

Presentation

2024.10.01-10.17

team project

Front team



practice
김선혁, 정세환

capture
임영철

ppt
박채령

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주소설정

192.168.111.100/24

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192.168.111.200/24

사용자 생성

- 김선혁, 정세환, 임영철, 박채령

- 손흥민, 이강인, 김민재, 황희찬

추가 그룹 생성 및 포함

- eusoccer: 해외파 2차 그룹 - 손, 이, 김, 황

- krsoccer: 국내파 2차 그룹 - 김, 정, 임, 박

하드디스크 추가

- 20G, 30G, 50G

- 각각 PV 구성

- VG 구성: DATA

- LV 구성: VIDEO(40G), AUDIO(나머지)

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디스크 쿼터 설정

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서버 구성

하드디스크 10G 추가**추가 사용자**

- aespa(soft 700M, hard 1G)

- IVE(soft 700M, hard 1G)

- NewJeans(soft 700M, hard 1G)

SSH Server**XRDP Serve****DNS Server**

- 서버_1 설치, 서버_2를 web, ftp로 Cname설정

DNS clinet

- 서버_2에서 서버_1를 DNS 서버로 구성

Web Server, FTP Server : 서버_2 설치

NFS Server

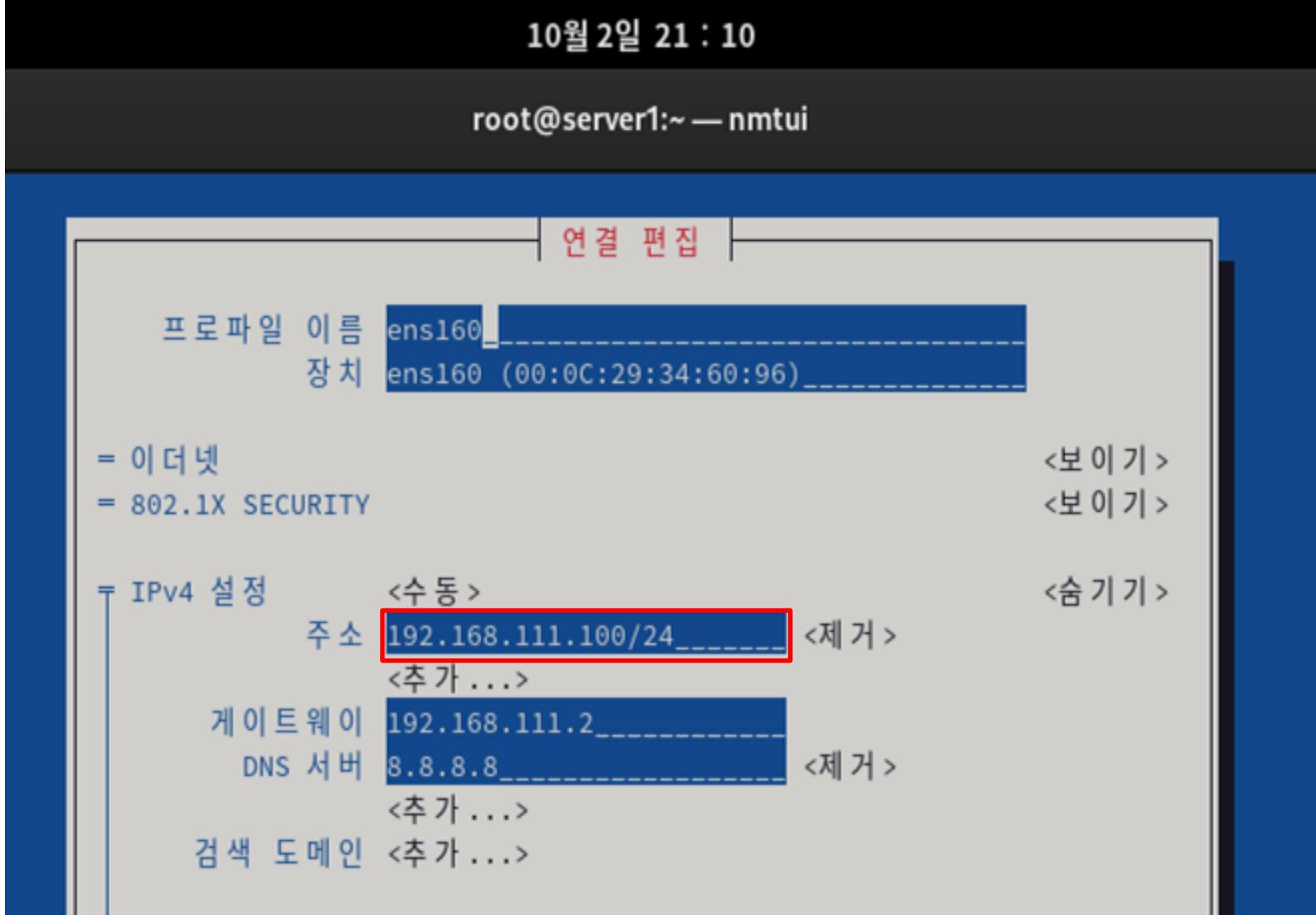
Samba Server

DHCP Server

Mail Server

1

설치



nmtui 명령어로

IP Address, Gateway, DNS 서버 주소 추가

```
[root@server-1 ~]# ifconfig
ens160: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
inet 192.168.111.100 netmask 255.255.255.0 broadcast 192.168.111.255
inet6 fe80::20c:29ff:feb6:6bce prefixlen 64 scopeid 0x20<link>
ether 00:0c:29:b6:6b:ce txqueuelen 1000 (Ethernet)
RX packets 8016 bytes 11426769 (10.8 MiB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 2163 bytes 135169 (132.0 KiB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
inet 127.0.0.1 netmask 255.0.0.0
inet6 ::1 prefixlen 128 scopeid 0x10<host>
loop txqueuelen 1000 (Local Loopback)
RX packets 51 bytes 6642 (6.4 KiB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 51 bytes 6642 (6.4 KiB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

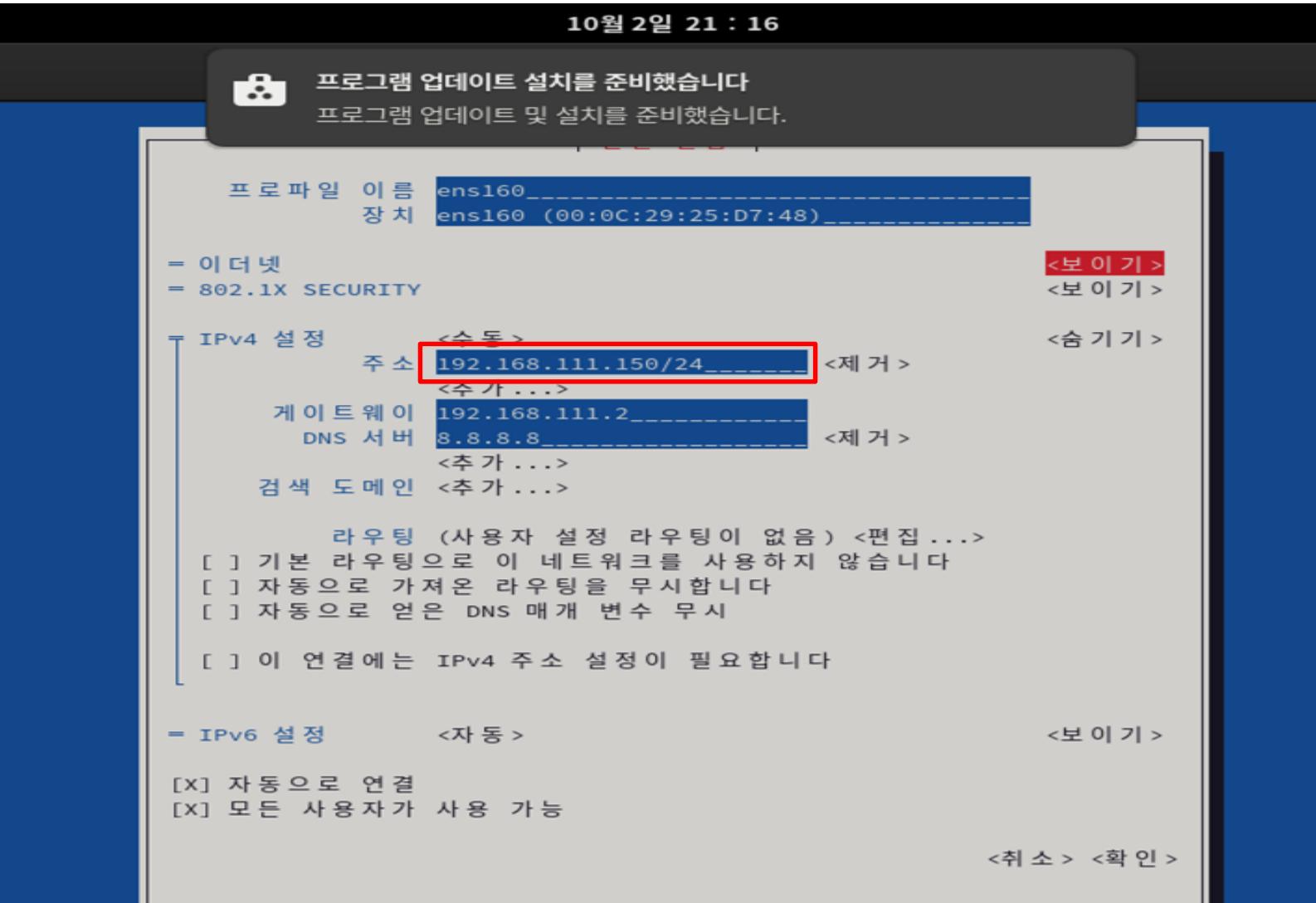
[root@server-1 ~]# ip addr
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: ens160: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
