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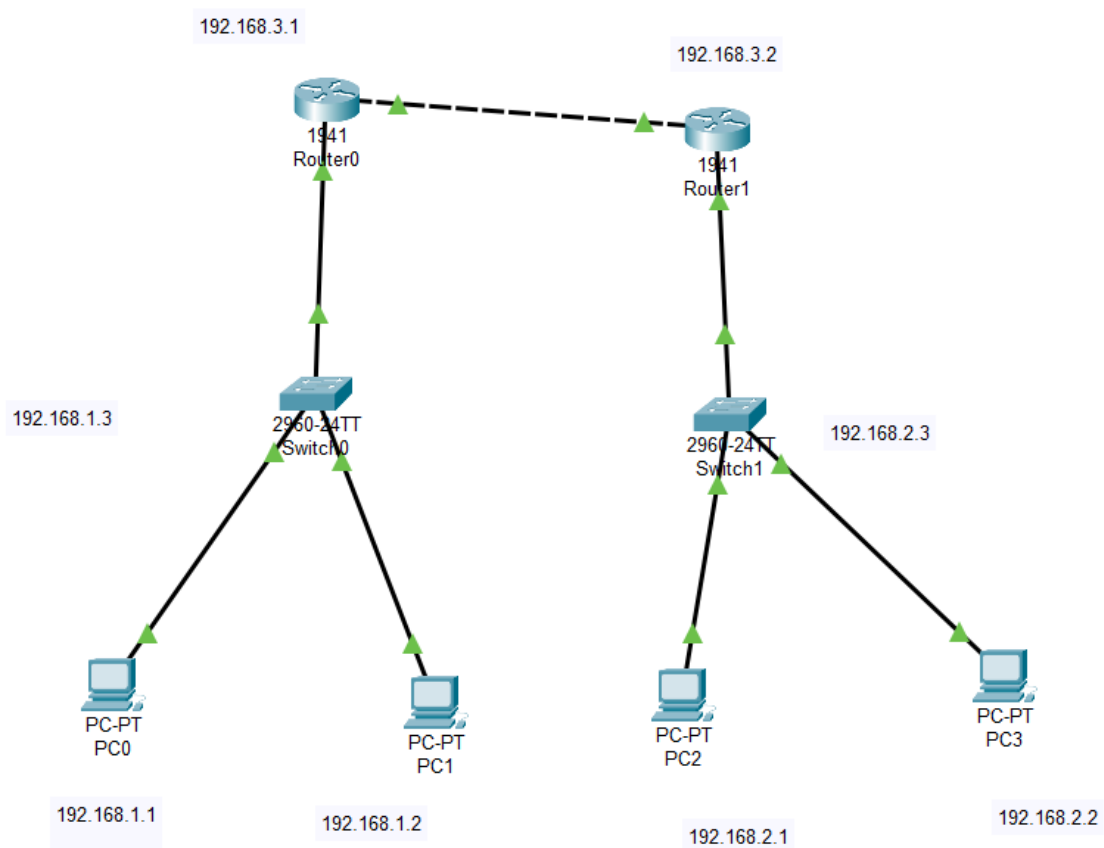
LAB 1

AIM:Create Topology in Cisco Packet Tracer and implement Static and RIP Protocol for Packet Transfer.

Tools Used:Cisco Packet Tracer.

Experiment:

Create Topology.



Configure IP Address and Default Gateway Configuration for the 4 PC Devices.

PC2

Physical Config Desktop Programming Attributes

IP Configuration X

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 192.168.2.1

Subnet Mask 255.255.255.0

Default Gateway 192.168.3.2

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::260:70FF:FE5E:C091

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

Top

PC1

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 192.168.3.1

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::2D0:BCFF:FE32:BAA7

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

Top

PC0

Physical Config Desktop Programming Attributes

IP Configuration X

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 192.168.1.1

Subnet Mask 255.255.255.0

Default Gateway 192.168.3.1

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::230:F2FF:FE5D:6753

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

Top

PC3

Physical Config Desktop Programming Attributes

IP Configuration X

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 192.168.2.2

Subnet Mask 255.255.255.0

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::201:C9FF:FE5A:66E8

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

Top

PC2

Physical Config **Desktop** Programming Attributes

IP Configuration X

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 192.168.2.1

Subnet Mask 255.255.255.0

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::260:70FF:FE5E:C091

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

Top

PC1

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 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::2D0:BCFF:FE32:BAA7

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

Top

PC0

Physical Config **Desktop** Programming Attributes

IP Configuration X

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 192.168.1.1

Subnet Mask 255.255.255.0

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::230:F2FF:FE5D:6753

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

☐ Top

PC3

Physical Config **Desktop** Programming Attributes

IP Configuration X

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 192.168.2.2

Subnet Mask 255.255.255.0

Default Gateway 192.168.3.2

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::201:C9FF:FE5A:66E8

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

☐ Top

Assign IPv4 Address, Ports and Subnets of Routers.

