

CSE 3501

INFORMATION SECURITY ANALYSIS & AUDIT



Lab Assessment – 2

L9+L10 | PLBG04

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by

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Exercise .

1. **Aim:** To perform dynamic routing in Cisco Packet Tracer®.
2. **Objective:** My objective in this exercise is to learn how PDUs (messages, signals, etc.) travel from one PC to another (dynamically routed).
3. **Procedure:**
 - Select 2 PT-Routers, 2 PT-Switches, and 2 PCs.
 - Select a straight-through cable.
 - Using it, connect PC0 and Switch 0, Switch0 and Router0, using the fastethernet ports.
 - Similarly, connect PC1 and Switch 1, Switch 1 and Router 1, using the fastethernet ports.
 - Now select a Serial DCE cable and connect Router0 with Router1 using the Serial2/0 ports.
 - Configure both the routers as:

Router0:

The image displays two side-by-side screenshots of the Cisco Packet Tracer configuration window for Router0. The left window shows the configuration for the FastEthernet0/0 interface, and the right window shows the configuration for the Serial2/0 interface. Both windows have tabs for Physical, Config, CLI, and Attributes. The Config tab is active in both.

FastEthernet0/0 Configuration (Left Window):

- GLOBAL Settings:** Port Status is On, Bandwidth is 100 Mbps, Duplex is Full Duplex, and Auto is checked.
- ROUTING:** Static is selected, and RIP is checked.
- INTERFACE:** FastEthernet0/0 is selected. IP Address is 192.168.10.1, Subnet Mask is 255.255.255.0, and Tx Ring Limit is 10.
- Equivalent IOS Commands:**

```
Router#configure terminal
Router(config)#interface FastEthernet0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet1/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet0/0
Router(config-if)#
```

Serial2/0 Configuration (Right Window):

- GLOBAL Settings:** Port Status is On, Duplex is Full Duplex, and Clock Rate is 64000.
- ROUTING:** Static is selected, and RIP is checked.
- INTERFACE:** Serial2/0 is selected. IP Address is 192.168.12.1, Subnet Mask is 255.255.255.0, and Tx Ring Limit is 10.
- Equivalent IOS Commands:**

```
Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet1/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial2/0
Router(config-if)#
```

Router1:

Router1 Configuration - FastEthernet0/0

GLOBAL

- Settings
- Algorithm Settings
- ROUTING**
 - Static
 - RIP
- INTERFACE**
 - FastEthernet0/0
 - FastEthernet1/0
 - Serial2/0
 - Serial3/0
 - FastEthernet4/0
 - FastEthernet5/0

FastEthernet0/0 Configuration:

- Port Status: ☒ On
- Bandwidth: ☒ 100 Mbps ☐ 10 Mbps
- Duplex: ☐ Half Duplex ☒ Full Duplex
- MAC Address: 00D0.971D.2832
- IP Configuration:
 - IPv4 Address: 192.168.11.1
 - Subnet Mask: 255.255.255.0
- Tx Ring Limit: 10

Equivalent IOS Commands:

```

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up

Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface FastEthernet0/0
Router(config-if)#
  
```

Router1 Configuration - Serial2/0

GLOBAL

- Settings
- Algorithm Settings
- ROUTING**
 - Static
 - RIP
- INTERFACE**
 - FastEthernet0/0
 - FastEthernet1/0
 - Serial2/0
 - Serial3/0
 - FastEthernet4/0
 - FastEthernet5/0

Serial2/0 Configuration:

- Port Status: ☒ On
- Duplex: ☒ Full Duplex
- Clock Rate: 84000
- IP Configuration:
 - IPv4 Address: 192.168.12.2
 - Subnet Mask: 255.255.255.0
- Tx Ring Limit: 10

Equivalent IOS Commands:

```

Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet1/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial2/0
Router(config-if)#
  
```

○ RIP Routing:

Router0 Configuration - RIP Routing

GLOBAL

- Settings
- Algorithm Settings
- ROUTING**
 - Static
 - RIP
- INTERFACE**
 - FastEthernet0/0
 - FastEthernet1/0
 - Serial2/0
 - Serial3/0
 - FastEthernet4/0
 - FastEthernet5/0

RIP Routing Configuration:

Network Address
192.168.10.0
192.168.11.0
192.168.12.0

Equivalent IOS Commands:

```

Router(config-if)#exit
Router(config)#interface FastEthernet1/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial2/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial2/0
Router(config-if)#
Router(config-if)#exit
Router(config)#router rip
Router(config-router)#
  
```

Router1 Configuration - RIP Routing

GLOBAL

- Settings
- Algorithm Settings
- ROUTING**
 - Static
 - RIP
- INTERFACE**
 - FastEthernet0/0
 - FastEthernet1/0
 - Serial2/0
 - Serial3/0
 - FastEthernet4/0
 - FastEthernet5/0

RIP Routing Configuration:

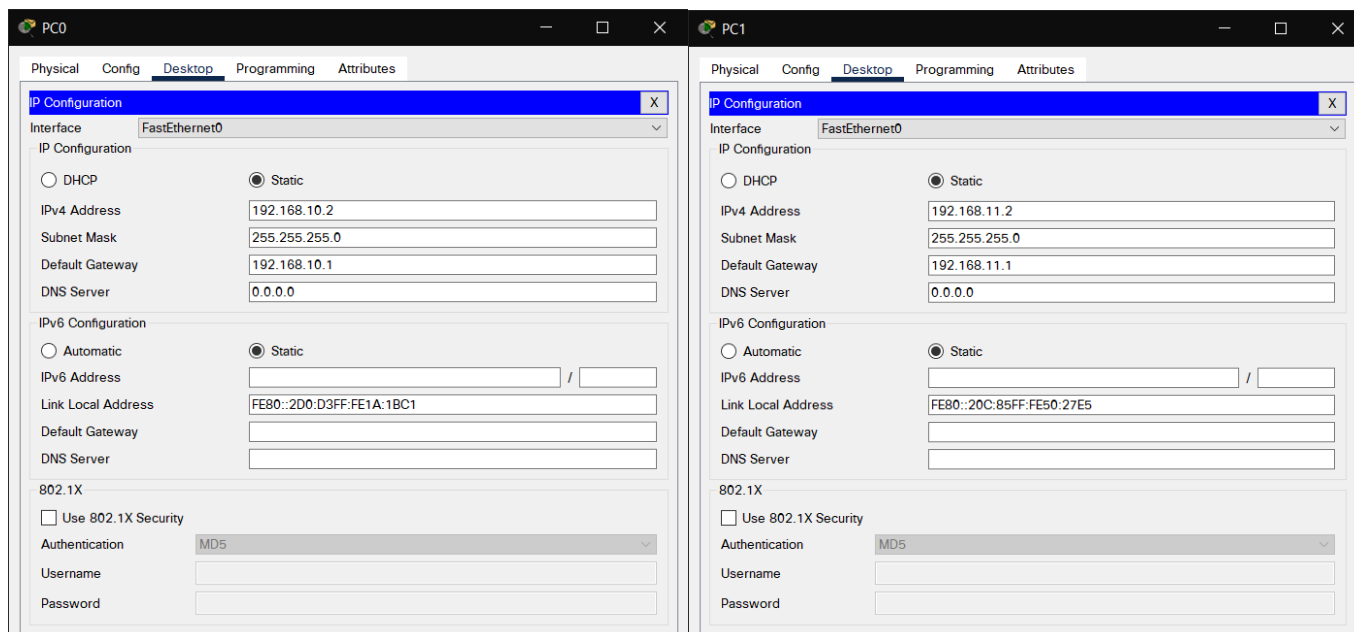
Network Address
192.168.10.0
192.168.11.0
192.168.12.0

Equivalent IOS Commands:

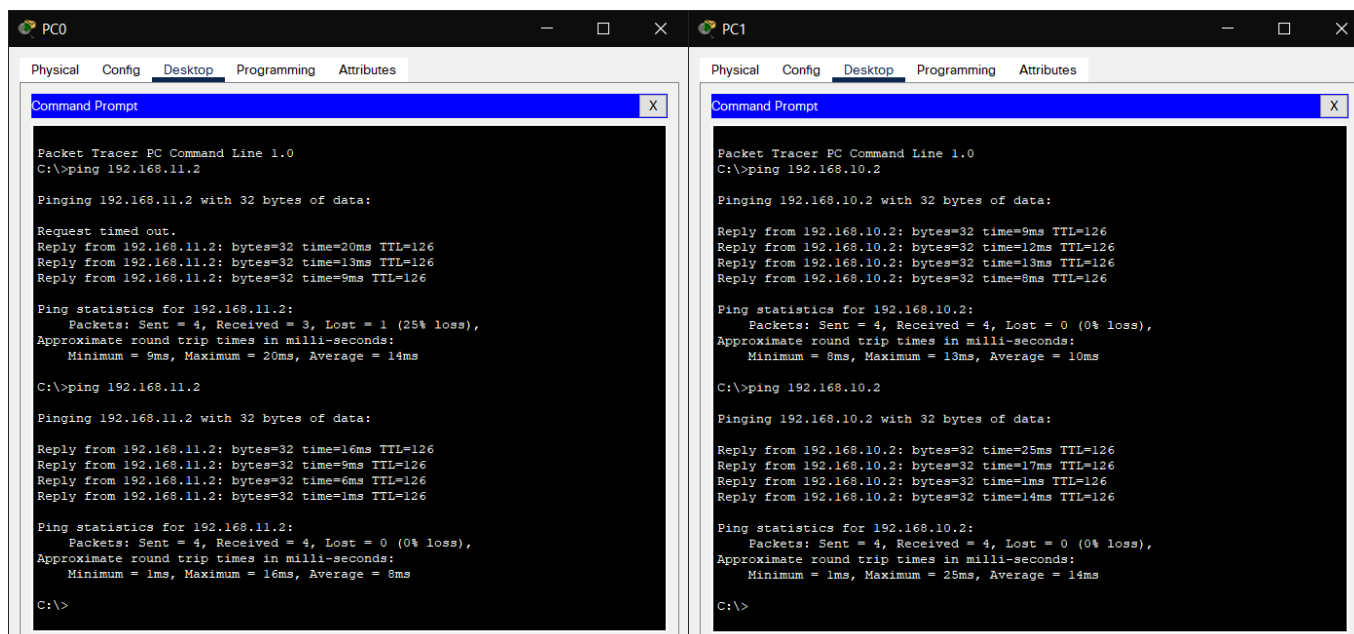
```

Router(config-if)#exit
Router(config)#interface FastEthernet0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial2/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial2/0
Router(config-if)#
Router(config-if)#exit
Router(config)#router rip
Router(config-router)#
  