    link/ether 00:0c:29:b6:6b:ce brd ff:ff:ff:ff:ff:ff
    altname enp3s0
    inet 192.168.111.100/24 brd 192.168.111.255 scope global noprefixroute ens160
        valid_lft forever preferred_lft forever
    inet6 fe80::20c:29ff:feb6:6bce/64 scope link noprefixroute
        valid_lft forever preferred_lft forever
```

IP 주소 설정

192.168.111.100/24

1

설치



nmtui 명령어로

IP Address, Gateway, DNS 서버 주소 추가

```
[hwangheechan@server2 ~]$ ifconfig
ens160: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
inet 192.168.111.150 netmask 255.255.255.0 broadcast 192.168.111.255
inet6 fe80::20c:29ff:fe25:d748/64 brd ff:ff:ff:ff:ff:ff scopeid 0x20<link>
ether 00:0c:29:25:d7:48 txqueuelen 1000 (Ethernet)
RX packets 13735 bytes 20051119 (19.1 MiB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 8469 bytes 484088 (472.7 KiB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
inet 127.0.0.1 netmask 255.0.0.0
inet6 ::1 prefixlen 128 scopeid 0x10<host>
loop txqueuelen 1000 (Local Loopback)
RX packets 24 bytes 2526 (2.4 KiB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 24 bytes 2526 (2.4 KiB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

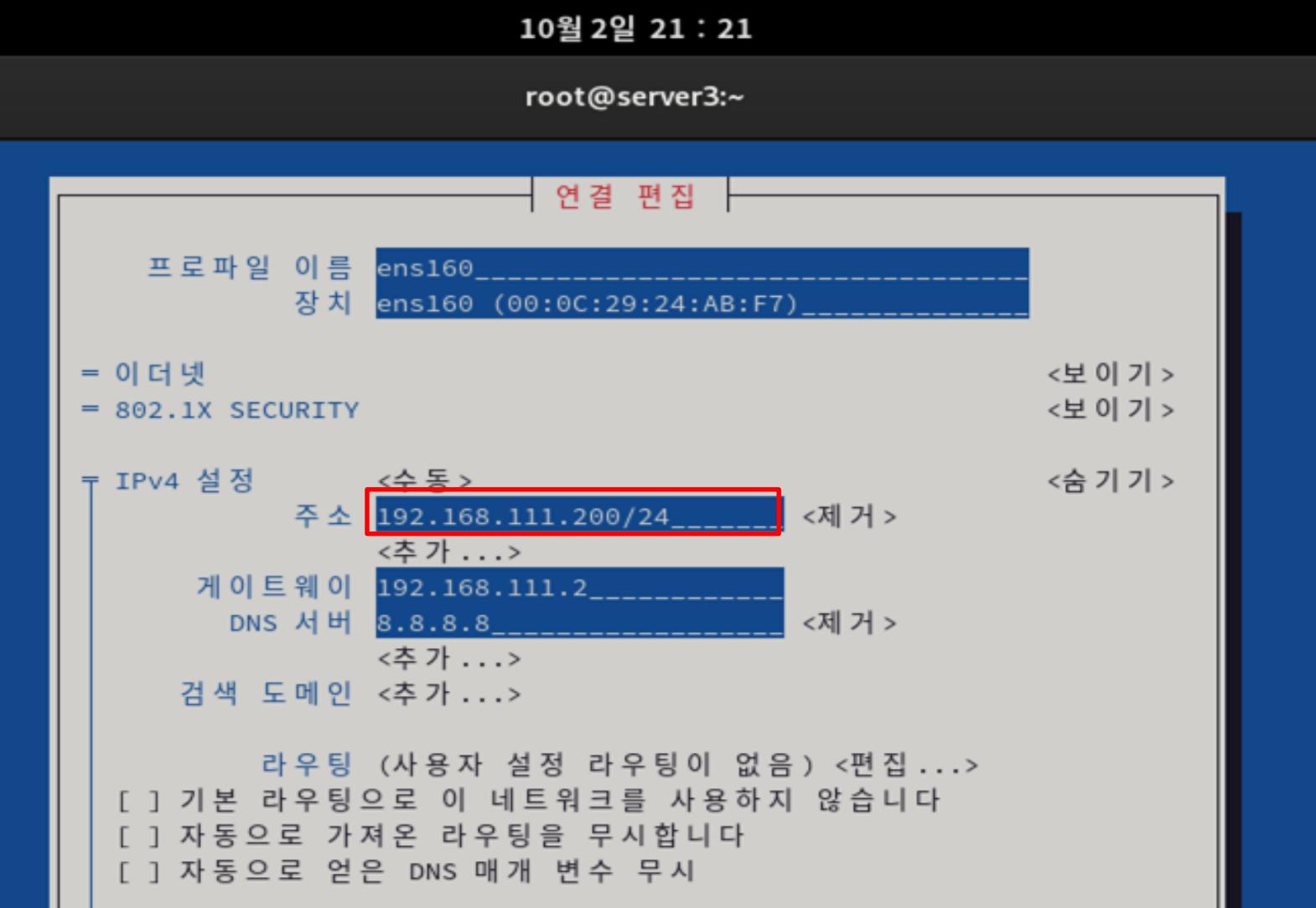
[hwangheechan@server2 ~]$ ip addr
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
        inet 127.0.0.1/8 brd 127.0.0.1 scope host lo
            valid_lft forever preferred_lft forever
        inet6 ::1/128 brd :: scope host
            valid_lft forever preferred_lft forever
2: ens160: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
    link/ether 00:0c:29:25:d7:48 brd ff:ff:ff:ff:ff:ff
        altname enp3s0
        inet 192.168.111.150/24 brd 192.168.111.255 scope global noprefixroute ens160
            valid_lft forever preferred_lft forever
        inet6 fe80::20c:29ff:fe25:d748/64 brd ff:ff:ff:ff:ff:ff scope link noprefixroute
            valid_lft forever preferred_lft forever
```

