Rupesh Dharme
31124
TE 01

Assignment 06

Problem statement:
Use packet tracer tool for configuration of a 3 Router network using one of the following protocol RIP / OSPF / BGP

Title: Configuration of 3 Router network

Prerequisites:
1. Protocol RIP
2. Packet tracer

learning objective:
Student will be able to configure RIP using packet tracer.

Requirements:
Windows 10 64 bit,
Packet tracer tool.

Theory:

Routing protocols:
Routing protocols maintain routing tables where routing table contains a route to every destination network.

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Dynamic Routing protolols

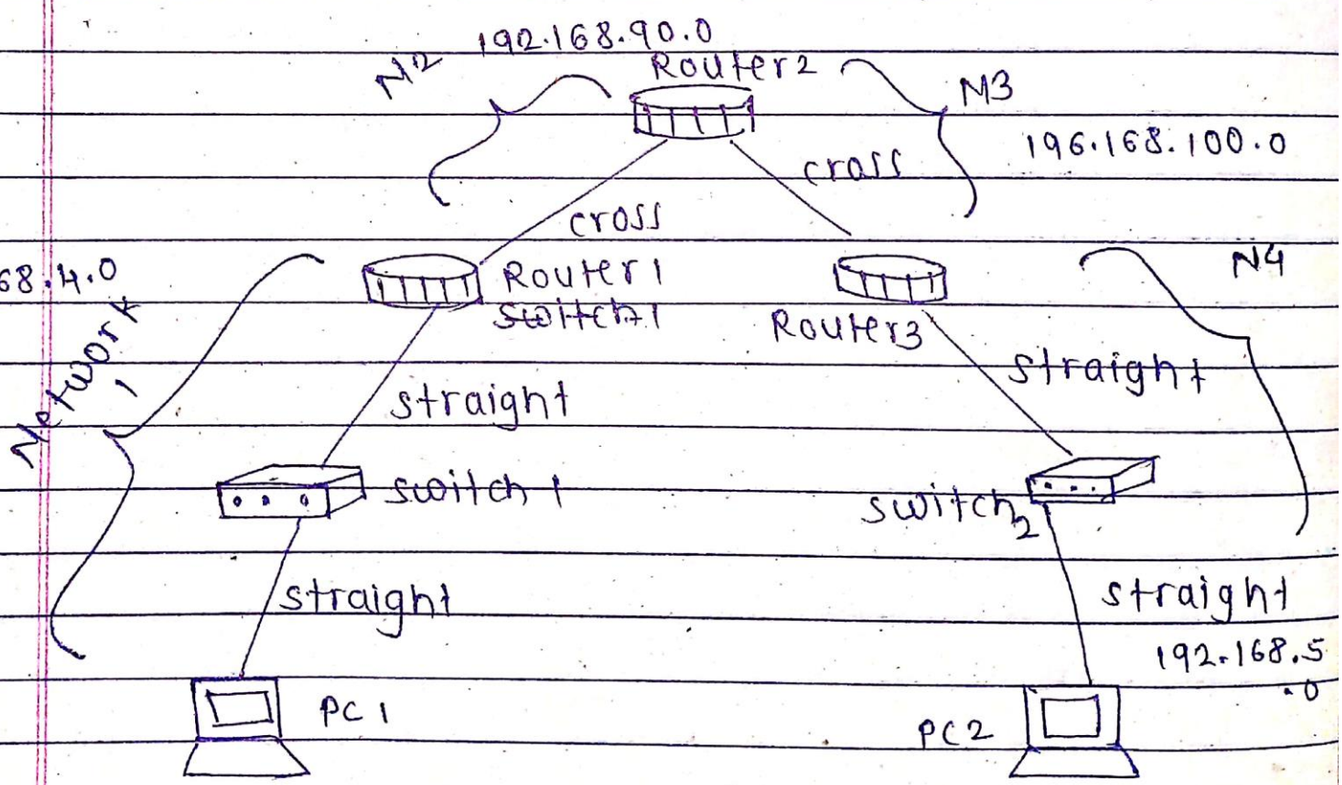
Types:

1. Routing information protocol (RIP)
2. Open shortest path first (OSPF)
3. Border Gateway protocol (BGP)

We will be working with RIprotocol:

RIP is an oldest way of routing on internet. It uses distance vector approach to find the path. Each RIP enabled table periodically sends content of it's routing table to it's neighbouring routers.

