



VIT[®]
Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)

**SCHOOL OF COMPUTER SCIENCE ENGINEERING
AND INFORMATION SYSTEMS**

**VALUE ADDED COURSE
ON
NETWORKING CARDINALS**

ASSESSMENT

SUBMITTED ON: 22 – SEP - 2024

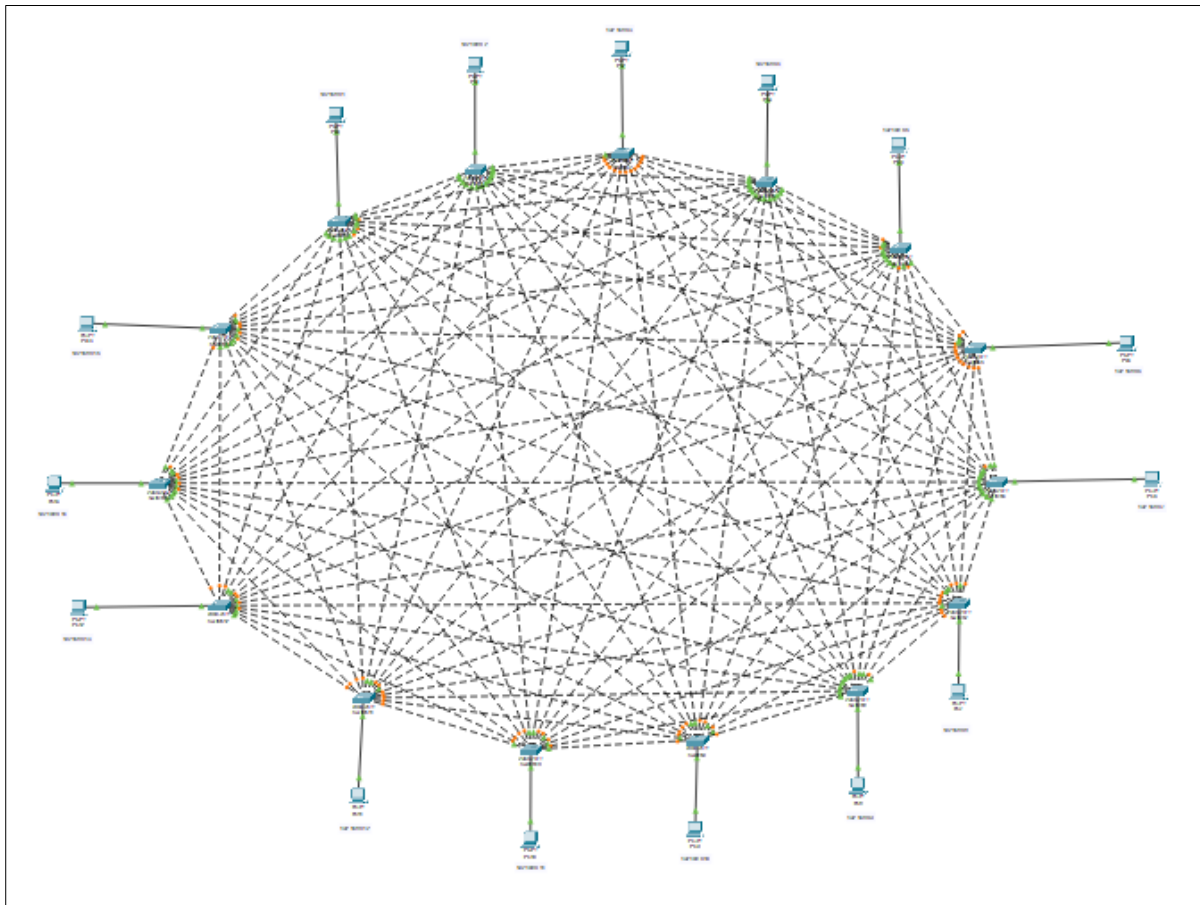
SUBMITTED BY-

AKASH KUMAR BANIK

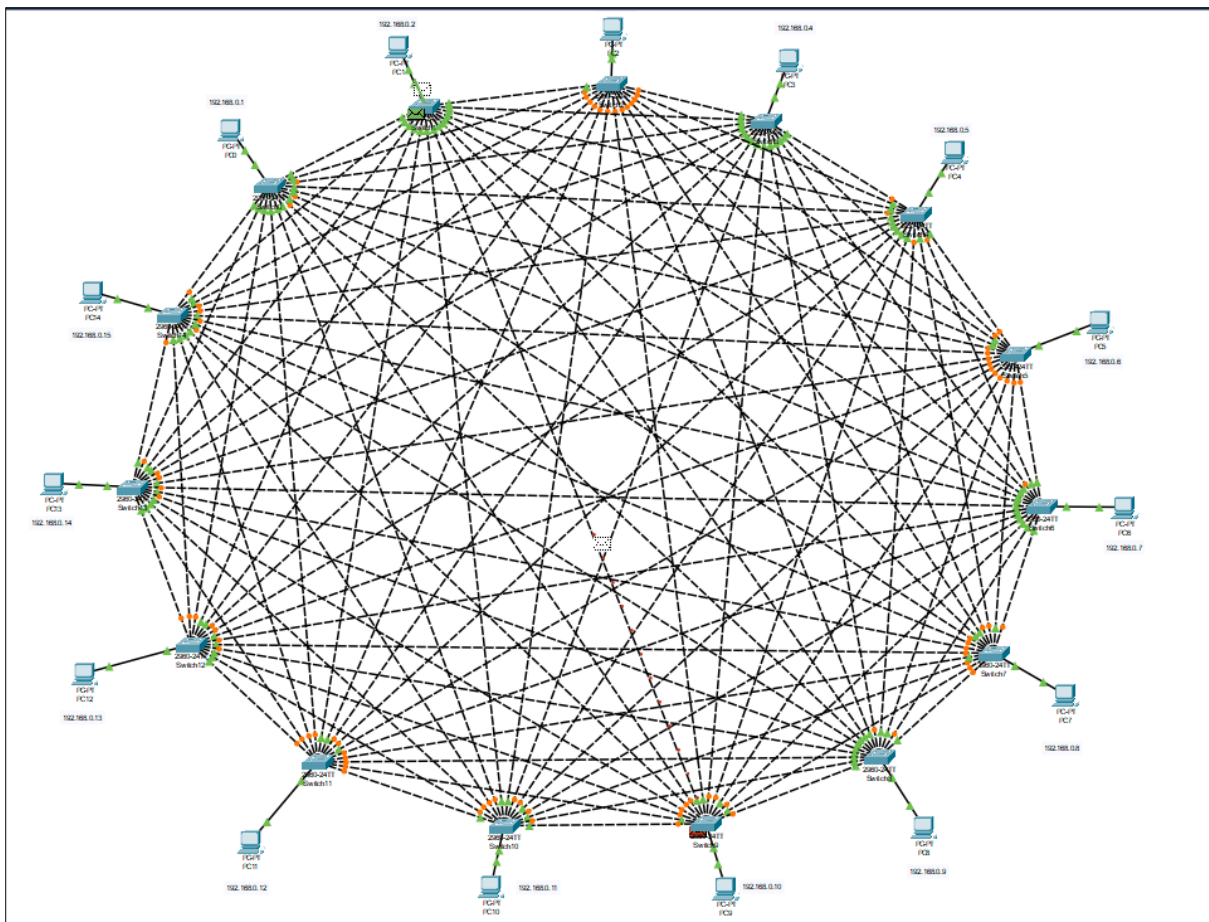
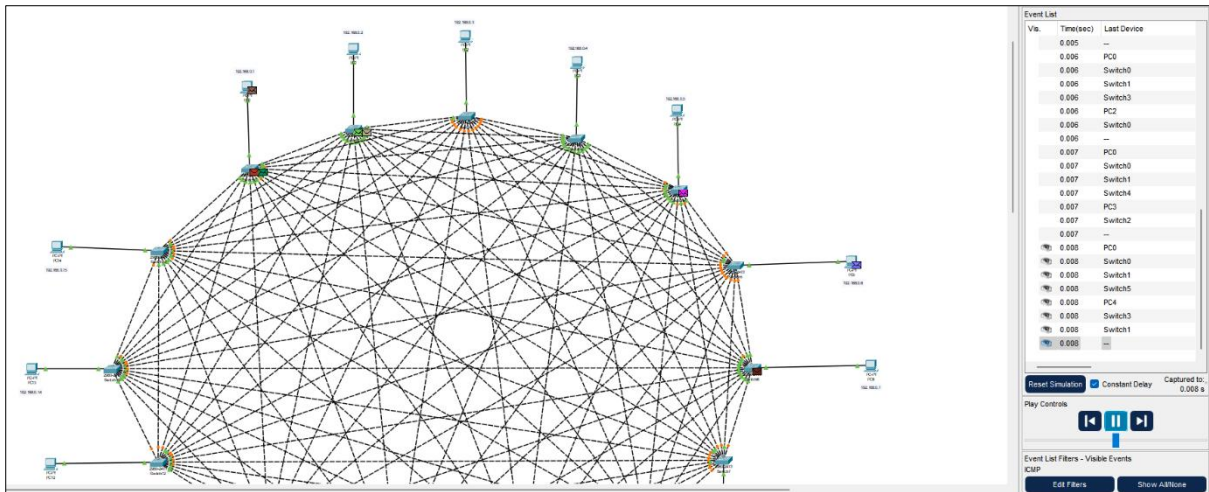
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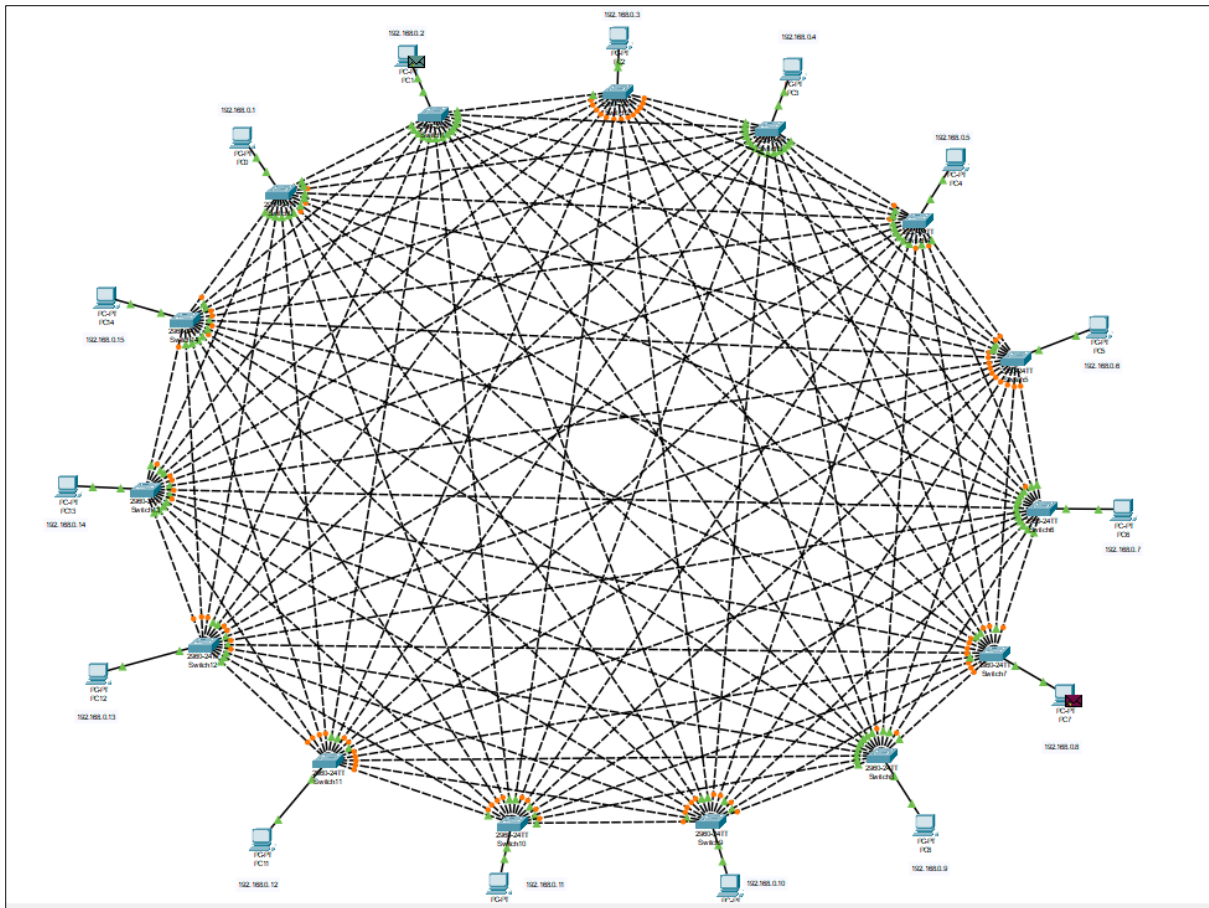
REGISTER No.: 24MCA0242

