

Computer Networks

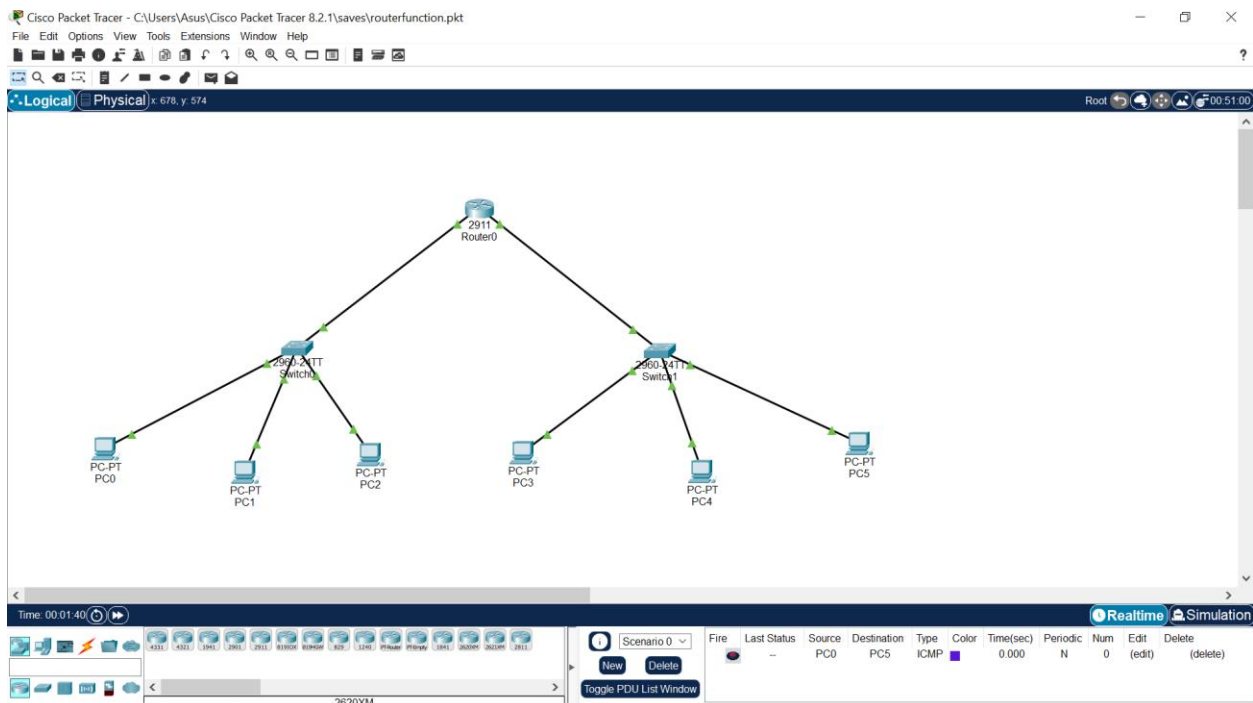
CS361 Lab6

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Task1: Make a network and transfer messages from one PC to another as demonstrated in the lab.

Creating network...



Checking connection...

```
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<1ms TTL=127
Reply from 192.168.1.2: bytes=32 time<1ms TTL=127
Reply from 192.168.1.2: bytes=32 time=1ms TTL=127

Ping statistics for 192.168.1.2:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>
```

Connection established...

Transferring packets...

Cisco Packet Tracer - C:\Users\Asus\Cisco Packet Tracer 8.2.1\saves\routefunction.pkt

File Edit Options View Tools Extensions Window Help

Logical Physical x 1462, y 22

Simulation Panel

Event List

Vis.	Time(sec)	Last Device
	0.000	-
	0.001	PC0

Reset Simulation Constant Delay Captured to: 0.001 s

Play Controls

Event List Filters - Visible Events

ACL Filter, ARP, BGP, Bluetooth, CAPWAP, CDP, DHCP, DHCPv6, DNS, DTP, EAPOL, EIGRP, EIGRPv6, FTP, H.323, HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPsec, ISAKMP, IoT, IoT TCP, LACP, LLDP, NDP, NETFLOW, NTP, OSPF, OSPFv6, PaGP, POP3, PPP, PPPoE, PTP, RADIUS, REP, RIP, RIPv2, RIPv3, SCCP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, USB, VTP

Edit Filters Show All/None

Time: 00:04:34.439 PLAY CONTROLS

Scenario 0

New Delete

Toggle PDU List Window

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

In Progress PC0 PC4 ICMP 0.000 N 0 (edit) (delete)

Cisco Packet Tracer - C:\Users\Asus\Cisco Packet Tracer 8.2.1\saves\routefunction.pkt