IP 주소 설정

192.168.111.150/24

1

설치



nmtui 명령어로

IP Address, Gateway, DNS 서버 주소 추가

```
[root@server3 ~]# ifconfig  
ens160: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500  
        inet 192.168.111.200 netmask 255.255.255.0 broadcast 192.168.111.255  
              brd 192.168.111.255 scopeid 0x20<link>  
              ether 00:0c:29:24:ab:f7 txqueuelen 1000 (Ethernet)  
                RX packets 1284 bytes 1739906 (1.6 MiB)  
                RX errors 0 dropped 0 overruns 0 frame 0  
                TX packets 652 bytes 40757 (39.8 KiB)  
                TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0  
  
lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536  
      inet 127.0.0.1 netmask 255.0.0.0  
      inet6 ::1 prefixlen 128 scopeid 0x10<host>  
        loop txqueuelen 1000 (Local Loopback)  
          RX packets 24 bytes 2526 (2.4 KiB)  
          RX errors 0 dropped 0 overruns 0 frame 0  
          TX packets 24 bytes 2526 (2.4 KiB)  
          TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0  
  
[root@server3 ~]#  
  
[root@server3 ~]# ip addr  
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000  
      link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00  
        inet 127.0.0.1/8 scope host lo  
          valid_lft forever preferred_lft forever  
        inet6 ::1/128 scope host  
          valid_lft forever preferred_lft forever  
2: ens160: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000  
      link/ether 00:0c:29:24:ab:f7 brd ff:ff:ff:ff:ff:ff  
        altname enp3s0  
        inet 192.168.111.200/24 brd 192.168.111.255 scope global noprefixroute ens160  
          valid_lft forever preferred_lft forever  
        inet6 fe80::20c:29ff:fe24:abf7/64 scope link noprefixroute  
          valid_lft forever preferred_lft forever  
[root@server3 ~]#
```

IP 주소 설정

192.168.111.200/24

2

사용자 및 그룹 등록

1) 사용자 생성

```
[root@server1 ~]# cat /etc/passwd | tail -n 8
kimseonhyeok:x:1001:2000::/home/kimseonhyeok:/bin/bash
imyeongcheol:x:1002:2000::/home/imyeongcheol:/bin/bash
parkchaeryeong:x:1003:2000::/home/parkchaeryeong:/bin/bash
sonheungmin:x:1004:3000::/home/sonheungmin:/bin/bash
kimminjae:x:1006:3000::/home/kimminjae:/bin/bash
hwangheechan:x:1007:3000::/home/hwangheechan:/bin/bash
jungsehwan:x:1000:2000::/home/jungsehwan:/bin/bash
leekangin:x:1009:3000::/home/leekangin:/bin/bash
[root@server1 ~]#
```

```
[root@server1 ~]# cat /etc/shadow | tail -n 8
kimseonhyeok:$6$QEr/GxK70Ak3mWMy$0yvVzbJR7pP7TzPFoL5dKu4BcT3MgJ2iMPGgZrRjZgYLA7tGDnlQyVxlCkxpwhPjBxEZPSw68uYzK6kNXJV6
imyeongcheol:$6$fozkOHfmbXcVkp76$DmUdlr65R1Yx7e2/QjBFb0gzFAiG2qSYGBSEi8nOwlsm6wDqhj2Ee7SdGTCOSAUogP7ms.6DJ.aSe9/TGB0h
parkchaeryeong:$6$NUxDyVsmtLdlEpAm$0Uil6BZBT5kCpnD4q0863i6d2vbvAQGhyy80.3PGUBM6TYtyMOXvzgfQYAIcydQMPuoBeOzrQMmFiYoahp
sonheungmin:$6$J2v5lIAa0Stz.iVD$e/Mmu6Nj0huo8YcbT9a9994NchNIkfCBG88aBf.ItbGxjwjkt2o7QuLV/h.GYgDM21UXt5rgNtDfIEU81Qf
kimminjae:$6$M.6aj6NtR26Evu.r$CbpQVN47Vvm9HfyxnWS4TWJENpf3APistYf09JxNAQhpfi4BMacRg4u1MWK2AbKapA5Z0afqNcejeSd4oYdi/1
hwangheechan:$6$W7gYo86xoInmeMkt$8cElr3UnnnhPFxBoJ3E9IjdeVMt.3DTpEpZ0s4WfIohiT6HAEhqpTRMcX9e70bk6D4IP3ue3WpUD4RC0lasj
jungsehwan:$6$e$2zoJIh0xSdK$ah3fZewZ.EvK6Ao70JiK8pYl5Dr34FmkrHZ.sTNFM80p/wfD/ZP5WYM/SBngSXzzwBsQBMzo8jrbbfm0iqWmF1
leekangin:$6$TCJzoc0Es7U9.4JG$kJ93l7qMavt9koJdsq4ekUe00.BUqoCtqM0036n5yjyfzJ0grPgeEcsktEpwXFV2gISF3lQsBN20/rKec6Ykt.
[root@server1 ~]#
```

사용자 kimsenhyeok, imyengcheol, parkchaeryeong, jungsehwan 추가

```
[root@server1 ~]# cat /etc/group | tail -n 10
kimseonhyeok:x:1001:
imyeongcheol:x:1002:
parkchaeryeong:x:1003:
sonheungmin:x:1004:
kimminjae:x:1006:
hwangheechan:x:1007:
krsoccer:x:2000:jungsehwan,imyeongcheol,kimseonhyeok,parkchaeryeong
eusoccer:x:3000:sonheungmin,leekangin,kimminjae,hwangheechan
jungsehwan:x:1008:
leekangin:x:1011:
[root@server1 ~]#
```

사용자 비밀번호 확인

```
[root@server1 ~]# cat /etc/group | tail -n 10
kimseonhyeok:x:1001:
imyeongcheol:x:1002:
parkchaeryeong:x:1003:
sonheungmin:x:1004:
kimminjae:x:1006:
hwangheechan:x:1007:
krsoccer:x:2000:jungsehwan,imyeongcheol,kimseonhyeok,parkchaeryeong
eusoccer:x:3000:sonheungmin,leekangin,kimminjae,hwangheechan
jungsehwan:x:1008:
leekangin:x:1011:
[root@server1 ~]#
```

tail 명령어를 이용하여
사용자 kimsenhyeok, imyengcheol, parkchaeryeong, jungsehwan 가 생성된 것을
확인