In this assignment we will construct a network like this :-



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steps to configure our network with RIP:

i. We will need two end devices, 2 switches and 3 routers.
ii. Connect the devices as shown in the above diagram.
iii. Configure the end devices with IP 192.168.4.1 and 192.168.5.1. and give gateway addresses of the routers connected to them.
iv. For Router1 and Router3 at one end configure IP as provided in gateway for end devices.
v. For all three routers configure the ethernet port with an IP of the connected neiboars.
vi. The most important part to connect all 4 networks is to give RIPs to the three routers.
vii. For each router configure the RIP, enter all the IP's for networks.

After all the above steps are completed try to conf ping end devices so to validate proper connections.

Conclusion:

In this assignment, RIP configuration was successfully done and a network of 3 routers was implemented in packet tracer tool.

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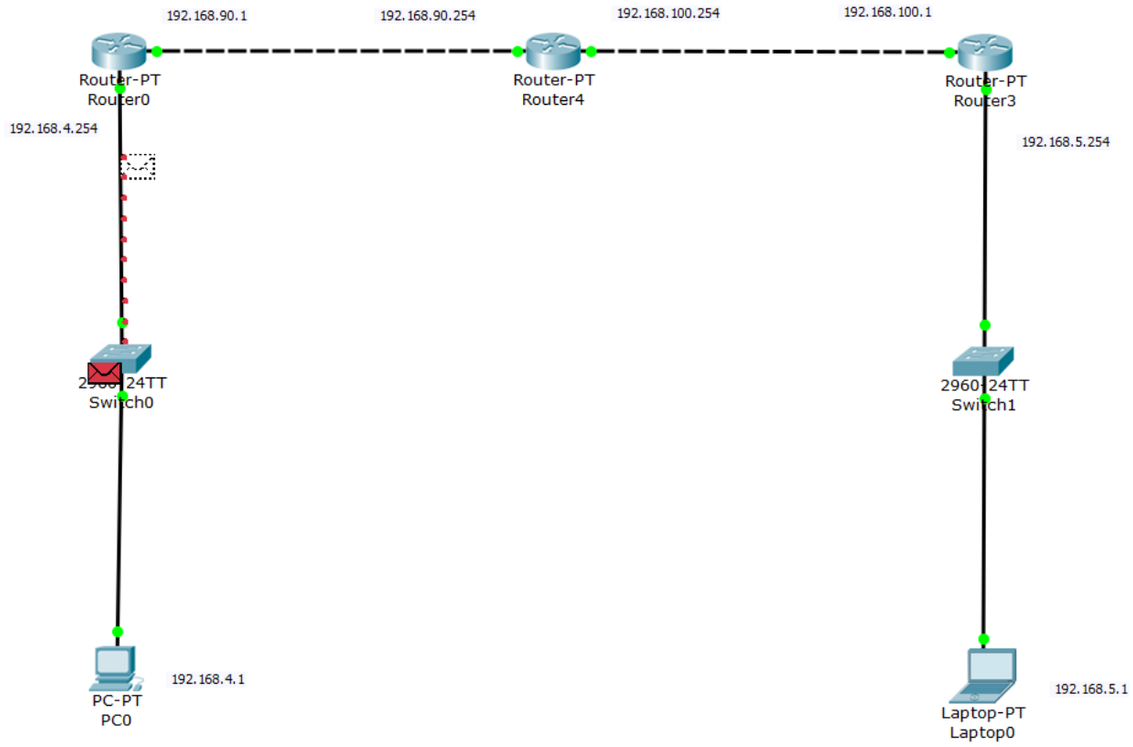
File Edit Options View Tools Extensions Help

Logical [Root] New Cluster Move Object Set Tiled Background Viewport



Simulation Panel

Event List

Vis.	Time(sec)	Last Devi	At Devi	Type	Info
	0.000	--	PC0	ICMP	
	0.001	PC0	Switch0	ICMP	
	0.002	Switch0	Router0	ICMP	

Reset Simulation | Constant Delay | Capturing...

