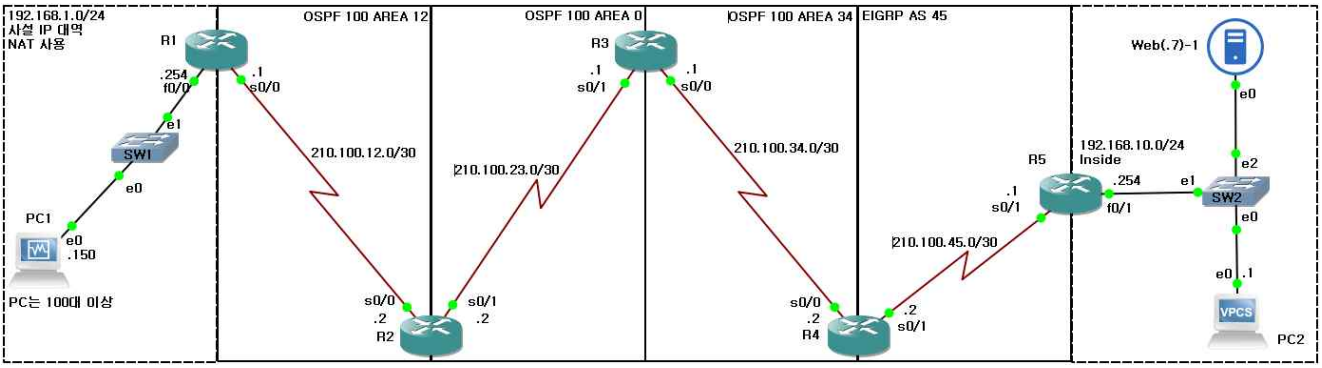

[문항 1] R1에 Static Default Routing을 구성하시오.
- 작업 내용 : R1에서 R2 방향으로 구성 화면과 Routing Table.

문항 1-1. 구성 화면

```
R1(config)#ip route 0.0.0.0 0.0.0.0 210.100.12.2
R1(config)#end
```

문항 1-2. Routing Table

```
R1#show ip route
Codes: C - connected, S - static, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2
       i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
       ia - IS-IS inter area, * - candidate default, U - per-user static route
       o - ODR, P - periodic downloaded static route

Gateway of last resort is 210.100.12.2 to network 0.0.0.0

     210.100.12.0/30 is subnetted, 1 subnets
C       210.100.12.0 is directly connected, Serial0/0
C    192.168.1.0/24 is directly connected, FastEthernet0/0
S*   0.0.0.0/0 [1/0] via 210.100.12.2
```

[문항 2] R1 ~ R5 주어진 프로토콜을 활용하여 Routing Table을 구성하시오.
- 작업 내용 : R1 ~ R5 Routing Config Command, Routing Table

문항 2-1. R1 Routing Config Command

```
R1(config)#router ospf 100
R1(config-router)#rout
R1(config-router)#exit
R1(config)#router ospf 100
R1(config-router)#router-id 1.1.1.1
R1(config-router)#network 210.100.12.1 0.0.0.3 area 12
R1(config-router)#exit
```

문항 2-2. R2 Routing Config Command

```
R2(config)#router ospf 100
R2(config-router)#router-id 2.2.2.2
R2(config-router)#network 210.100.12.2 0.0.0.3 area 12
R2(config-router)#network
*Mar  1 00:27:22.879: %OSPF-5-ADJCHG: Process 100, Nbr 1.1.1.1 on Serial0/0 from LOADING to F
ULL, Loading Done
R2(config-router)#network 210.100.23.0 0.0.0.3 area 0
R2(config-router)#exit
```

문항 2-3. R3 Routing Config Command

```
R3(config)#router ospf 100
R3(config-router)#router-id 3.3.3.3
R3(config-router)#network 210.100.23.0 0.0.0.3 area 0
R3(config-router)#network
*Mar  1 00:29:02.819: %OSPF-5-ADJCHG: Process 100, Nbr 2.2.2.2 on Serial0/1 from LOADING to F
ULL, Loading Done
R3(config-router)#network 210.100.34.0 0.0.0.3 area 34
R3(config-router)#exit
```

