documentation

1. initialized a basic networking setup

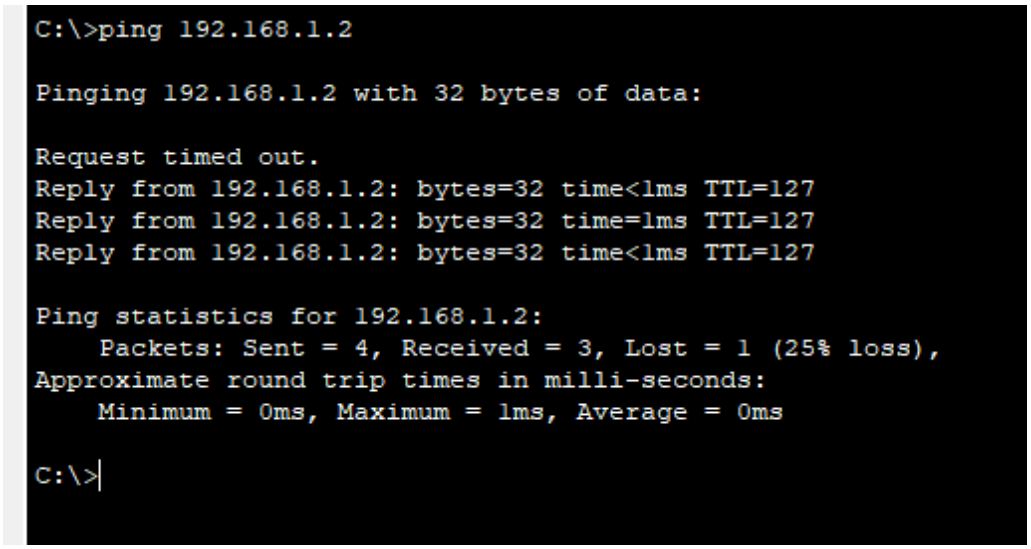
PC (fast ethernet) - router fastgigabit0/0

server (fast ethernet) - router fastgigabit0/1

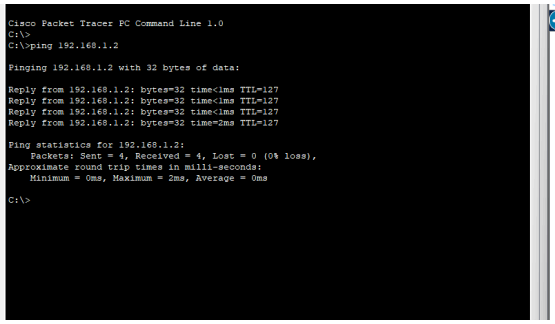
2. open router cli and type

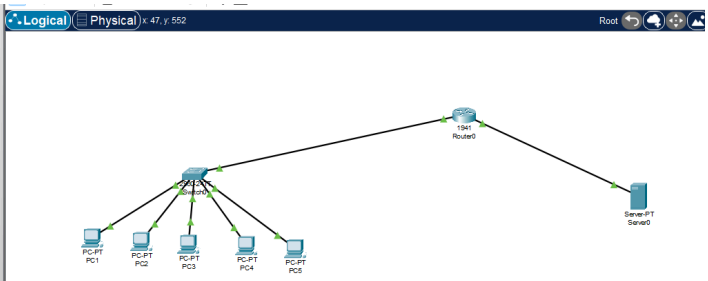
```
enable
configure terminal

interface gigabitEthernet0/0
no shutdown
exit

interface gigabitEthernet0/1
no shutdown
exit
```

3. assigned ip addresses to each end device
4. performed communication between the 2