Q1. Create a network with 15 computers using mesh topology. Show the sample screenshots (5 instances) for sending a packet from PC1 to PC9.

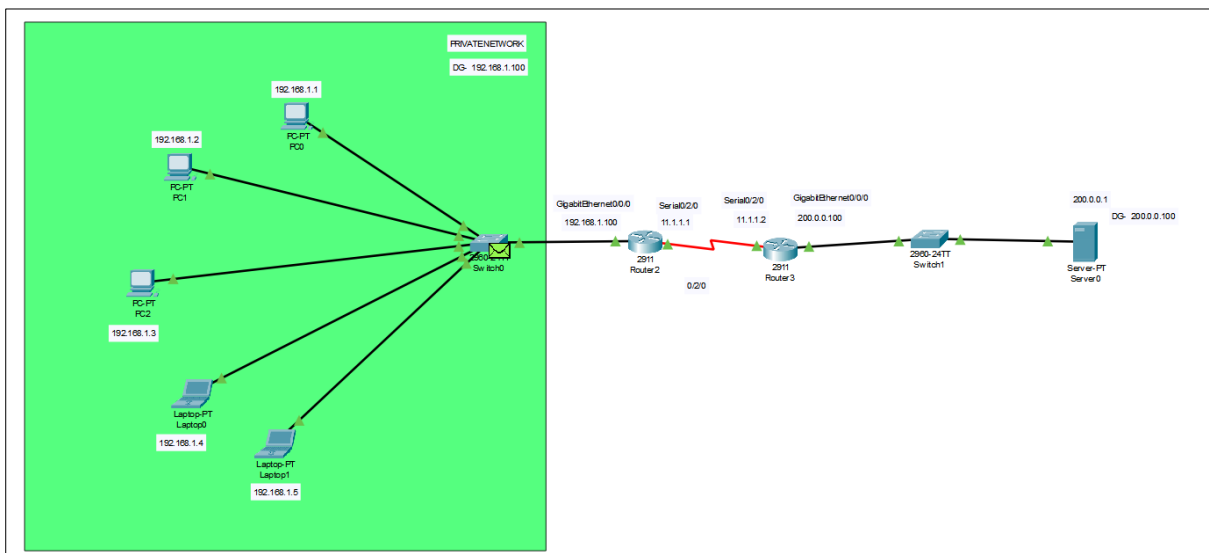


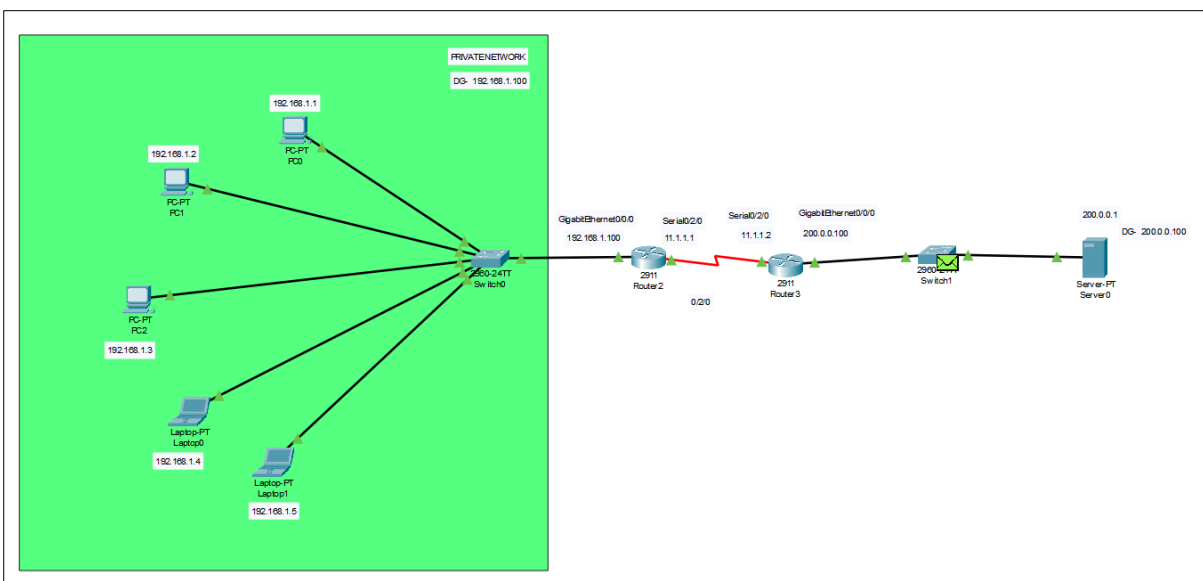
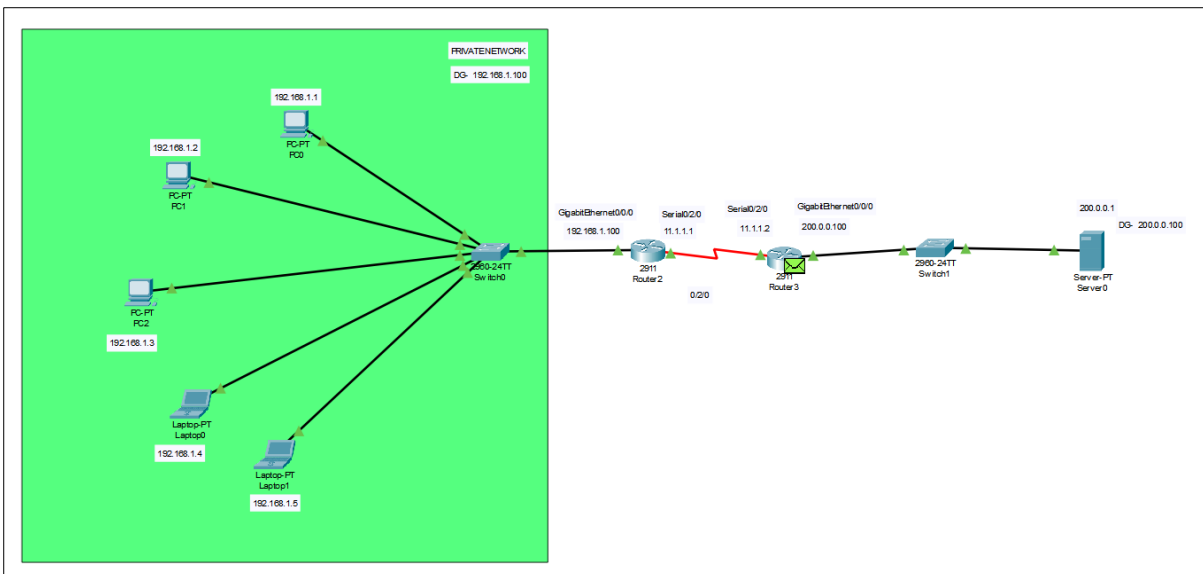
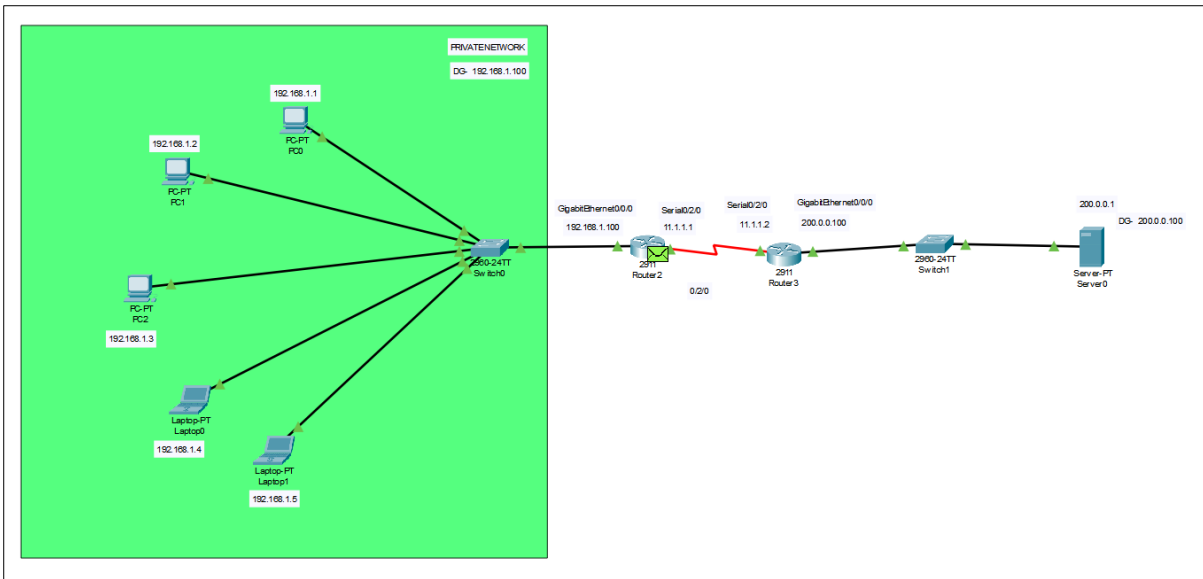
PDU List Window										
Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	PC0	PC1	ICMP		0.000	N	0	(edit)	
	Successful	PC0	PC2	ICMP		0.000	N	1	(edit)	
	Successful	PC0	PC3	ICMP		0.000	N	2	(edit)	
	Successful	PC0	PC4	ICMP		0.000	N	3	(edit)	