File Edit Options View Tools Extensions Window Help

Logical Physical x 1462, y 22

Simulation Panel

Event List

Vis.	Time(sec)	Last Device
	0.000	-
	0.001	PC0
	0.002	Switch0

Reset Simulation Constant Delay Captured to: 0.002 s

Play Controls

Event List Filters - Visible Events

ACL Filter, ARP, BGP, Bluetooth, CAPWAP, CDP, DHCP, DHCPv6, DNS, DTP, EAPOL, EIGRP, EIGRPv6, FTP, H.323, HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPsec, ISAKMP, IoT, IoT TCP, LACP, LLDP, NDP, NETFLOW, NTP, OSPF, OSPFv6, PaGP, POP3, PPP, PPPoE, PTP, RADIUS, REP, RIP, RIPv2, RIPv3, SCCP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, USB, VTP

Edit Filters Show All/None

Time: 00:04:34.440 PLAY CONTROLS

Scenario 0

New Delete

Toggle PDU List Window

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

In Progress PC0 PC4 ICMP 0.000 N 0 (edit) (delete)

Cisco Packet Tracer - C:\Users\Asus\Cisco Packet Tracer 8.2.1\saves\routefunction.pkt

File Edit Options View Tools Extensions Window Help

Logical Physical x 1462 y 22

Root 02:29:00

Simulation Panel

Event List

Vis.	Time(sec)	Last Device
	0.000	--
	0.001	PC0
	0.002	Switch0
	0.003	Router0
	0.004	Switch1

Reset Simulation Constant Delay Capturing...

Play Controls

Event List Filters - Visible Events

ACL Filter, ARP, BGP, Bluetooth, CAPWAP, CDP, DHCP, DHCPv6, DNS, DTP, EAPOL, EIGRP, EIGRPv6, FTP, H.323, HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPsec, ISAKMP, IoT, IoT TCP, LACP, LLDP, NDP, NETFLOW, NTP, OSPF, OSPFv6, PAgP, POP3, PPP, PPPoE, PTP, RADIUS, REP, RIP, RIPng, RTP, SCCP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, USB, VTP

Edit Filters Show All/None

Time: 00:04:34.441 PLAY CONTROLS

Scenario 0

New Delete

Toggle PDU List Window

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

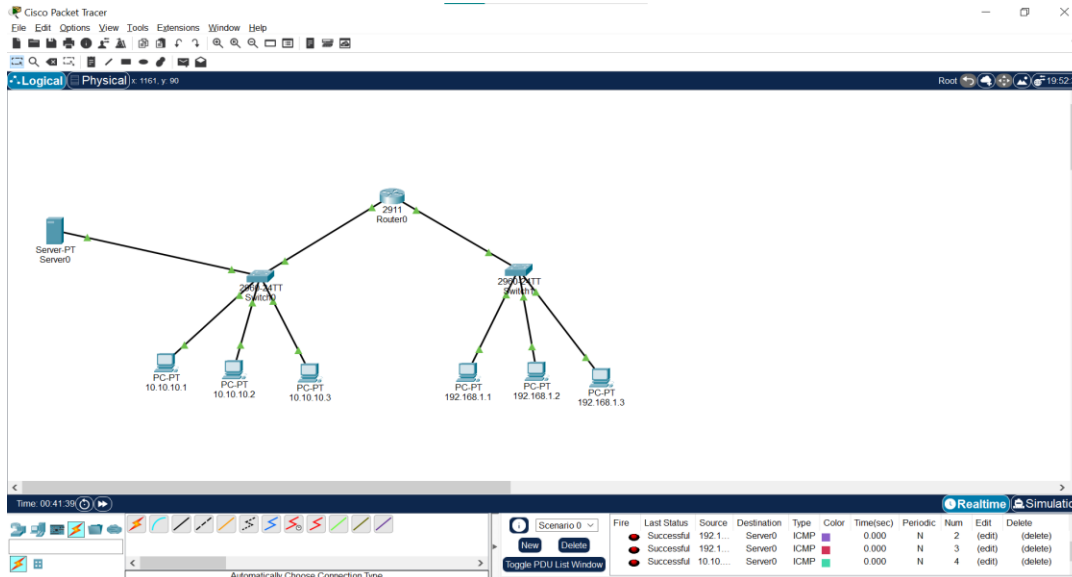
In Progress		PC0	PC4	ICMP		0.000	N	0	(edit)	(delete)
-------------	--	-----	-----	------	--	-------	---	---	--------	----------

Packet transfer Successful!!

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	PC0	PC4	ICMP		0.000	N	0	(edit)	(delete)

Task2: Connect a server to the network designed in the previous problem and transfer mail between pcs or open a web page.

