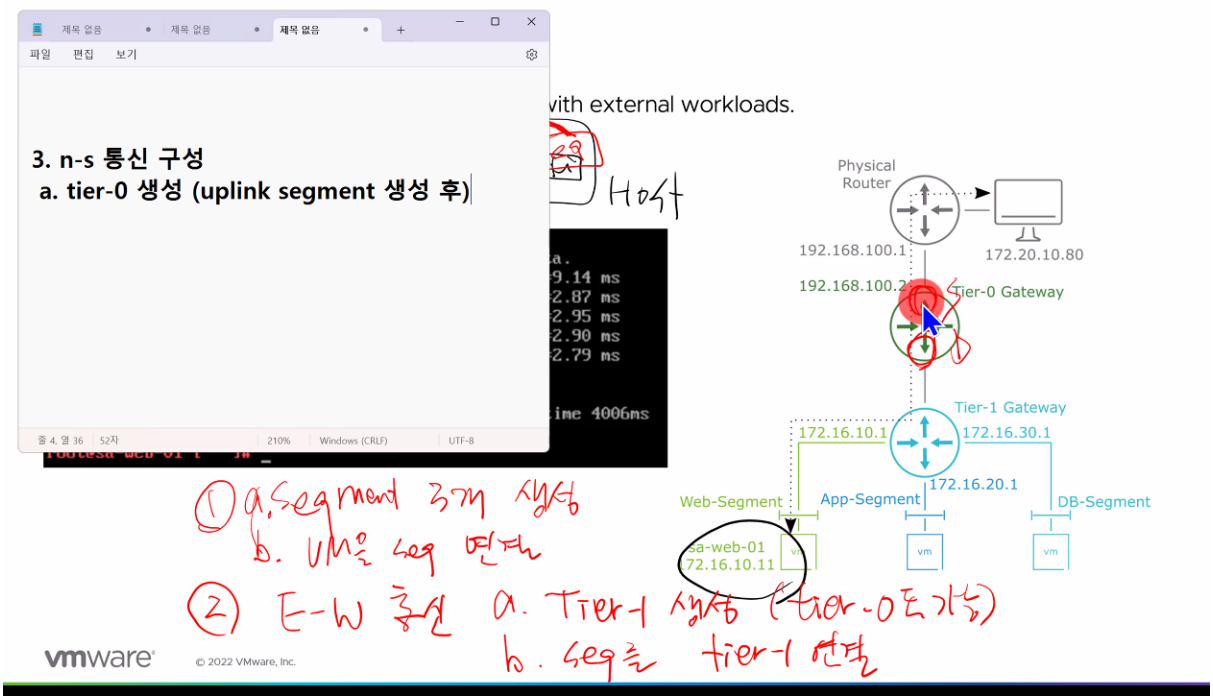
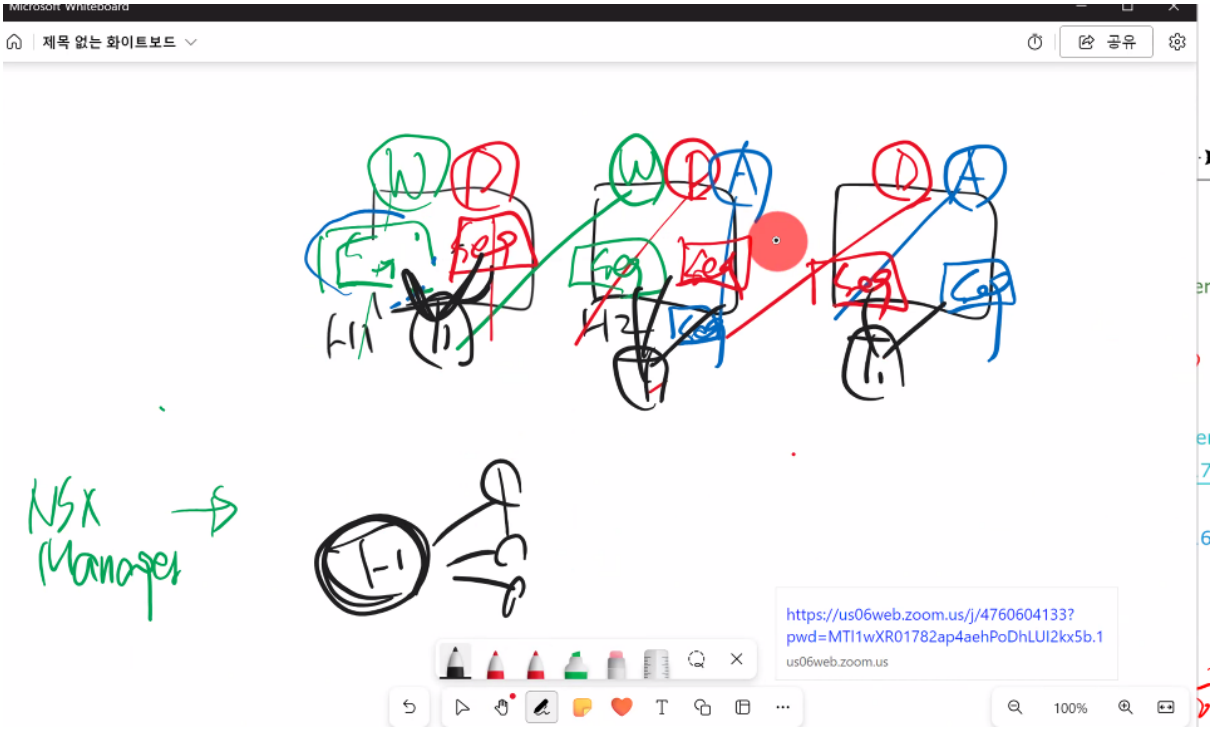
VMware NSX Static / Dynamic Routing



