

# Computer Networks Lab

UE19CS255

Week 7

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Semester: 4      Section: G

**SRN:** PES2UG19CS406

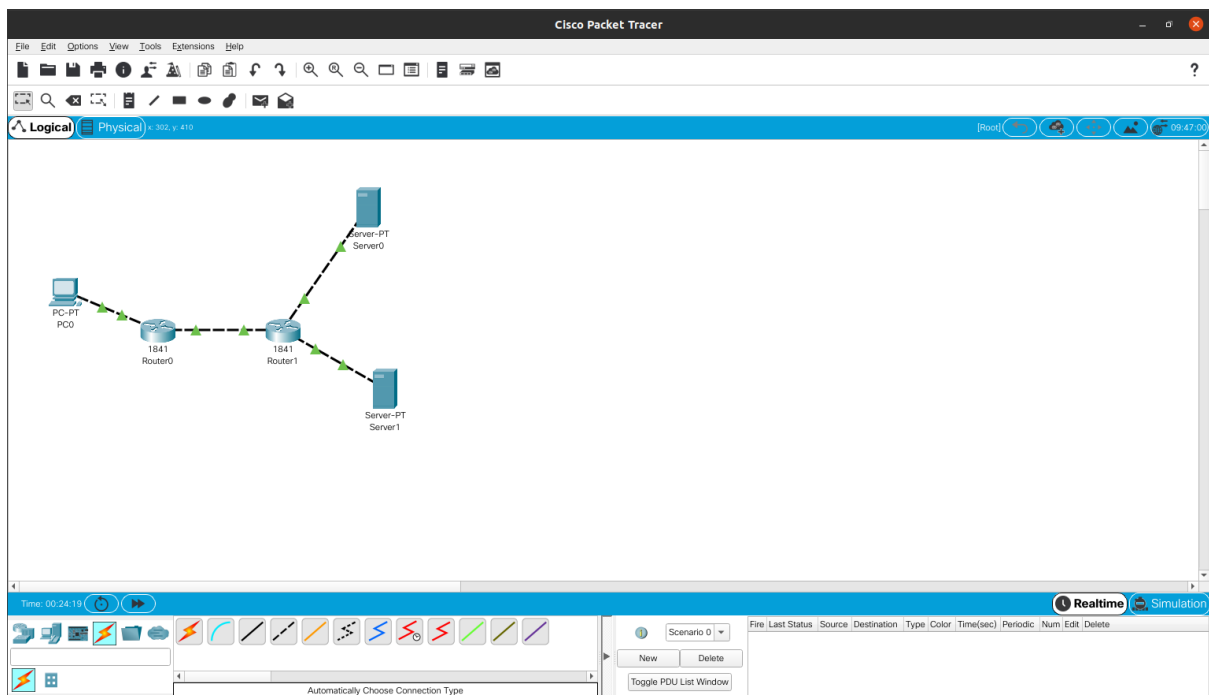
Date: 11/03/21

## Aim:

Use Cisco Packet Tracer to understand the life of a packet in the internet.

## Exercise 1:

- We configure the network as per the screenshot below.
- We assign IP addresses to all the devices in the network and also create a DNS Server as well as a Web Server.
- We setup the routing table as well.
- We then send a HTTP request from the PC in the domain 'google.com'.



## Network Configuration:

### End Systems

End System	Interface Name	IP Address	Subnet Mask	Gateway	DNS Server
PC-PT PC0	FastEthernet0	10.10.1.1	255.255.255.0	10.10.1.2	192.168.1.2
Server-PT Server 0(DNS Server)	FastEthernet0	192.168.1.2	255.255.255.0	192.168.1.1	