	Successful	PC0	PC5	ICMP		0.000	N	4	(edit)	
	Successful	PC0	PC6	ICMP		0.000	N	5	(edit)	
	Successful	PC0	PC7	ICMP		0.000	N	6	(edit)	
	Successful	PC0	PC8	ICMP		0.000	N	7	(edit)	
	Successful	PC0	PC9	ICMP		0.000	N	8	(edit)	
	Successful	PC0	PC10	ICMP		0.000	N	9	(edit)	
	Successful	PC0	PC11	ICMP		0.000	N	10	(edit)	
	Successful	PC0	PC11	ICMP		0.000	N	11	(edit)	
	Successful	PC0	PC12	ICMP		0.000	N	12	(edit)	
	Successful	PC0	PC13	ICMP		0.000	N	13	(edit)	
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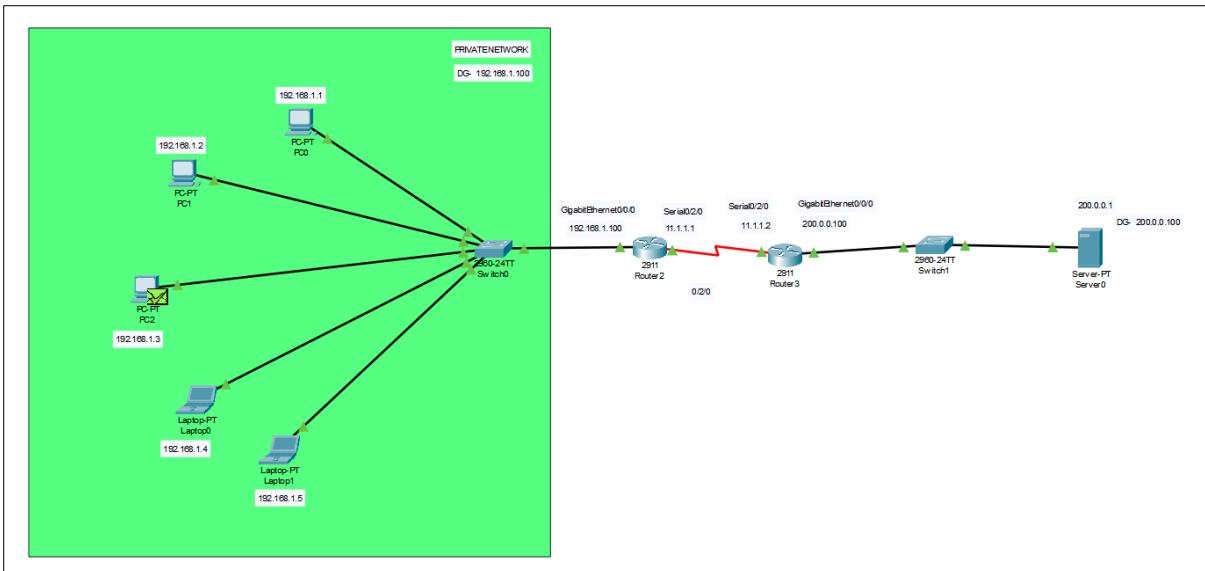
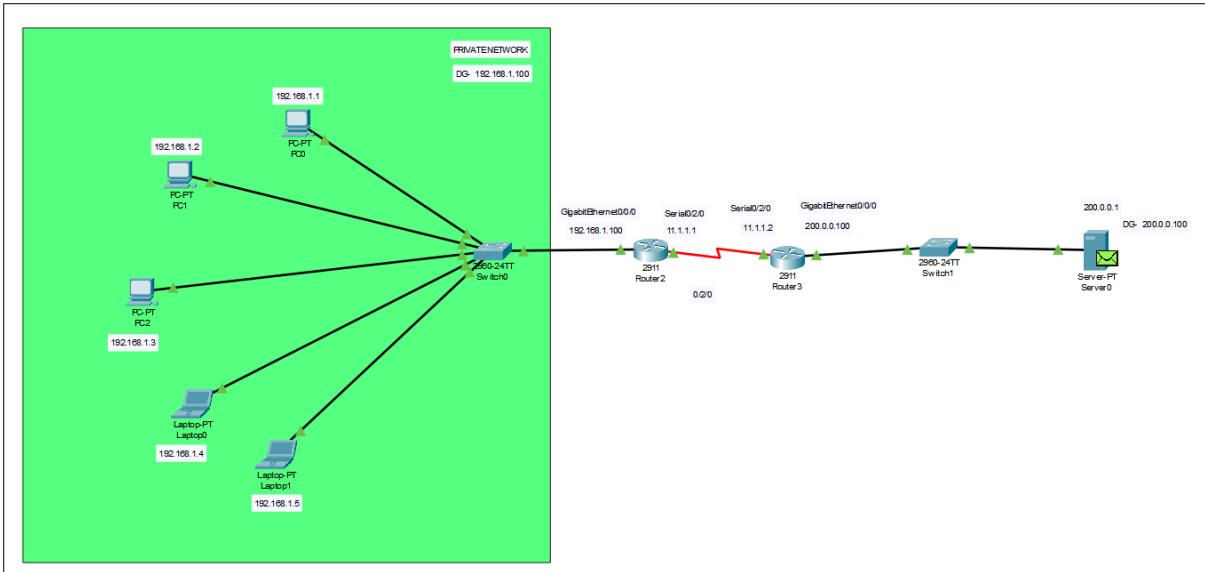