- 세그먼트 3개 생성해주고 vm을 세그먼트로 연결
- E-W 통신 구성
  - tier 1생성 / tier 0도 가능
  - 세그먼트를 tire-1로 연결
- ns- 통신 구성
  - tier-0 생성 (uplink segment 생성후) 업링크 연결
  - 티어0에서 라우팅 설정
  - 티어1과 티어0 연결
  - 티어1 네트워크 정보를 티어0으로 advertise (옵션 : route advertiesment)(광고) 티어0에서 re-distribution을 통해 네트워크 정보를 외부로 advertise



- 티어1에 각 세그먼트를 붙이면 각각의 호스트에 티어1이 분산 스위치처럼 생기는 구조
  - vlan 대체용

Static and Dynamic Routing

Static routing:

- Static route configuration is a manual procedure performed by administrators.
- The configuration process enables fine-tuning of route selection.
- Route changes cannot be made dynamically.
- Limited scalability is because of administrative overhead.
- Failover planning is possible:
  - Network administrators must design and account for all network failure scenarios.
  - Route redundancy must be configured manually.

Dynamic routing:

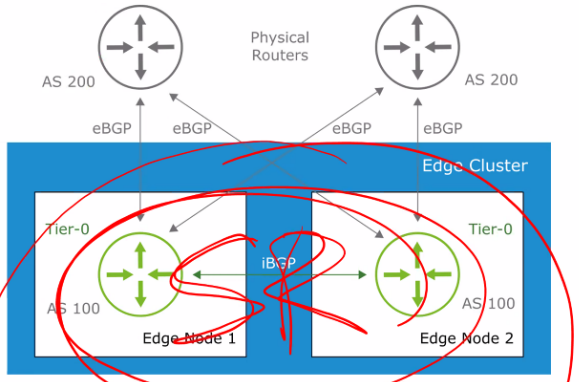
- Dynamic route configuration enables gateways to exchange information about the network.
- Routing protocols are used to dynamically obtain routes to access the networks.
- Routers inform neighbor gateways when a network change occurs.

- 스태틱이 다이나믹보단 우선순위가 높다.

Tier-0 Gateway Routing Configurations (1)

The Tier-0 gateway supports the following routing configurations:

- Static routing toward upstream physical gateways
- Dynamic routing using Border Gateway Protocol (BGP):
  - External BGP (eBGP) sessions with peers in a different autonomous system (AS)
  - Internal BGP (iBGP) sessions with peers in the same AS

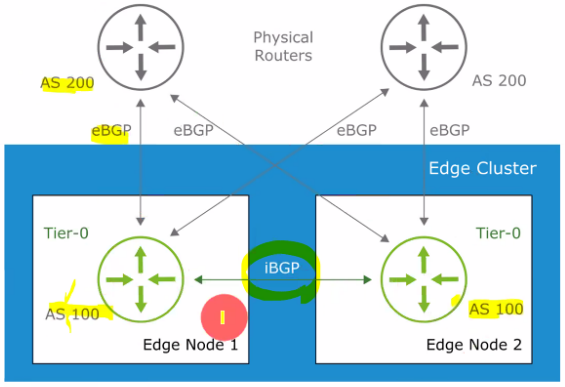


- static, bgp 제공 (회사간에 서로 다른 네트웍 제공할 때) 자주사용
  - bgp는 들어오고 나가는 트래픽을 한 곳에서 제어가능
  - 대용량 네트웍 엔트리를 다룰 수 있음 (다른 프로토콜은 한계가 명확함)
  - 확장성과 정책 때문에

Tier-0 Gateway Routing Configurations (1)

The Tier-0 gateway supports the following routing configurations:

- Static routing toward upstream physical gateways
- Dynamic routing using Border Gateway Protocol (BGP):
  - External BGP (eBGP) sessions with peers in a different autonomous system (AS)
  - Internal BGP (iBGP) sessions with peers in the same AS

