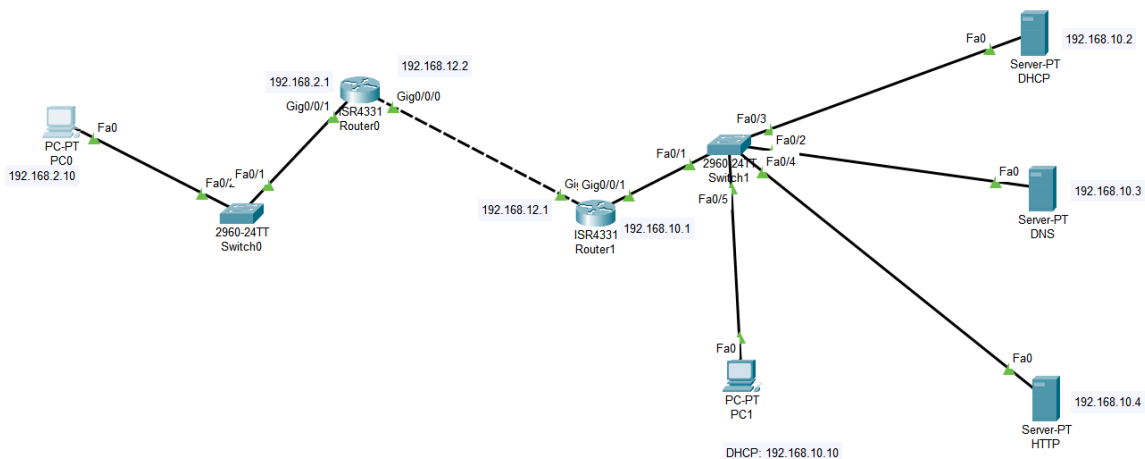




# 과제

2개 이상의 이더넷 네트워크를 WAN(라우터 2개 이상 연결)로 연결하는 네트워크 구성을 설계하고 통신이 될 수 있도록 셋팅하시오.



(1) 각 노드간 통신(ping)이 가능하도록 셋팅 후, ping 결과 화면 캡처

PC0(192.168.2.10)기준 ping

```
C:\>ping 192.168.10.10

Pinging 192.168.10.10 with 32 bytes of data:

Reply from 192.168.10.10: bytes=32 time<1ms TTL=126
Reply from 192.168.10.10: bytes=32 time<1ms TTL=126
Reply from 192.168.10.10: bytes=32 time<1ms TTL=126
Reply from 192.168.10.10: bytes=32 time<1ms TTL=126

Ping statistics for 192.168.10.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

```
C:\>ping 192.168.10.1

Pinging 192.168.10.1 with 32 bytes of data:

Reply from 192.168.10.1: bytes=32 time<1ms TTL=254
Reply from 192.168.10.1: bytes=32 time<1ms TTL=254
Reply from 192.168.10.1: bytes=32 time<1ms TTL=254
Reply from 192.168.10.1: bytes=32 time<1ms TTL=254

Ping statistics for 192.168.10.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

```

C:\>ping 192.168.10.4

Pinging 192.168.10.4 with 32 bytes of data:

Reply from 192.168.10.4: bytes=32 time<1ms TTL=126
Reply from 192.168.10.4: bytes=32 time=1ms TTL=126
Reply from 192.168.10.4: bytes=32 time<1ms TTL=126
Reply from 192.168.10.4: bytes=32 time<1ms TTL=126

Ping statistics for 192.168.10.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