Q2. Implement Dynamic NAT for 5 computers, 2 switches, 2 routers, and 1 server. Show the sample screenshots (5 instances) for sending a packet from PC2 to Server.



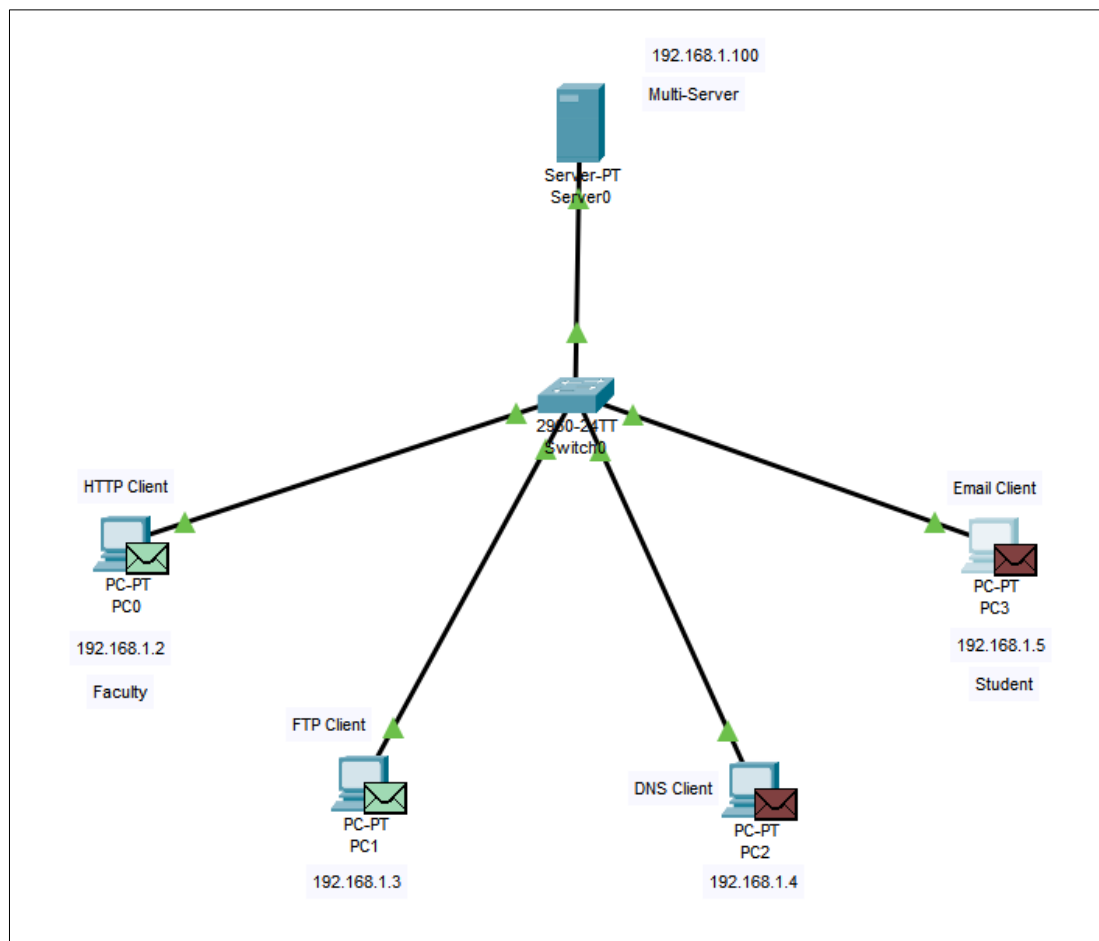


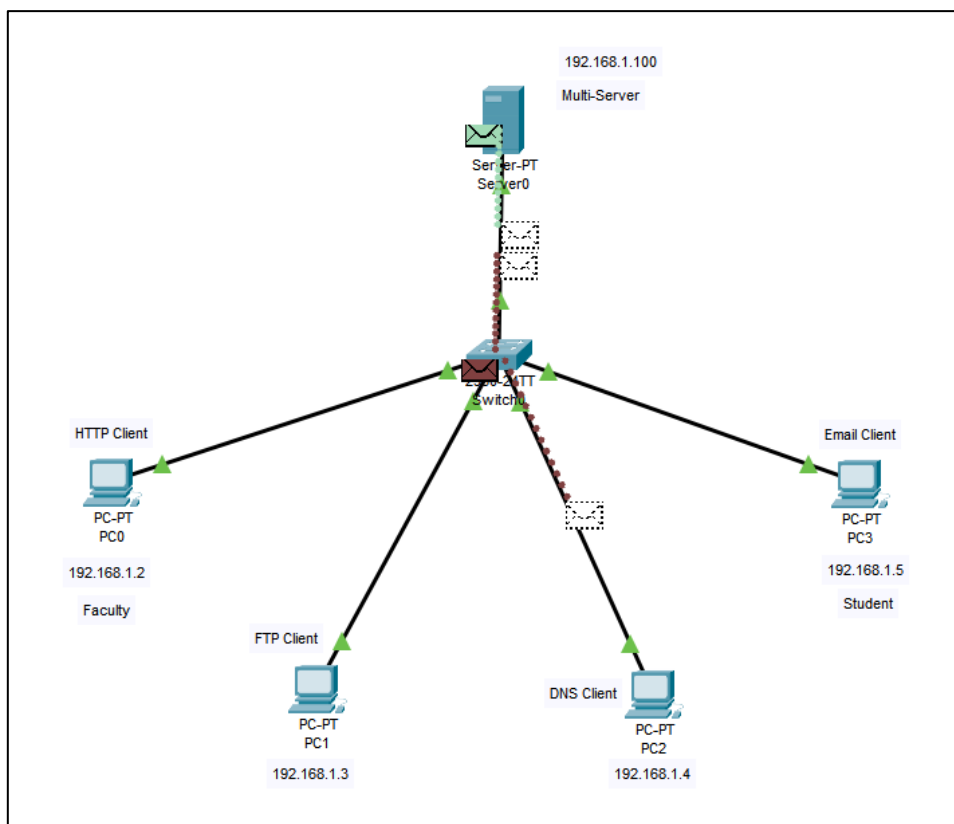
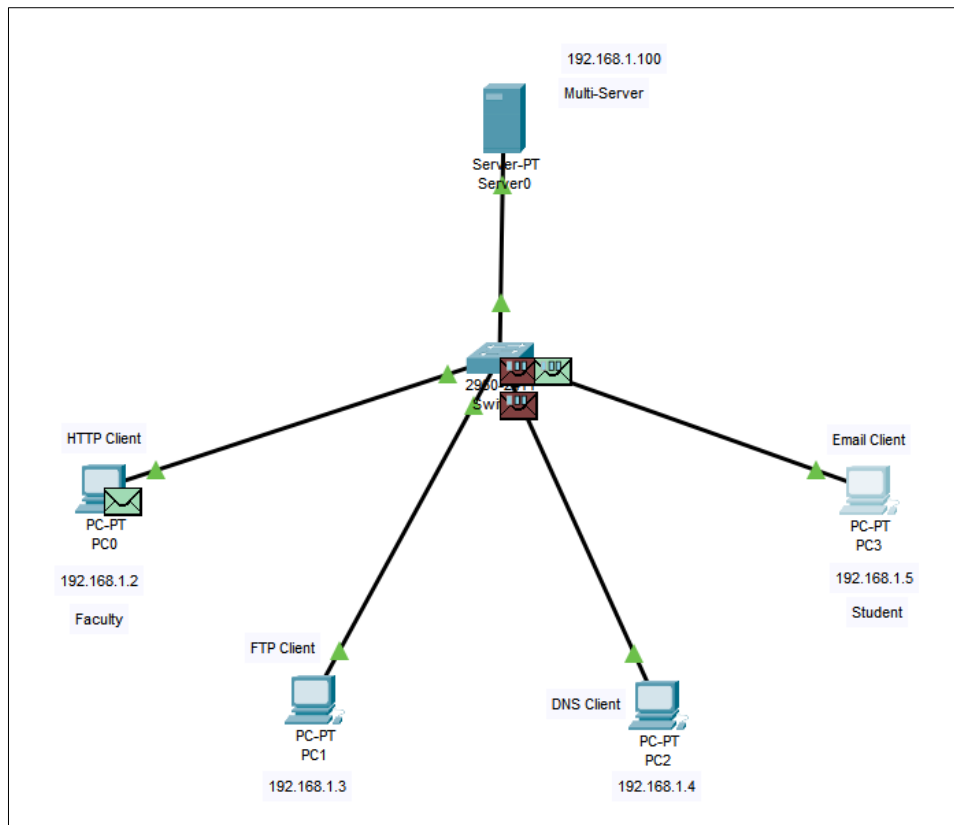


