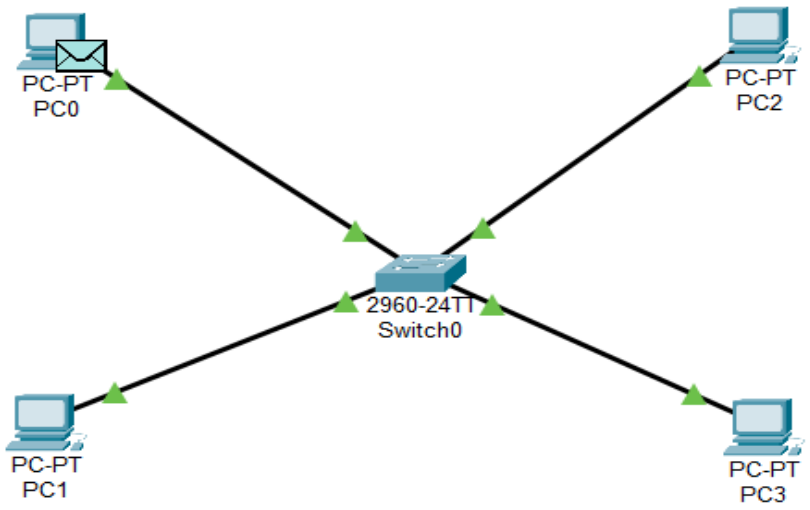
Name : Hasnat Ahmad
RoII No : 20P-0079
Course : Computer Networks

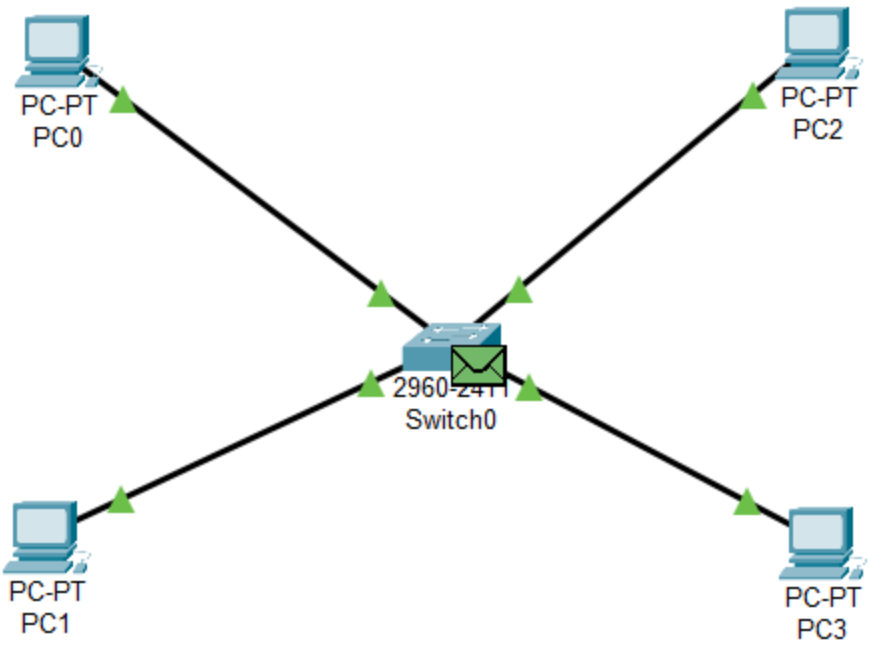
LAB TASK 3

Perform communication of four devices using switch

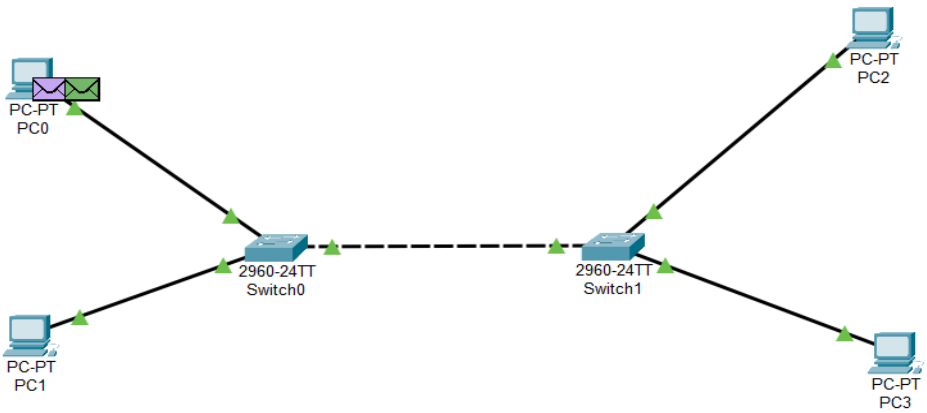


Steps:

1.Construct switch and 4 different PC's and connect PC's with switch using Straight-Through wire.
2.Now assign IP addresses of type class C to devices e.g 192.168.1.1, 192.168.1.2, 192.168.1.3, 192.168.1.4.
3.Simulate the model.
4.In 1st capture and fast forward the host computer sends packets to the switch.
5.The switch then broadcasts the packet.
6.Then the intended device receives the packet and sends a response to the switch.
7.The host device receives the response from the switch.

