네트워크

라우터 IP입력과 DHCP만(라우팅도 하지 않음)

```
R1(config)#access-list 1 permit 192.168.10.0 0.0.0.255
R1(config)#ip nat inside source list 1 interface f0/0 overload
R1(config)#in f0/0
R1(config-if)#ip nat outside
R1(config-if)#int f0/1
R1(config-if)#ip nat inside
```

ping test => 211.201.1.254 까지는 가야한다.

```
R1#show ip ro
Codes: C - connected, S - static, I - IGRP, 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, E - EGP
       i - IS-IS, 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 not set

C    192.168.10.0/24 is directly connected, FastEthernet0/1
C    211.201.1.0/24 is directly connected, FastEthernet0/0
```

=> 172 대역이 없다.

■ 포트포워딩 : 포트와 특정 IP을 매칭

```
R2(config)#ip nat inside source static tcp 172.16.10.100 80 211.201.1.254 80
```

/ /

기본 룰

```
R2(config)#int f0/0
R2(config-if)#ip nat outside
R2(config-if)#int f0/1
R2(config-if)#ip nat inside
R2#show ip nat translations
Pro    Inside global Inside local   Outside local Outside global
tcp    211.201.1.254:80      172.16.10.100:80      ---                   ---
```

=> PC1에서 http://211.201.1.254 들어가면 들어가 진다.

R2(config)#no ip nat inside source static tcp 172.16.10.100 80 211.201.1.254 80
R2(config)#ip nat inside source static tcp 172.16.10.100 80 211.201.1.254 88
//80 -> 88 로 (삭제 후)변경
=> PC1에서 http://211.201.1.254:88 들어가면 들어가 진다.
(1024이전의 포트는 마음대로 정하면 안된다.)
R2#show ip nat translations

Pro	Inside global	Inside local	Outside local	Outside global
tcp	211.201.1.254:88	172.16.10.100:80	---	---
tcp	211.201.1.254:88	172.16.10.100:80	211.201.1.1:1026	211.201.1.1:1026

서버 하나 추가(172.16.10.200)
R2(config)#ip nat inside source static tcp 172.16.10.200 80 211.201.1.254 8888
//8888변경
=> PC1에서 http://211.201.1.254:8888 들어간다.
R2#show ip nat translations

Pro	Inside global	Inside local	Outside local	Outside global
tcp	211.201.1.254:8888	172.16.10.200:80	---	---
tcp	211.201.1.254:8888	172.16.10.200:80	211.201.1.1:1029	211.201.1.1:1029
tcp	211.201.1.254:8888	172.16.10.200:80	211.201.1.1:1030	211.201.1.1:1030
tcp	211.201.1.254:8888	172.16.10.200:80	211.201.1.1:1032	211.201.1.1:1032
tcp	211.201.1.254:88	172.16.10.100:80	---	---
tcp	211.201.1.254:88	172.16.10.100:80	211.201.1.1:1026	211.201.1.1:1026
tcp	211.201.1.254:88	172.16.10.100:80	211.201.1.1:1028	211.201.1.1:1028

Ubuntu-18.04 설치(메모리 : 2048) - ID user Pass user

우분투 설치 =>apt
user@cloud:~$ sudo apt update
user@cloud:~$ sudo apt upgrade //업데이트 후 업그레이드
user@cloud:~$ sudo apt install virtualbox-guest-dkms
user@cloud:~$ date
Wed Apr 13 05:13:04 UTC 2022
user@cloud:~$ timedatectl list-timezones //Asia/Seoul 찾아보기
user@cloud:~$ sudo timedatectl set-timezone Asia/Seoul
user@cloud:~$ timedatectl
Local time: Wed 2022-04-13 14:18:21 KST //변경확인(로그확인을 위

해 변경)

```
                      Universal time: Wed 2022-04-13 05:18:21 UTC
                            RTC time: Wed 2022-04-13 05:18:22
                           Time zone: Asia/Seoul (KST, +0900)
         System clock synchronized: yes
systemd-timesyncd.service active: yes
                     RTC in local TZ: no
```

nms-로그서버

```
user@cloud:~$ sudo vim /etc/rsyslog.conf
 16 # provides UDP syslog reception
 17 module(load="imudp")            //#풀어주기
 18 input(type="imudp" port="514") //#풀어주기
 19
 20 # provides TCP syslog reception
 21 module(load="imtcp")            //#풀어주기
 22 input(type="imtcp" port="514") //#풀어주기

$template remote-incoming-logs,"/var/log/%FROMHOST-IP%.log"
*.* ?remote-incoming-logs

user@cloud:~$ sudo service rsyslog restart
[sudo] password for user:
user@cloud:~$ sudo service rsyslog status
running 확인
user@cloud:~$ sudo init 0
```

GNS에 Ubuntu-18.04 추가 -> 오라클 VM가서 18.04 어댑터 1 '연결되지 않음' 설정 -> GNS에 선 연결시 18.04는 이더넷0에 연결

```
R1 - 192.168.10.1
R1(config)#ip dhcp pool R1
R1(dhcp-config)#default-router 192.168.10.1
R1(dhcp-config)#network 192.168.10.0 255.255.255.0
R1(dhcp-config)#dns-server 8.8.8.8
R1(dhcp-config)#ex
R1(config)#ip dhcp excluded-address 192.168.10.1 192.168.10.9
18.04 킨 다음에 ip 확인 (10.10을 받아야 한다.)
R1(config)#logging on       //활성화
R1(config)#logging buffered 4096 //메모리 할당
R1(config)#logging trap ?          //수집 범위
```

- 0-7(숫자가 커질수록 별거를 다 수집) : 보통은 3단계부터 수집 시작
- 0~2단계까지는 즉시 수리해야 됨

```
R1(config)#logging trap debugging
R1(config)#logging source-interface f0/0 //보내는 IP주소
R1(config)#logging origin-id hostname   //장비의 hostname
R1(config)#logging host 192.168.10.10
R1(config)#end
*Mar  1 00:13:30.495: %SYS-6-LOGGINGHOST_STARTSTOP: Logging to host 192.168.10.10 port 514 started - CLI initiated

user@cloud:~$ cd /var/log
user@cloud:/var/log$ ls
user@cloud:/var/log$ vim 192.168.10.1.log
Apr 13 15:12:46 _gateway 37: R1: *Mar  1 00:13:29.491: %SYS-5-CONFIG_I: Configured from console by console
Apr 13 15:12:47 _gateway 38: R1: *Mar  1 00:13:30.495: %SYS-6-LOGGINGHOST_STARTSTOP: Logging to host 192.168.10.10 port 514 started - CLI initiated

R1(config)#logging origin-id string CLOUD-502-LOG-TEST     //내가 원하는 이름으로 하고 싶을 때
R1(config)#end
R1#
*Mar  1 00:16:48.095: %SYS-5-CONFIG_I: Configured from console by console
user@cloud:/var/log$ vim 192.168.10.1.log
Apr 13 15:16:04 _gateway 39: CLOUD-502-LOG-TEST: *Mar  1 00:16:48.095: %SYS-5-CONFIG_I: Configured from console by console      //추가
```