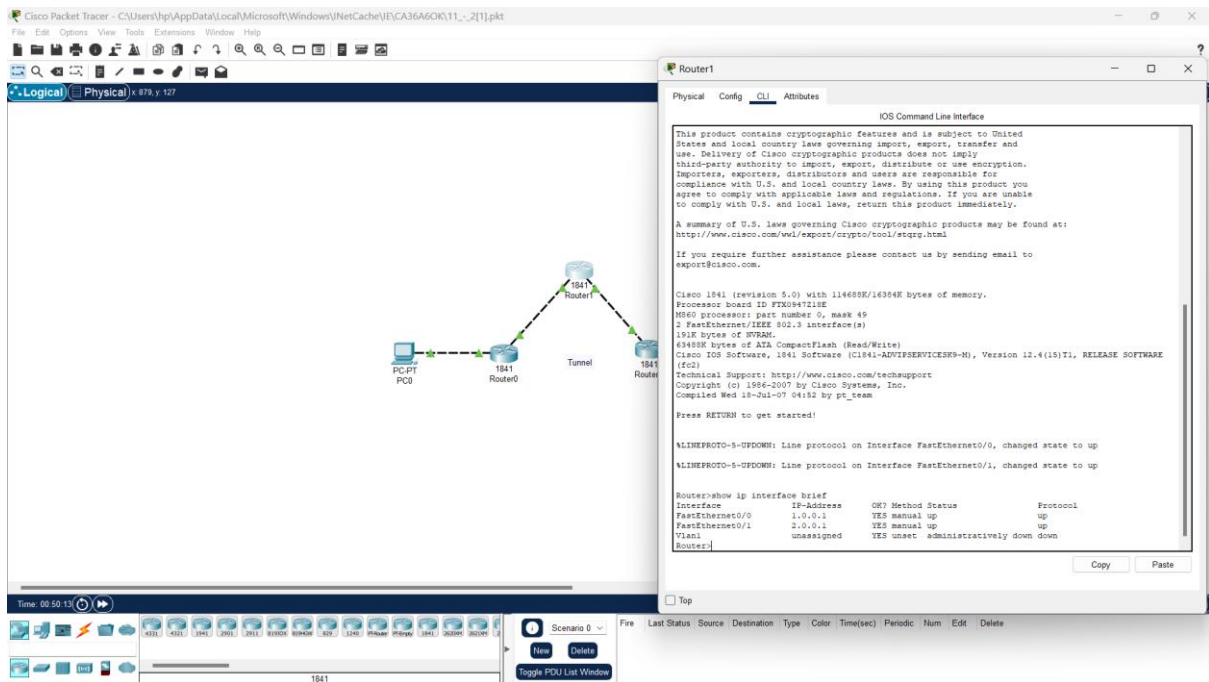
Router>show ip interface brief

Interface	IP-Address	OK?	Method	Status	Protocol
FastEthernet0/0	192.168.2.1	YES	manual	up	up
FastEthernet0/1	2.0.0.2	YES	manual	up	up
Tunnel2	172.16.1.2	YES	manual	up	up
Vlan1	unassigned	YES	unset	administratively down	down

Router>

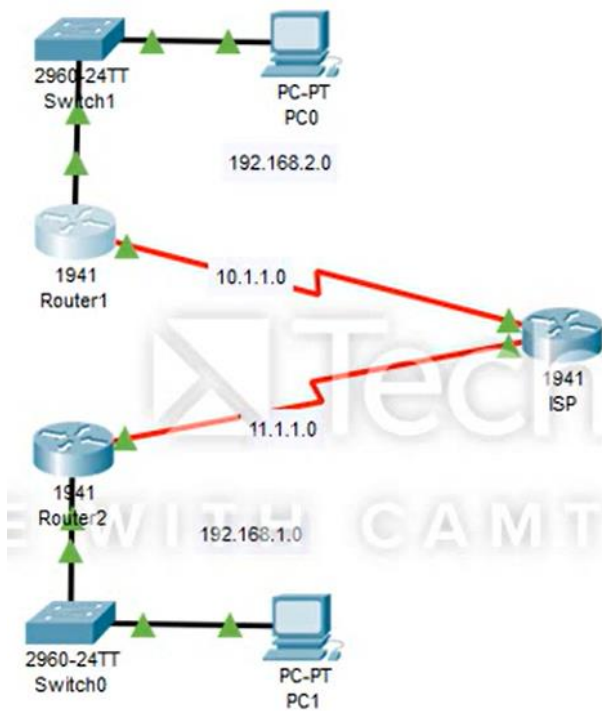
Copy Paste

Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete



IPSec VPN

Q3:



Objectives:

1. Design a network as given in the figure.
2. Configure all the routers with any routing scheme.
3. Configure all the servers.
4. Verify the IPsec VPN is working.