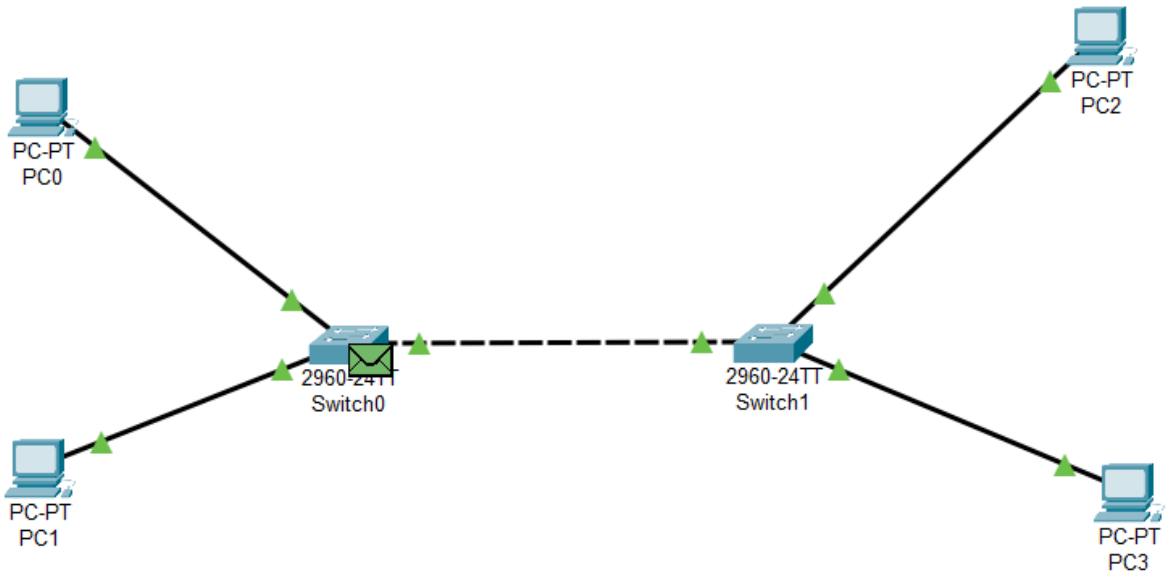


Perform communication through multiple switches

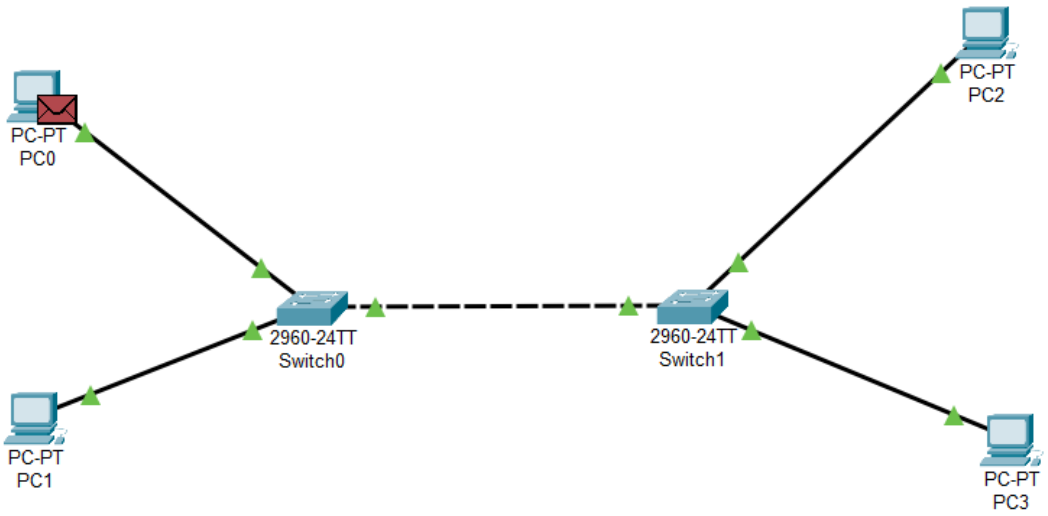


Steps:

1.Construct 2 switches and 4 different PC's and connect 2 PC's with each switch using Straight-Through wire.
2.Now assign IP addresses of type class C to devices e.g 192.168.1.1, 192.168.1.2, 192.168.1.3, 192.168.1.4.
3.Simulate the model.
4.In 1st capture and fast forward the host computer sends packets to 1st switch.
5.The switch broadcasts the packet.
6.Then the 2nd switch broadcasts the packet connected to it.
7.The intended device sends a response to the 2nd switch.
8.The 2nd switch sends a response to the 1st switch and the 1st switch sends it to the host device.



Perform communication through multiple switches with different Network Id's.

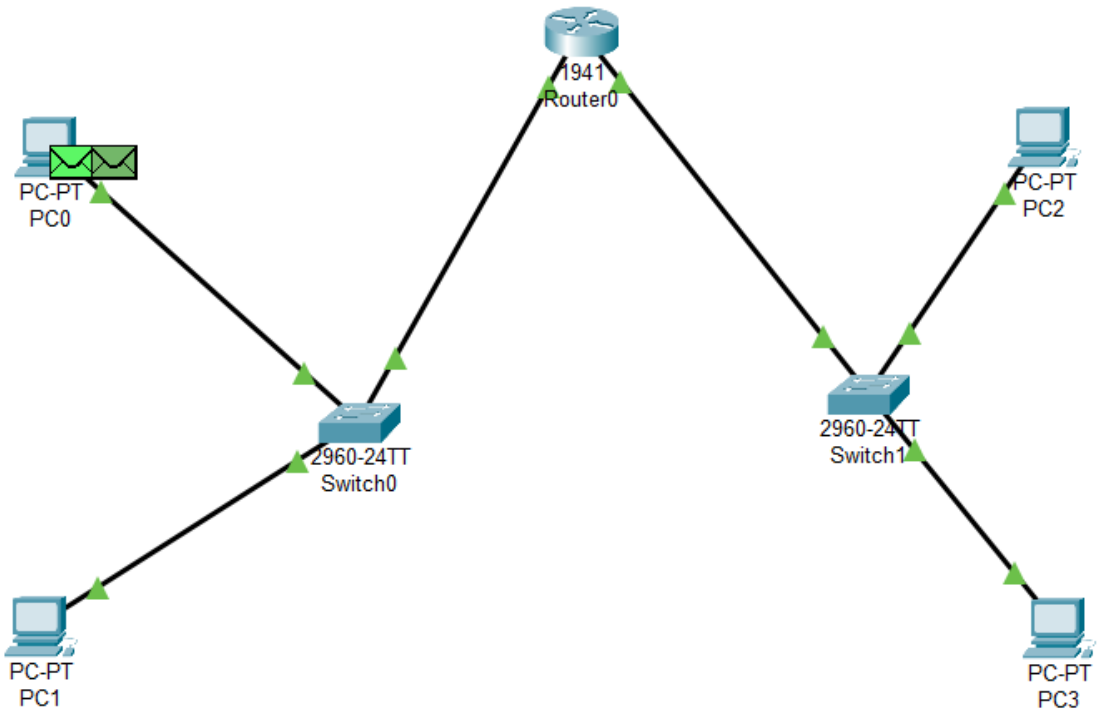


Steps:

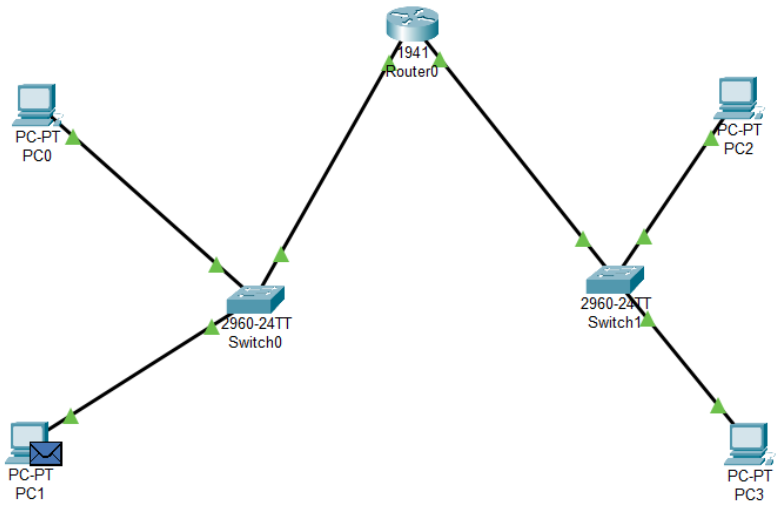
1.Construct 2 switches and 4 different PC's and connect 2 PC's with each switch using Straight-Through wire.
2.Now assign IP addresses of type class C to devices e.g 192.168.1.1, 192.168.1.2, 192.168.2.1, 192.168.2.2 .
3.Simulate the model.
4.The host device can't send packets to the intended device due to different network Id's.

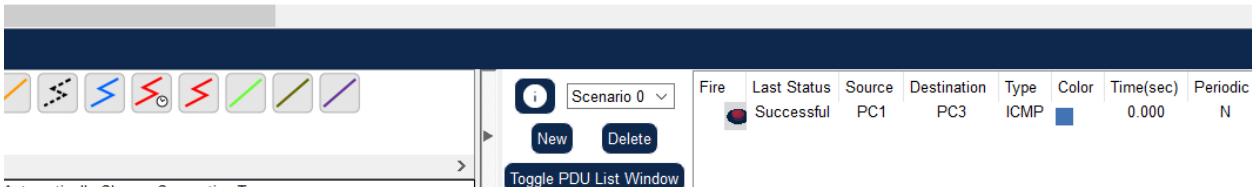
Communication using One Router

Steps:

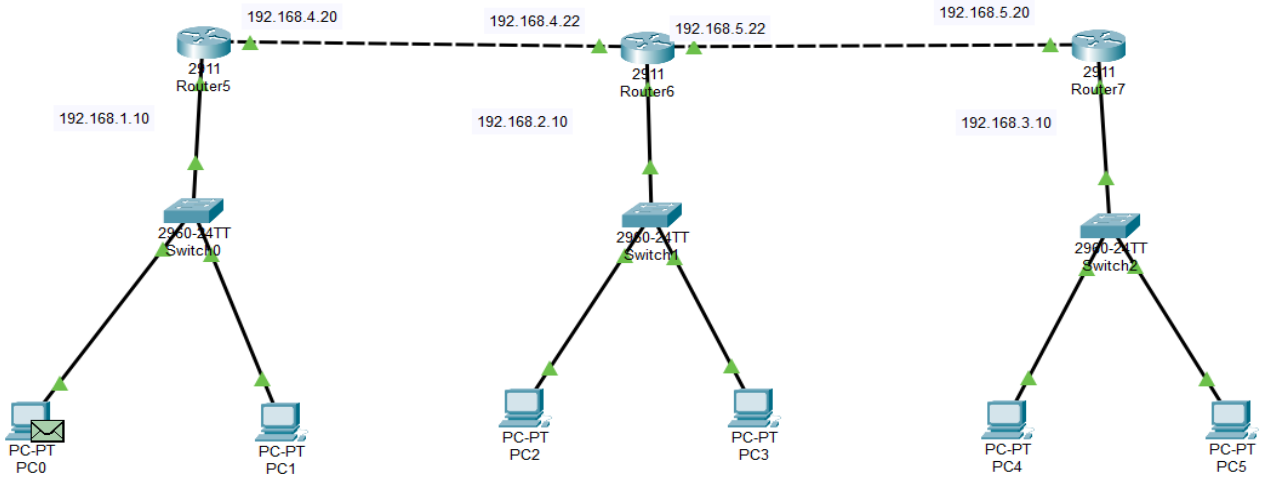


1.Construct 2 switches , 1 router and 4 different PC's and connect 2 PC's with each switch and connect both switches with router using Straight-Through wire.
2.Now assign IP addresses of type class C to devices e.g 192.168.1.1, 192.168.1.2, 192.168.2.1, 192.168.2.2 , Router IP address 1 192.168.1.10 , Router IP address 1 192.168.2.10
3.Simulate the model.
4.The host device sends a packet to switch.
5.Switch broadcast the packet.
6.The router then sends a packet to the switch.
7.The switch then sends a packet to the intended device.
8.The switch then sends a response to the router.
9.The router sends a response to the switch and switch then responds to the host device.