```

### PC1(192.168.10.10)기준 ping

```

C:\>ping 192.168.2.10

Pinging 192.168.2.10 with 32 bytes of data:

Reply from 192.168.2.10: bytes=32 time=1ms TTL=126
Reply from 192.168.2.10: bytes=32 time<1ms TTL=126
Reply from 192.168.2.10: bytes=32 time<1ms TTL=126
Reply from 192.168.2.10: bytes=32 time<1ms TTL=126

Ping statistics for 192.168.2.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>ping 192.168.2.1

Pinging 192.168.2.1 with 32 bytes of data:

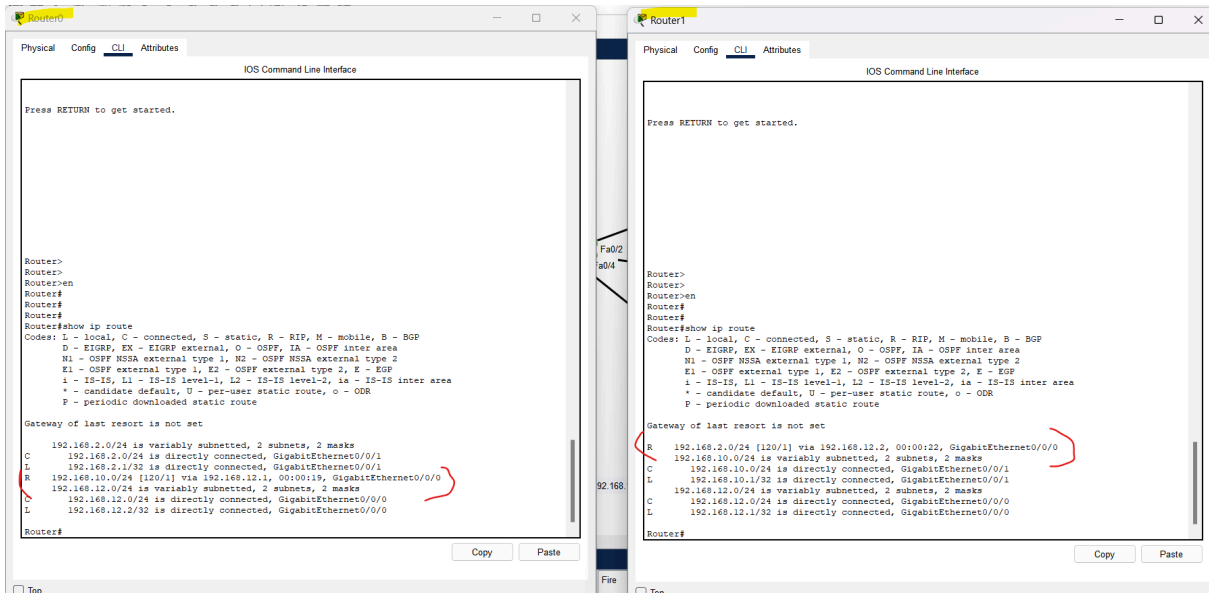
Reply from 192.168.2.1: bytes=32 time<1ms TTL=254
Reply from 192.168.2.1: bytes=32 time<1ms TTL=254
Reply from 192.168.2.1: bytes=32 time<1ms TTL=254
Reply from 192.168.2.1: bytes=32 time<1ms TTL=254

Ping statistics for 192.168.2.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

```

- 두 이더넷 네트워크에 존재하는 PC를 기준으로 ping을 실행함
- PC0 기준 이더넷 네트워크(192.168.10.1), Web Server(192.168.10.4), PC1(192.168.10.10)과 통신이 가능함
  - 다른 이더넷 네트워크와 통신이 가능함
- PC1 기준 이더넷 네트워크(192.168.2.1), PC0(192.168.2.10)과 통신이 가능함
  - 다른 이더넷 네트워크와 통신이 가능함

## (2) 각 라우터에 라우팅 프로토콜(Rip 또는 OSPF)을 올리고 라우팅 테이블 동기화 확인(화면캡처)



### Router0

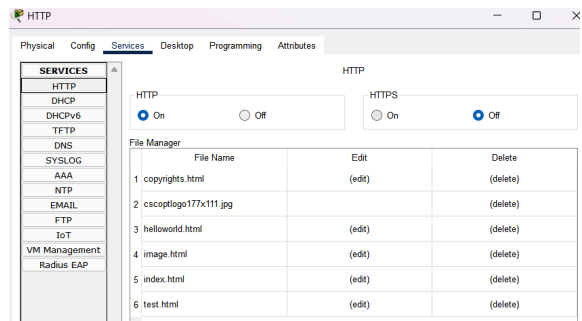
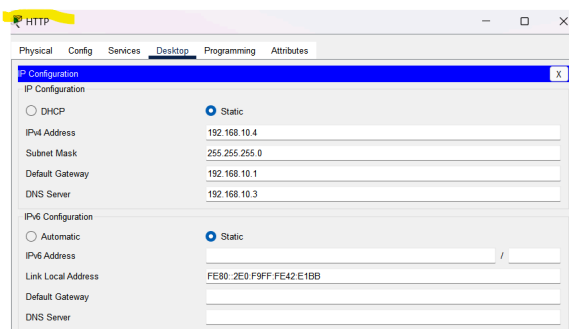
RIP Routing (v1)	
Network	
	Add
Network Address	
192.168.2.0	
192.168.12.0	

### Router1

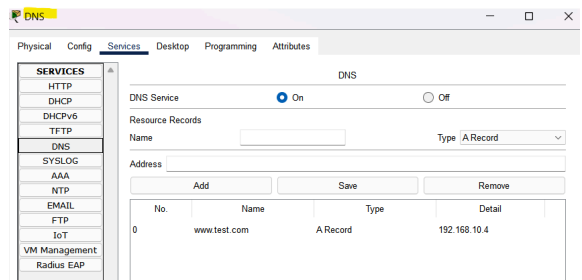
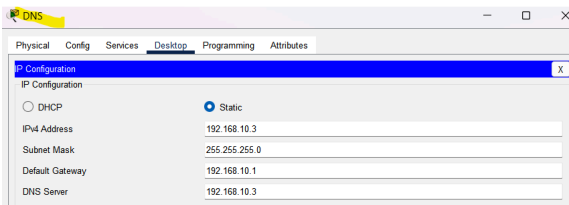
RIP Routing (v1)	
Network	
	Add
Network Address	
192.168.10.0	
192.168.12.0	

- Router0와 Router1에 RIP를 올림
- 라우팅 테이블이 동기화됨
- Router0
  - 192.168.10.0 via 192.168.12.1
- Router1
  - 192.168.2.0 via 192.168.12.2