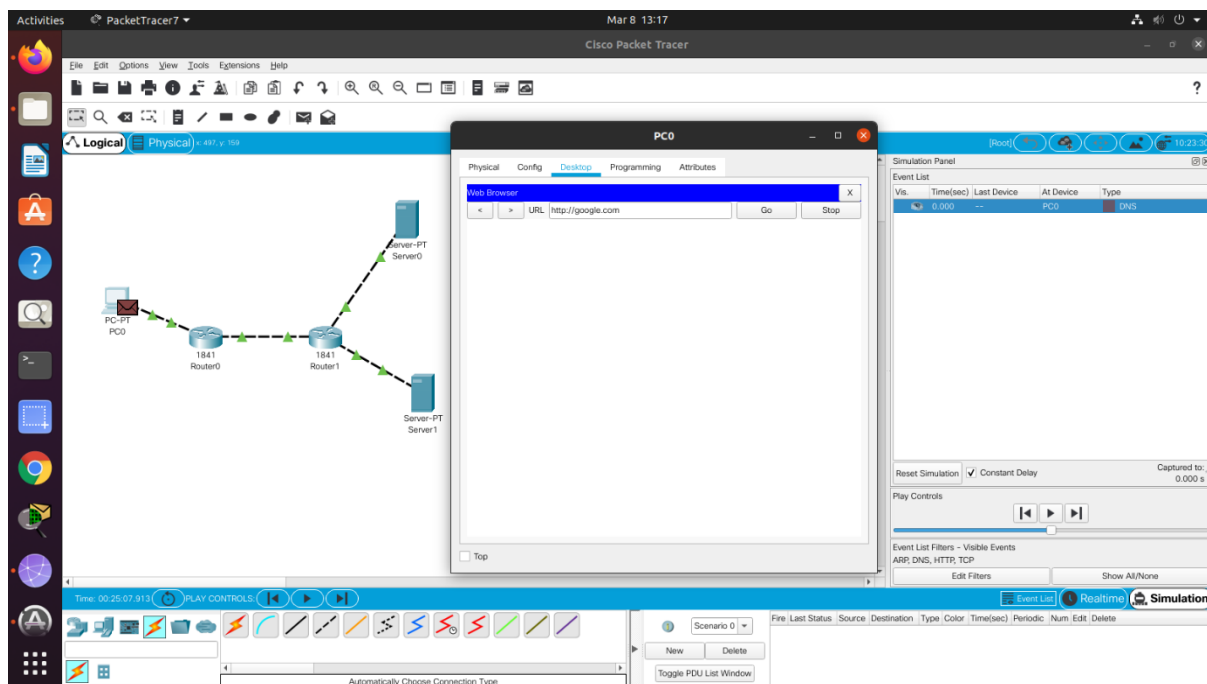
Server PT- Server 1(Web Server)	FastEthernet0	192.168.2.1	255.255.255.0	192.168.2.1	
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## Routers

Router	Interface Name	IP Address	Subnet Mask
Router0	FastEthernet0/0	10.10.1.2	255.255.255.0
Router0	FastEthernet0/1	10.10.2.1	255.255.255.0
Router1	FastEthernet0/0	10.10.2.2	255.255.255.0
Router1	FastEthernet0/1	192.168.1.1	255.255.255.0
Router1	Ethernet0/0/0	192.168.2.1	255.255.255.0

## Routing Table

Router	Destination Network	Next Hop	Mask
Router0	192.168.1.0	10.10.2.2	255.255.255.0
Router0	192.168.2.0	10.10.2.2	255.255.255.0
Router1	10.10.1.0	10.10.2.1	255.255.255.0



Cisco Packet Tracer

File Edit Options View Tools Extensions Help

Logical Physical x.1074, y.18 [Root] 11:01:30

```

graph LR
    PC0[PC-PT PC0] --- Router0[1841 Router0]
    Router0 --- Router1[1841 Router1]
    Router1 --- Server0[Server-PT Server0]
    Router1 --- Server1[Server-PT Server1]
  
```

Simulation Panel

Event List

Vis.	Time(sec)	Last Device	At Device	Type
0.000	--	PC0		DNS
0.001	PC0	Router0		DNS
0.002	Router0	Router1		DNS
0.003	Router1	Server0		DNS
0.004	Server0	Router1		DNS
0.005	Router1	Router0		DNS
0.006	Router0	PC0		DNS
0.006	--	PC0		TCP
0.007	PC0	Router0		TCP
0.008	Router0	Router1		TCP
0.009	Router1	Server1		TCP
0.010	Server1	Router1		TCP
0.011	Router1	Router0		TCP
0.012	Router0	PC0		TCP
0.012	--	PC0		HTTP
0.013	PC0	Router0		TCP
0.013	--	PC0		HTTP
0.014	PC0	Router0		HTTP
0.014	Router0	Router1		TCP

Reset Simulation ☒ Constant Delay Captured to: 150.294 s

Play Controls

Event List Filters - Visible Events  
ARP, DNS, HTTP, TCP

Edit Filters Show All/None

Time: 00:27:38.207 PLAY CONTROLS

Scenario 0

New Delete

Toggle PDU List Window

Automatically Choose Connection Type

Cisco Packet Tracer

File Edit Options View Tools Extensions Help

Logical Physical x.1074, y.18 [Root] 11:05:30

```

graph LR
    PC0[PC-PT PC0] --- Router0[1841 Router0]
    Router0 --- Router1[1841 Router1]
    Router1 --- Server0[Server-PT Server0]
    Router1 --- Server1[Server-PT Server1]
  