Cisco Packet Tracer - C:\Users\hpi\Cisco Packet Tracer 8.2\Images\228CE7224.LAB11.Q3.pkt

File Edit Options View Tools Extensions Window Help

Logical Physical x 1032, y 357

PC0

Physical Config Desktop Programming Attributes

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
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=17ms TTL=125
Reply from 192.168.1.2: bytes=32 time=18ms TTL=125
Reply from 192.168.1.2: bytes=32 time=18ms TTL=125

Ping statistics for 192.168.1.2:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 17ms, Maximum = 18ms, Average = 18ms

C:\>tracert 192.168.1.2
Invalid Command.

C:\>tracert 192.168.1.2

Tracing route to 192.168.1.2 over a maximum of 30 hops:
  0  29 ms  0 ms  4 ms  192.168.2.1
  1  0 ms  2 ms  1 ms  10.1.1.1
  2  1 ms  1 ms  1 ms  11.1.1.2
  3  2 ms  0 ms  3 ms  192.168.1.2
Trace complete.

C:\>
```

PC1

Physical Config Desktop Programming Attributes

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.2.2

Pinging 192.168.2.2 with 32 bytes of data:

Reply from 192.168.2.2: bytes=32 time=2ms TTL=125
Reply from 192.168.2.2: bytes=32 time=2ms TTL=125
Reply from 192.168.2.2: bytes=32 time=1ms TTL=125
Reply from 192.168.2.2: bytes=32 time=2ms TTL=125

Ping statistics for 192.168.2.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 2ms, Average = 2ms

C:\>tracert 192.168.2.2

Tracing route to 192.168.2.2 over a maximum of 30 hops:
  0  0 ms  0 ms  0 ms  192.168.1.1
  1  0 ms  1 ms  1 ms  11.1.1.1
  2  10 ms  2 ms  1 ms  10.1.1.2
  3  4 ms  1 ms  0 ms  192.168.2.2
Trace complete.

C:\>
```

Time: 01:30:27

1941

Toggle PC0 List Window

Successful PC0 Router2 ICMP 0.000 N 1 (edit) (delete)

Cisco Packet Tracer - C:\Users\hpi\AppData\Local\Microsoft\Windows\NetCache\VERQUDF57F4\11...[1].pkt

File Edit Options View Tools Extensions Window Help

Logical Physical x 1731, y 748

Router0

Router>show ip interface brief

Interface	IP-Address	OK?	Method	Status
Interface				
Protocol	unassigned	YES	MYRAN	administratively down
GigabitEthernet0/0		down		
GigabitEthernet0/1	192.168.1.1	YES	MYRAN	up
Serial0/0/0	209.165.100.1	YES	MYRAN	up
Serial0/0/1	unassigned	YES	MYRAN	administratively down
Vlan1		down		
down	unassigned	YES	unset	administratively down
Router>				

Copy Paste

Time: 00:16:27

Scenario 0

Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete

PC0 PC1 ICMP 0.000 N 0 (edit) (delete)

33°C Mostly clear

ENG IN

11:44:10 PM Apr 13, 2024

Cisco Packet Tracer - C:\Users\hpi\AppData\Local\Microsoft\Windows\NetCache\VE\QUDF57F4\11_3\11.pkt

File Edit Options View Tools Extensions Window Help

Logical Physical x 1795, y 43

Router1

```
Router>show ip interface brief
Interface      IP-Address      OK? Method Status      Protocol
GigabitEthernet0/0  unassigned      YES NVRAM  administratively down  down
GigabitEthernet0/1  unassigned      YES NVRAM  administratively down  down
Serial0/0/0        209.165.200.2   YES NVRAM  up          up
Serial0/0/1        209.165.200.2   YES NVRAM  up          up
Vlan1             unassigned      YES unset  administratively down  down
Router>
```

Copy Paste

Top

Time: 00:17:15

Realtime Simulation

Scenario 0

Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete

PC0 PC1 ICMP 0.000 N 0 (edit) (delete)

PC1 PC0 ICMP 0.000 N 1 (edit) (delete)

Toggle PDU List Window

(Select a Device to Drag and Drop to the Workspace)

Cisco Packet Tracer - C:\Users\hpi\AppData\Local\Microsoft\Windows\NetCache\VE\QUDF57F4\11_3\11.pkt

File Edit Options View Tools Extensions Window Help

Logical Physical x 1799, y 753

Router2

```
Router>show ip interface brief
Interface      IP-Address      OK? Method Status      Protocol
GigabitEthernet0/0  unassigned      YES NVRAM  administratively down  down
GigabitEthernet0/1  192.168.3.1     YES NVRAM  up          up
Serial0/0/0        209.165.200.1   YES NVRAM  up          up
Serial0/0/1        unassigned      YES NVRAM  administratively down  down
Vlan1             unassigned      YES unset  administratively down  down
Router>
```

Copy Paste

Top

Time: 00:18:20

Realtime Simulation

Scenario 0

Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete

PC0 PC1 ICMP 0.000 N 0 (edit) (delete)

USD/INR -0.21%

11:46:05 PM Apr 19, 2024