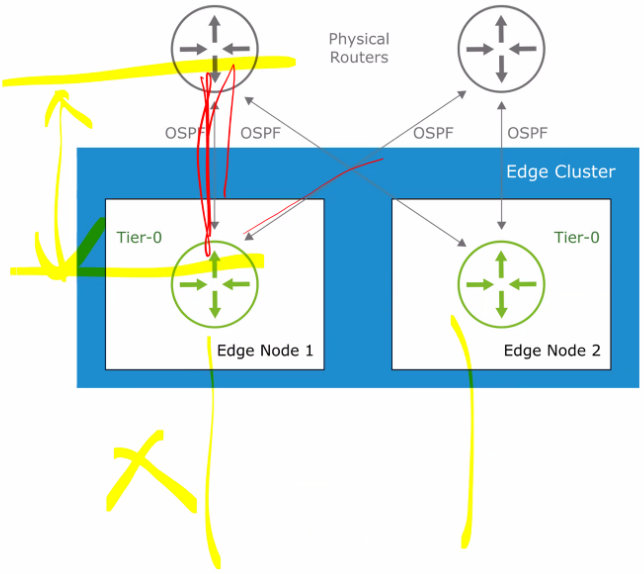


- 같은 bpg 끼리 묶으면 IBGP

Tier-0 Gateway Routing Configurations (2)

Tier-0 gateways also support dynamic routing configurations using Open Shortest Path First (OSPF):

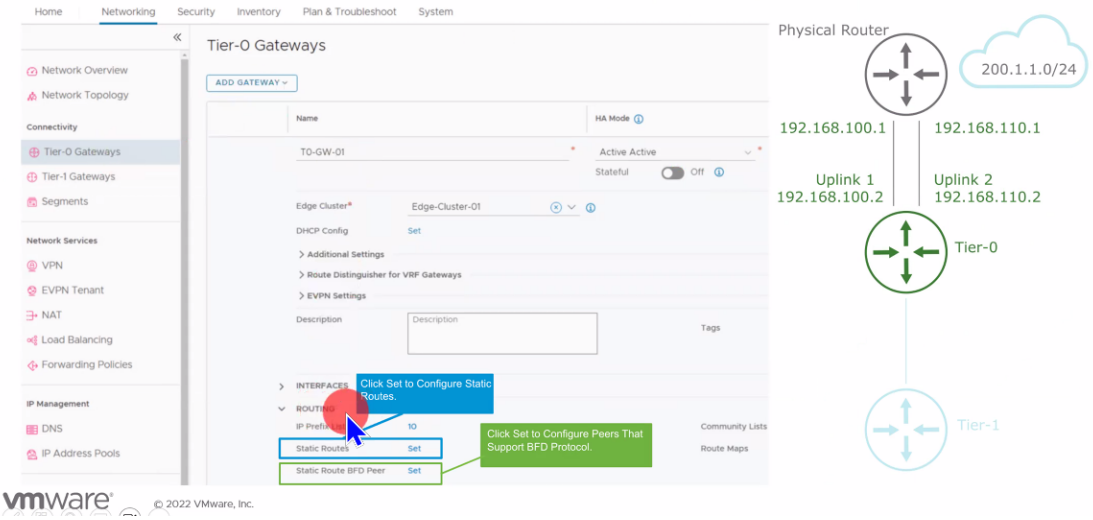
- OSPF over point-to-point networks
- OSPF over broadcast networks



- 이더넷은 브로드 캐스트
- 시리얼은 point to point

Configuring Static Routes on a Tier-0 Gateway (1)

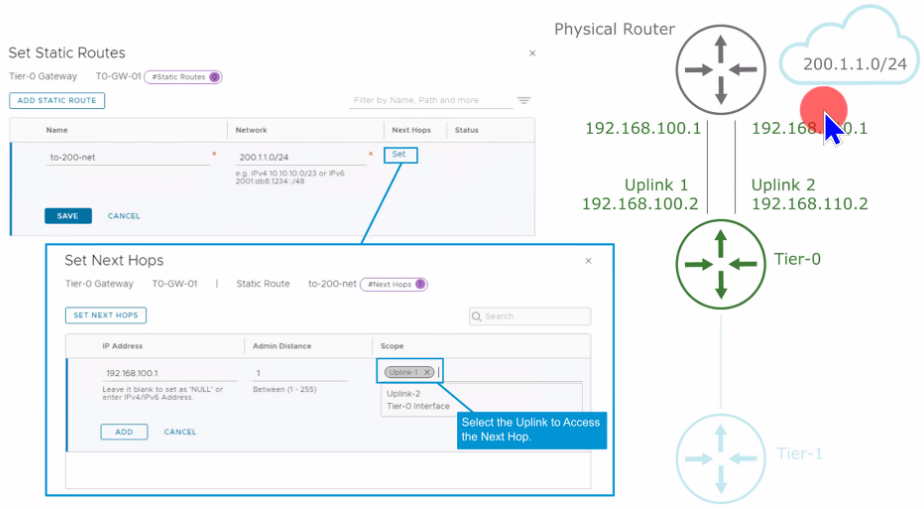
You can configure static routes in the ROUTING section of the Tier-0 gateway.



- 스태틱 설정하는 방법

Configuring Static Routes on a Tier-0 Gateway (2)

You can add one or multiple static routes and configure the next hops.

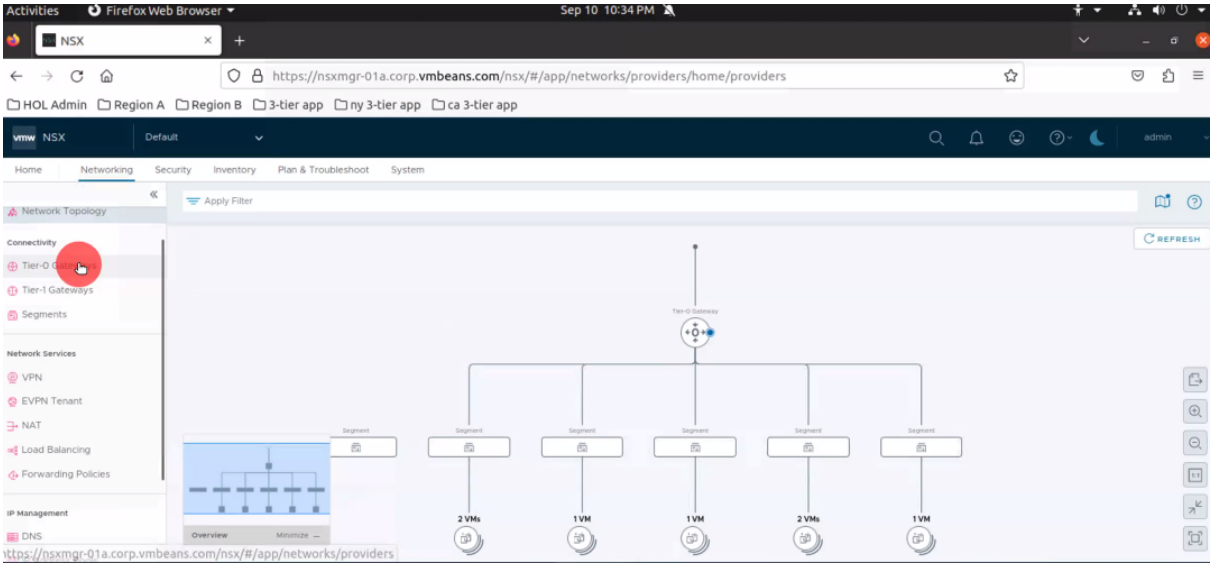


BGP 설정

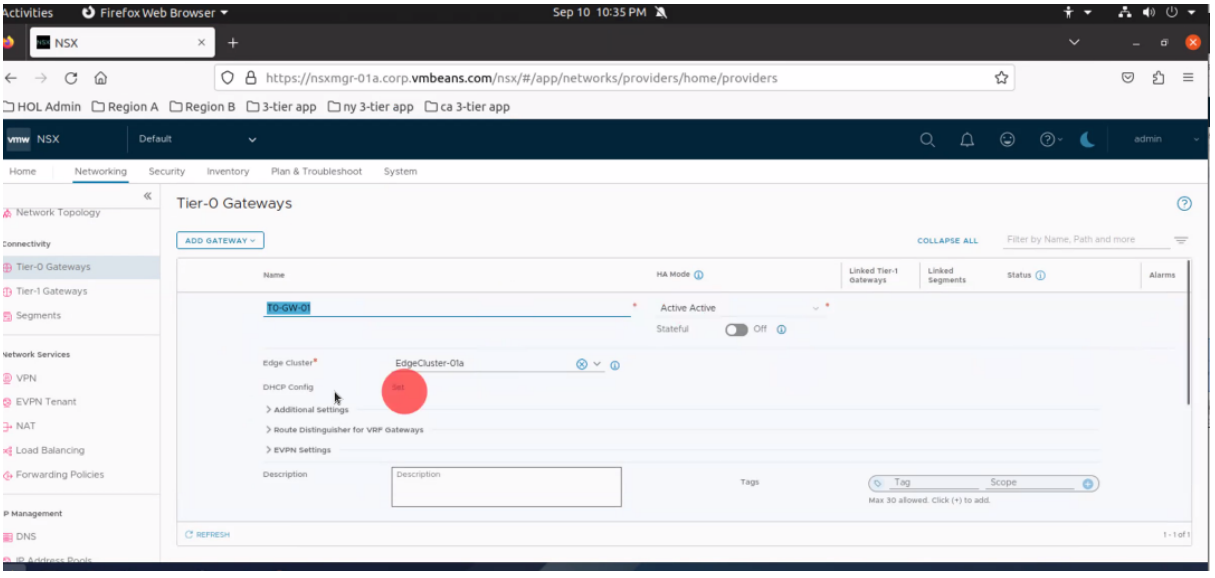
```
** R1
conf t
int e0/0
 ip add  192.168.12.1 255.255.255.0
 no sh
int lo 0
 ip add  1.1.1.1  255.255.255.0

** R2
conf t
int e0/0
 ip add  192.168.12.2  255.255.255.0
 no sh
int lo0
 ip add 2.0.0.1  255.255.255.0

**R1
router bgp 100
 neighbor 192.168.12.2 remote-as 200
 network 1.1.1.0 mask 255.255.255.0
```

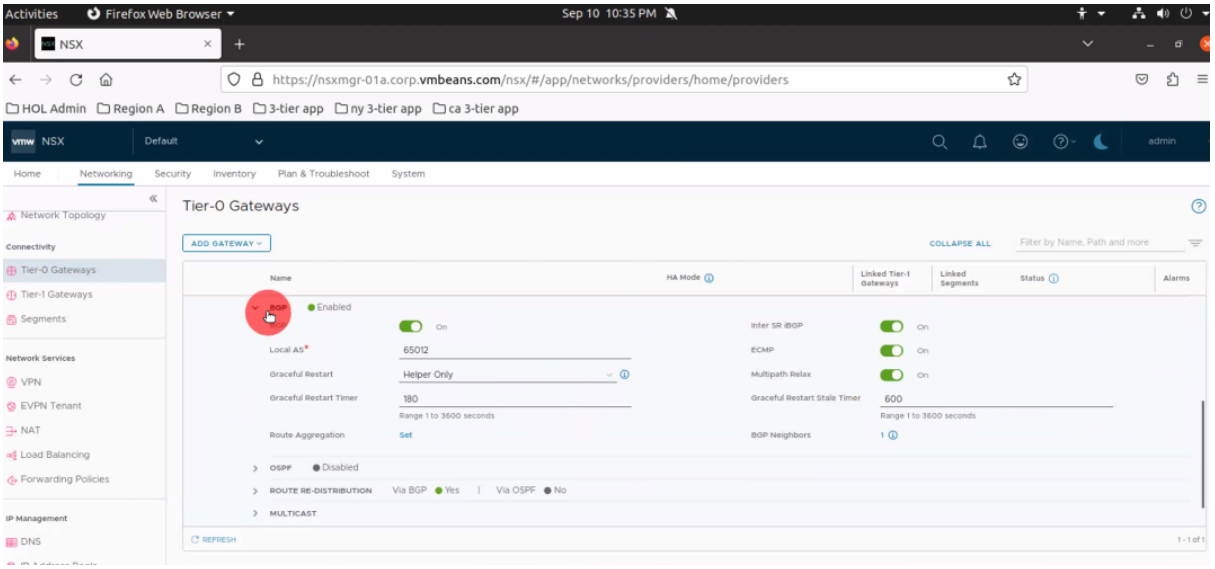
```
**R2
router bgp 200
 nei 192.168.12.1 romote-as 100
```

NSX에서 BGP 세팅

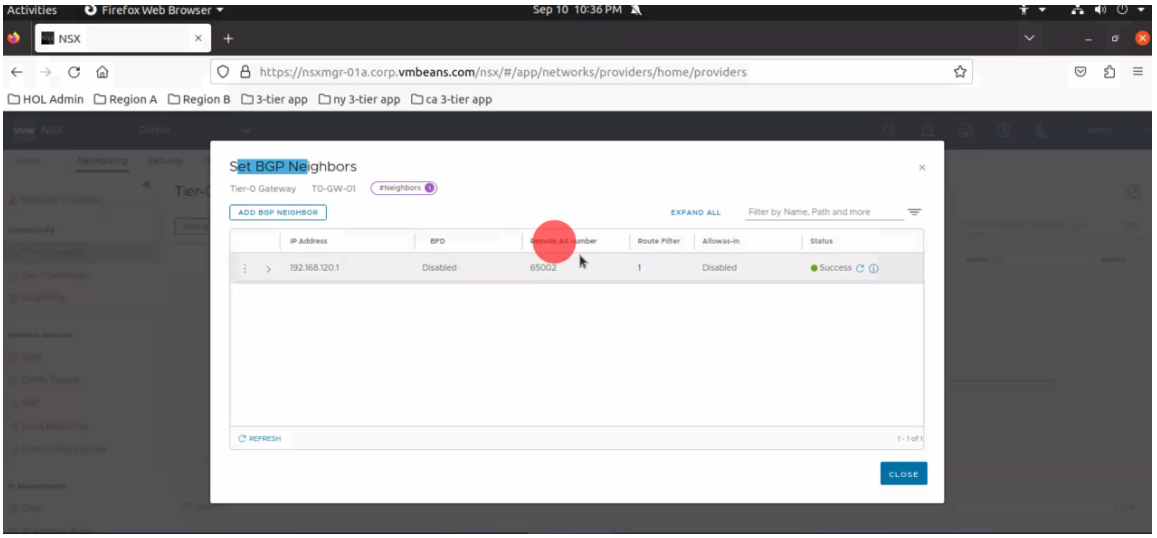


- 티어0에서 수행
- edit 클릭

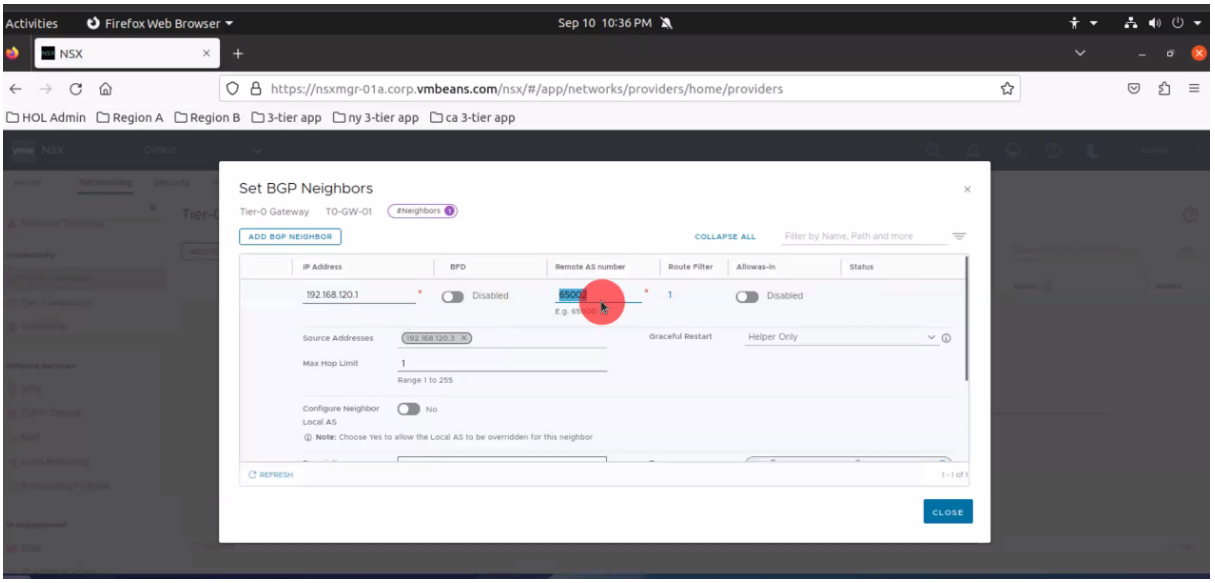




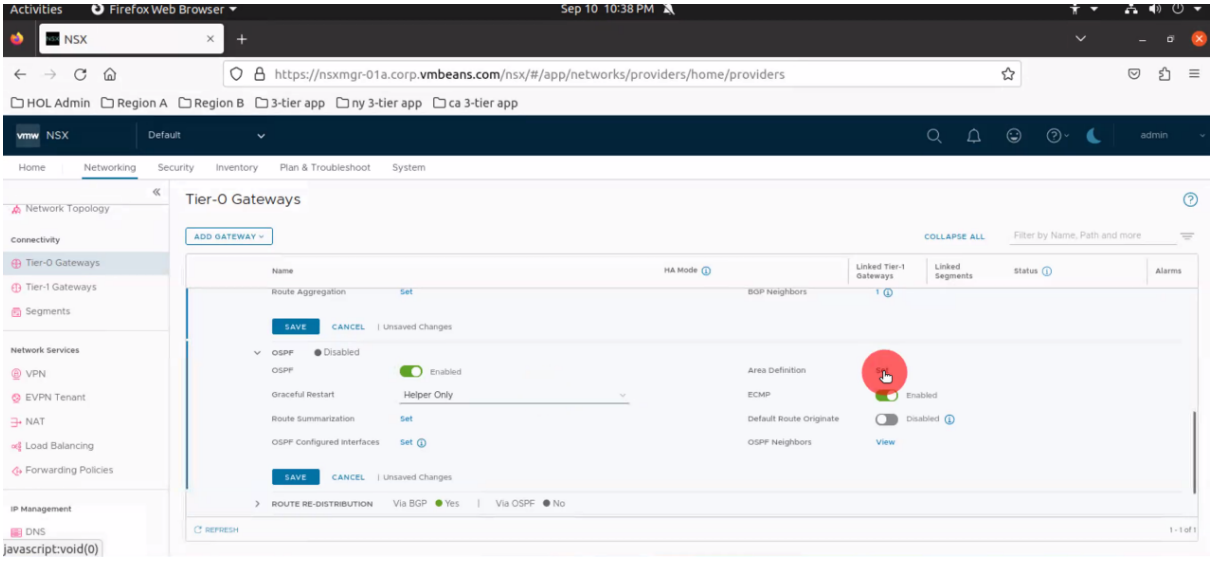
- bgp 활성화된 상태
- 65012 자기자신
- 네이버 숫자 클릭

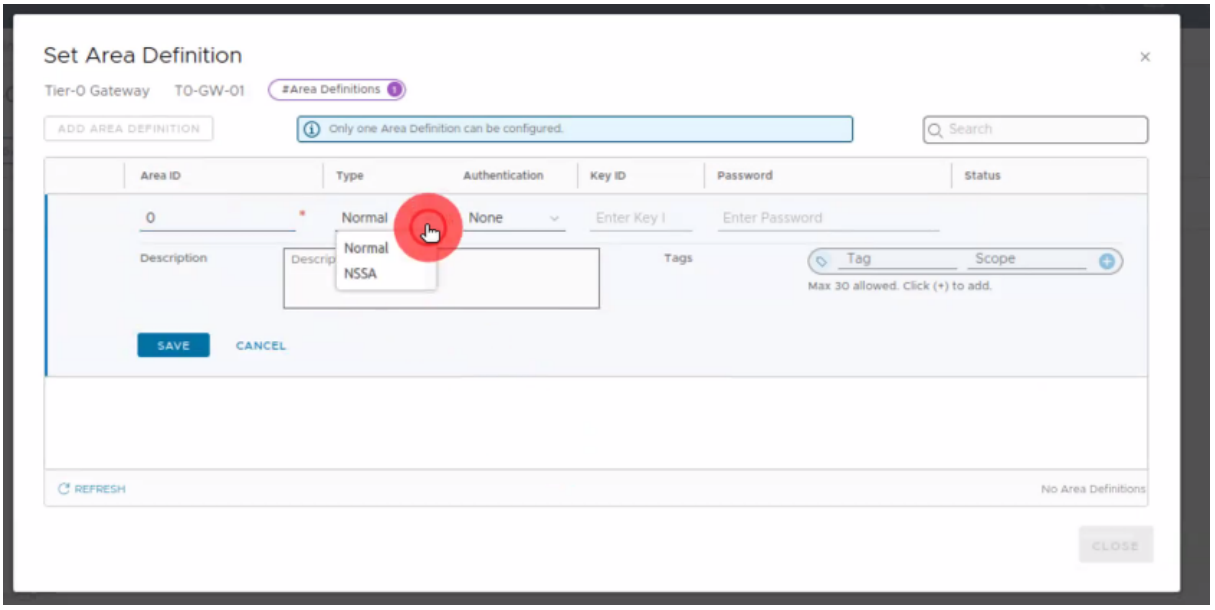