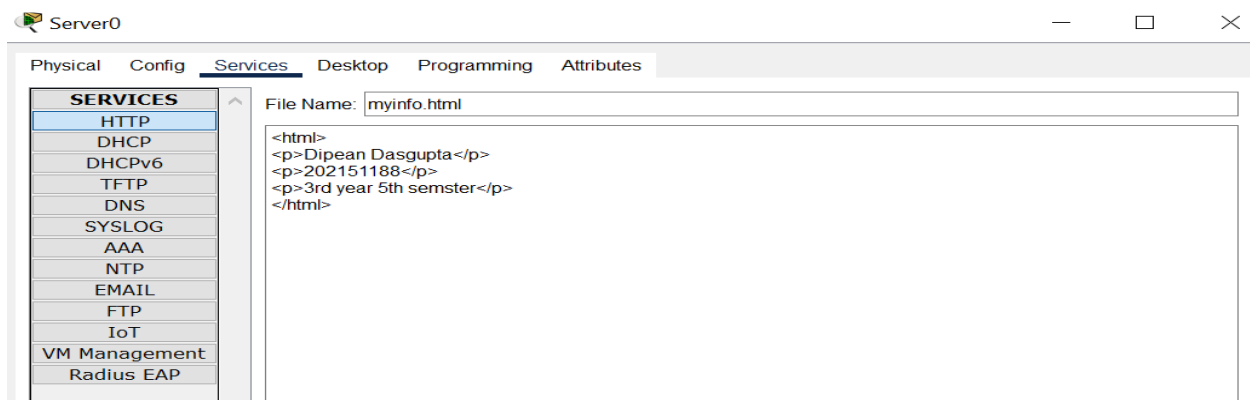
Creating Network:



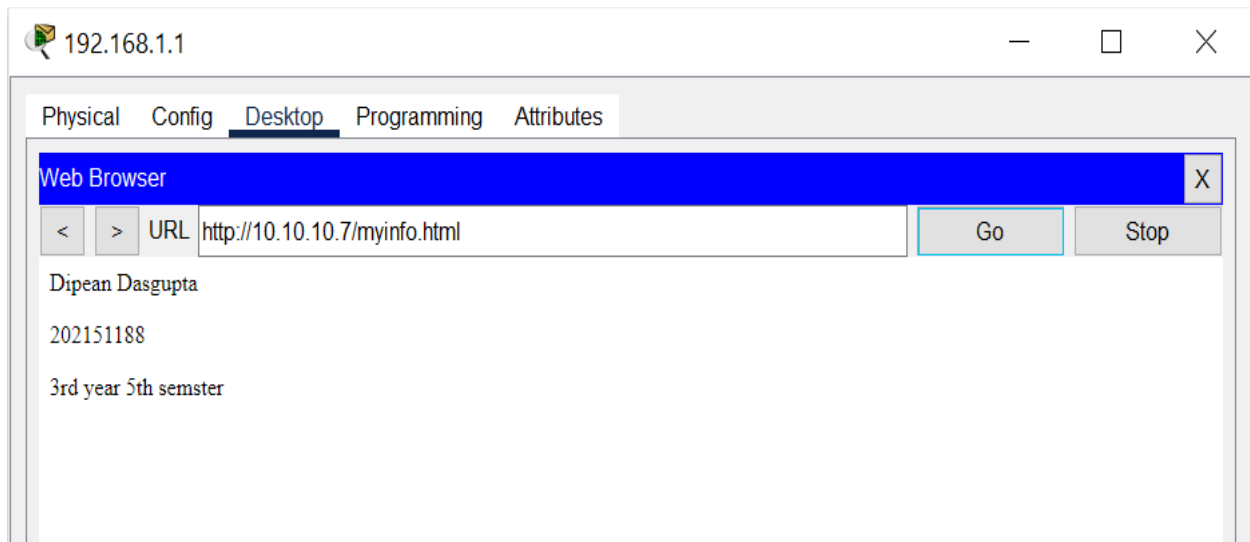
Establishing and checking connection...

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	192.1...	Server0	ICMP		0.000	N	2	(edit)	(delete)
	Successful	192.1...	Server0	ICMP		0.000	N	3	(edit)	(delete)
	Successful	10.10....	Server0	ICMP		0.000	N	4	(edit)	(delete)

Creating a webpage in server...