```

Simulation Panel

Event List

Vis.	Time(sec)	Last Device	At Device	Type
0.013	--	PC0		HTTP
0.014	PC0	Router0		HTTP
0.014	Router0	Router1		TCP
0.015	Router0	Router1		HTTP
0.015	Router1	Server1		TCP
0.016	Router1	Server1		HTTP
0.017	Server1	Router1		HTTP
0.018	Router1	Router0		HTTP
0.019	Router0	PC0		HTTP
0.019	--	PC0		TCP
0.020	PC0	Router0		TCP
0.021	Router0	Router1		TCP
0.022	Router1	Server1		TCP
0.023	Server1	Router1		TCP
0.024	Router1	Router0		TCP
0.025	Router0	PC0		TCP
0.026	PC0	Router0		TCP
0.027	Router0	Router1		TCP
0.028	Router1	Server1		TCP

Reset Simulation ☒ Constant Delay Captured to: 150.294 s

Play Controls

Event List Filters - Visible Events  
ARP, DNS, HTTP, TCP

Edit Filters Show All/None

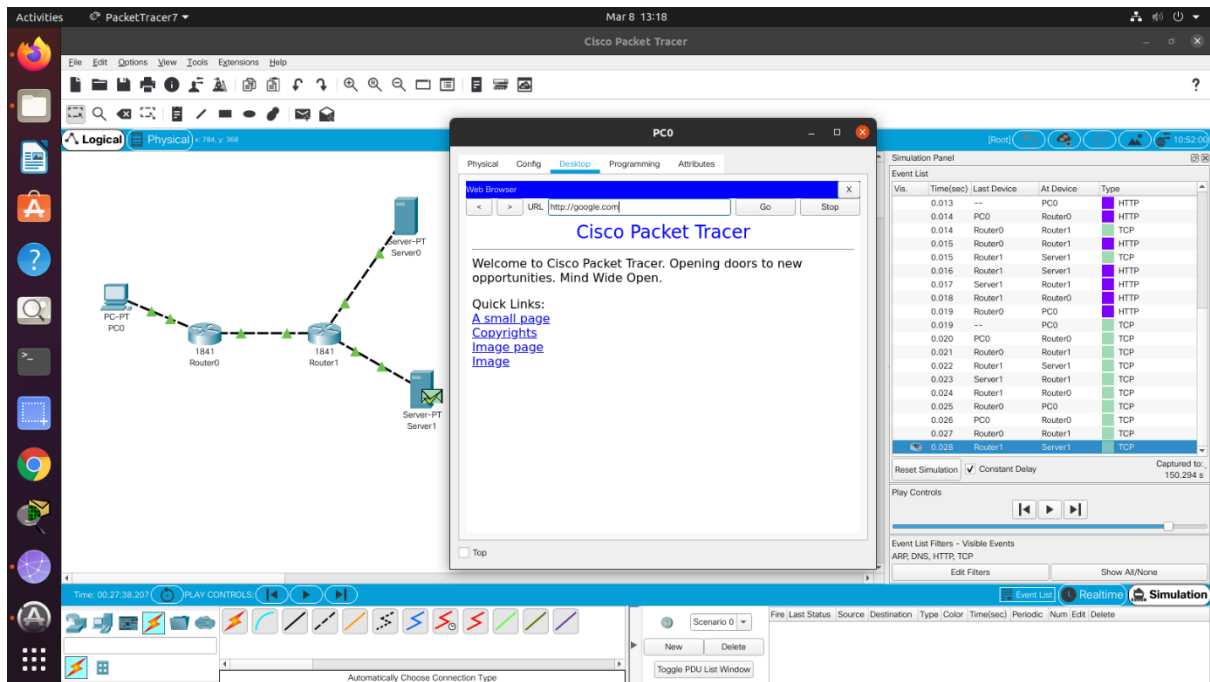
Time: 00:27:38.207 PLAY CONTROLS

Scenario 0

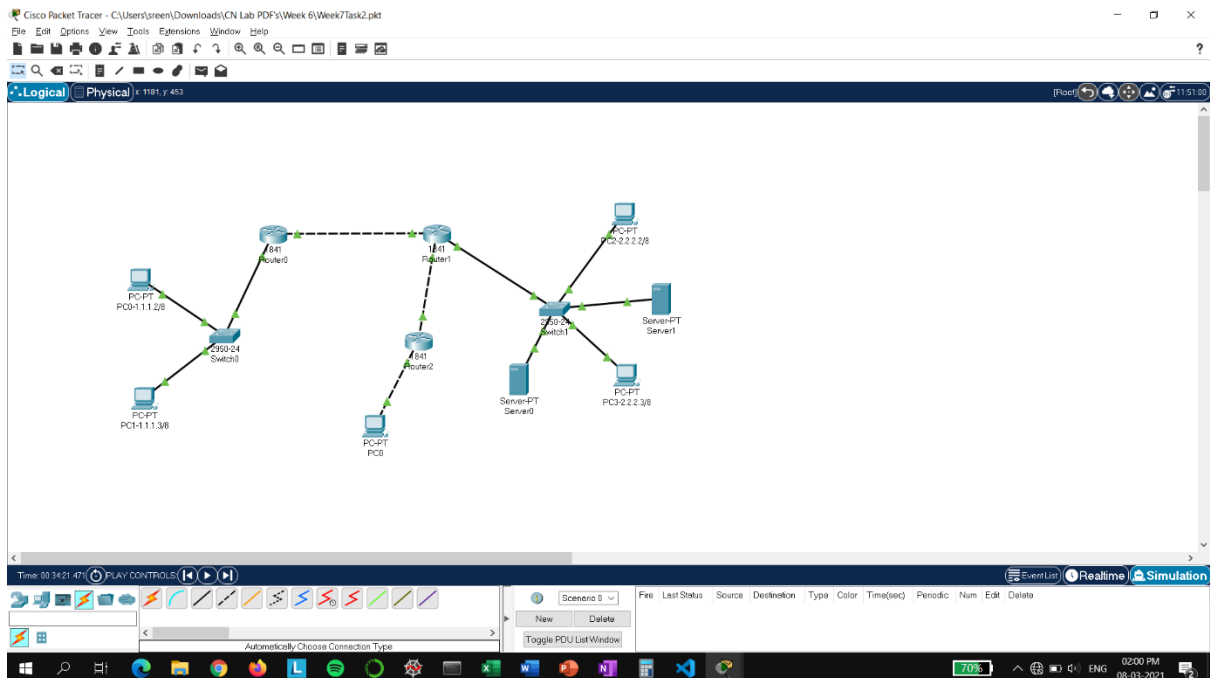
New Delete

Toggle PDU List Window

Automatically Choose Connection Type



## Exercise 2:



## Network Configuration:

### End Systems

End System	Interface Name	IP Address	Subnet Mask	Gateway	DNS Server
PC0-1.1.1.2/8	FastEthernet0	1.1.1.2	255.0.0.0	1.1.1.1	2.2.2.5