- 상대편 아이피가 보임 클릭하면

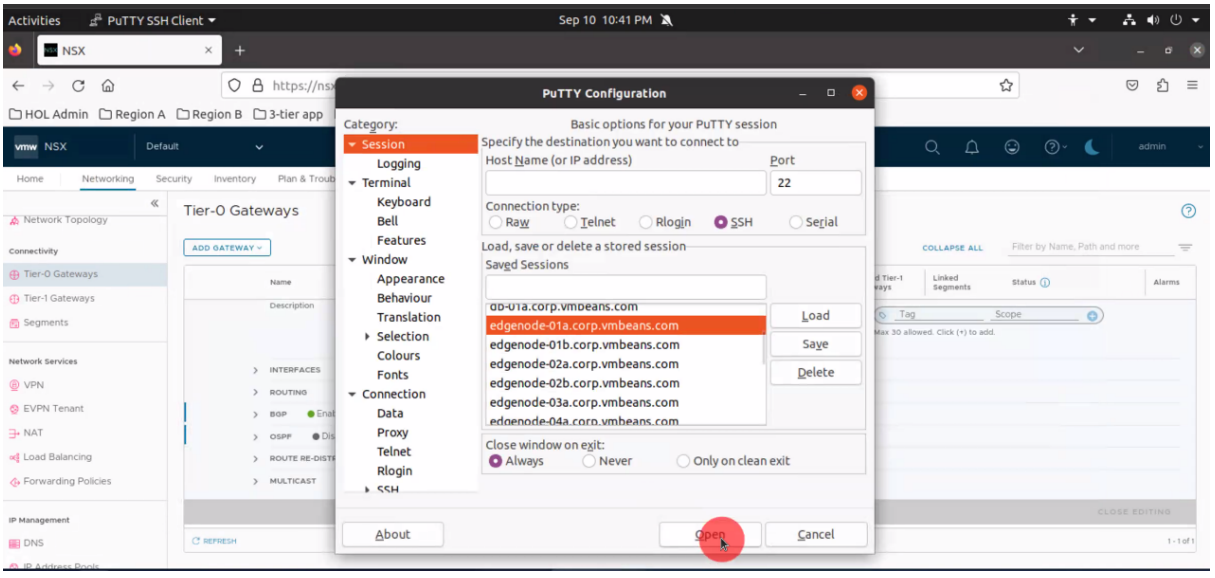


- 65002는 상대편 번호
- 내리면 ospf도 활성화 가능
  - 대신에 ospf, bgp 둘 중 하나만 사용하기

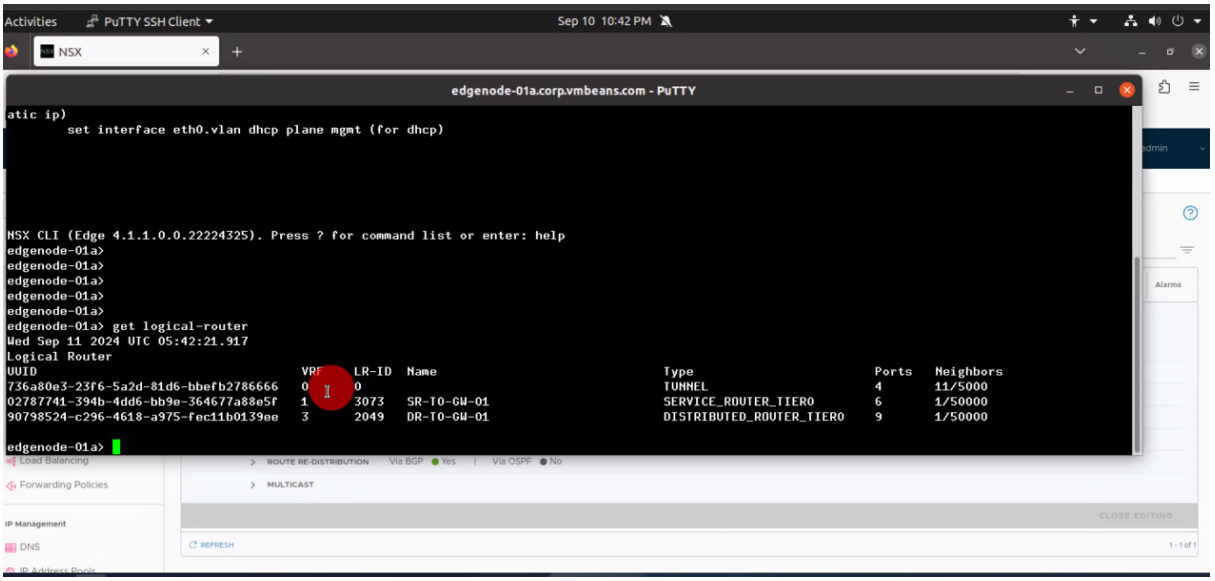


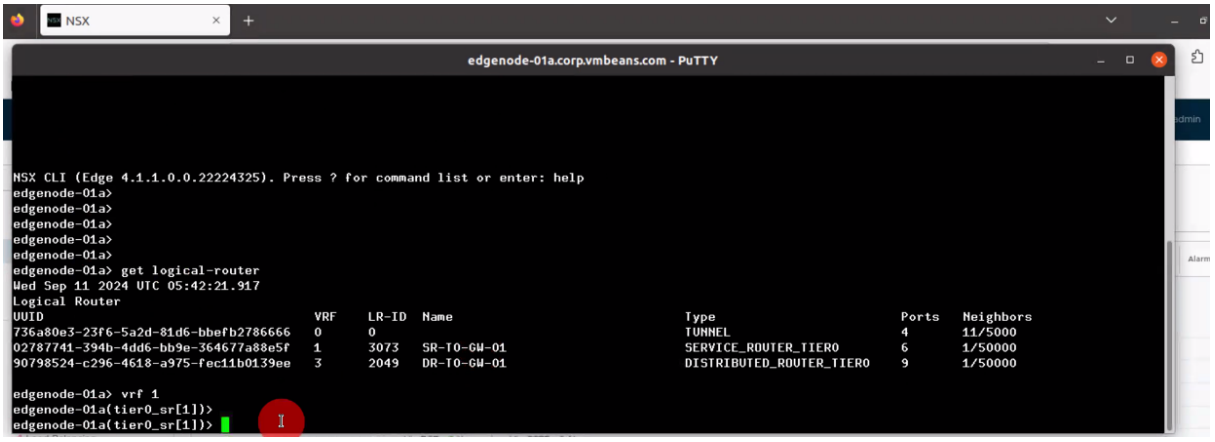