Play Controls

Back | Auto Capture / Play | Capture / Forward

Event List Filters - Visible Events

ACL Filter, ARP, BGP, CDP, DHCP, DHCPv6, DNS, DTP, EIGRP, EIGRPv6, FTP, H.323, HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPSec, ISAKMP, LACP, NDP, NETFLOW, NTP, OSPF, OSPFv6, PAgP, POP3, RADIUS, RIP, RIPng, RTP, SCCP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, VTP

Edit Filters | Show All/None

Time: 00:23:40.757 | Power Cycle Devices | PLAY CONTROLS: Back | Auto Capture / Play | Capture / Forward | Event List | Simulation

Connections

Copper Cross-Over

Scenario 0 | New | Delete | Toggle PDU List Window

Fire	Last Status	Source	Destination	Type	Color	Time(se	Periodic	Num	Edit	Delete
	In Progress	PC0	Laptop0	ICMP		0.000	N	0	(edit)	(delete)

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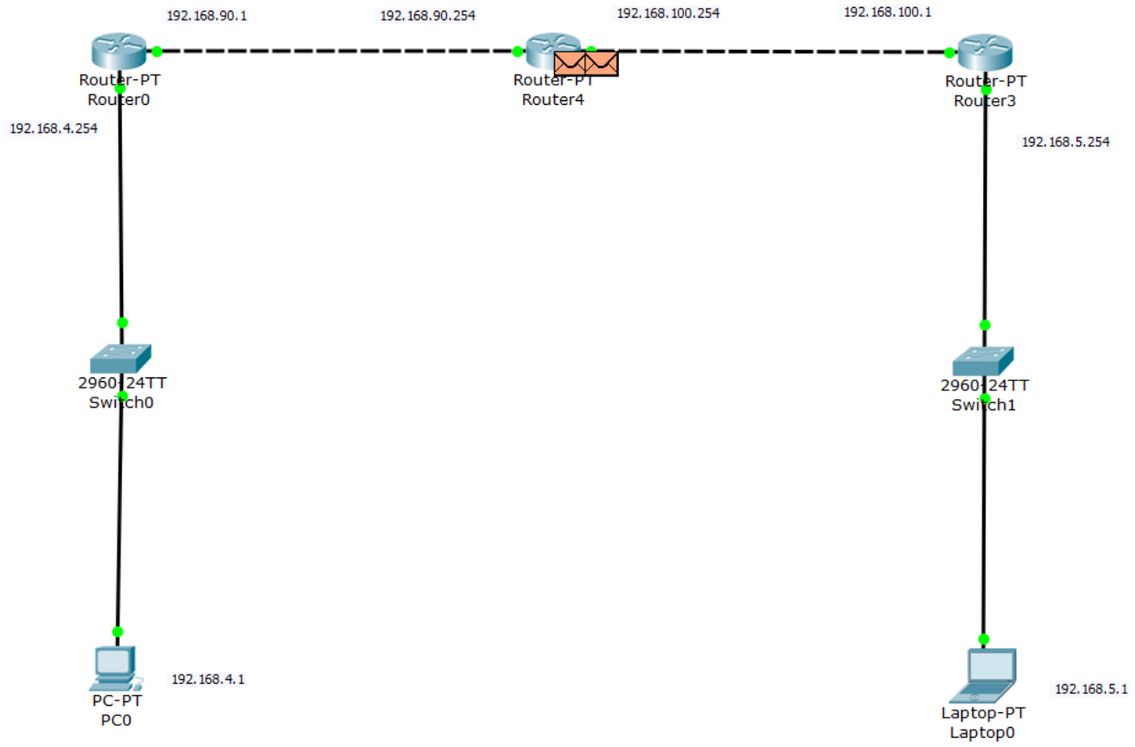
File Edit Options View Tools Extensions Help

Logical | [Root] | New Cluster | Move Object | Set Tiled Background | Viewport



Simulation Panel

Event List

Vis.	Time(sec)	Last Devi	At Devi	Type	Info
	1.392	Switch0	PC0	STP	
	1.392	Switch0	Router0	STP	
	1.419	--	Switch1	STP	
	1.420	Switch1	Router3	STP	
	1.420	Switch1	Laptop0	STP	
	1.900	--	Router4	RIPv1	
	1.900	--	Router4	RIPv1	

Reset Simulation | Constant Delay | Capturing...