2

사용자 및 그룹 등록

2) 추가 그룹 생성 및 포함

2차 그룹 krsoccer, eusoccer 생성

```
[root@server1 ~]# cat /etc/group | tail -n 10
kimseonhyeok:x:1001:
imyeongcheol:x:1002:
parkchaeryeong:x:1003:
sonheungmin:x:1004:
kimminjae:x:1006:
hwangheechan:x:1007:
krsoccer:x:2000:jungsehwan,imyeongcheol,kimseonhyeok,parkchaeryeong
eusoccer:x:3000:sonheungmin,leekangin,kimminjae,hwangheechan
jungsehwan:x:1008:
leekangin:x:1011:
[root@server1 ~]#
```



```
[root@server1 ~]# cat /etc/gshadow | tail -n 10
kimseonhyeok::::
imyeongcheol::::
parkchaeryeong::::
sonheungmin::::
kimminjae::::
hwangheechan::::
krsoccer::::jungsehwan,imyeongcheol,kimseonhyeok,parkchaeryeong
eusoccer::::sonheungmin,leekangin,kimminjae,hwangheechan
jungsehwan::::
leekangin::::
[root@server1 ~]#
```

krsoccer, eusoccer 그룹 지정

현재 활동 터미널

```
[hwangheechan@server2 ~]$ cat /etc/passwd | tail -n 8
jungsehwan:x:1000:2000:jungsehwan:/home/jungsehwan:/bin/bash
kimseonhyeok:x:1001:2000::/home/kimseonhyeok:/bin/bash
imyeongcheol:x:1002:2000::/home/imyeongcheol:/bin/bash
parkchaeryeong:x:1003:2000::/home/parkchaeryeong:/bin/bash
sonheungmin:x:1004:3000::/home/sonheungmin:/bin/bash
leekangin:x:1005:3000::/home/leekangin:/bin/bash
kimminjae:x:1006:3000::/home/kimminjae:/bin/bash
hwangheechan:x:1007:3000::/home/hwangheechan:/bin/bash
[hwangheechan@server2 ~]$
```

사용자 그룹 확인

10월 2일 21:00:00 root@server2

```
[root@server2 ~]# cat /etc/shadow | tail -n 8
jungsehwan:$6$uVmpvb4syk3q7QzE$doKemhE4zR45NjRovghbnBCpzDz,yse1XvPdRwM7DzfQcRy/3yusr5Ltfh.o20RKpCWhN92sKmx.pIIyj80z1::0:99
kimseonhyeok:$6$I2SU0azqFZ0cfXi$qqTmp.HhoPgiXle9l0Ynb4oqu2q8789MnEkiXNawluSns6nHWeaBOGRSCFgidJYv4XcXLjeJAhqdqJzlwLL0:199
imyeongcheol:$6$E3UnsBWxYYX7/xJL$05CxNF6pjJd6V85WrPIkFej57usEdYfgZjmXrUq/c2LeDzz4D8B0R9pq6a1grbu4yjFINBTpiIaH4LGQuXp/:199
parkchaeryeong:$6$SYD4/dN3MZbHHVyl$LVK0uEVUbts/vor8A.tkCPMzoFRL/VLuDUPvNgx0lxjmbVp8c4gW25m9dgjIMayrzdMdFZVy.4it/VFoPX8s0:1
sonheungmin:$6$u40k5fbcrTS8n1$59vl040NaikCs596kSw07/ywnFqxsVEpkWWcqFaUJrcJToOba4Do0Fbv04qj/WV82k183zbIPWQGbsShohYT0:199
leekangin:$6$THht1/m3ZtJsNsp$$Cr7XgXqKnBqBoHQWfb1/.LoX3N0s89t6b7S0pULhSE2c4KuNXhfmk5z.0bDvypKR8z1VZ.sYgh9aL6vBPSmx/:19998:
kimminjae:$6$kVnsVesVec5zLudB$Lw0AtgY9I7tMgI5Tzm9bYPAQfjmm86m0pDc35TJ/e.7Ds1z2sDCR5wIlpX5YdVjUMJgt.WEHMSWGRs5IfOU/r0:19998:
hwangheechan:$6$bZ5vPonhApd5734$tpqXql4jlzCw0GlcKaHm83ZyAJZNewo0wFaxyODjTI/xqJaBclg2BoPy9XBV1Min20Qag51jjSumv8gAUd6.0:199
[root@server2 ~]#
```

shadow 명령어를 이용하여 사용자 패스워드 지정여부 확인

3

디스크 추가 후 LVM 구성

1) 하드디스크 추가

10월 8일 20:0
root@server-2:

```
[root@server-2 ~]# lsblk
NAME      MAJ:MIN RM  SIZE RO TYPE MOUNTPOINTS
sda        8:0    0   80G  0 disk
└─sdal     8:1    0    4G  0 part [SWAP]
└─sda2     8:2    0   76G  0 part /
sdb        8:16   0   20G  0 disk
└─sdbl     8:17   0   20G  0 part
  └─DATA-AUDIO 253:1  0   60G  0 lvm /AUDIO
sdc        8:32   0   30G  0 disk
└─sdcl     8:33   0   30G  0 part
  └─DATA-AUDIO 253:1  0   60G  0 lvm /AUDIO
sdd        8:48   0   50G  0 disk
└─sddl     8:49   0   50G  0 part
  └─DATA-VIDEO 253:0  0   40G  0 lvm /VIDEO
  └─DATA-AUDIO 253:1  0   60G  0 lvm /AUDIO
sr0       11:0    1 10.2G 0 rom  /run/media/root/Rocky-9-4-x86_64-dvd
[root@server-2 ~]#
```

하드디스크 각각 20G, 30G, 50G 추가

DATA-AUDIO / DATA-VIDEO

정상적으로 vg lv 가 생성됨을 확인

10월 8일 20:0
root@server-2:

```
Disk /dev/sdc: 30 GiB, 32212254720 bytes, 62914560 sectors
Disk model: VMware Virtual S
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disklabel type: dos
Disk identifier: 0xdffd97a4d

Device      Boot Start     End   Sectors Size Id Type
/dev/sdcl          2048 62914559 62912512  30G 8e Linux LVM

Disk /dev/sdd: 50 GiB, 53687091200 bytes, 104857600 sectors
Disk model: VMware Virtual S
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disklabel type: dos
Disk identifier: 0xe6ed55c5

Device      Boot Start     End   Sectors Size Id Type
/dev/sddl          2048 104857599 104855552  50G 8e Linux LVM

Disk /dev/mapper/DATA-VIDEO: 40 GiB, 42949672960 bytes, 83886080 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes

Disk /dev/mapper/DATA-AUDIO: 59.99 GiB, 64411926528 bytes, 125804544 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
[root@server-2 ~]#
```

fdisk -l

정상적으로 파일시스템 타입이 8e(LVM)인 것을 확인

3

디스크 추가 후 LVM 구성

2) 각각 PV, VG, LV 구성

pvscan

pv 3개 생성완료 (20 30 50)

```
[root@server-2 ~]# pvscan
PV /dev/sdb1   VG DATA   lvm2 [<20.00 GiB / 0    free]
PV /dev/sdc1   VG DATA   lvm2 [<30.00 GiB / 0    free]
PV /dev/sdd1   VG DATA   lvm2 [<50.00 GiB / 0    free]
Total: 3 [<99.99 GiB] / in use: 3 [<99.99 GiB] / in no VG: 0 [0    ]
[root@server-2 ~]#
```

vgdisplay

vgdisplay DATA VG 생성완료

```
[root@server-2 ~]# vgdisplay
--- Volume group ---
VG Name          DATA
System ID
Format           lvm2
Metadata Areas   3
Metadata Sequence No 3
VG Access        read/write
VG Status        resizable
MAX LV
Cur LV
Open LV
Max PV
Cur PV
Act PV
VG Size         <99.99 GiB
PE Size          4.00 MiB
Total PE         25597
Alloc PE / Size 25597 / <99.99 GiB
Free PE / Size  0 / 0
VG UUID          4C8fgZ-hrE2-UHdv-09ic-eW4K-ukVcCX
[root@server-2 ~]#
```