- ospf area 지정가능

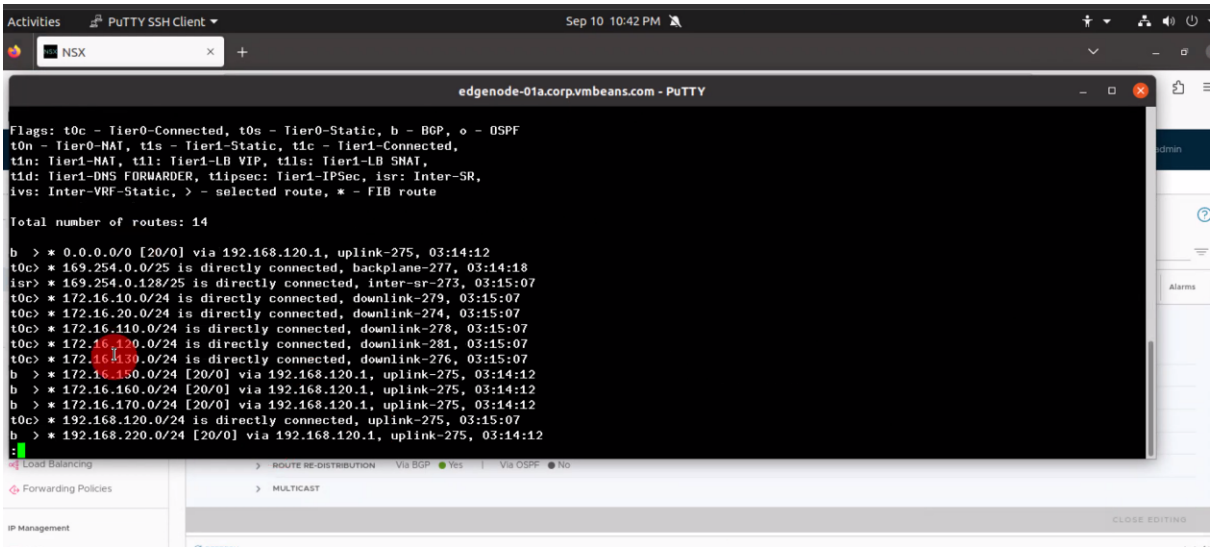


- 엣지노드 01a 오픈





- vrf 1을 치면 tire 1으로 이동가능



- 위 처럼 나오게 하려면 get route 명령어 치기

실습

VMware NSX - Networking Fundamentals (HOL-2425-01-NET)

VMware HOL 들어가서 가이드 다운로드 후 121p - 166부터 실습