Router1

Physical **Config** CLI Attributes

GLOBAL

- Settings
- Algorithm Settings
- ROUTING**
- Static
- RIP
- SWITCHING**
- VLAN Database
- INTERFACE**
- GigabitEthernet0/0
- GigabitEthernet0/1

GigabitEthernet0/0

Port Status ☒ On

Bandwidth ☒ 1000 Mbps ☐ 100 Mbps ☐ 10 Mbps ☒ Auto

Duplex ☒ Half Duplex ☐ Full Duplex ☒ Auto

MAC Address 0001.9691.5D01

IP Configuration

IPv4 Address 192.168.2.3

Subnet Mask 255.255.255.0

Tx Ring Limit 10

Equivalent IOS Commands

```
Router>en
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#
Router(config)#interface GigabitEthernet0/0
Router(config-if)#ip address 192.168.2.3 255.255.255.0
Router(config-if)#ip address 192.168.2.3 255.255.255.0
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
```

☐ Top

Router1

Physical Config **CLI** Attributes

IOS Command Line Interface

States and local country laws governing import, export, transfer and use. Delivery of Cisco cryptographic products does not imply 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/wwl/export/crypto/tool/stqrg.html>

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

Cisco CISC01941/K9 (revision 1.0) with 491520K/32768K bytes of memory.
Processor board ID FTX152400KS
2 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!

```
Router>en
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#
```

Ctrl+F6 to exit CLI focus

Copy Paste

☐ Top

Router0

Physical
Config
CLI
Attributes

GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
SWITCHING
VLAN Database
INTERFACE
GigabitEthernet0/0
GigabitEthernet0/1

GigabitEthernet0/1

GigabitEthernet0/1

Port Status

☒ On

Bandwidth

☒ 1000 Mbps
☐ 100 Mbps
☐ 10 Mbps
☒ Auto

Duplex

☒ Half Duplex
☐ Full Duplex
☒ Auto

MAC Address

00D0.9713.5A02

IP Configuration

IPv4 Address

192.168.3.1

Subnet Mask

255.255.255.0

Tx Ring Limit

10

Equivalent IOS Commands

```

%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)#exit
Router(config)#interface GigabitEthernet0/1
Router(config-if)#ip address 192.168.3.1 255.255.255.0
Router(config-if)#ip address 192.168.3.1 255.255.255.0
Router(config-if)#no shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/1, changed state to up

```

☐ Top

Router0

Physical
Config
CLI
Attributes

GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
SWITCHING
VLAN Database
INTERFACE
GigabitEthernet0/0
GigabitEthernet0/1

GigabitEthernet0/0

GigabitEthernet0/0

Port Status

☒ On

Bandwidth

☒ 1000 Mbps
☐ 100 Mbps
☐ 10 Mbps
☒ Auto

Duplex

☒ Half Duplex
☐ Full Duplex
☒ Auto

MAC Address

00D0.9713.5A01

IP Configuration

IPv4 Address

192.168.1.3

Subnet Mask

255.255.255.0

Tx Ring Limit

10

Equivalent IOS Commands

```

Router>en
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#
Router(config)#interface GigabitEthernet0/0
Router(config-if)#ip address 192.168.1.3 255.255.255.0
Router(config-if)#ip address 192.168.1.3 255.255.255.0
Router(config-if)#no shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0, changed state to up

```

☐ Top

IOS Command Line Interface

States and local country laws governing import, export, transfer and use. Delivery of Cisco cryptographic products does not imply 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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<http://www.cisco.com/wwl/export/crypto/tool/stqrg.html>

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Cisco CISC01941/K9 (revision 1.0) with 491520K/32768K bytes of memory.
Processor board ID FTX152400KS
2 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!

```
Router>en
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#
```

Ctrl+F6 to exit CLI focus

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☐ Top

GLOBAL	GigabitEthernet0/1
Settings	Port Status <input checked="" type="checkbox"/> On
Algorithm Settings	Bandwidth <input checked="" type="radio"/> 1000 Mbps <input type="radio"/> 100 Mbps <input type="radio"/> 10 Mbps <input checked="" type="checkbox"/> Auto
ROUTING	Duplex <input type="radio"/> Half Duplex <input checked="" type="radio"/> Full Duplex <input checked="" type="checkbox"/> Auto
Static	MAC Address 0001.9691.5D02
RIP	IP Configuration
SWITCHING	IPv4 Address 192.168.3.2
VLAN Database	Subnet Mask 255.255.255.0
INTERFACE	Tx Ring Limit 10
GigabitEthernet0/0	
GigabitEthernet0/1	