PC1-1.1.1.3/8	FastEthernet0	1.1.1.3	255.0.0.0	1.1.1.1	
PC0	FastEthernet0	6.6.6.2	255.0.0.0	6.6.6.1	
PC2-2.2.2.2/8	FastEthernet0	2.2.2.2	255.0.0.0	2.2.2.1	
PC3-2.2.2.3/8	FastEthernet0	2.2.2.3	255.0.0.0	2.2.2.1	
Server-PT Server0(DNS Server)	FastEthernet0	2.2.2.5	255.0.0.0	2.2.2.1	
Server-PT Server1(Web Server)	FastEthernet0	2.2.2.4	255.0.0.0	2.2.2.1	

### Routers

Router	Interface Name	IP Address	Subnet Mask
Router0	FastEthernet0/0	1.1.1.1	255.0.0.0
Router0	FastEthernet0/1	3.3.3.1	255.0.0.0
Router1	FastEthernet0/0	3.3.3.2	255.0.0.0
Router1	FastEthernet0/1	5.5.5.2	255.0.0.0
Router1	Ethernet0/0	2.2.2.1	255.0.0.0
Router2	FastEthernet0/0	5.5.5.1	255.0.0.0
Router2	FastEthernet0/1	6.6.6.1	255.0.0.0

### Routing Table

Router	Destination Network	Next Hop	Mask
Router0	2.2.2.0	3.3.3.2	255.255.255.0
Router0	5.5.5.0	3.3.3.2	255.255.255.0
Router0	6.6.6.0	3.3.3.2	255.255.255.0
Router1	1.1.1.0	3.3.3.1	255.255.255.0
Router1	6.6.6.0	5.5.5.1	255.255.255.0
Router2	3.3.3.0	5.5.5.2	255.255.255.0
Router2	1.1.1.0	5.5.5.2	255.255.255.0
Router2	2.2.2.0	5.5.5.2	255.255.255.0