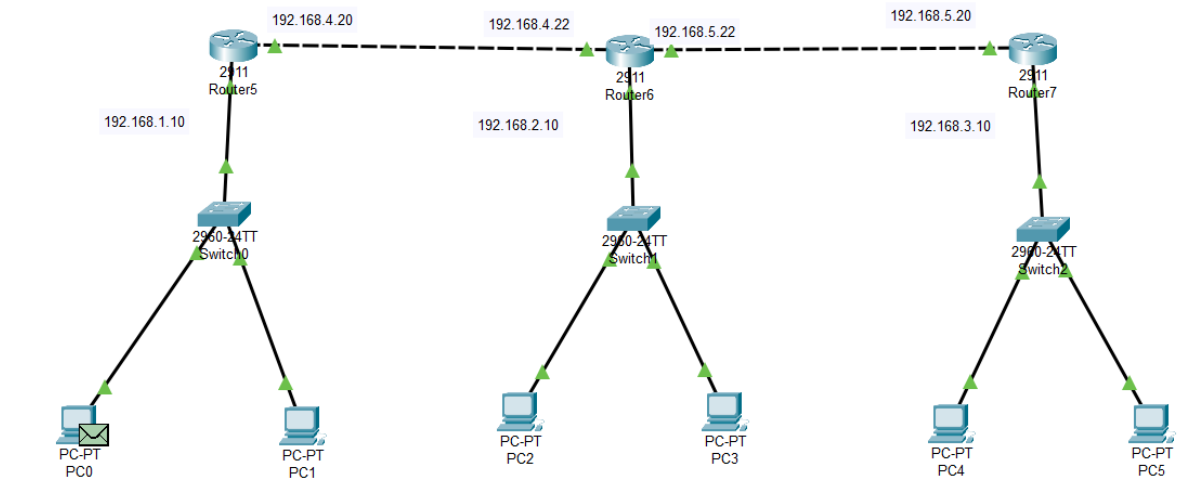
Communication using Multiple Router

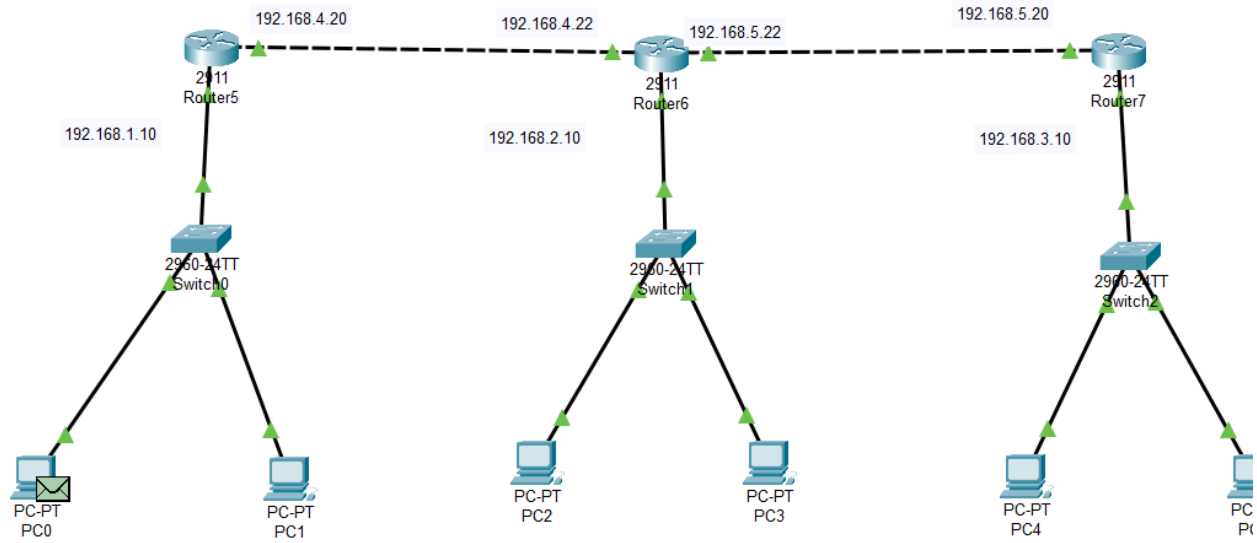


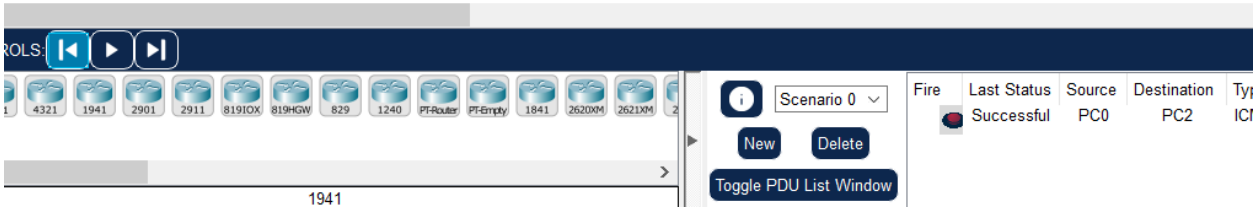
Steps:

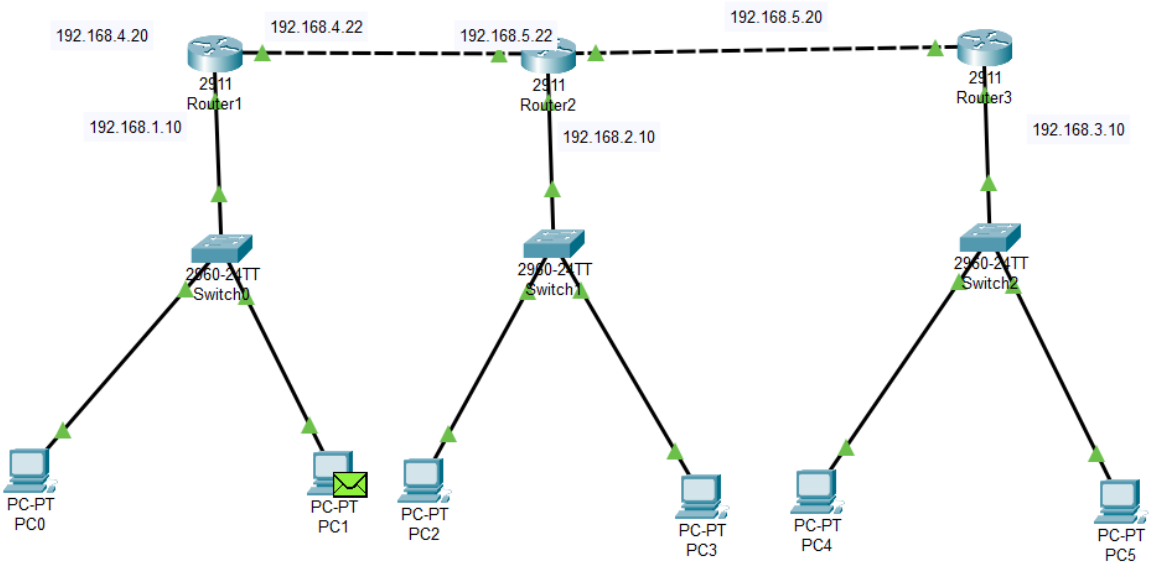
1.Construct 3 switches , 3 routers and 6 different PC's and connect 2 PC's with each switch and connect switches with each router using Straight-Through wire.
2.Now assign IP addresses of type class C to devices e.g 192.168.1.1, 192.168.1.2, 192.168.2.1, 192.168.2.2 , 192.168.3.1, 192.168.3.2 , Router 1 IP address 1 192.168.1.10 , Router 1 IP address 2 192.168.4.20 ,Router 2 IP address 1 192.168.4.22 , Router 2 IP address 2 192.168.5.22 , Router 2 IP address 3 192.168.2.10 , Router 3 IP address 1 192.168.5.20 , Router 3 IP address 2 192.168.3.10.
3.Simulate the model.
4.The host device sends a packet to switch.
5.Switch broadcast the packet.
6.The router then sends a packet to the switch.
7.The switch then sends a packet to the intended device.
8.The switch then sends a response to the router.
9.The router sends a response to the switch and switch then responds to the host device.

All possible ways to send packet.





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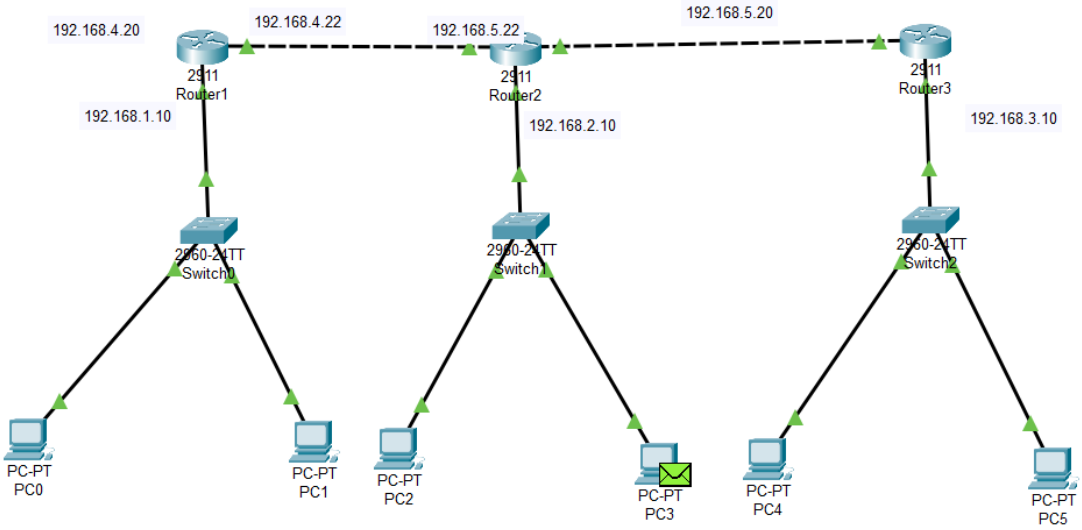
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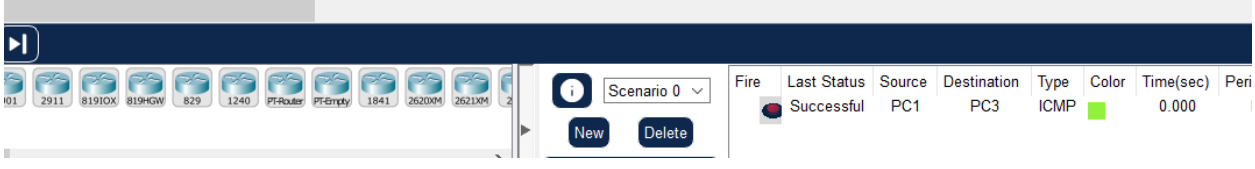
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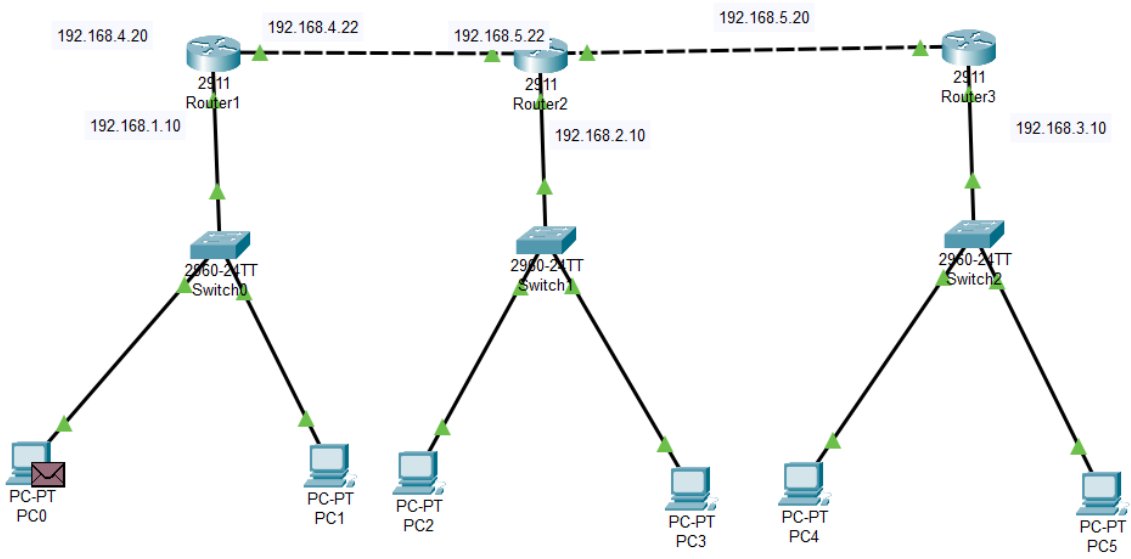
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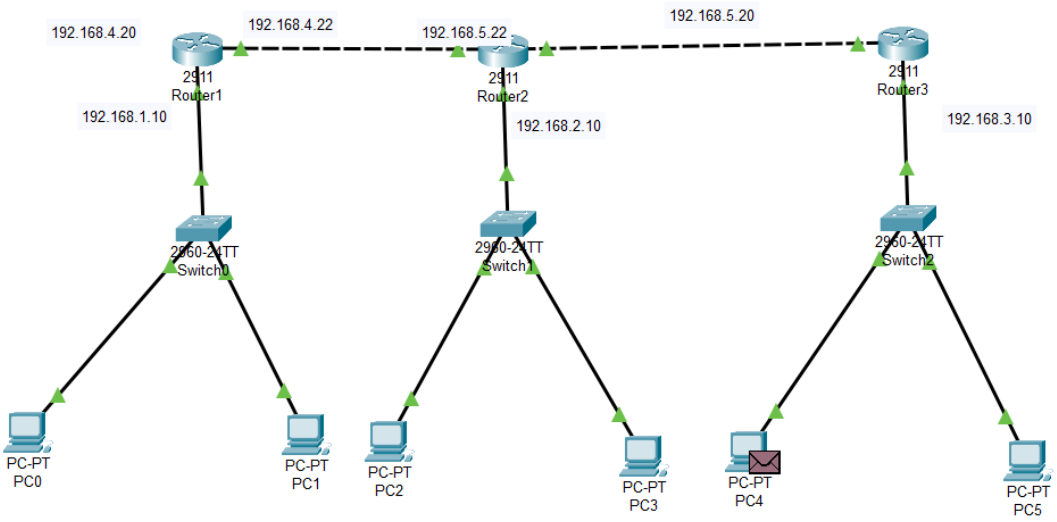
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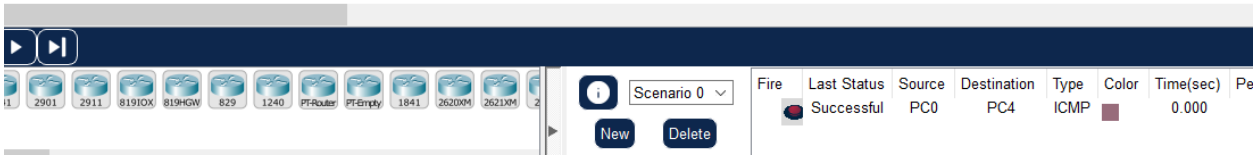
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Time(sec)
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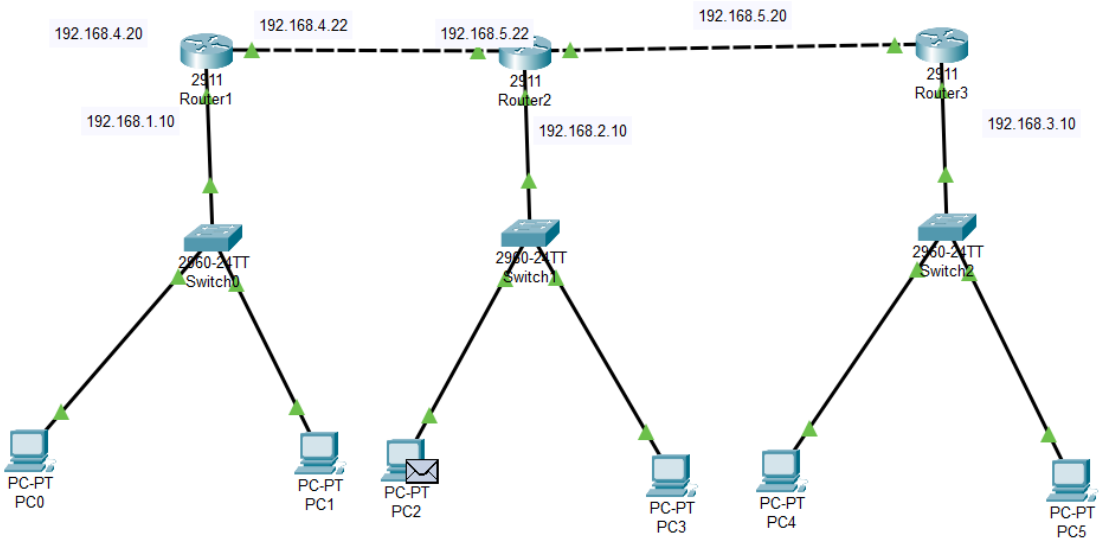
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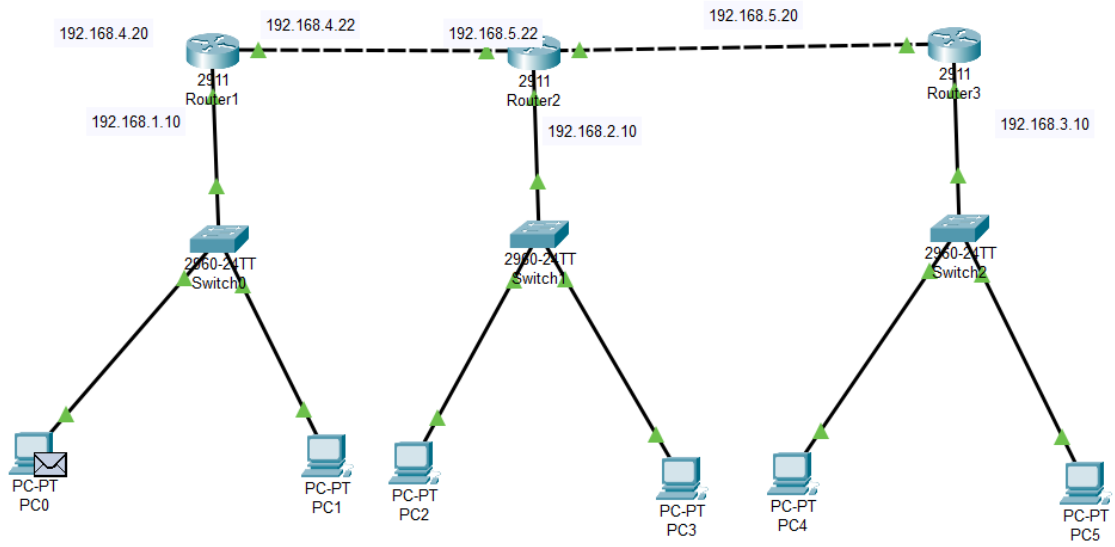
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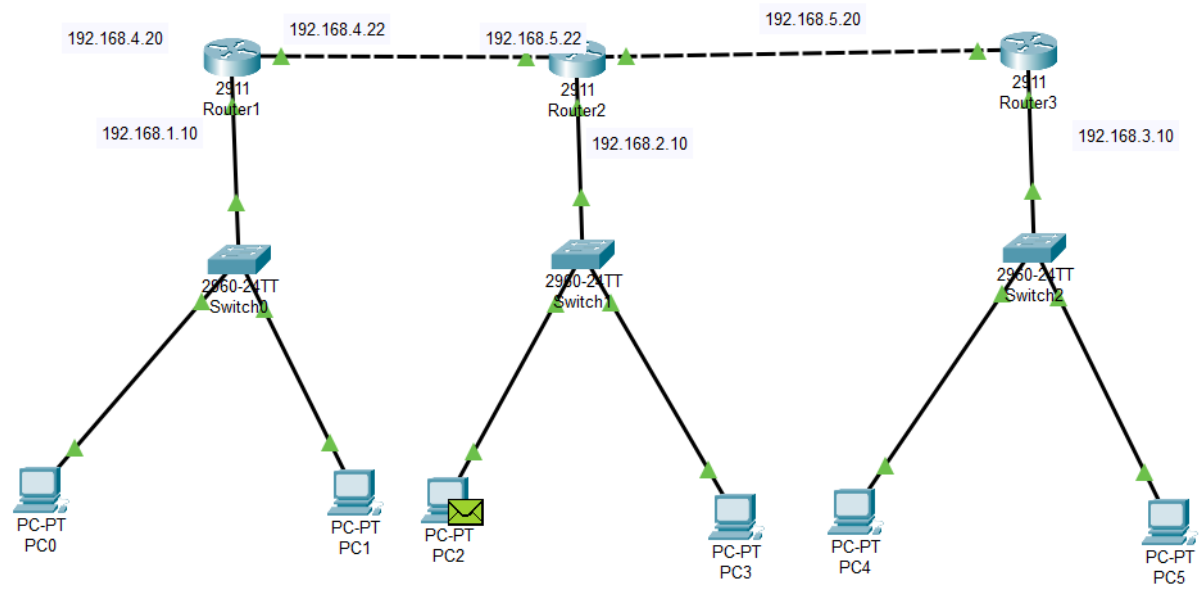
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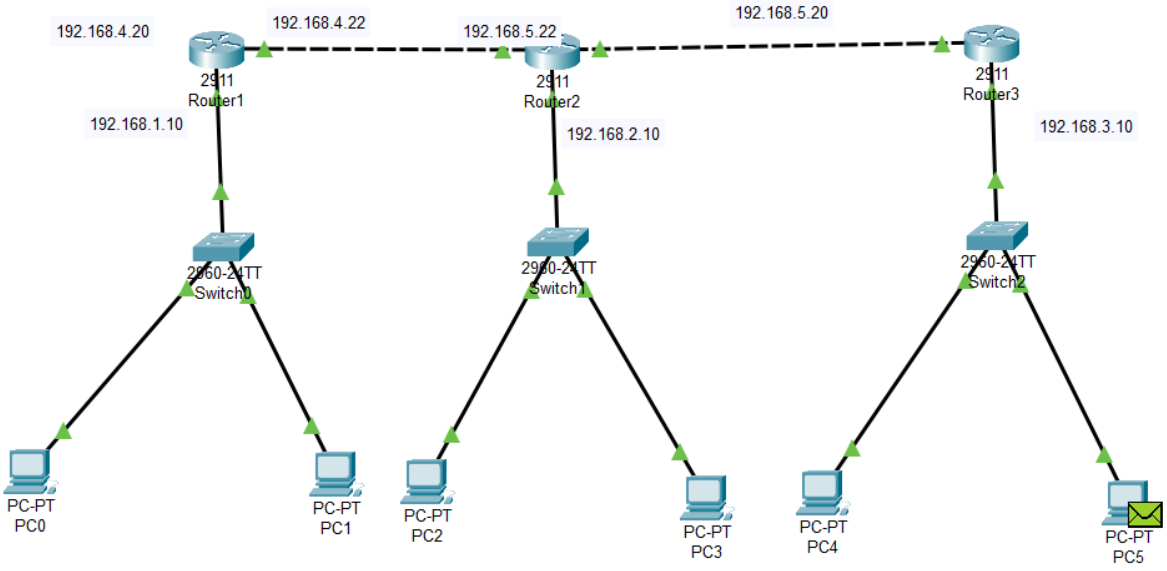
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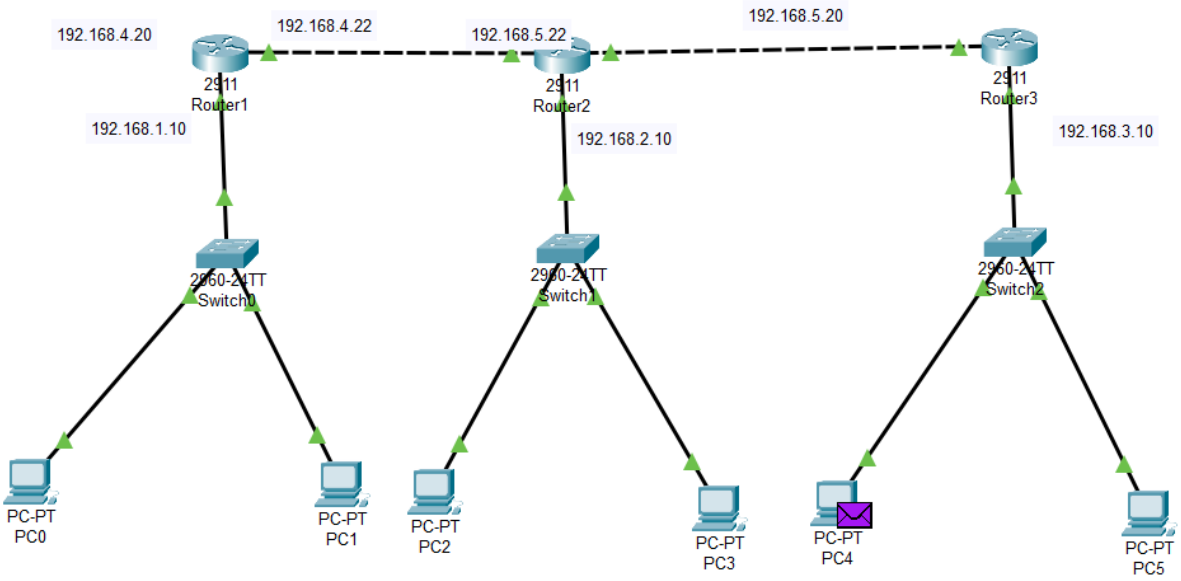
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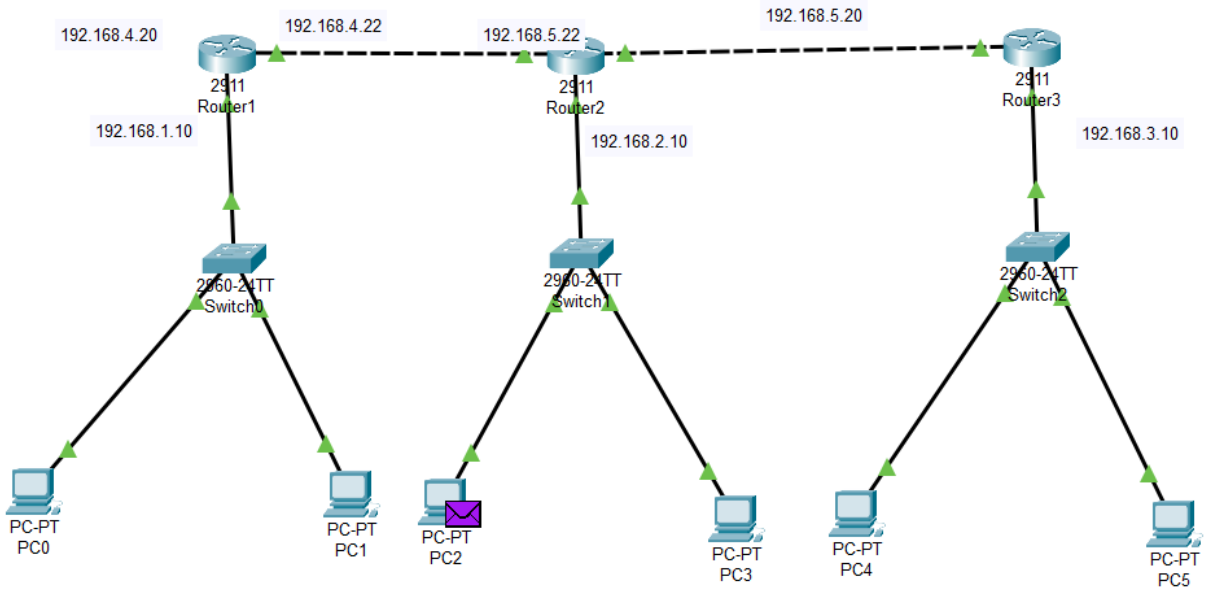
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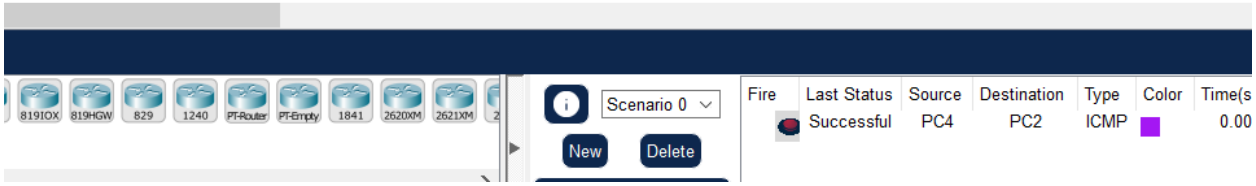
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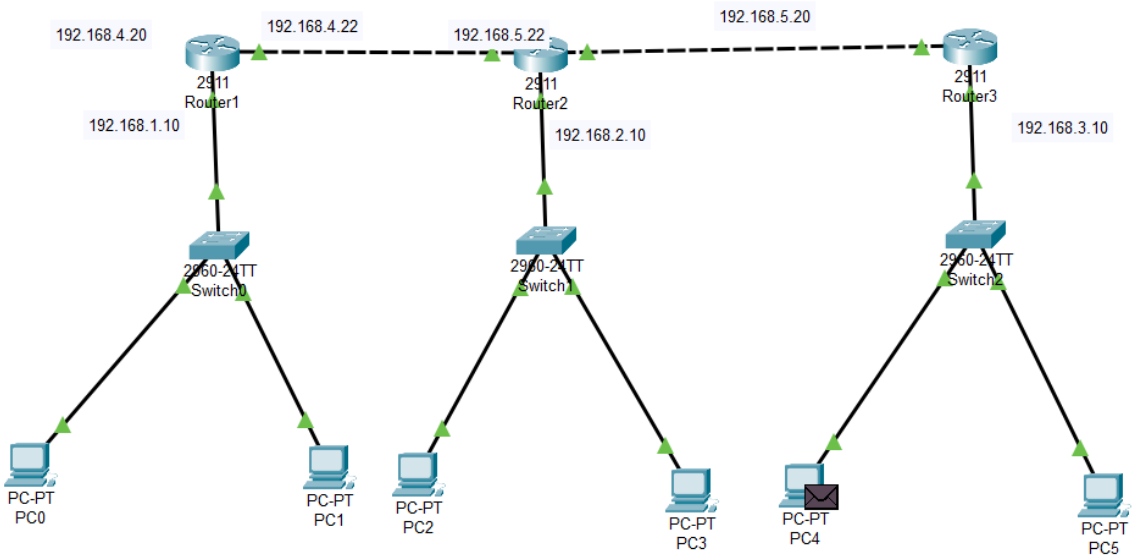
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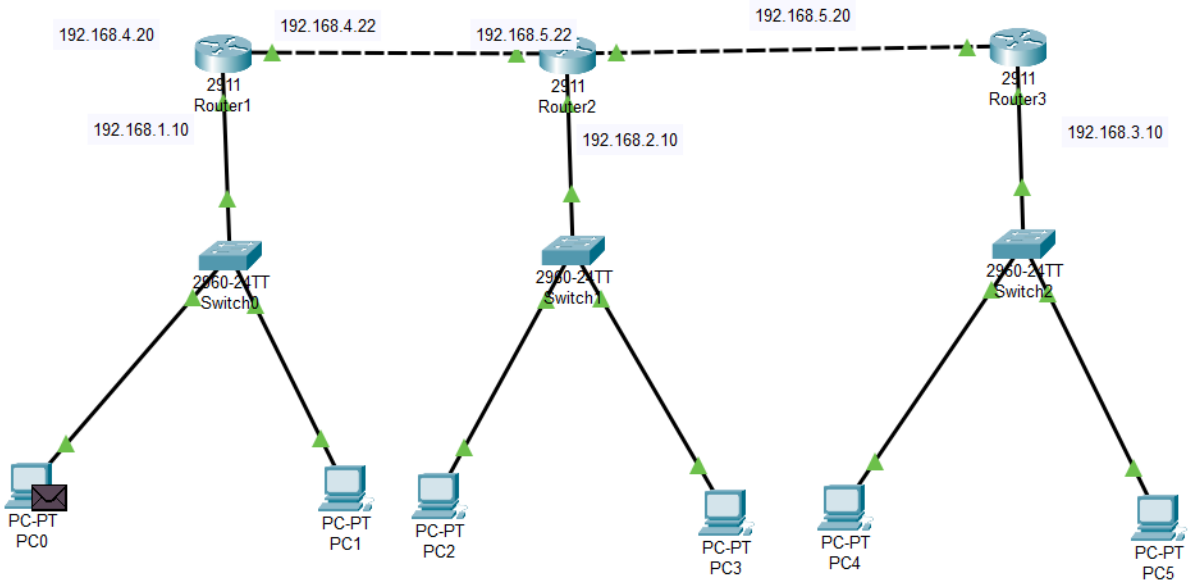
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