Play Controls

Back | Auto Capture / Play | Capture / Forward

Event List Filters - Visible Events

ACL Filter, ARP, BGP, CDP, DHCP, DHCPv6, DNS, DTP, EIGRP, EIGRPv6, FTP, H.323, HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPSec, ISAKMP, LACP, NDP, NETFLOW, NTP, OSPF, OSPFv6, PAgP, POP3, RADIUS, RIP, RIPng, RTP, SCCP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, VTP

Edit Filters | Show All/None

Time: 00:23:42.655 | Power Cycle Devices | PLAY CONTROLS: Back | Auto Capture / Play | Capture / Forward | Event List | Simulation

Connections

Copper Cross-Over

Scenario 0 | New | Delete | Toggle PDU List Window

Fire	Last Status	Source	Destination	Type	Color	Time(se	Periodic	Num	Edit	Delete
	Successful	PC0	Laptop0	ICMP		0.000	N	0	(edit)	(delete)

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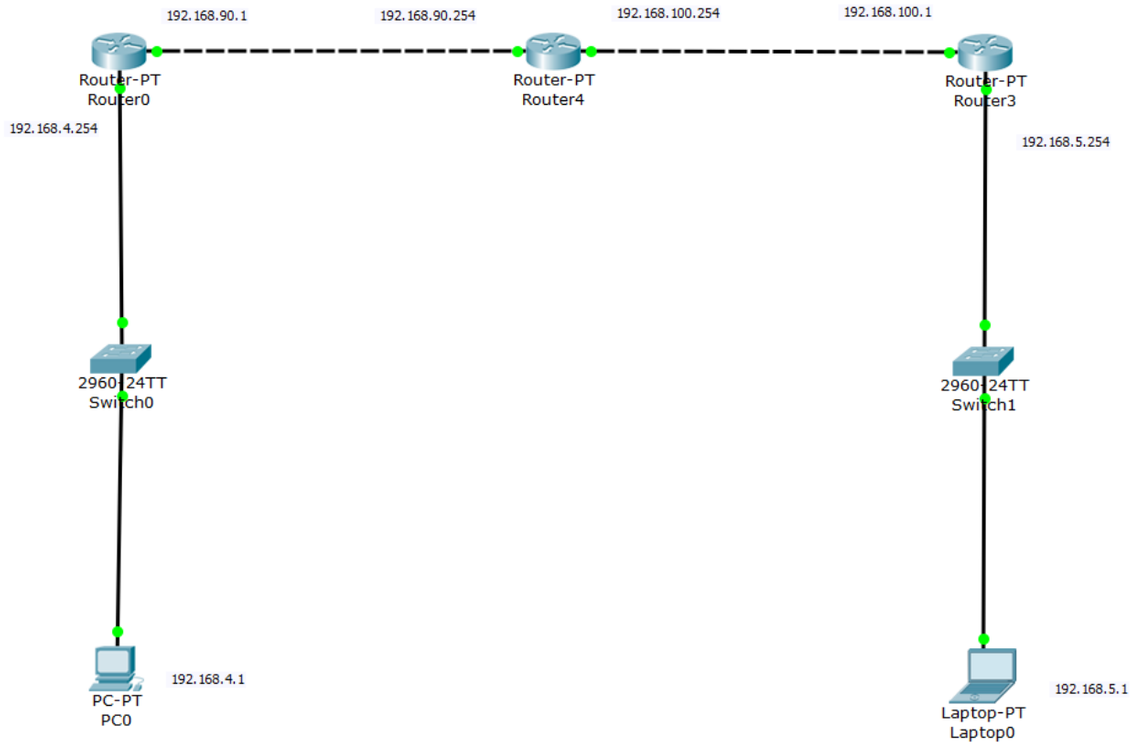
File Edit Options View Tools Extensions Help

Logical [Root] New Cluster Move Object Set Tiled Background Viewport



Time: 00:24:03 Power Cycle Devices Fast Forward Time Realtime

Connections

Copper Cross-Over

Scenario 0 New Delete Toggle PDU List Window

Fire | Last Status | Source | Destination | Type | Color | Time(se | Periodic | Num | Edit | Delete