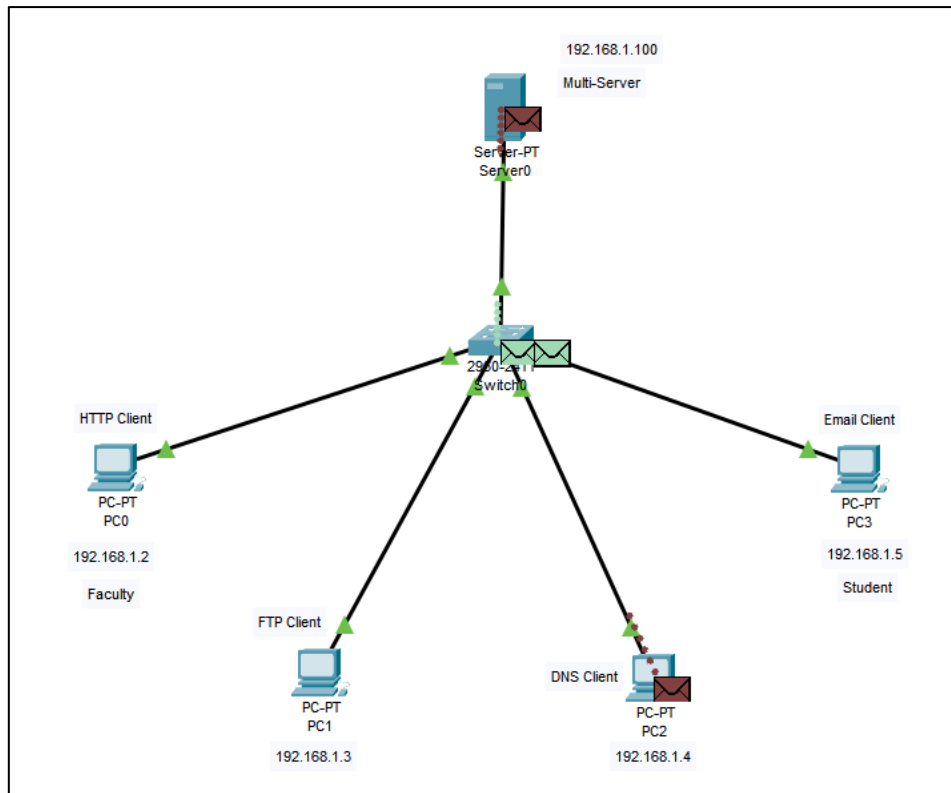
Simulation Panel				
Event List				
Vis.	Time(sec)	Last Device	At Device	Type
	0.000	--	PC2	ICMP
	0.001	PC2	Switch0	ICMP
	0.002	Switch0	Router2	ICMP
	0.003	Router2	Router3	ICMP
	0.004	Router3	Switch1	ICMP
	0.005	Switch1	Server0	ICMP
	0.006	Server0	Switch1	ICMP
	0.007	Switch1	Router3	ICMP
	0.008	Router3	Router2	ICMP
	0.009	Router2	Switch0	ICMP
<input checked="" type="checkbox"/>	0.010	Switch0	PC2	ICMP

PDU List Window										
Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	PC2	Server0	ICMP		0.000	N	0	(edit)	

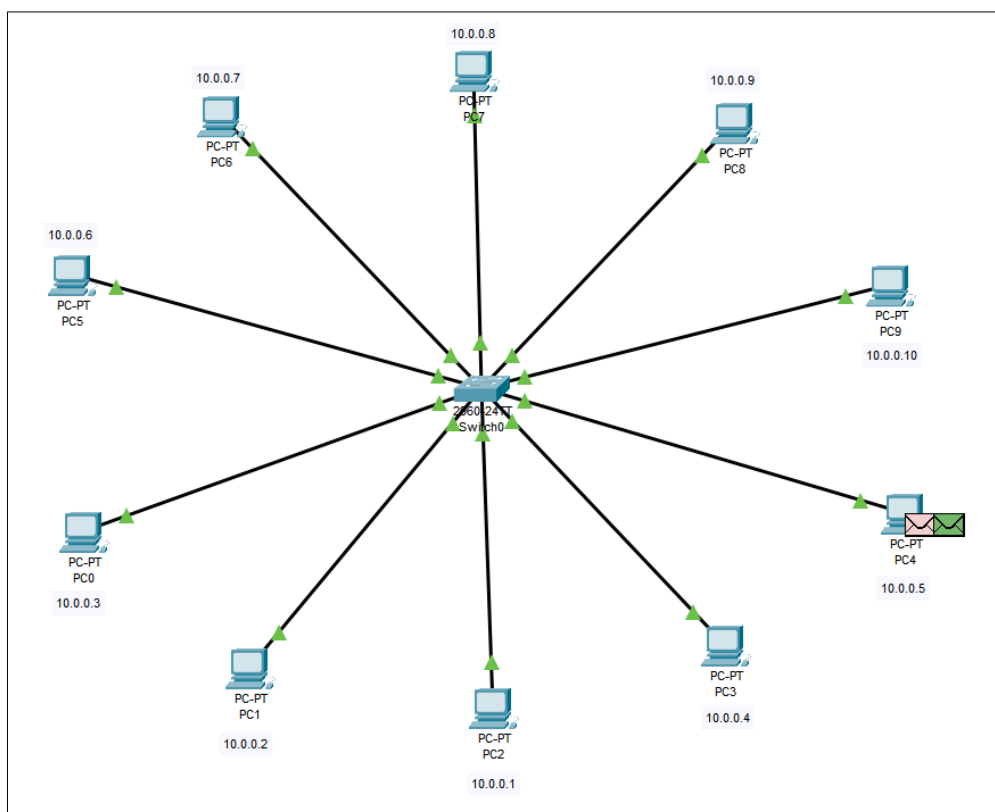
Q3. Implement TCP protocol for 4 computers (DNS Client, HTTP Client, FTP Client, Email Client), 1 switch and 1 multi server. Show the communication between all clients with the multi-server (2 instances).