문항 2-4. R4 Routing Config Command

```
R4(config)#router ospf 100
R4(config-router)#router-id 4.4.4.4
R4(config-router)#network 210.100.34.0 0.0.0.3 area 34
R4(config-router)#
*Mar  1 00:30:32.915: %OSPF-5-ADJCHG: Process 100, Nbr 3.3.3.3 on Serial0/0 from LOADING to F
ULL, Loading Done
R4(config-router)#exit
R4(config)#router eigrp 45
R4(config-router)#eigrp router-id 4.4.4.4
R4(config-router)#network 210.100.45.0 0.0.0.3
R4(config-router)#exit
```

문항 2-5. R5 Routing Config Command

```
R5(config)#router eigrp 45
R5(config-router)#eigrp router-id 5.5.5.5
R5(config-router)#network 210.100.45.0 0.0.0.3
R5(config-router)#exit
*Mar  1 00:33:14.335: %DUAL-5-NBRCHANGE: IP-EIGRP(0) 45: Neighbor 210.100.45.2 (Serial0/1) is
 up: new adjacency
R5(config-router)#exit
*Mar  1 00:33:15.359: %DUAL-5-NBRCHANGE: IP-EIGRP(0) 45: Neighbor 210.100.45.2 (Serial0/1) is
 down: route configuration changed
R5(config-router)#exit
*Mar  1 00:33:19.027: %DUAL-5-NBRCHANGE: IP-EIGRP(0) 45: Neighbor 210.100.45.2 (Serial0/1) is
 up: new adjacency
R5(config-router)#exit
```

문항 2-6. R1 Routing Table

```
Gateway of last resort is 210.100.12.2 to network 0.0.0.0

     210.100.12.0/30 is subnetted, 1 subnets
C       210.100.12.0 is directly connected, Serial0/0
     210.100.23.0/30 is subnetted, 1 subnets
O IA    210.100.23.0 [110/128] via 210.100.12.2, 00:07:00, Serial0/0
C    192.168.1.0/24 is directly connected, FastEthernet0/0
     210.100.34.0/30 is subnetted, 1 subnets
O IA    210.100.34.0 [110/192] via 210.100.12.2, 00:05:22, Serial0/0
S*   0.0.0.0/0 [1/0] via 210.100.12.2
```

문항 2-7. R2 Routing Table

```
Gateway of last resort is not set

     210.100.12.0/30 is subnetted, 1 subnets
C       210.100.12.0 is directly connected, Serial0/0
     210.100.23.0/30 is subnetted, 1 subnets
C       210.100.23.0 is directly connected, Serial0/1
     210.100.34.0/30 is subnetted, 1 subnets
O IA    210.100.34.0 [110/128] via 210.100.23.1, 00:17:28, Serial0/1
```

문항 2-8. R3 Routing Table

```
Gateway of last resort is not set

     210.100.12.0/30 is subnetted, 1 subnets
O IA    210.100.12.0 [110/128] via 210.100.23.2, 00:18:06, Serial0/1
     210.100.23.0/30 is subnetted, 1 subnets
C       210.100.23.0 is directly connected, Serial0/1
     210.100.34.0/30 is subnetted, 1 subnets
C       210.100.34.0 is directly connected, Serial0/0
```

문항 2-9. R4 Routing Table

```
Gateway of last resort is not set

     210.100.45.0/30 is subnetted, 1 subnets
C       210.100.45.0 is directly connected, Serial0/1
     210.100.12.0/30 is subnetted, 1 subnets
O IA    210.100.12.0 [110/192] via 210.100.34.1, 00:17:13, Serial0/0
     210.100.23.0/30 is subnetted, 1 subnets
O IA    210.100.23.0 [110/128] via 210.100.34.1, 00:17:13, Serial0/0
     210.100.34.0/30 is subnetted, 1 subnets
C       210.100.34.0 is directly connected, Serial0/0
```

문항 2-10. R5 Routing Table

```
Gateway of last resort is 210.100.45.2 to network 0.0.0.0

     210.100.45.0/30 is subnetted, 1 subnets
C       210.100.45.0 is directly connected, Serial0/1
C    192.168.10.0/24 is directly connected, FastEthernet0/1
S*   0.0.0.0/0 [1/0] via 210.100.45.2
```

[문항 3] 192.168.1.0 대역의 PC들은 R1의 외부 IP를 사용하여 NAT를 구성하고, EIGRP와 OSPF간 재분배를 구성하시오.