Equivalent IOS Commands

```
%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)#exit
Router(config)#interface GigabitEthernet0/1
Router(config-if)#ip address 192.168.3.2 255.255.255.0
Router(config-if)#ip address 192.168.3.2 255.255.255.0
Router(config-if)#no shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed
state to up
```

☐ Top

Assign Static and RIP routes for Router0 and Router1.

Router0

Physical Config CLI Attributes

GLOBAL

Settings

Algorithm Settings

ROUTING

Static

RIP

SWITCHING

VLAN Database

INTERFACE

GigabitEthernet0/0

GigabitEthernet0/1

Static Routes

Network 192.168.2.0

Mask 255.255.255.0

Next Hop 192.168.3.2

Add

Network Address

192.168.2.0/24 via 192.168.3.2

Remove

Equivalent IOS Commands

```
Router(config-if)#
Router(config-if)#exit
Router(config)#interface GigabitEthernet0/1
Router(config-if)#
Router(config-if)#exit
Router(config)#
Router(config)#ip route 192.168.2.0 255.255.255.0 192.168.3.2
Router(config)#
```

☐ Top

Router1

Physical Config CLI Attributes

GLOBAL

Settings

Algorithm Settings

ROUTING

Static

RIP

SWITCHING

VLAN Database

INTERFACE

GigabitEthernet0/0

GigabitEthernet0/1

RIP Routing

Network

Add

Network Address

192.168.0.0

Remove

Equivalent IOS Commands

```
Router(config-if)#ip address 192.168.3.2 255.255.255.0
Router(config-if)#no shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed state to up
Router(config-if)#exit
Router(config)#router rip
Router(config-router)#network 192.168.0.0
Router(config-router)#
```

☐ Top

Router0

Physical

Config

CLI

Attributes

GLOBAL

Settings

Algorithm Settings

ROUTING

Static

RIP

SWITCHING

VLAN Database

INTERFACE

GigabitEthernet0/0

GigabitEthernet0/1

RIP Routing

Network

Add

Network Address

192.168.0.0

Remove

Equivalent IOS Commands

Router(config-if)#ip address 192.168.3.1 255.255.255.0
Router(config-if)#no shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/1, changed state to up

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

Router(config-if)#exit
Router(config)#router rip
Router(config-router)#network 192.168.0.0
Router(config-router)#

Top

Router1

Physical

Config

CLI

Attributes

GLOBAL

Settings

Algorithm Settings

ROUTING

Static

RIP

SWITCHING

VLAN Database

INTERFACE

GigabitEthernet0/0

GigabitEthernet0/1

Static Routes

Network

192.168.1.0

Mask

255.255.255.0

Next Hop

192.168.3.1

Add

Network Address

192.168.1.0/24 via 192.168.3.1







Remove







Equivalent IOS Commands







Router(config-if)#exit
Router(config)#interface GigabitEthernet0/1
Router(config-if)#
Router(config-if)#exit
Router(config)#
Router(config)#ip route 192.168.1.0 255.255.255.0 192.168.3.1
Router(config)#







Top

Observation:

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	PC2	Router0	ICMP		0.000	N	6	(edit)	(delete)
	Successful	PC0	Router1	ICMP		0.000	N	7	(edit)	(delete)
	Successful	PC1	PC3	ICMP		0.000	N	8	(edit)	(delete)

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	PC0	PC1	ICMP		0.000	N	3	(edit)	(delete)
	Successful	PC0	Router1	ICMP		0.000	N	4	(edit)	(delete)
	Successful	PC2	PC0	ICMP		0.000	N	5	(edit)	(delete)

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	PC0	PC3	ICMP		0.000	N	0	(edit)	(delete)
	Successful	PC1	PC2	ICMP		0.000	N	1	(edit)	(delete)
	Successful	PC0	Router1	ICMP		0.000	N	2	(edit)	(delete)

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	PC0	Router0	ICMP		0.000	N	9	(edit)	(delete)
	Successful	PC2	Router1	ICMP		0.000	N	10	(edit)	(delete)
	Successful	Router0	Router1	ICMP		0.000	N	11	(edit)	(delete)

Conclusion:Topology has been successfully created and executed.