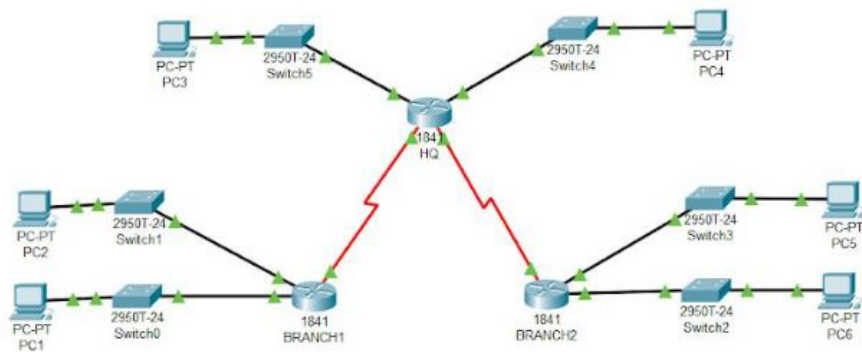# IAS Lab-1

Name: Jaidev Chittoria

Roll No.: 181IT119

- Network Topology :
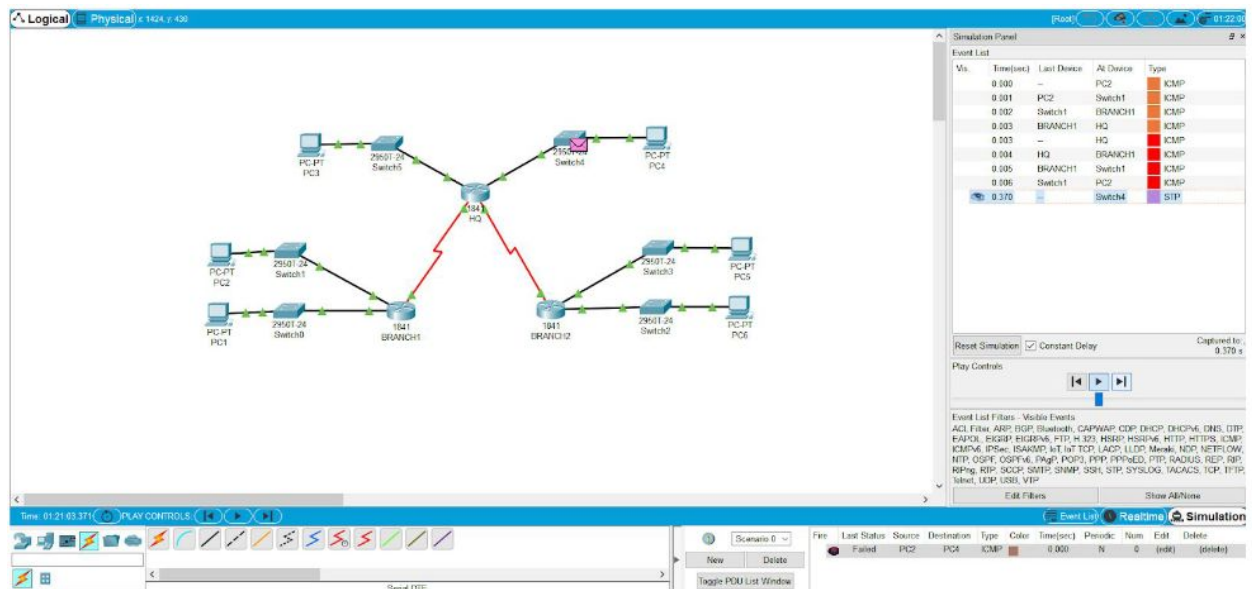
1. Write a firewall policy at interface S0/0/0 of HQ Router in the given topology that should block all incoming ICMP Echo Requests.Demonstrate the operation by sending a message from PC2.