- 작업 내용 : 192.168.1.0/24대역의 모든 IP가 인터넷망을 사용할 수 있도록 NAT 구성 과정
- EIGRP 와 OSPF 간 재분배 사용

문항 3-1. R1 Static 재분배

```
R1(config)#router ospf 100
R1(config-router)#re
R1(config-router)#redistribute static subnet
R1(config-router)#default-information originate
R1(config-router)#exit
```

문항 3-2. R1 NAT 구성

```
R1(config)#access-list 1 permit 192.168.1.0 0.0.0.255
R1(config)#ip nat inside source list 1 interface s0/0 overload
R1(config)#
*Mar  1 01:10:23.839: %LINEPROTO-5-UPDOWN: Line protocol on Interface NVI0, changed state to
up
R1(config)#int f0/0
R1(config-if)#ip nat inside
R1(config-if)#int s0/0
R1(config-if)#ip nat outside
R1(config-if)#exit
```

문항 3-3. R4에서 EIGRP와 OSPF 재분배

```
R4(config)#router ospf 100
R4(config-router)#redistribute eigrp 45 subnets
R4(config)#router eigrp 45
R4(config-router)#redistribute ospf 100 metric 1544 10 255 1 1500
R4(config-router)#exit
```

[문항 4] R5에 ACL을 구성하시오. (구성 과정 필수)
192.168.1.0 대역에서 나온 PC (R1에서 나온 트래픽) 들만 WEB-Server 접근 가능

- 작업 내용 : 192.168.1.0 대역에서 나온 PC 들만 WEB-Server 접근 가능 (HTTP, HTTPS)

문항 4-1. R5에 ACL 작성 및 적용

```
R5(config)#$ 100 permit tcp host 210.100.12.1 host 192.168.10.100 eq 80
R5(config)#$ 100 permit tcp host 210.100.12.1 host 192.168.10.100 eq 443
R5(config)#int f0/1
R5(config-if)#ip access-group 100 out
R5(config-if)#exit
```

[문항 5] PC1에서 WEB-Server에 접근 가능 테스트를 진행하시오.
- 작업 내용 : Ping test 결과, WEB 접속 결과

문항 5-1. R5 포트포워딩 하기

```
R5(config)#ip nat inside source static tcp 192.168.10.100 80 210.100.45.1 80
R5(config)#$de source static tcp 192.168.10.100 443 210.100.45.1 443
R5(config)#exit
```

문항 5-2. PC1에서 WEB-Server(192.168.10.100) 핑 테스트

```
C:₩Users₩user>ping 192.168.10.100

Ping 192.168.10.100 32바이트 데이터 사용:
요청 시간이 만료되었습니다.
요청 시간이 만료되었습니다.
요청 시간이 만료되었습니다.
요청 시간이 만료되었습니다.

192.168.10.100에 대한 Ping 통계:
    패킷: 보냄 = 4, 받음 = 0, 손실 = 4 (100% 손실),

C:₩Users₩user>ping 210.100.45.1

Ping 210.100.45.1 32바이트 데이터 사용:
210.100.45.1의 응답: 바이트=32 시간=4ms TTL=251
210.100.45.1의 응답: 바이트=32 시간=12ms TTL=251
210.100.45.1의 응답: 바이트=32 시간=31ms TTL=251
210.100.45.1의 응답: 바이트=32 시간=9ms TTL=251

210.100.45.1에 대한 Ping 통계:
    패킷: 보냄 = 4, 받음 = 4, 손실 = 0 (0% 손실),
왕복 시간(밀리초):
    최소 = 4ms, 최대 = 31ms, 평균 = 14ms
```

문항 5-2. WEB 접속 결과