현재 활동 터미널

```
[root@server-2 ~]# lvscan
ACTIVE            '/dev/DATA/VIDEO' [40.00 GiB] inherit
ACTIVE            '/dev/DATA/AUDIO'  [<59.99 GiB] inherit
[root@server-2 ~]#
```

lvscan LV video audio 생성완료

10월 8일 20:10

root@server-2:~

```
[root@server-2 ~]# cat /etc/fstab
#
# /etc/fstab
# Created by anaconda on Fri Oct  4 08:15:05 2024
#
# Accessible filesystems, by reference, are maintained under '/dev/disk/'.
# See man pages fstab(5), findfs(8), mount(8) and/or blkid(8) for more info.
#
# After editing this file, run 'systemctl daemon-reload' to update systemd
# units generated from this file.
#
UUID=8ecc9382-f5f9-409e-baa8-0d3071db7da1 /           xfs     defaults      0 0
UUID=d5941f39-26c5-40f1-b96f-66f86828bb42 none        swap     defaults      0 0
/dev/DATA/VIDEO /VIDEO ext4    defaults      0 0
/dev/DATA/AUDIO /AUDIO ext4    defaults      0 0
[root@server-2 ~]#
```

cat /etc/fstab

정상적으로 lv 마운트 완료

디스크 쿼터 설정

1) 하드디스크 추가/ 추가사용자 설정

```
Disk /dev/sdb: 10 GiB, 10737418240 bytes, 20971520 sectors
Disk model: VMware Virtual S
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disklabel type: dos
Disk identifier: 0xc3116951
```

Device	Boot	Start	End	Sectors	Size	Id	Type
/dev/sdb1		2048	20971519	20969472	10G	83	Linux

[root@server-3 ~]#

현재 활동 터미널

하드디스크 10G 추가

```
[root@server-3 ~]# cat /etc/fstab
#
# /etc/fstab
# Created by anaconda on Fri Oct  4 08:15:00 2024
#
# Accessible filesystems, by reference, are maintained under '/dev/disk/'.
# See man pages fstab(5), findfs(8), mount(8) and/or blkid(8) for more info.
#
# After editing this file, run 'systemctl daemon-reload' to update systemd
# units generated from this file.
#
UUID=be827a25-1810-4bc0-9756-121718fe3d36 /          xfs      defaults        0 0
UUID=d1183ff2-d0fa-40b2-96ce-3e2d8b8c40c3 none        swap      defaults        0 0
```

```
/dev/sdb1    /FRONT ext4    defaults,usrjquota=aquota.user,jqfmt=vfsv0    0    0
[root@server-3 ~]#
```

cat /etc/fstab quota 파일 설정 제대로 작성

User	Block limits			File limits				
	used	soft	hard	grace	used	soft	hard	grace
root	--	20	0	0	4	0	0	0
aespa	--	28	716800	1048576	7	0	0	0
IVE	--	28	716800	1048576	7	0	0	0
NewJeans	--	28	716800	1048576	7	0	0	0

repquota -a aespa, IVE, NewJeans soft 700 hard1 정상할당

5

서버 구성

1) SSH Server

rpm -qa openssh openssh(ssh) 설치여부 확인

```
[root@server-1 ~]# rpm -qa openssh
openssh-8.7p1-38.el9.x86_64
[root@server-1 ~]#
```

```
[root@server-1 ~]# systemctl status sshd
● sshd.service - OpenSSH server daemon
  Loaded: loaded (/usr/lib/systemd/system/sshd.service; enabled; preset: enabled)
  Active: active (running) since Tue 2024-10-08 20:38:17 KST; 9min ago
    Docs: man:sshd(8)
          man:sshd_config(5)
  Main PID: 851 (sshd)
     Tasks: 1 (limit: 22836)
    Memory: 2.6M
       CPU: 14ms
      CGroup: /system.slice/sshd.service
              └─851 "sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups"

Oct 08 20:38:17 server-1 systemd[1]: Starting OpenSSH server daemon...
Oct 08 20:38:17 server-1 sshd[851]: Server listening on 0.0.0.0 port 22.
Oct 08 20:38:17 server-1 sshd[851]: Server listening on :: port 22.
Oct 08 20:38:17 server-1 systemd[1]: Started OpenSSH server daemon.
[root@server-1 ~]#
```

systemctl status sshd sshd(ssh) 서비스 작동여부 (active enabled)

```
[root@server-1 ~]# firewall-cmd --list-all
public (active)
  target: default
  icmp-block-inversion: no
  interfaces: ens160
  sources:
  services: cockpit dhcpcv6-client dns ssh
  ports: 3389/tcp
  protocols:
  forward: yes
  masquerade: no
  forward-ports:
  source-ports:
  icmp-blocks:
  rich rules:
[root@server-1 ~]#
```

firewall-cmd --list-all ssh방화벽 허가여부

```
[root@server-1 ~]# ssh ksh@192.168.111.150
The authenticity of host '192.168.111.150 (192.168.111.150)' can't be established.
ED25519 key fingerprint is SHA256:aNutFJY7he08sWWRe7eXfzM1VbybbxE6C/soB8mgyTw.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '192.168.111.150' (ED25519) to the list of known hosts.
ksh@192.168.111.150's password:
Permission denied, please try again.
ksh@192.168.111.150's password:
Last failed login: Tue Oct  8 20:48:21 KST 2024 from 192.168.111.100 on ssh:notty
There was 1 failed login attempt since the last successful login.
Last login: Tue Oct  8 20:41:16 2024
[ksh@server-2 ~]$
```

ssh ksh@192.168.111.150

server1(.100) > server2(.150)으로 원격접속 성공

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서버 구성

2) XRDП Server

현재 활동 터미널

```
[root@server-1 ~]# rpm -qa xrdp xrdp
xrdp-0.10.1-1.el9.x86_64
[root@server-1 ~]#
```