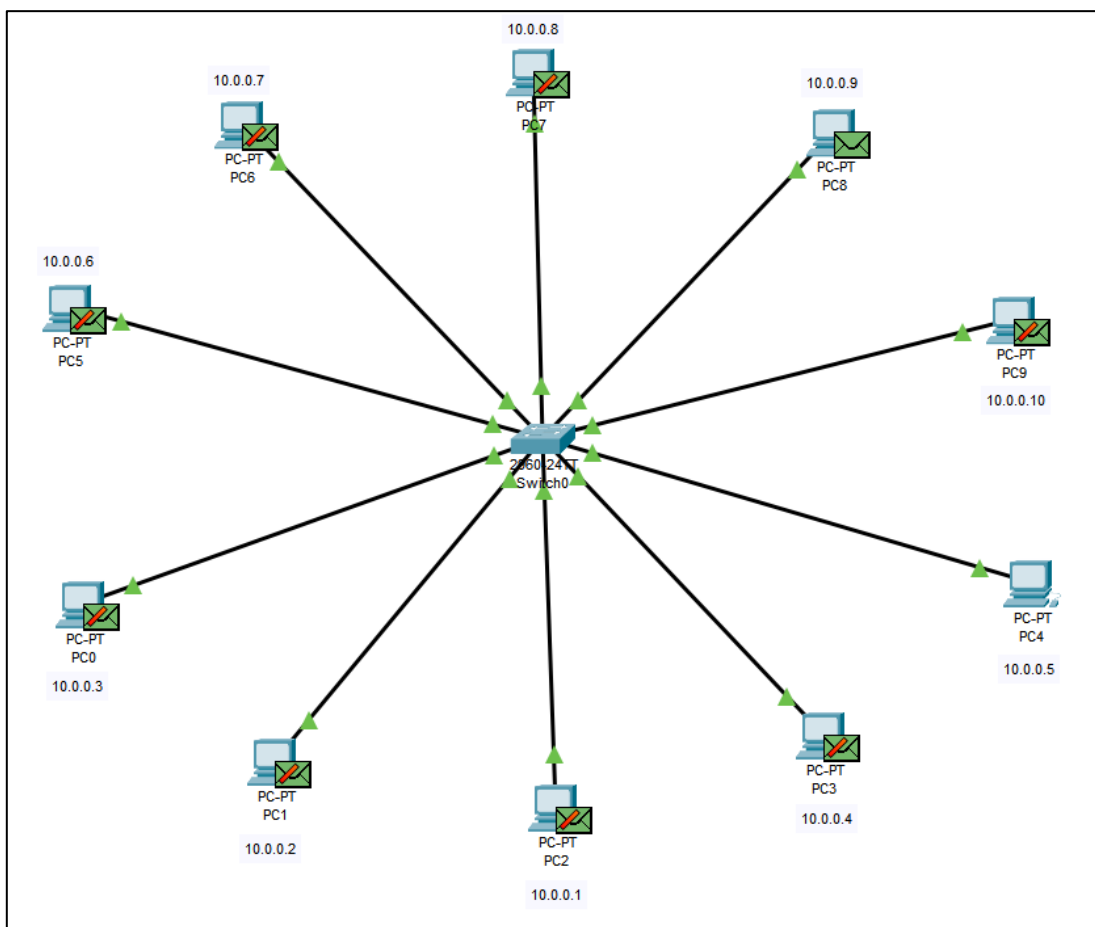
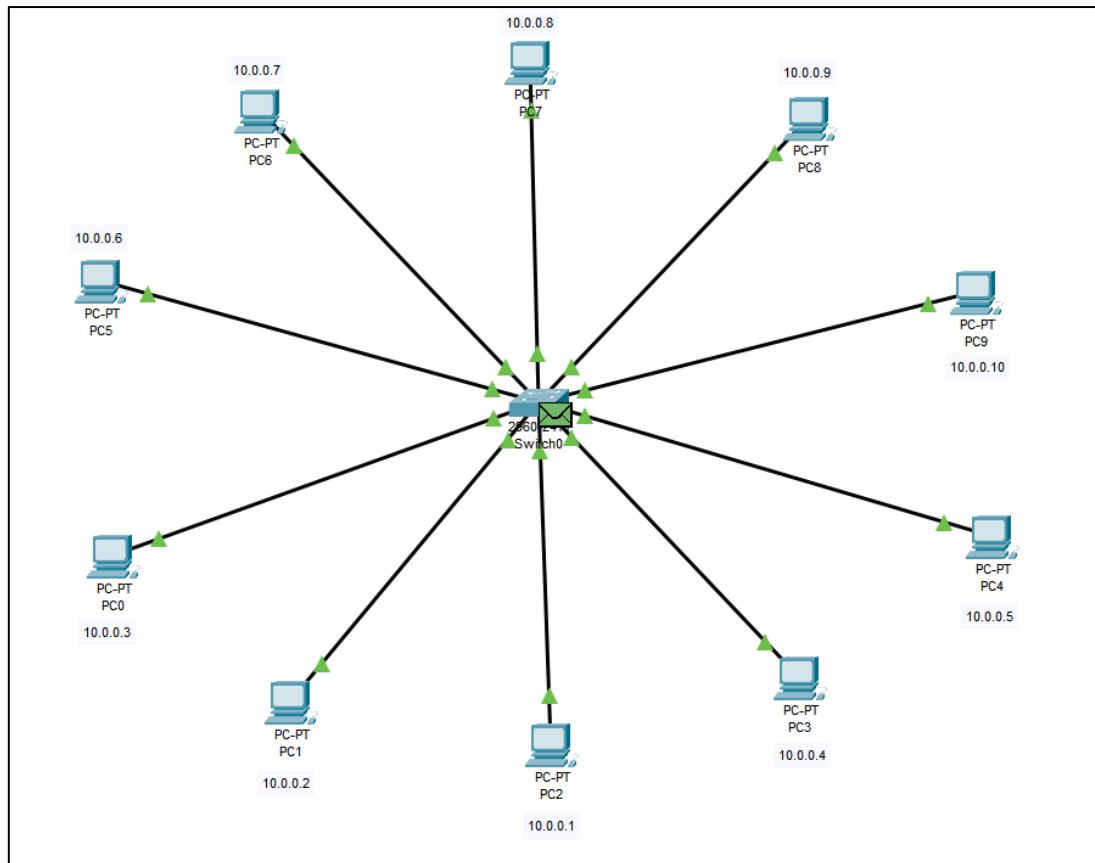


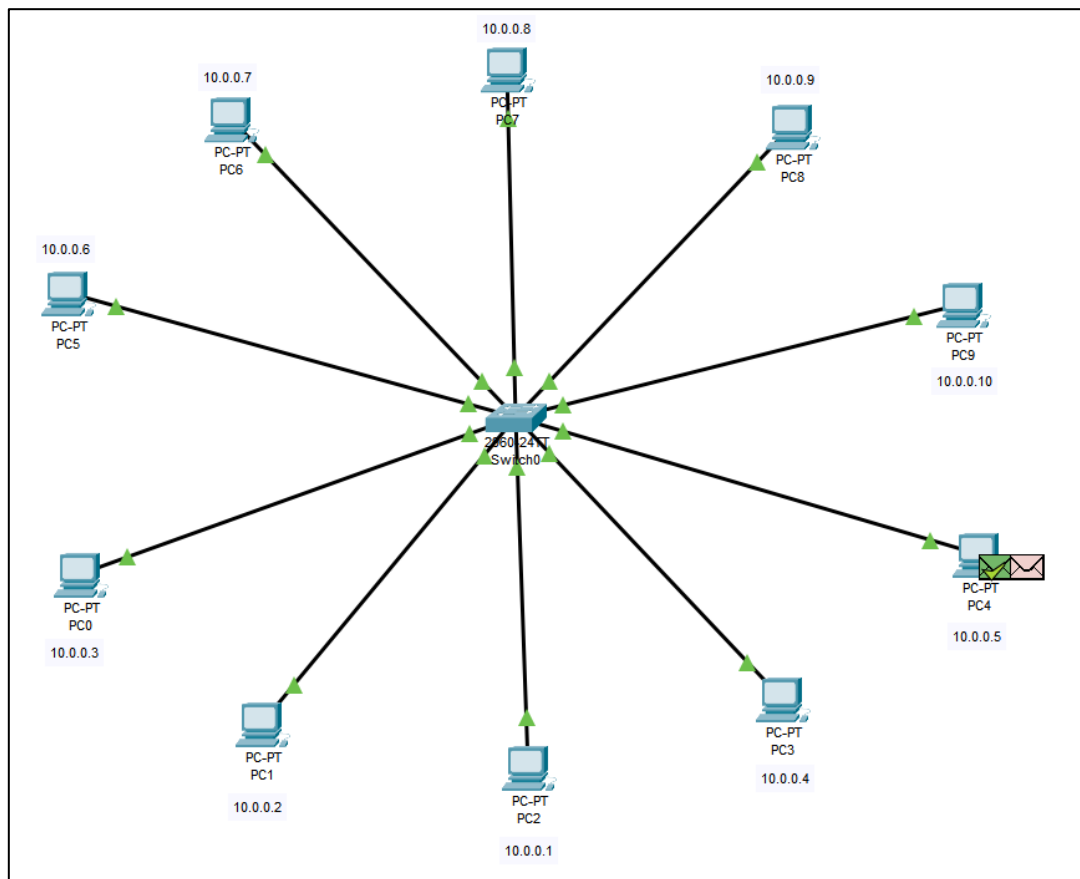
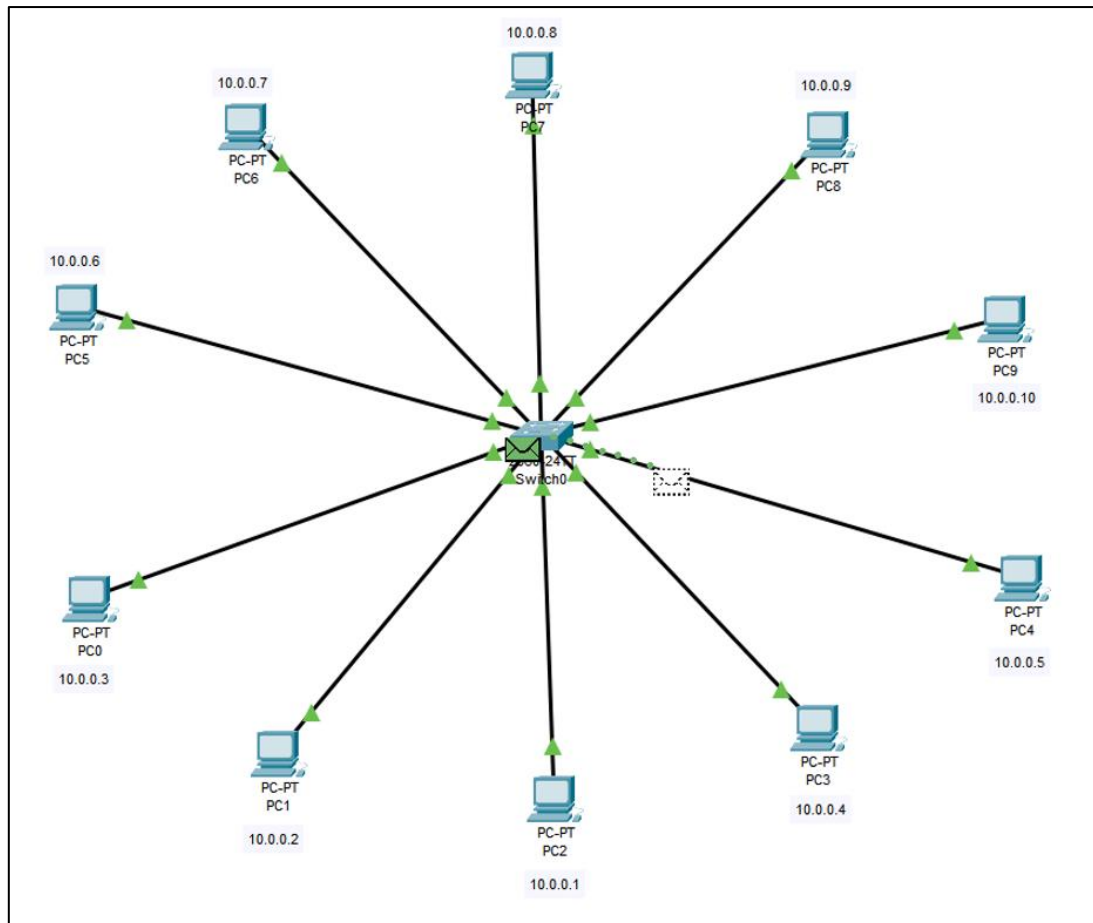