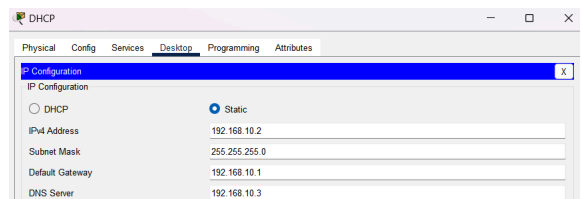
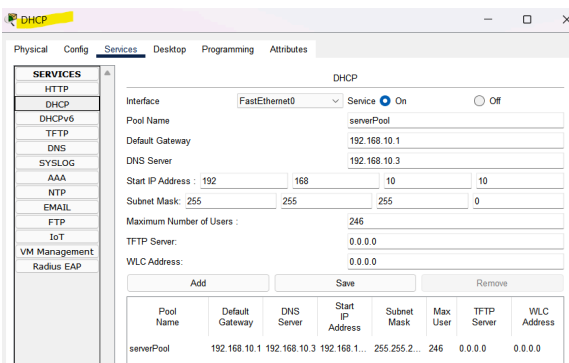
## (3) 서버 1개 이상을 구성하고 Web 서버, DNS 서버를 활성화



- Web Server의 IP 주소값을 192.168.10.4로 지정함



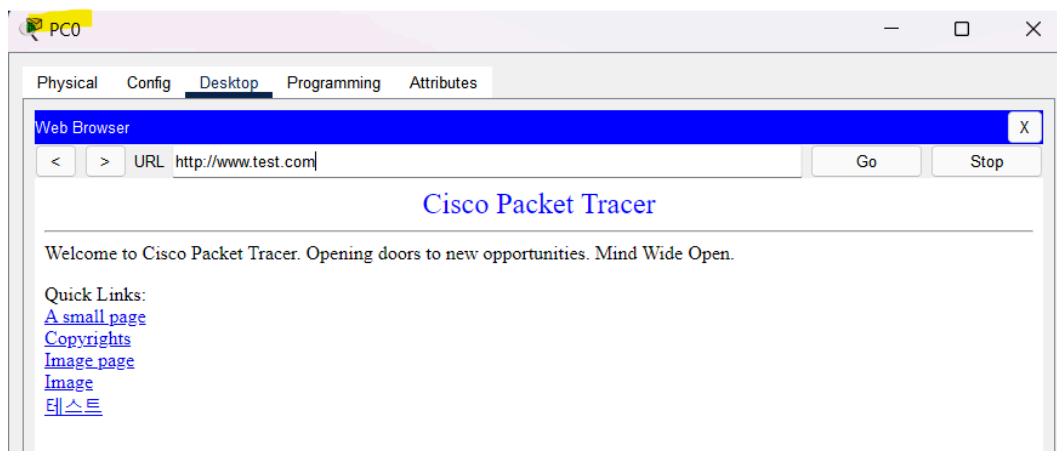
- DNS 서버의 주소 값을 192.168.10.3으로 지정함
- www.test.com에 대한 도메인 주소를 가지고 있음
  - 도메인을 탐색하고 192.168.10.4 주소값을 반환해줌



- DHCP 서버의 주소값은 192.168.10.2로 지정함
- DHCP 서버에서 IP를 할당 받으면 192.168.10.10부터 할당 받음
- 따라서 PC1의 주소는 DHCP에서 할당받은 192.168.10.10임

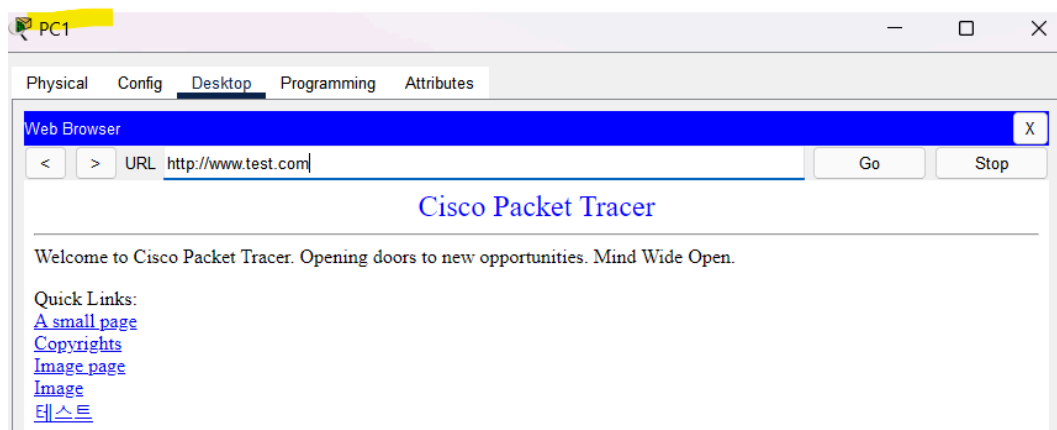
#### (4) PC에서 Web 서버 접속(DNS를 통한 도메인 변환 포함) 확인

##### PC0 기준



- PC0에서 Web Server에 접속이 가능함을 알 수 있음

##### PC1 기준



- PC1에서 Web Server에 접속이 가능함을 알 수 있음