rpm -qa xrdp xrdp 설치 여부

현재 활동 터미널 10월 8일 20:22
root@server-1:~

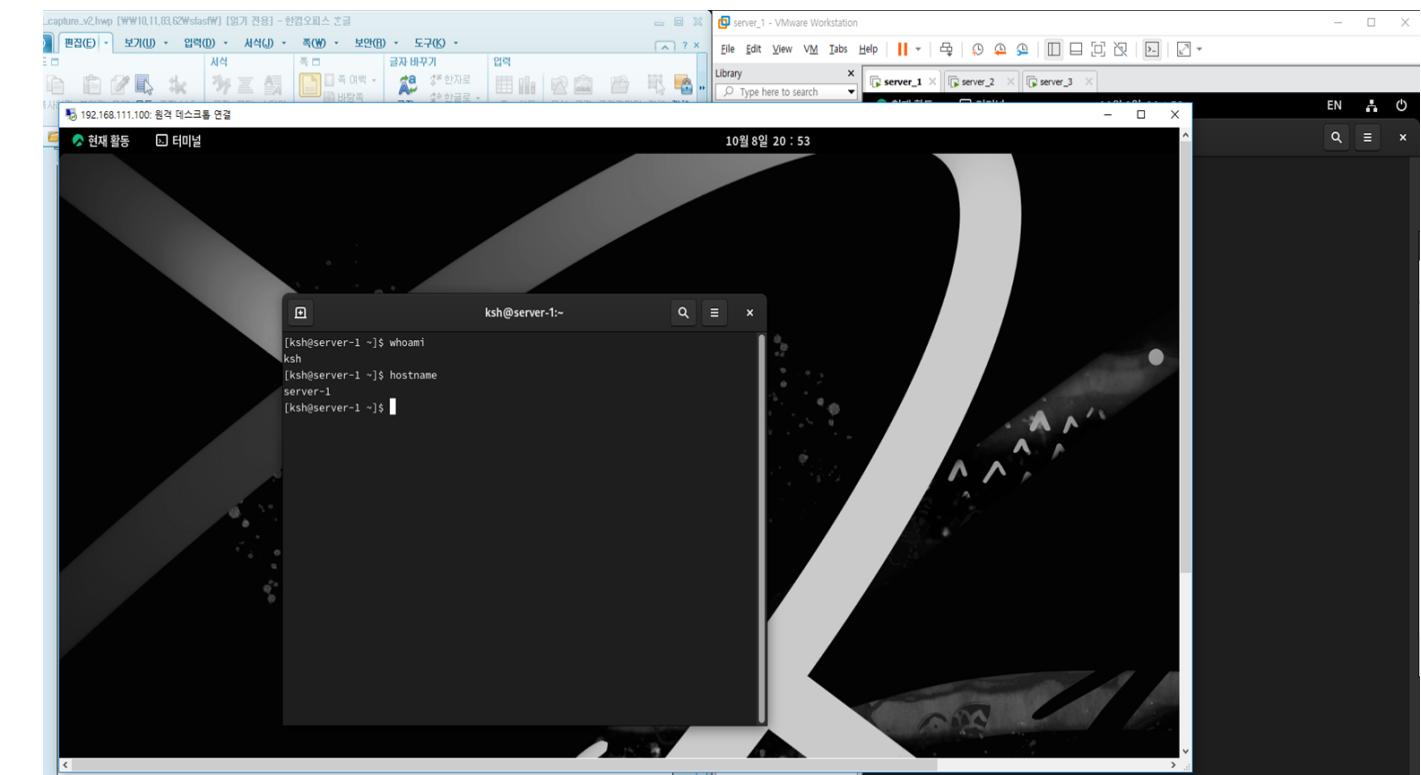
```
[root@server-1 ~]# systemctl status xrdp
● xrdp.service - xrdp daemon
   Loaded: loaded (/usr/lib/systemd/system/xrdp.service; enabled; preset: disabled)
   Active: active (running) since Tue 2024-10-08 16:54:24 KST; 3h 27min ago
     Docs: man:xrdp(8)
           man:xrdp.ini(5)
 Main PID: 1133 (xrdp)
    Tasks: 1 (limit: 22836)
   Memory: 2.9M
      CPU: 1.245s
     CGroup: /system.slice/xrdp.service
             └─1133 /usr/sbin/xrdp --nodaemon
```

systemctl status xrdp xrdp active enabled 여부

현재 활동 터미널 10월 8일 20:25
root@server-1:~

```
[root@server-1 ~]# firewall-cmd --list-all
public (active)
  target: default
  icmp-block-inversion: no
  interfaces: ens160
  sources:
  services: cockpit dhcpv6-client ssh
  ports: 3389/tcp
  protocols:
  forward: yes
  masquerade: no
  forward-ports:
  source-ports:
  icmp-blocks:
  rich rules:
[root@server-1 ~]#
```

xrdp(tcp3389포트) 방화벽 허가 여부



xrdp 기동

호스트 pc > 192.168.111.100(server1) 정상접속

서버 구성

3) DNS Server

vsftpd(ftp 서버) 설치여부 ftp클라이언트 설치 여부

```
[root@server-2 ksh]# rpm -qa vsftpd
vsftpd-3.0.5-5.el9.x86_64
[root@server-2 ksh]# rpm -qa ftp
ftp-0.17-89.el9.x86_64
[root@server-2 ksh]#
```

```
[root@server-2 ksh]# systemctl status vsftpd
● vsftpd.service - Vsftpd ftp daemon
   Loaded: loaded (/usr/lib/systemd/system/vsftpd.service; enabled;
   Active: active (running) since Tue 2024-10-08 20:38:43 KST; 17min
     Process: 1188 ExecStart=/usr/sbin/vsftpd /etc/vsftpd/vsftpd.conf
   Main PID: 1189 (vsftpd)
      Tasks: 1 (limit: 22836)
     Memory: 900.0K
        CPU: 3ms
       CGroup: /system.slice/vsftpd.service
           └─1189 /usr/sbin/vsftpd /etc/vsftpd/vsftpd.conf

10월 08 20:38:43 server-2 systemd[1]: Starting Vsftpd ftp daemon...
10월 08 20:38:43 server-2 systemd[1]: Started Vsftpd ftp daemon.
lines 1-13/13 (END)
```

vsftpd(ftpserver) enable active 여부 확인

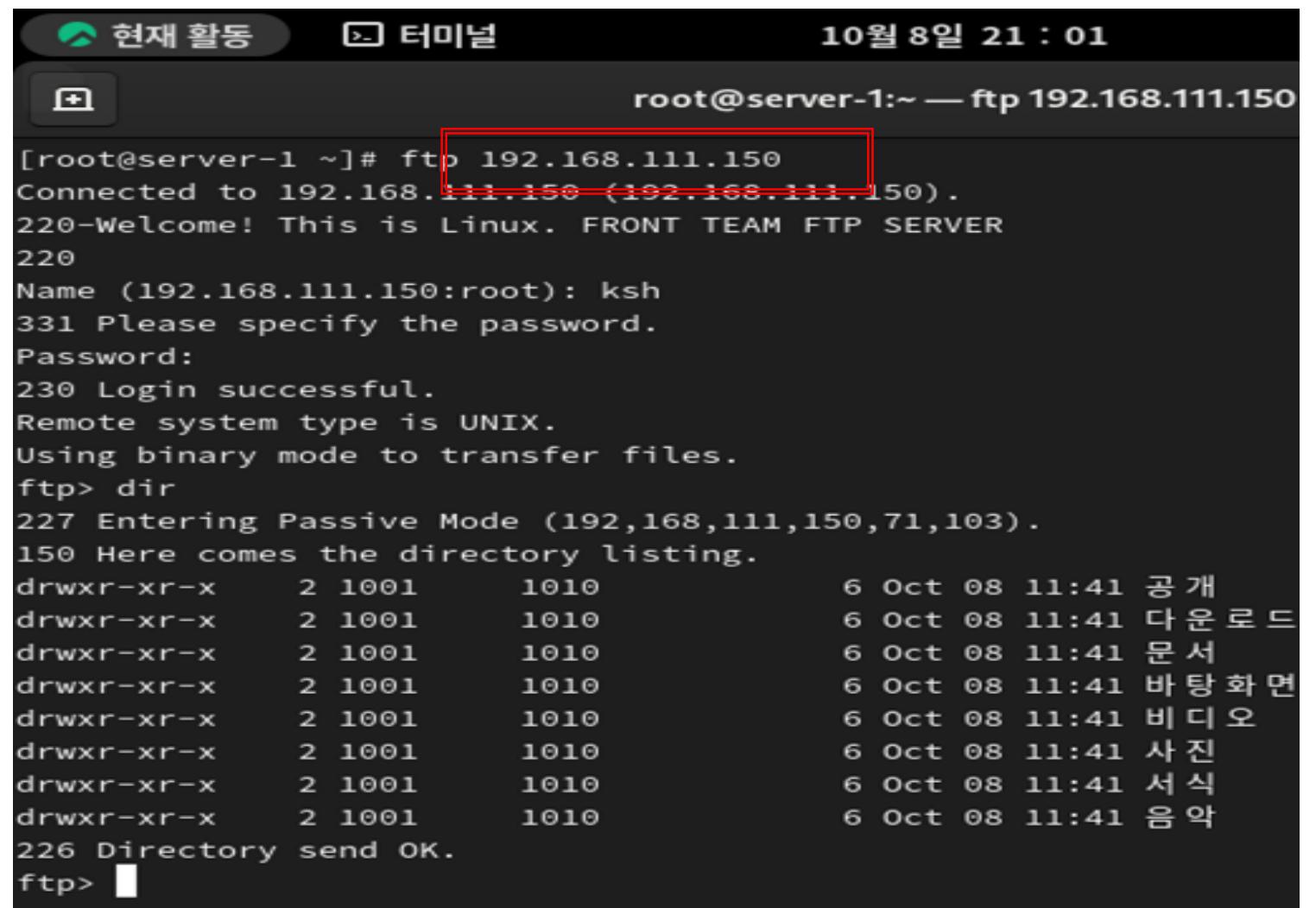
```
[root@server-2 ksh]# firewall-cmd --list-all
public (active)
  target: default
  icmp-block-inversion: no
  interfaces: ens160
  sources:
  services: cockpit dhcpv6-client ftp http https ssh
  ports:
  protocols:
  forward: yes
  masquerade: no
  forward-ports:
  source-ports:
  icmp-blocks:
  rich rules:
[root@server-2 ksh]#
```

firewall- cmd --list-al ftp 방화벽 허가여부

```
# Allow anonymous FTP? (Beware - allowed by default if you comment this out).
anonymous_enable=YES
#
# Uncomment this to allow local users to log in.
local_enable=YES
#
# Uncomment this to enable any form of FTP write command.
write_enable=YES
#
# Default umask for local users is 077. You may wish to change this to 022,
# if your users expect that (022 is used by most other ftpt's)
local_umask=022
#
```

anonymous를 이용하여 익명 사용자 허용 여부 확인

3) DNS Server



The screenshot shows a terminal window with the following details:

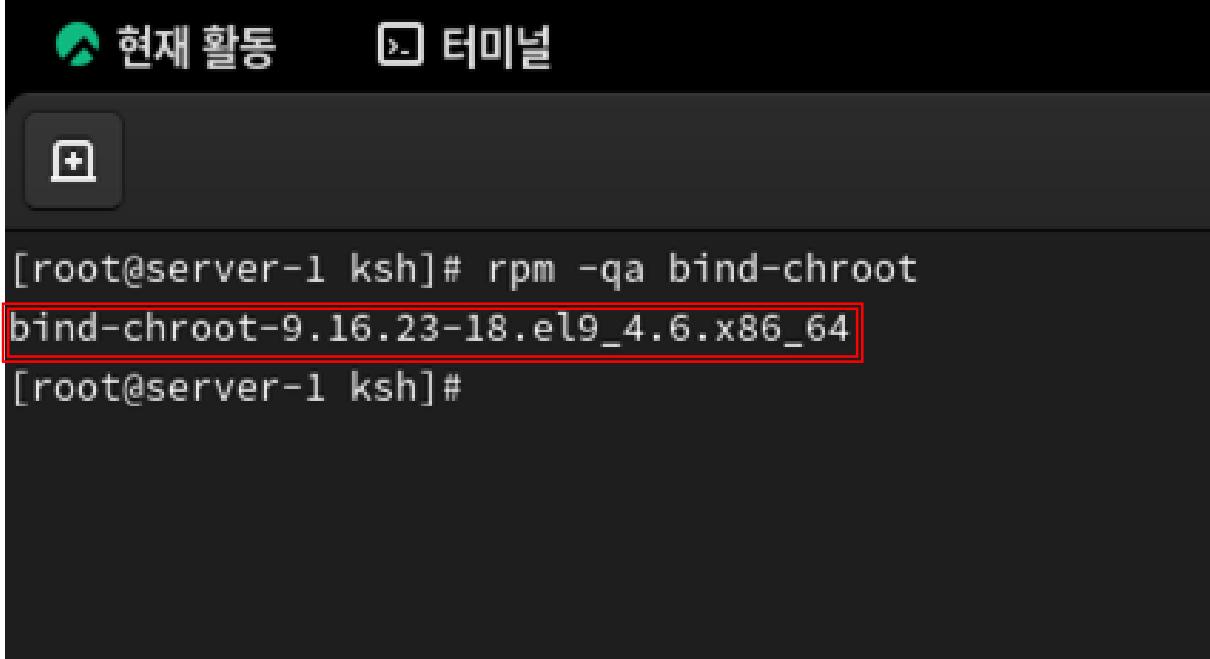
- Header: 현재 활동 (Current Activity), 터미널 (Terminal), 10월 8일 21:01 (October 8, 21:01).
- Text area:
 - Command: root@server-1:~ — ftp 192.168.111.150
 - Response: Connected to 192.168.111.150 (192.168.111.150).
220-Welcome! This is Linux. FRONT TEAM FTP SERVER
220
 - Authentication: Name (192.168.111.150:root): ksh
331 Please specify the password.
Password:
230 Login successful.
 - File transfer: Remote system type is UNIX.
Using binary mode to transfer files.
ftp> dir
227 Entering Passive Mode (192,168,111,150,71,103).
150 Here comes the directory listing.
drwxr-xr-x 2 1001 1010 6 Oct 08 11:41 공개
drwxr-xr-x 2 1001 1010 6 Oct 08 11:41 다운로드
drwxr-xr-x 2 1001 1010 6 Oct 08 11:41 문서
drwxr-xr-x 2 1001 1010 6 Oct 08 11:41 바탕화면
drwxr-xr-x 2 1001 1010 6 Oct 08 11:41 비디오
drwxr-xr-x 2 1001 1010 6 Oct 08 11:41 사진
drwxr-xr-x 2 1001 1010 6 Oct 08 11:41 서식
drwxr-xr-x 2 1001 1010 6 Oct 08 11:41 음악
226 Directory send OK.
 - Prompt: ftp>