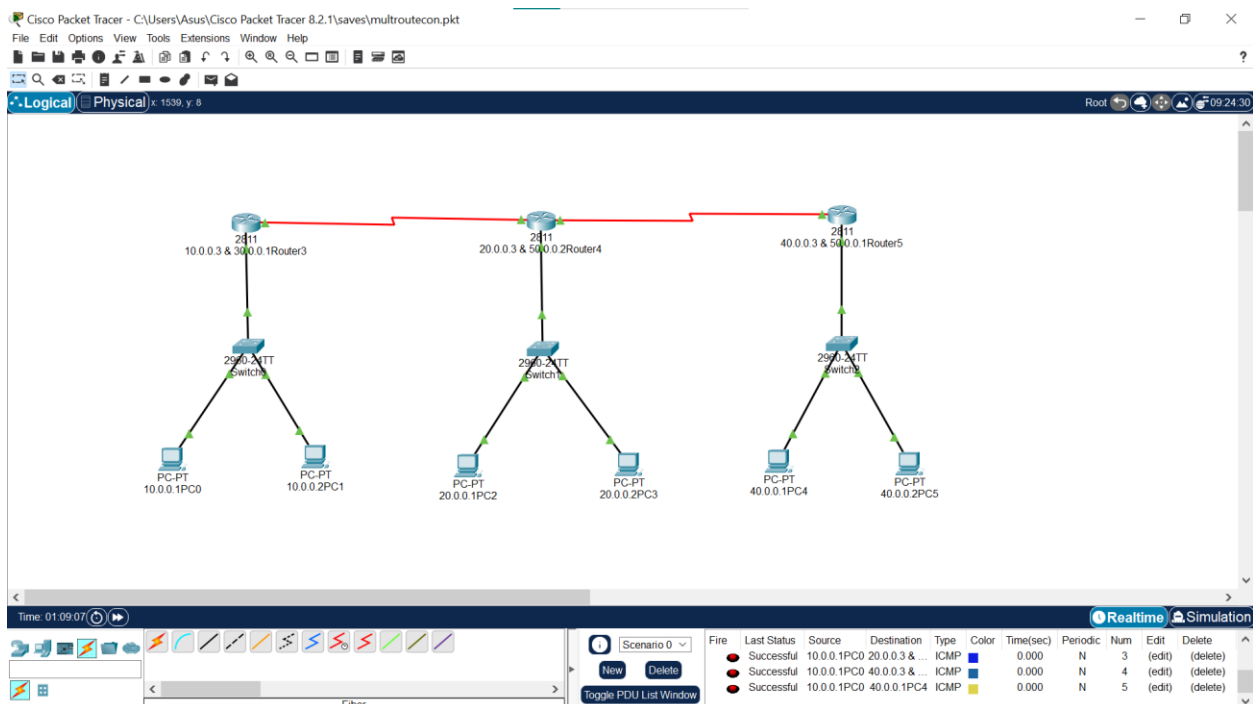
Accessing that file from server from a distant PC...



Here, the webpage is opened in pc with IP 192.168.1.1 which belongs to different network but is connected to server through a router. The webpage is successfully being displayed.

Task3: Create a complex network using three or more routers and transfer messages from one network to another.

Creating network...



Configuring routers...

1st router

```
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#interface Serial0/0/0
Router(config-if)#exit
Router(config)#ip route 0.0.0.0 0.0.0.0 30.0.0.2
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console
```

2nd router







```
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#interface Serial0/0/0
Router(config-if)#ip address 30.0.0.2 255.0.0.0
Router(config-if)#exit
Router(config)#ip route 0.0.0.0 0.0.0.0 30.0.0.1
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console
```







```
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#interface Serial0/0/0
Router(config-if)#ip address 30.0.0.2 255.0.0.0
Router(config-if)#exit
Router(config)#ip route 0.0.0.0 0.0.0.0 30.0.0.1
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console
```

Router 3

```
Router(config-if)#exit
Router(config)#interface Serial0/0/0
Router(config-if)#exit
Router(config)#ip route 0.0.0.0 0.0.0.0 50.0.0.2
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console
```

Checking Data Transfer and connection...

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit
	Successful	10.0.0.1PC0	40.0.0.3 & 50.0.0.1Router5	ICMP		0.000	N	0	(edit)
	Successful	10.0.0.1PC0	40.0.0.1PC4	ICMP		0.000	N	1	(edit)
	Successful	10.0.0.1PC0	10.0.0.3 & 30.0.0.1Router3	ICMP		0.000	N	2	(edit)

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit
	Successful	10.0.0.1PC0	20.0.0.3 & 50.0.0.2Router4	ICMP		0.000	N	3	(edit)
	Successful	10.0.0.1PC0	40.0.0.3 & 50.0.0.1Router5	ICMP		0.000	N	4	(edit)
	Successful	10.0.0.1PC0	40.0.0.1PC4	ICMP		0.000	N	5	(edit)

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit
	Successful	20.0.0.2PC3	40.0.0.2PC5	ICMP		0.000	N	9	(edit)
	Successful	10.0.0.2PC1	20.0.0.2PC3	ICMP		0.000	N	10	(edit)

Connection established and cross network data transfer all complete