Console:

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#interface Serial0/0/0
Router(config-if)#access-list 110 deny icmp any any
Router(config)#access-list 110 deny icmp any any
Router(config)#int se0/0
%Invalid interface type and number
Router(config)#int Serial0/0/0
Router(config-if)#ip access-group 110 in
Router(config-if)#|
```
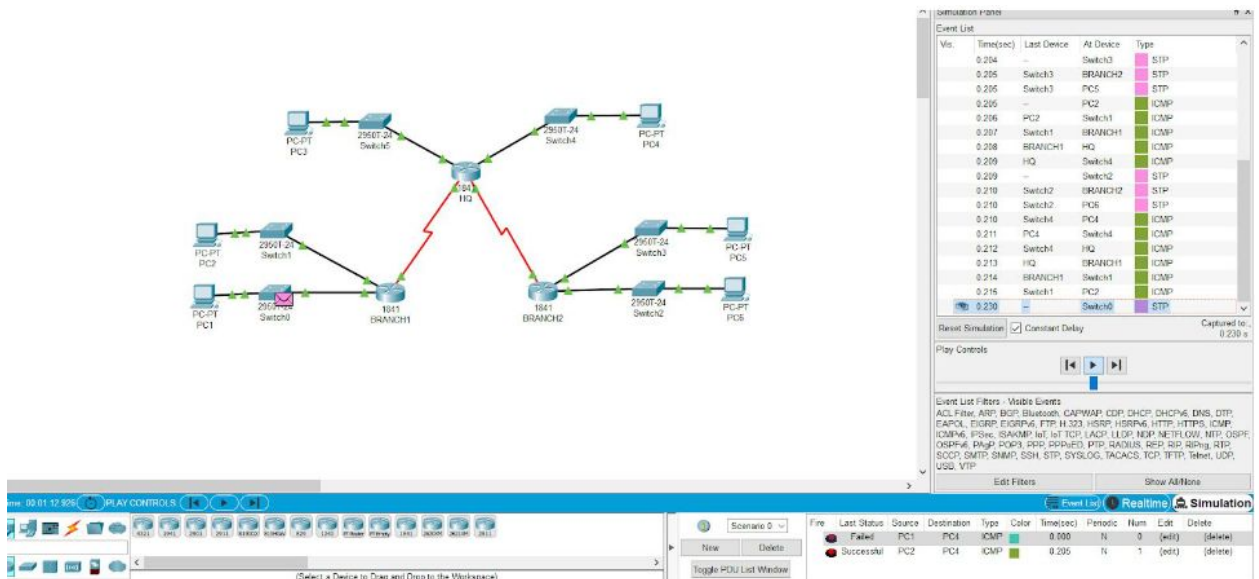
Output:

Observation: Here a packet is sent for PC2 to PC4 but it fails as HQ router blocks all incoming packets.

2. Write a firewall policy at interface S0/0/0 of HQ Router in the given topology that should block any traffic incoming coming from172.16.0.0/23 network. Demonstrate the blocking operation by sending a message from any system from the network 172.16.0.0/23.

Console:

```
-- -----.
Router#
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#access-list 120 deny ip 172.16.0.0 0.0.1.255 any
Router(config)#access-list 120 permit ip any any
Router(config)#int se0/0/0
Router(config-if)#ip access-group 120 in
Router(config-if)#end
Router#
```

Output:

Observation: Here the HQ router blocks all incoming traffic from 172.16.0.0/23 network. This message sent from PC1 in the 172.16.0.0/23 network fails. On the other hand a message sent from PC2 toPC4 is successful.

3. Write a firewall policy at interface S0/0/1BRANCH2 Router in the given topology that should allow any traffic incoming coming from PC3and rest of the traffic should be blocked. Demonstrate the operation by sending messages from any system from any network and PC3.

Console:

```
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#ip access-list standard Net2
Router(config-std-nacl)#permit host 192.168.1.10
Router(config-std-nacl)#int se0/0/1
Router(config-if)#ip access-group NEt2 in
Router(config-if)#
```

Output:
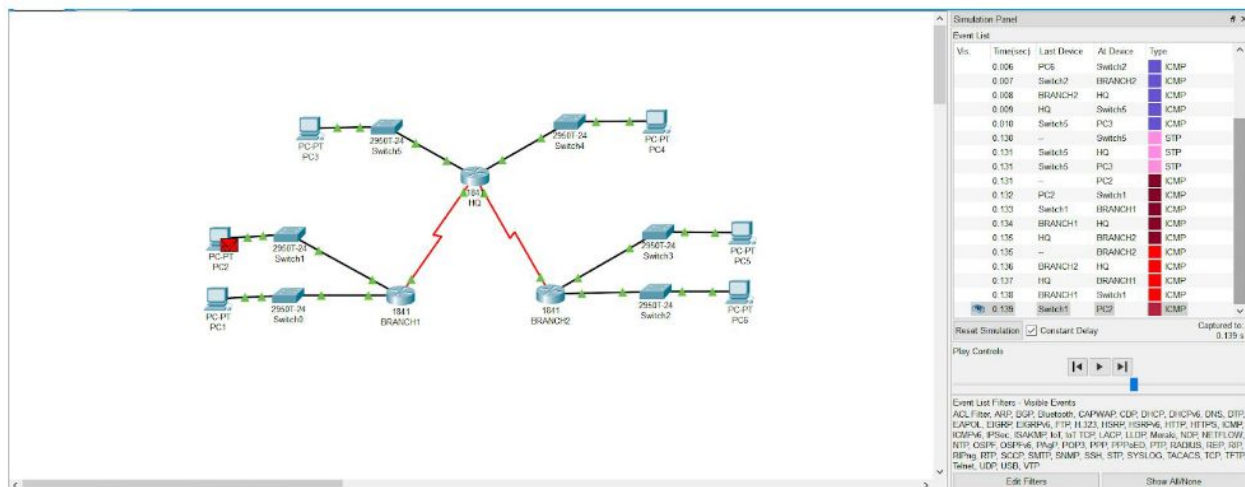
Observation:
        Here, at router BRANCH2 traffic from all PCs except PC3 is blocked. Thus a message sent fromPC3 to PC5 is successful. On the other hand, a message sent from PC2 to PC5 is blocked.

4. Write a firewall policy at interface S0/0/0 of BRANCH1 Router in the given topology that should block any traffic incoming coming from anysystem belonging to 192.168.1.0/25 network. Demonstrate the operation by sending a message from any system of the network 192.16.0.0.

Console:

```
%SYS-5-CONFIG_I: Configured from console by console
configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#access-list 111 deny ip 192.168.1.0 0.0.0.127 any
Router(config)#access-list 111 permit ip any any
Router(config)#int se0/0/0
Router(config-if)#ip access-group 111 in
Router(config-if)#
```

Output:
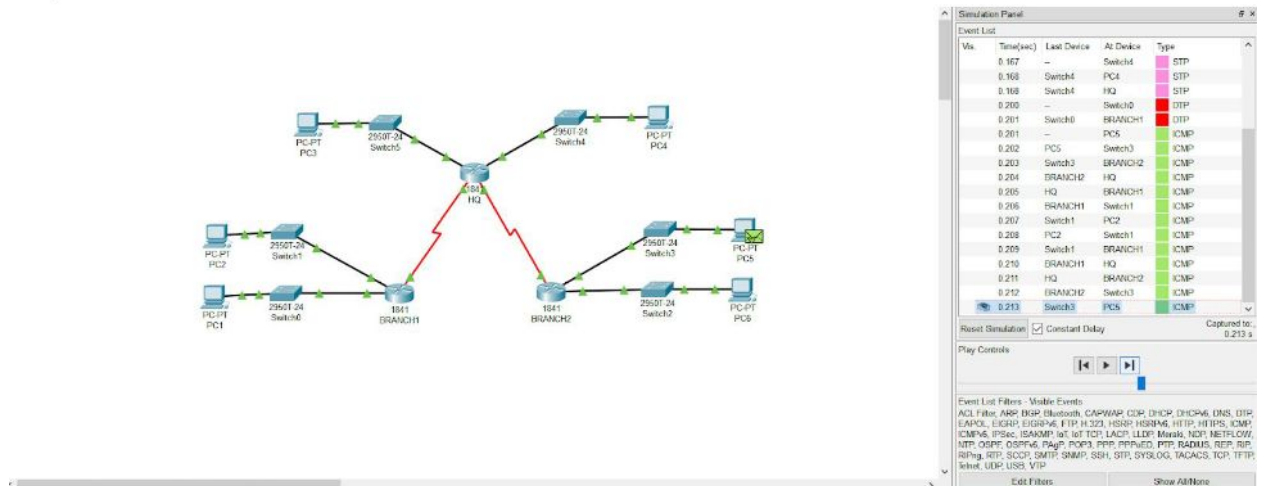
Observation:
Here the router BRANCH1 blocks all incoming traffic coming from 192.168.1.0/25 network. Hereping from PC3 which is in the 192.168.1.0/25 network to PC2 is blocked. Pings from other PCsare successful.

5. Write a firewall policy at interface S0/0/0 of BRANCH1 Router in the given topology that should block any traffic incoming coming from any network. Demonstrate the operation by sending a message from anysystem of the network 192.16.0.0.

Console:

```
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#access-list 120 deny ip any any
Router(config)#int se0/0/0
Router(config-if)#ip access-group 120 in
Router(config-if)#
```

Output:
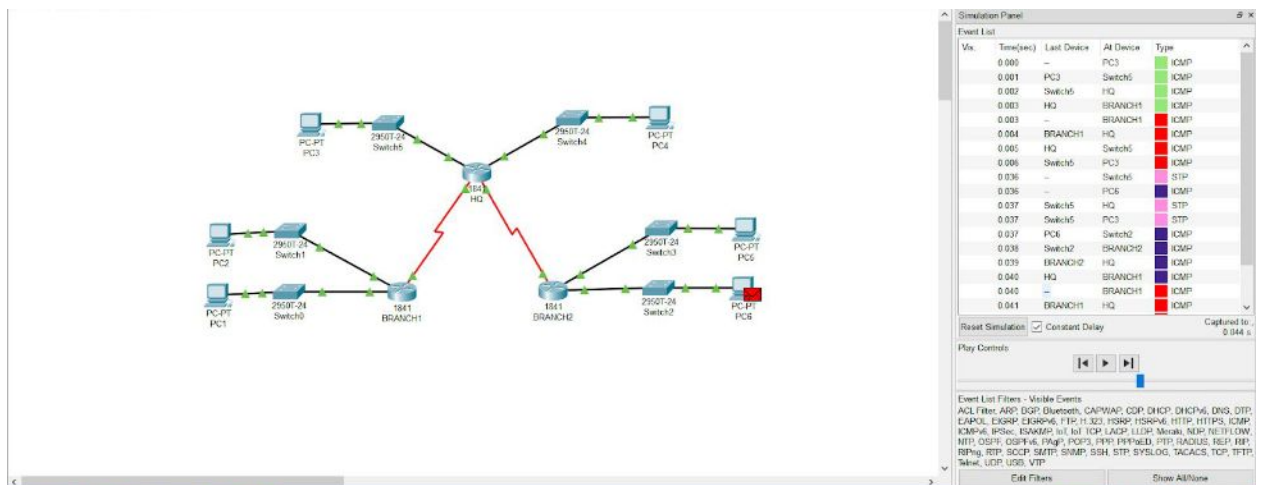
Observation:
Router BRANCH1 blocks traffic coming from any network. Pings are sent from PC3 and PC6 toPC1 but they are both blocked.