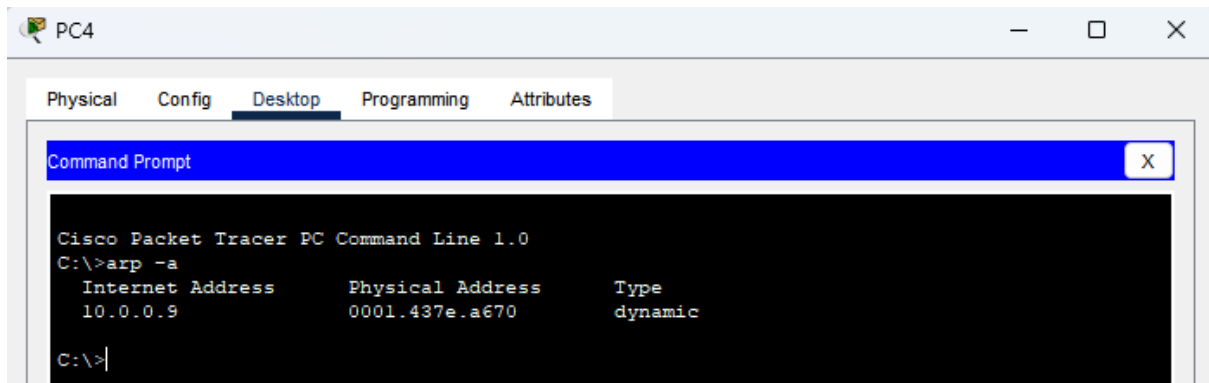


Q4. Implement ARP protocol for 10 computers and 1 switch. Show the ARP table modification (5 instances) of PC4 and PC8 during data transmission between them.

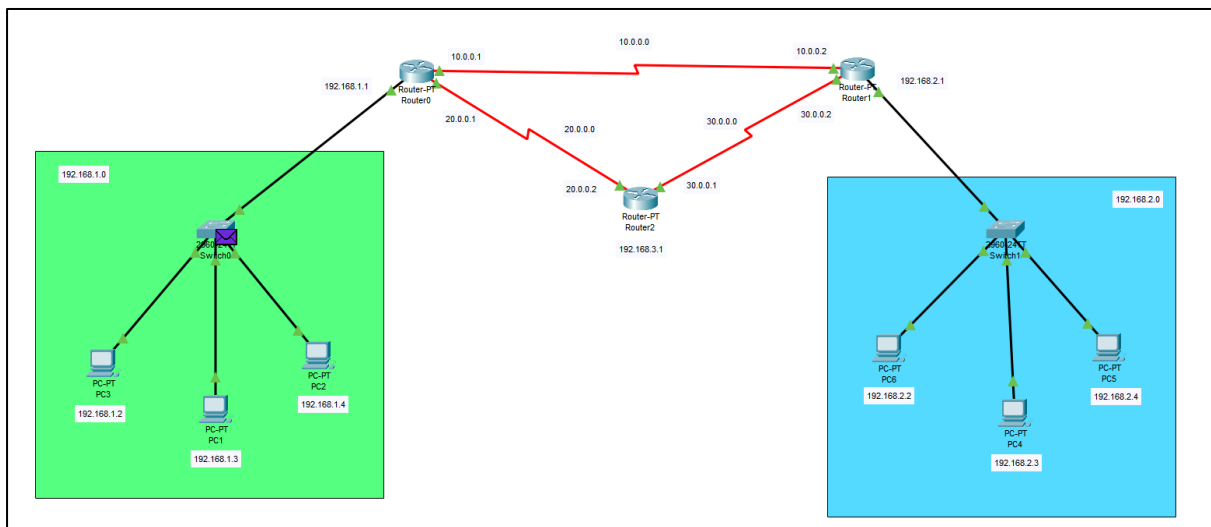
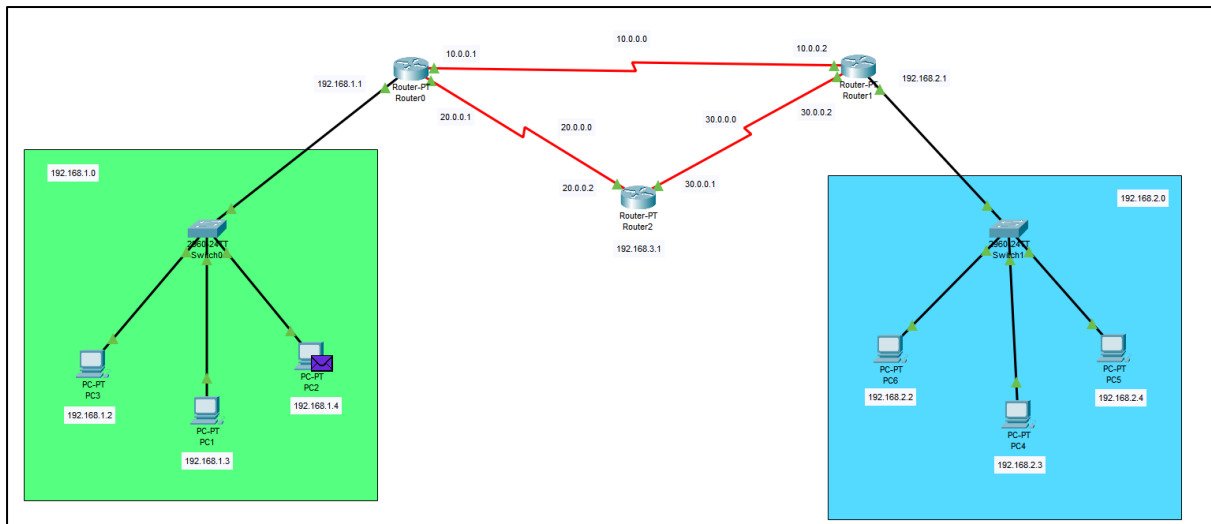