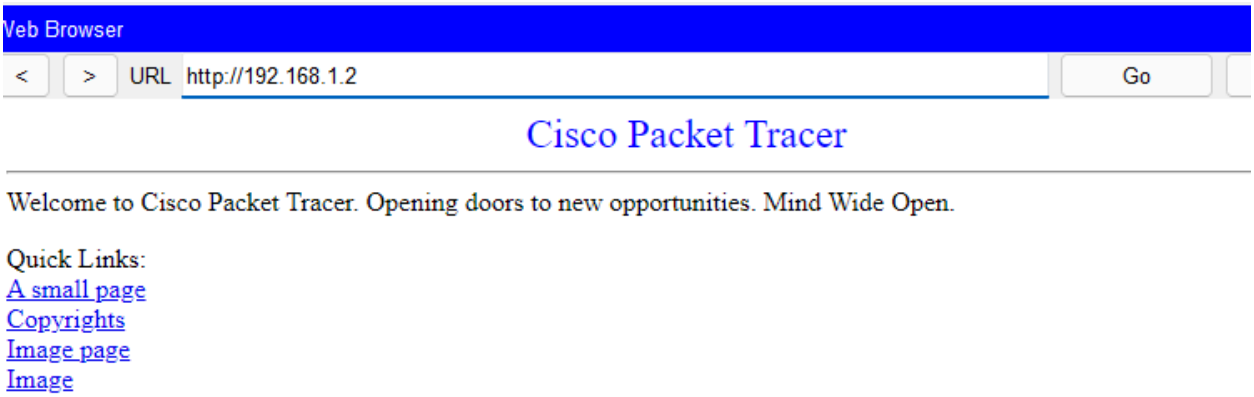


5. multiple end devices were connected to simulate an access network
   switch - aggregates the user traffic
   central router - msc
   successful end-to-end delivery





6. I enabled http service the server and opened the web browser of pc3 and searched up the dns
   `http://192.168.1.2` and this was the result



7. normal traffic is generated

- very few PCs (1)
- single http request
- no congestion
- no packet drops
- low delay

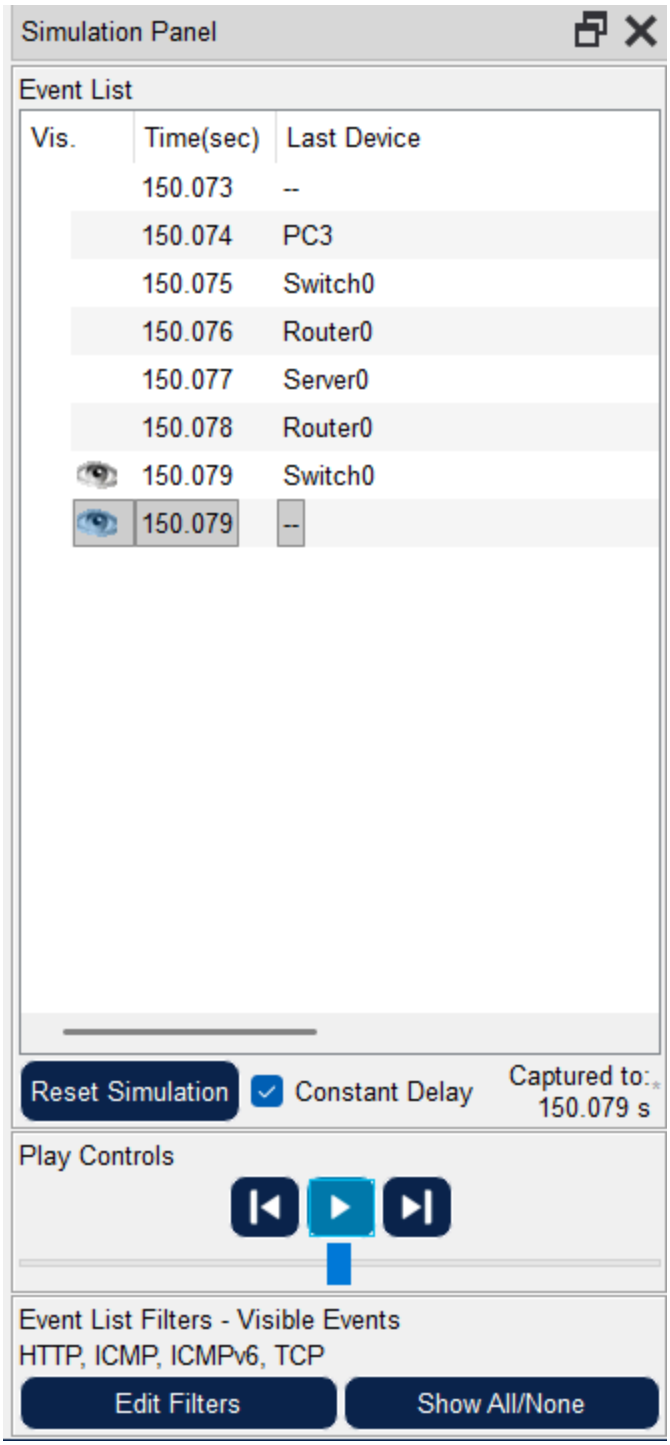
checkpoint:
- pinging : network layer connectivity works
- http: transport layer and application layer connectivity works

8. started making the dataset
9. dataset structure

- scenario_id
- active_pcs
- traffic_type
- traffic_intensity
- avg_delay
- packet_loss
- throughput
- label

10. the dataset is created by observing packet behavior in simulation mode

Example- this is the simulation for the 1st scenario (pc3 - http - server)



- there hasn’t been any packet loss since the data goes from pc3-router- server and server-router-pcs
- and due to the constant time we can also see that there is no delay