Cisco Packet Tracer - C:\Users\green\Downloads\CN Lab PDF\Week 6\Week7Task2.pkt

File Edit Options View Tools Extensions Window Help

Logical Physical x 1283, y 463

Simulation Panel

Vis	Time(sec)	Last Device	At Device	Type
	0.012	Switch0	Router0	TCP
	0.013	Router0	Router1	TCP
	0.013	-	Router1	APP
	0.014	Router1	Switch1	APP
	0.015	Switch1	PC3-2.2.2.3	APP
	0.015	Switch1	Server1	APP
	0.015	Switch1	Server0	APP
	0.016	Server1	Switch1	APP
	0.017	Router1	Router1	APP
	0.314	-	PC0-1.1.1.2	TCP
	0.315	PC0-1.1.1.2	Switch0	TCP
	0.316	Switch0	Router0	TCP
	0.317	Router0	Router1	TCP
	0.318	Router1	Switch1	TCP
	0.319	Switch1	Server1	TCP
	0.320	Server1	Switch1	TCP
	0.321	Switch1	Router1	TCP
	0.322	Router1	Router0	TCP

Reset Simulation ☒ Constant Delay Captured to: 0.338 s

Play Controls

Event List Filters - Visible Events  
APP, DNS, HTTP, TCP

Scenario 0

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

New Delete

Toggle PDU List Window

Automatically Choose Connection Type

Time: 00:34:11.481 PLAY CONTROLS

71% 01:58 PM 06-03-2021

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File Edit Options View Tools Extensions Window Help

Logical Physical x 1283, y 463

Simulation Panel

Vis	Time(sec)	Last Device	At Device	Type
	0.325	-	PC0-1.1.1.2	HTTP
	0.326	PC0-1.1.1.2/8	Switch0	HTTP
	0.326	Switch0	Router0	TCP
	0.327	Switch0	Router1	HTTP
	0.327	Router0	Router1	TCP
	0.328	Router0	Router1	HTTP
	0.328	Router1	Switch1	TCP
	0.329	Router1	Switch1	HTTP
	0.329	Switch1	Server1	TCP
	0.330	Switch1	Server1	HTTP
	0.331	Server1	Switch1	HTTP
	0.332	Switch1	Router1	HTTP
	0.333	Router1	Router0	HTTP
	0.334	Router0	Switch0	HTTP
	0.335	Switch0	PC0-1.1.1.2	HTTP
	0.335	-	PC0-1.1.1.2	TCP
	0.336	PC0-1.1.1.2/8	Switch0	TCP
	0.337	Switch0	Router0	TCP
	0.338	Router0	Router1	TCP

Reset Simulation ☒ Constant Delay Captured to: 0.338 s

Play Controls

Event List Filters - Visible Events  
APP, DNS, HTTP, TCP

Scenario 0

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

New Delete

Toggle PDU List Window

Automatically Choose Connection Type

Time: 00:34:11.481 PLAY CONTROLS

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File Edit Options View Tools Extensions Window Help

Logical Physical x: 1101, y: 709

PC0-1.1.1.2/8

Physical Config Desktop Programming Attributes

Web Browser

URL: <http://google.com> Go Stop

Cisco Packet Tracer

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Top

Simulation Panel

Event List

Vis	Time(sec)	Last Device	At Device	Type
	0.000	-	PC0-1.1.1.2/8	DNS
	0.001	PC0-1.1.1.2/8	Switch0	DNS
	0.002	Switch0	Router0	DNS
	0.003	Router0	Router1	DNS
	0.004	Router1	Switch1	DNS
	0.005	Switch1	PC2-2.2.2.2/8	DNS
	0.005	Switch1	PC3-2.2.2.3/8	DNS
	0.005	Switch1	Server0	DNS
	0.005	Switch1	Server0	DNS
	0.006	Server0	Switch1	DNS
	0.007	Switch1	Router1	DNS
	0.008	Router1	Router0	DNS
	0.009	Router0	Switch0	DNS
	0.010	Switch0	PC0-1.1.1.2/8	DNS
	0.010	-	PC0-1.1.1.2/8	TCP
	0.011	PC0-1.1.1.2/8	Switch0	TCP
	0.012	Switch0	Router0	TCP
	0.013	Router0	Router1	TCP
	0.013	-	Router1	APP

Reset Simulation ☒ Constant Delay Captured to: 0.338 s

Play Controls

Event List Filters - Visible Events

APP, DNS, HTTP, TCP

Edit Filters Show All/None

Time: 00:34:11.481 PLAY CONTROLS

Scenario 0

New Delete

Toggle PDU List Window

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

Automatically Choose Connection Type

Windows Taskbar: 71% 01:58 PM 06-03-2021