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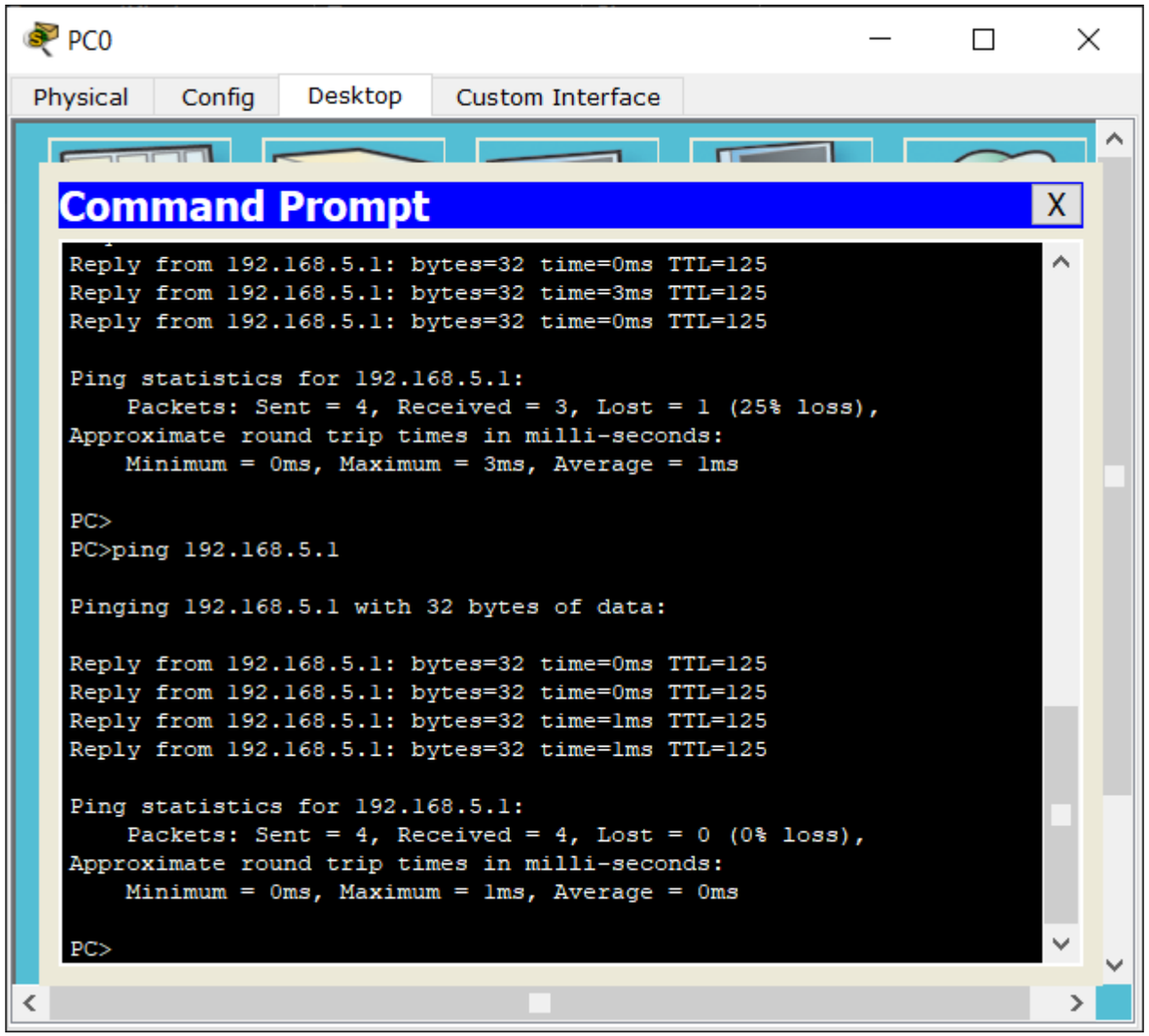
PC0
Physical
Config
Desktop
Custom Interface
Command Prompt
X
Reply from 192.168.5.1: bytes=32 time=0ms TTL=125
Reply from 192.168.5.1: bytes=32 time=3ms TTL=125
Reply from 192.168.5.1: bytes=32 time=0ms TTL=125
Ping statistics for 192.168.5.1:
Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 3ms, Average = 1ms
PC>
PC>ping 192.168.5.1
Pinging 192.168.5.1 with 32 bytes of data:
Reply from 192.168.5.1: bytes=32 time=0ms TTL=125
Reply from 192.168.5.1: bytes=32 time=0ms TTL=125
Reply from 192.168.5.1: bytes=32 time=1ms TTL=125
Reply from 192.168.5.1: bytes=32 time=1ms TTL=125
Ping statistics for 192.168.5.1:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 1ms, Average = 0ms
PC>