```

○ Configuring the PCs:

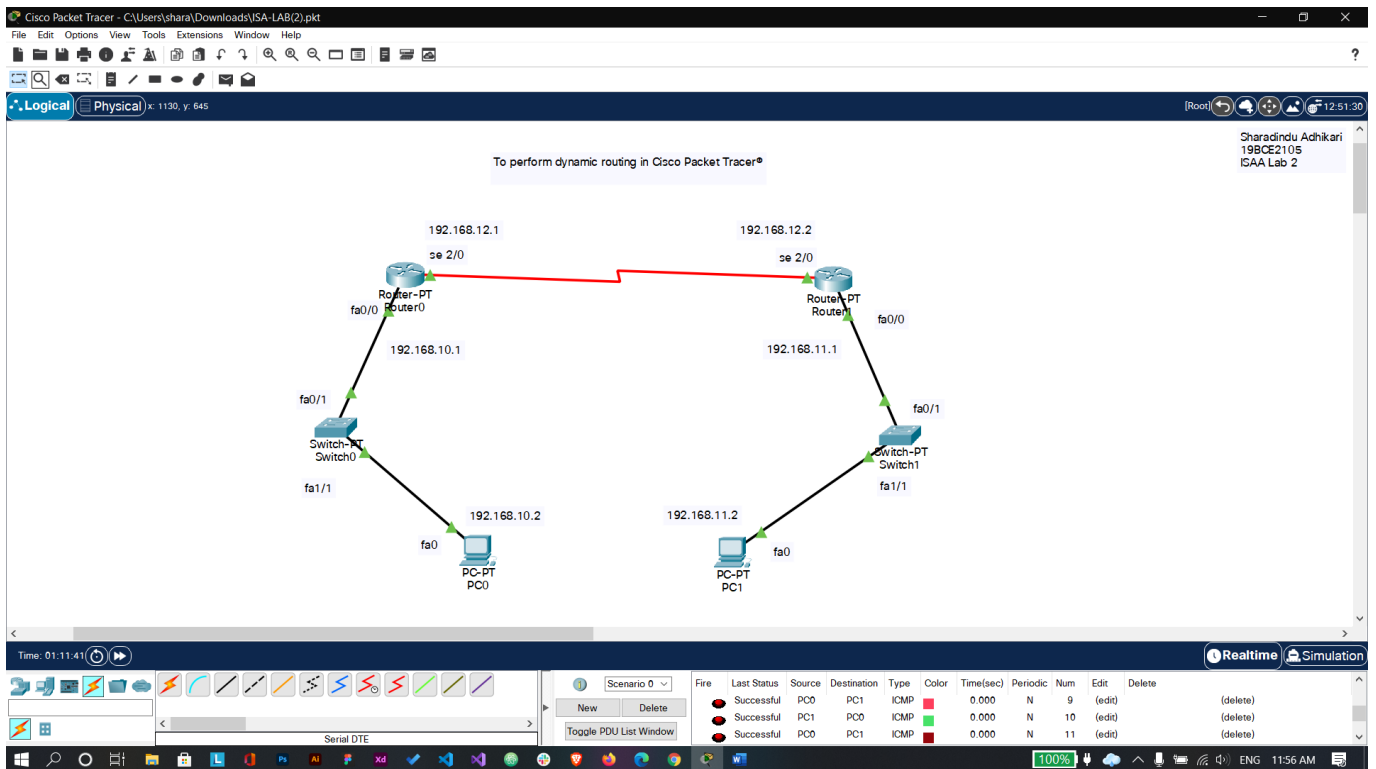


- Pinging each other:



4. Results screenshots:

PDU List Window										
Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
●	Successful	PC0	PC1	ICMP	Red	0.000	N	9	(edit)	(delete)
●	Successful	PC1	PC0	ICMP	Green	0.000	N	10	(edit)	(delete)
●	Successful	PC0	PC1	ICMP	Blue	0.000	N	11	(edit)	(delete)
●	Successful	PC1	PC0	ICMP	Yellow	0.000	N	12	(edit)	(delete)
●	Successful	PC0	PC1	ICMP	Purple	0.000	N	13	(edit)	(delete)
●	Successful	PC1	PC0	ICMP	Orange	0.000	N	14	(edit)	(delete)



5. Simulation:

