Network Analysis Project

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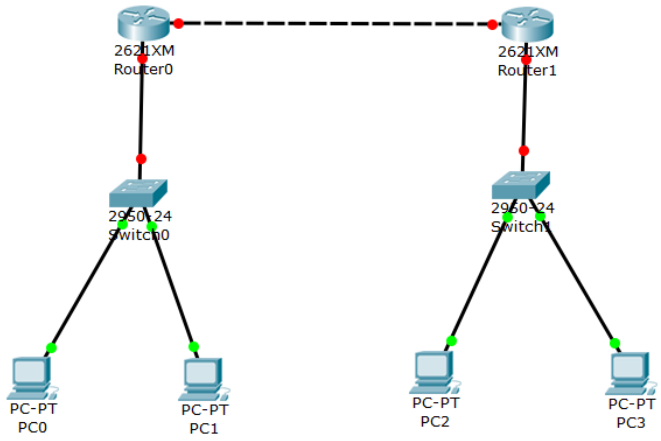
TOPIC – Controlling Traffic Using Access Control List

1. We setup the generic routers.

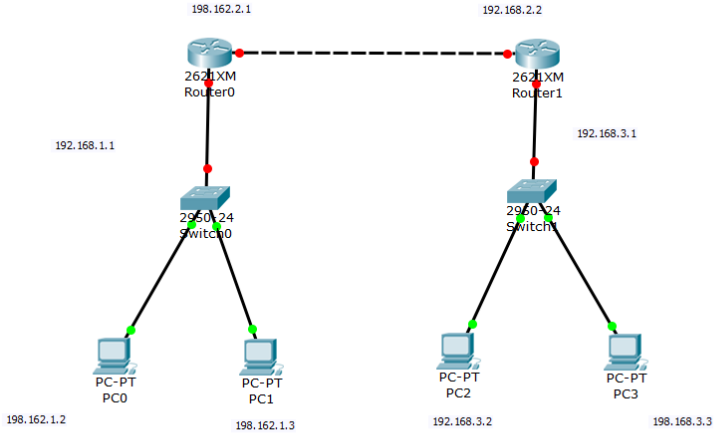
2. Next step is to setup the PCs and Switches.



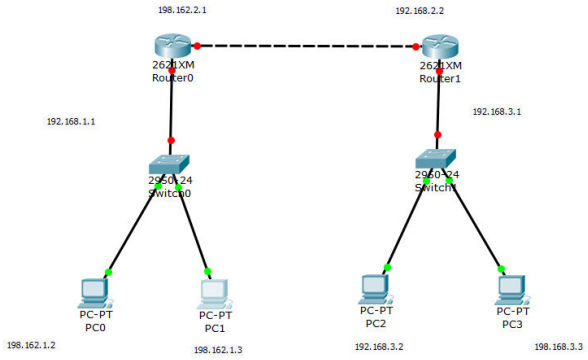
3. Deciding the ip addresses of PCs and router.

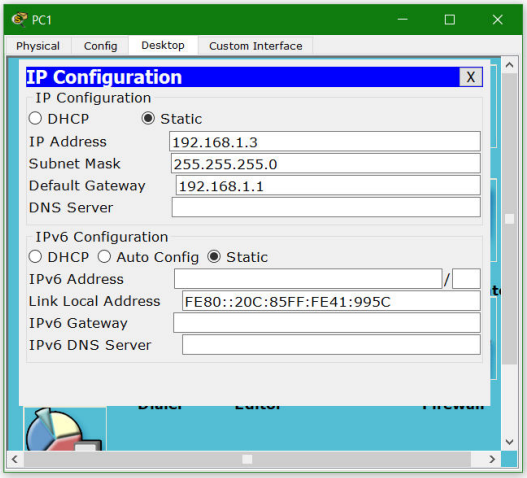
4. The fa0/0 should have same ip network address

5. The fa0/1 should have different ip addresses.



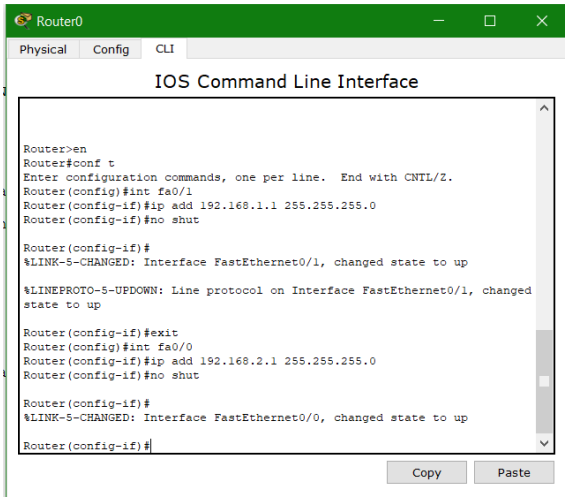
6. Assigning ip address to PCs





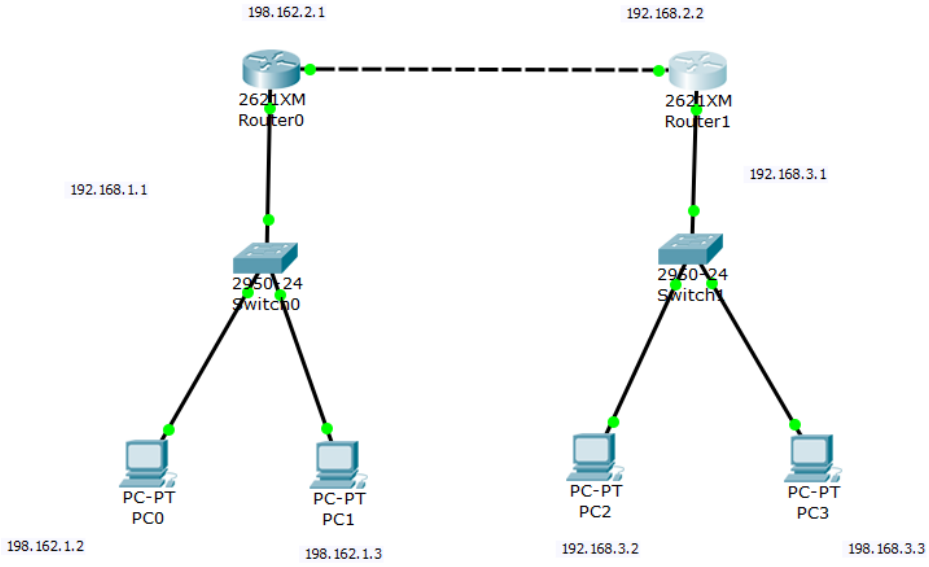
7. Configuring CLI Router0

```
Router>en
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int fa0/1
Router(config-if)#ip add 192.168.1.1 255.255.255.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to
up

Router(config-if)#exit
Router(config)#int fa0/0
Router(config-if)#ip add 192.168.2.1 255.255.255.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

Router(config-if)#
```

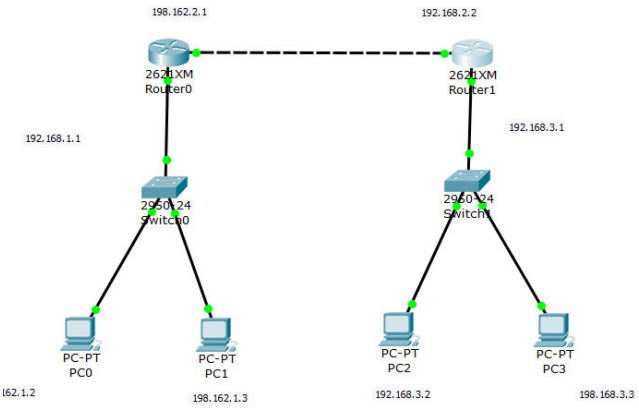


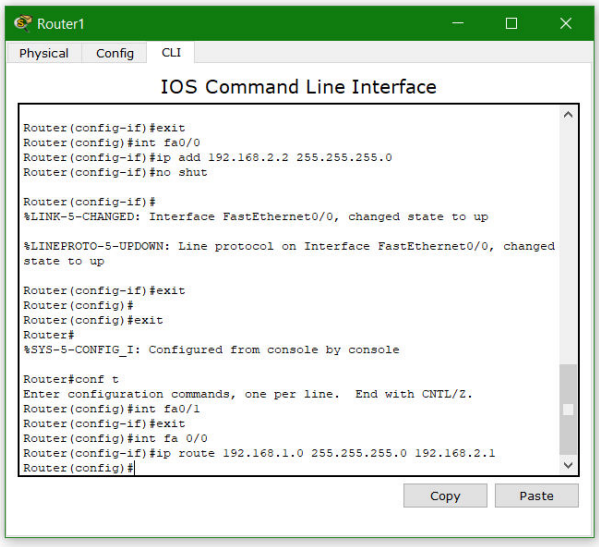
8. Repeat the CLI steps with Router1 but we should be careful about the ip address.

9. Connection is established.

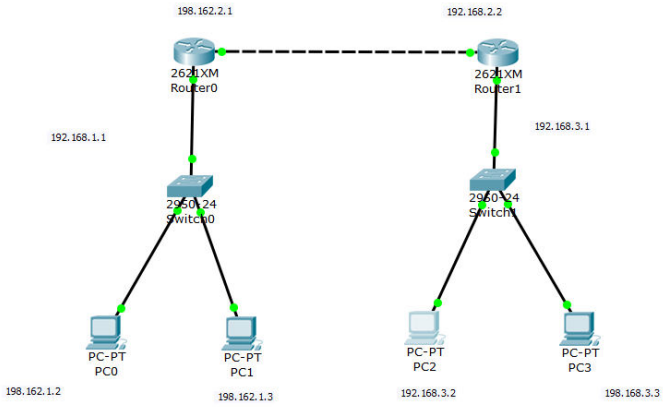


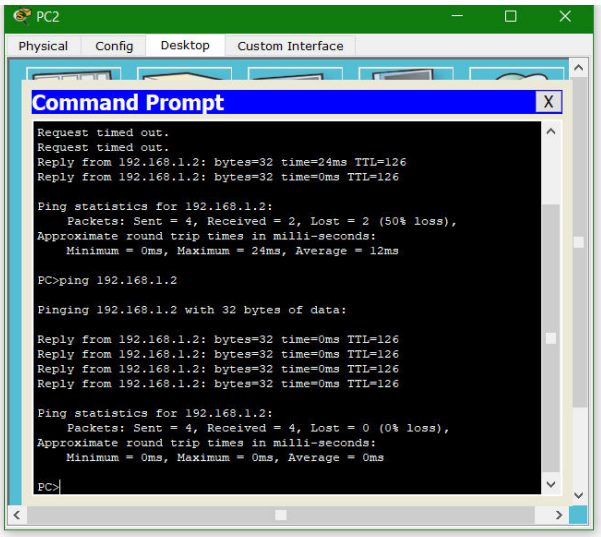
10. Setting up the routing info



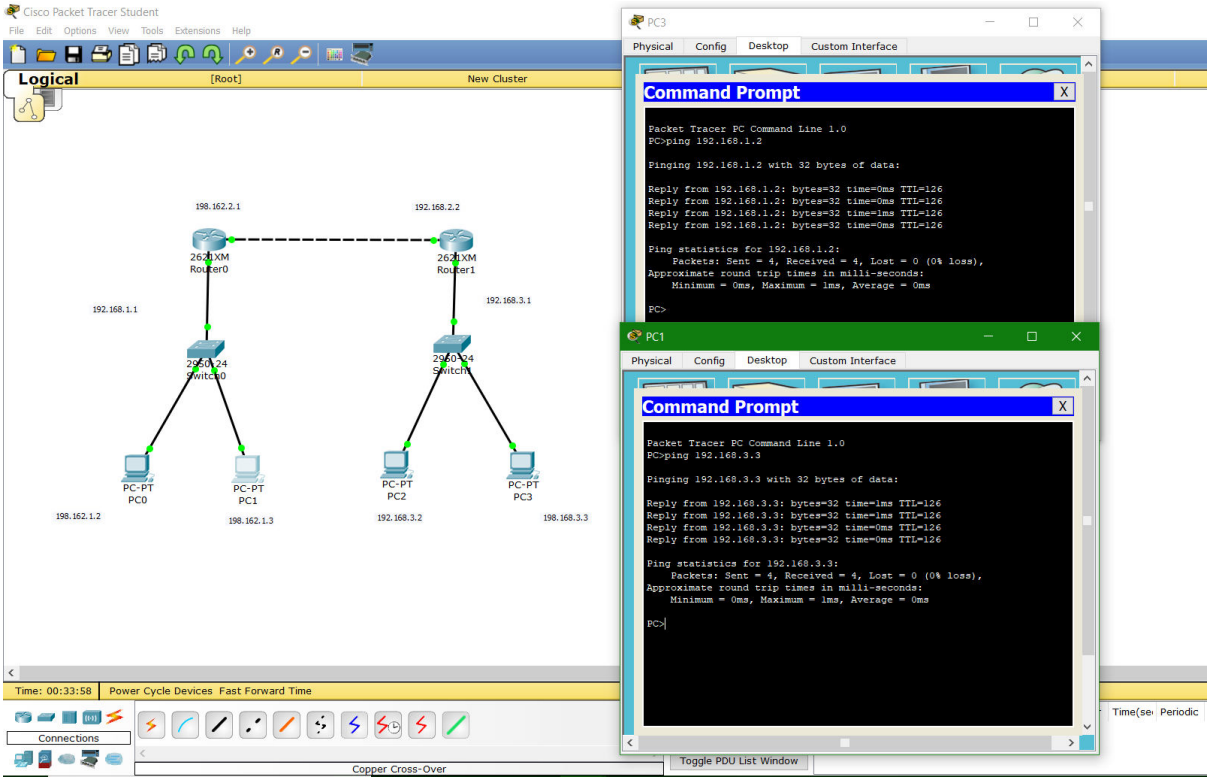


11. Now we have to check our connection if messages are being sent to other systems or not.

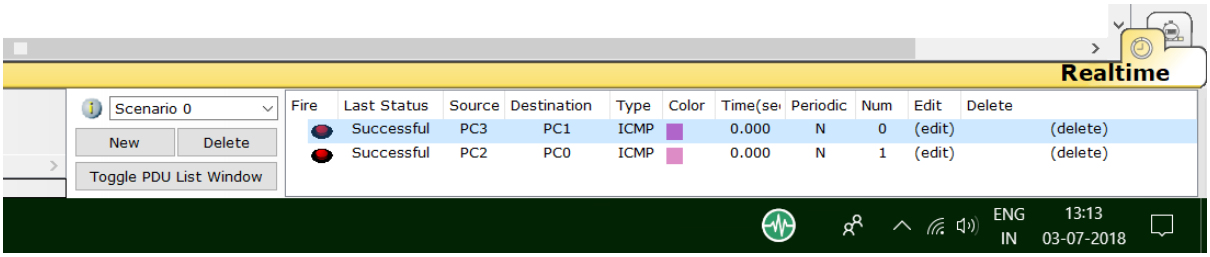




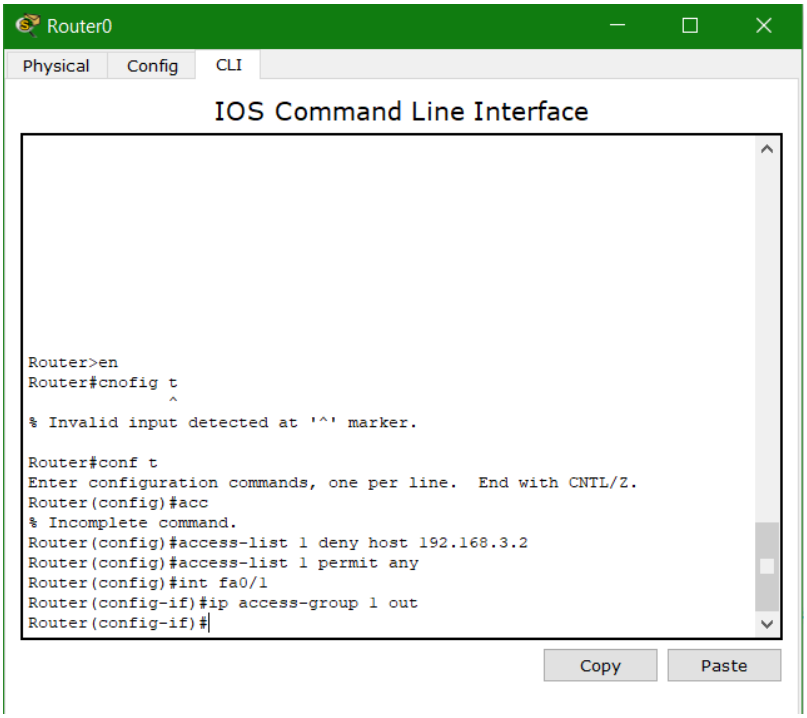
12. Similarly for other PCs.



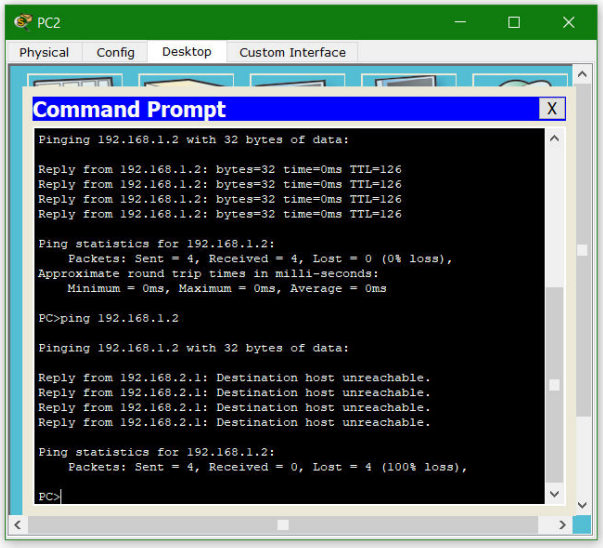
13. Checking the connections with message packets



14. Now we have to apply ACL on our network



15. We can see the result

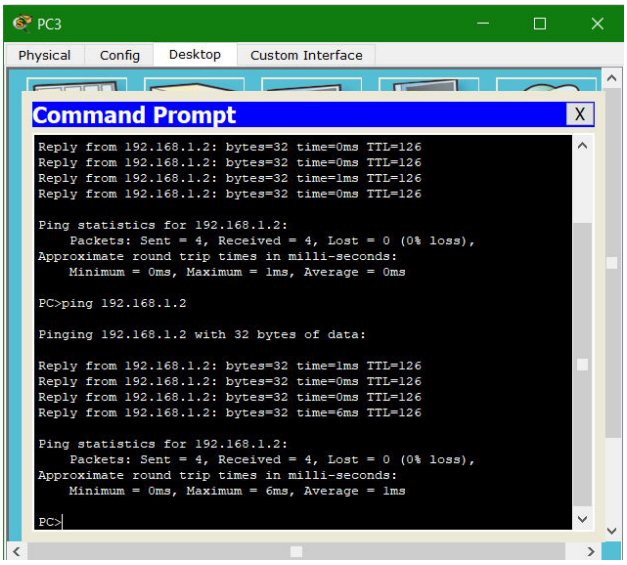


16. The destination host is not reachable since we have used ACL to restrict it.(PC2)

```
PC>ping 192.168.1.2

Pinging 192.168.1.2 with 32 bytes of data:

Reply from 192.168.2.1: Destination host unreachable.
Reply from 192.168.2.1: Destination host unreachable.
Reply from 192.168.2.1: Destination host unreachable.
Reply from 192.168.2.1: Destination host unreachable.

Ping statistics for 192.168.1.2:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
```

17. The host 192.168.3.2 has no access to other networks that is ip address of PC2.

18. But PC3 with ip address 192.168.3.3 has still access to send messages as it is not in access list.




```
PC>ping 192.168.1.2

Pinging 192.168.1.2 with 32 bytes of data:

Reply from 192.168.1.2: bytes=32 time=1ms TTL=126
Reply from 192.168.1.2: bytes=32 time=0ms TTL=126
Reply from 192.168.1.2: bytes=32 time=0ms TTL=126
Reply from 192.168.1.2: bytes=32 time=6ms TTL=126

Ping statistics for 192.168.1.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 6ms, Average = 1ms
```

So basically this is the way ACL works which permits and denies the communication between the systems .