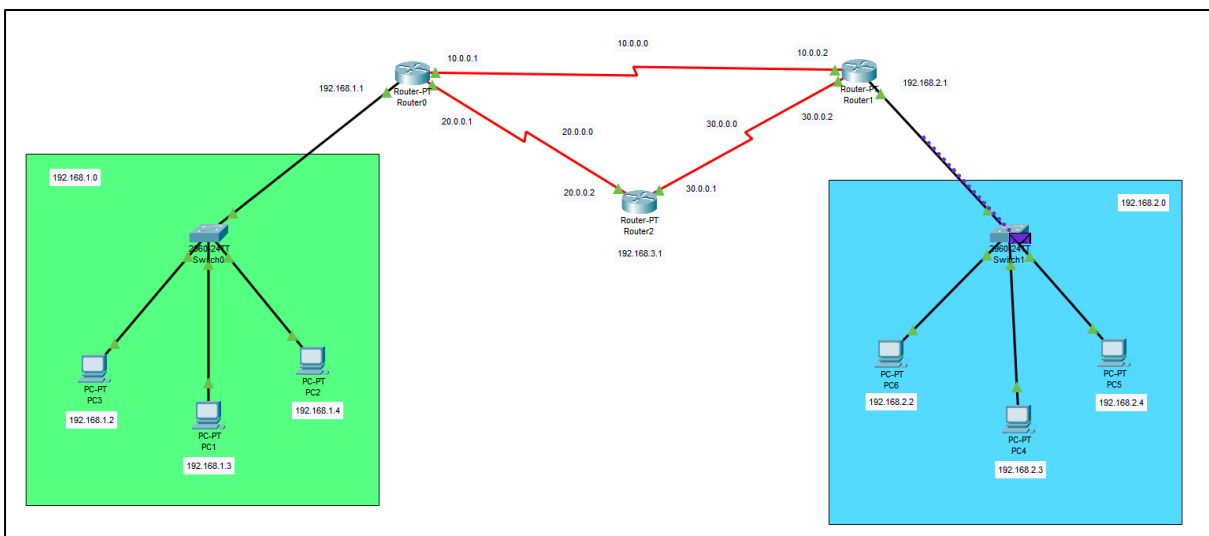
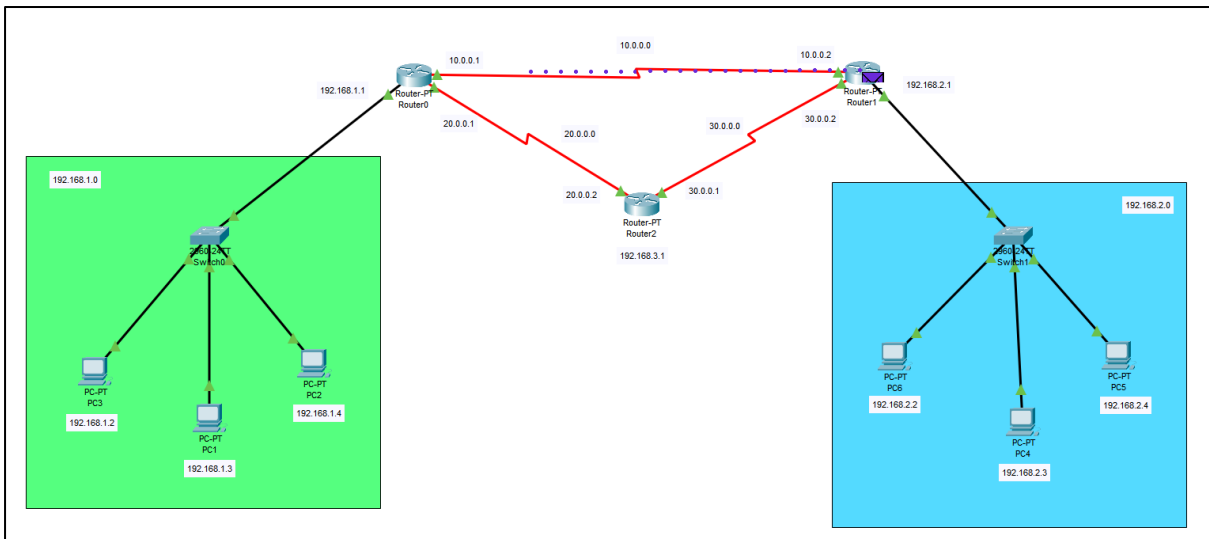
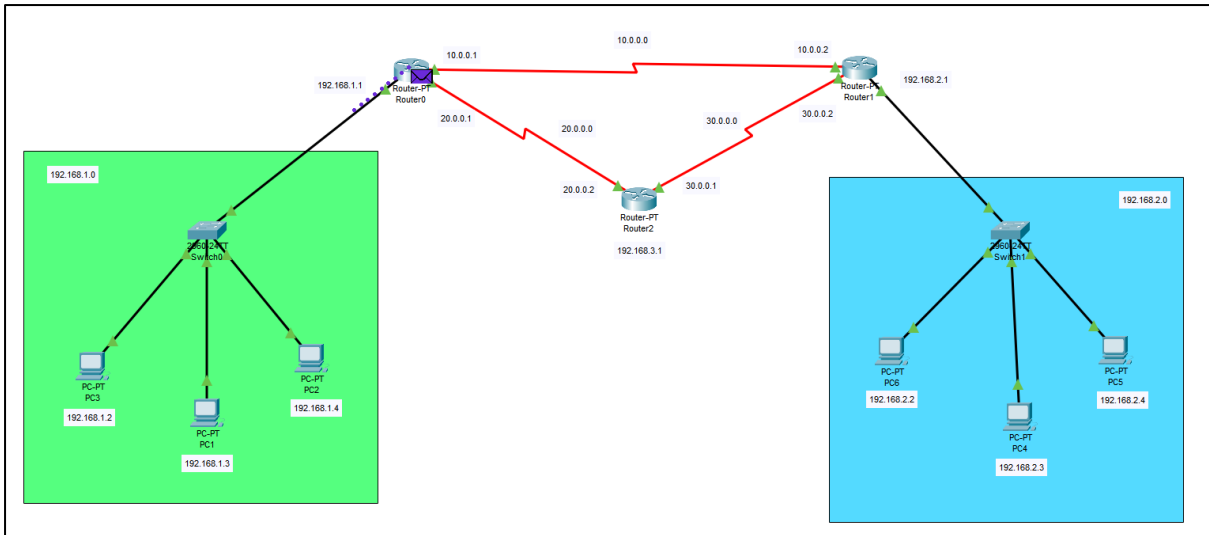


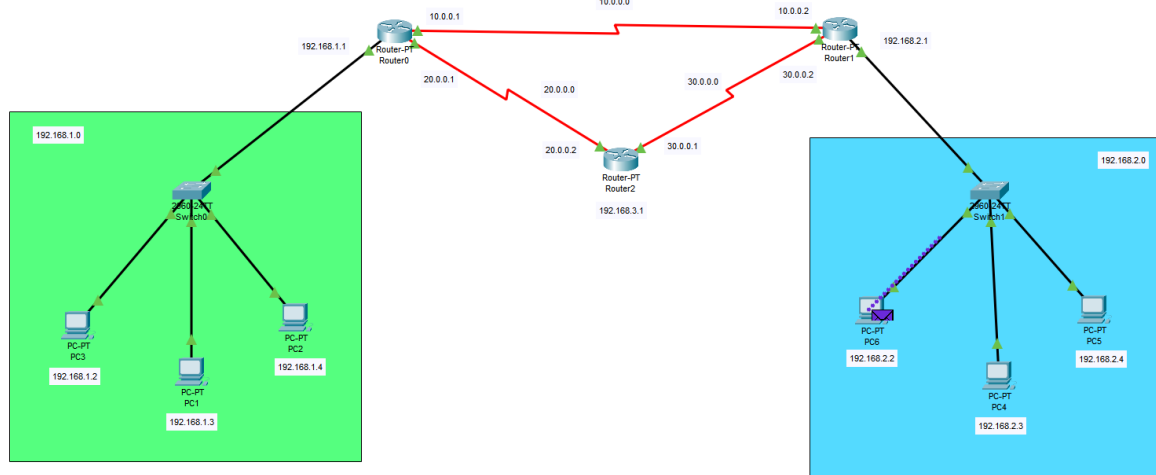




Q5. Implement OSPF protocol for 6 computers, 2 switches, and 3 routers. Show the sample screenshots (5 instances) for sending a packet from PC2 to PC6 available in another domain.







```
Router>en
Router#show ip route ospf
O    30.0.0.0 [110/128] via 10.0.0.2, 00:01:10, Serial2/0
      [110/128] via 20.0.0.2, 00:01:10, Serial3/0
O    192.168.2.0 [110/65] via 10.0.0.2, 00:01:10, Serial2/0
Router#
```

```
Router>en
Router#show ip route ospf
O    20.0.0.0 [110/128] via 30.0.0.1, 00:01:55, Serial3/0
      [110/128] via 10.0.0.1, 00:01:55, Serial2/0
O    192.168.1.0 [110/65] via 10.0.0.1, 00:01:55, Serial2/0
Router#
```

```
Router>en
Router#show ip route ospf
O    10.0.0.0 [110/128] via 30.0.0.2, 00:02:26, Serial3/0
      [110/128] via 20.0.0.1, 00:02:26, Serial2/0
O    192.168.1.0 [110/65] via 20.0.0.1, 00:02:26, Serial2/0
O    192.168.2.0 [110/65] via 30.0.0.2, 00:02:26, Serial3/0
Router#
```