fftp 192.168.111.150 sever1 > server2(ksh) ftp 접속 성공

3) DNS Server

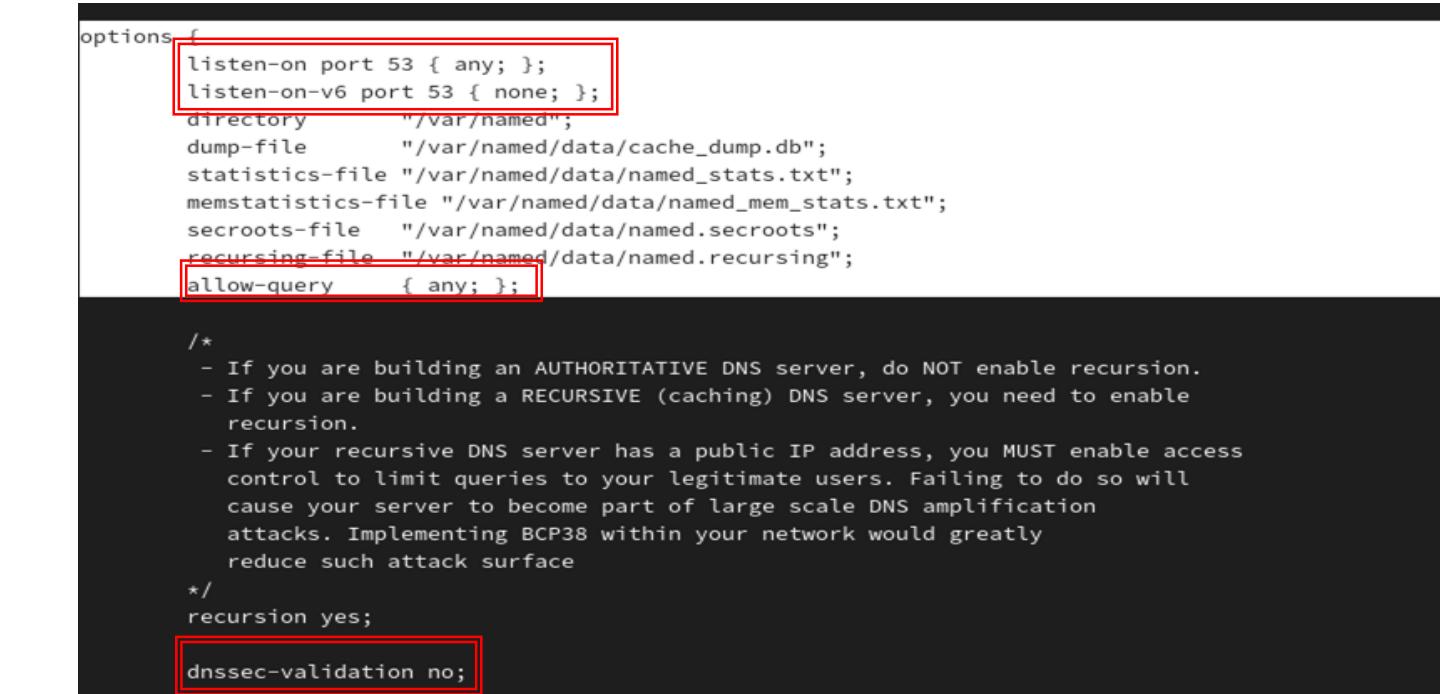


```
[root@server-1 ksh]# rpm -qa bind
bind-9.16.23-18.el9_4.6.x86_64
[root@server-1 ksh]#
```

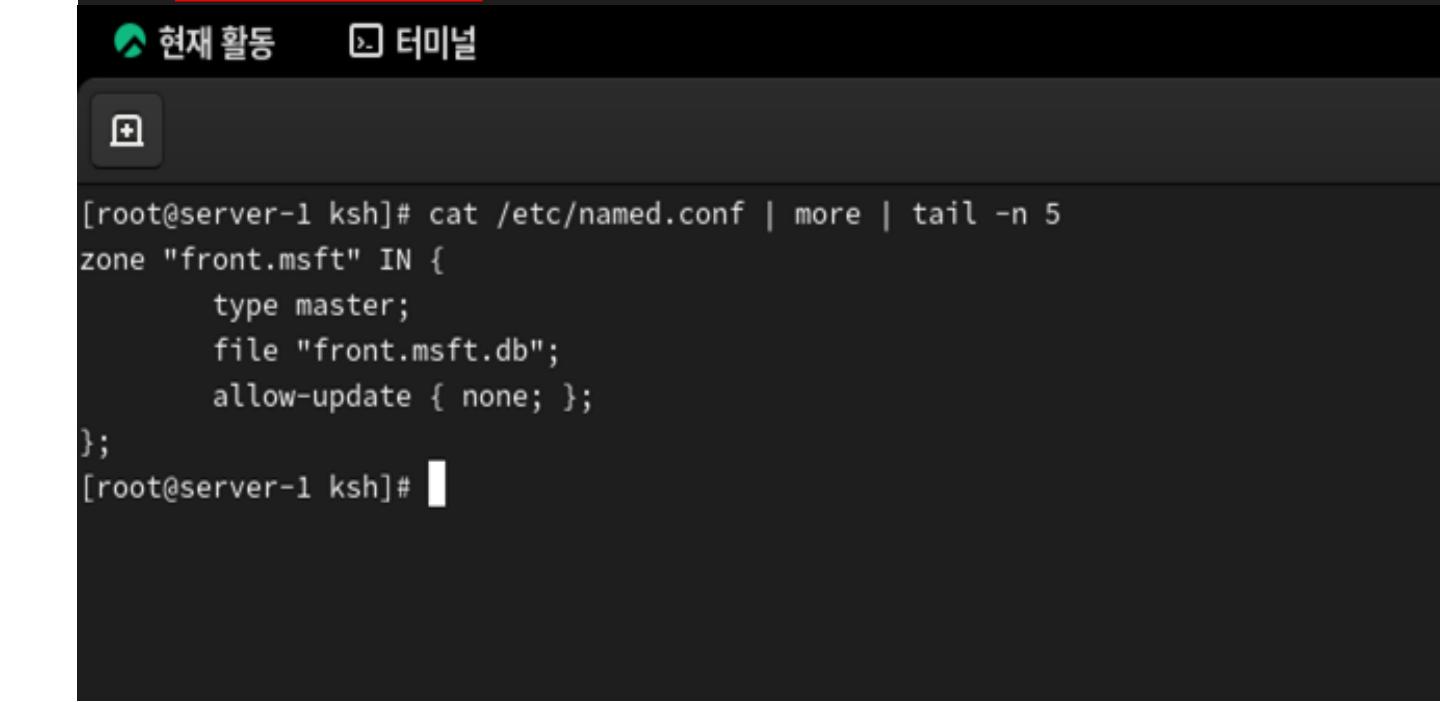
```
[root@server-1 ksh]# rpm -qa bind-chroot
bind-chroot-9.16.23-18.el9_4.6.x86_64
[root@server-1 ksh]#
```

rpm -qa bind, bind-chroot 설치 여부 확인



```
options {
    listen-on port 53 { any; };
    listen-on-v6 port 53 { none; };
    directory      "/var/named";
    dump-file     "/var/named/data/cache_dump.db";
    statistics-file "/var/named/data/named_stats.txt";
    memstatistics-file "/var/named/data/named_mem_stats.txt";
    secroots-file  "/var/named/data/named.secroots";
    recursing-file "/var/named/data/named.recurse";
    allow-query    { any; };

    /*
     * If you are building an AUTHORITATIVE DNS server, do NOT enable recursion.
     * If you are building a RECURSIVE (caching) DNS server, you need to enable
     * recursion.
     * If your recursive DNS server has a public IP address, you MUST enable access
     * control to limit queries to your legitimate users. Failing to do so will
     * cause your server to become part of large scale DNS amplification
     * attacks. Implementing BCP38 within your network would greatly
     * reduce such attack surface
     */
    recursion yes;
    dnssec-validation no;
}
```

```
[root@server-1 ksh]# cat /etc/named.conf | more | tail -n 5
zone "front.msft" IN {
    type master;
    file "front.msft.db";
    allow-update { none; };
};
```

zone 파일 관련 내용만 추출

zone 파일명 /var/named/front.msft.db

5

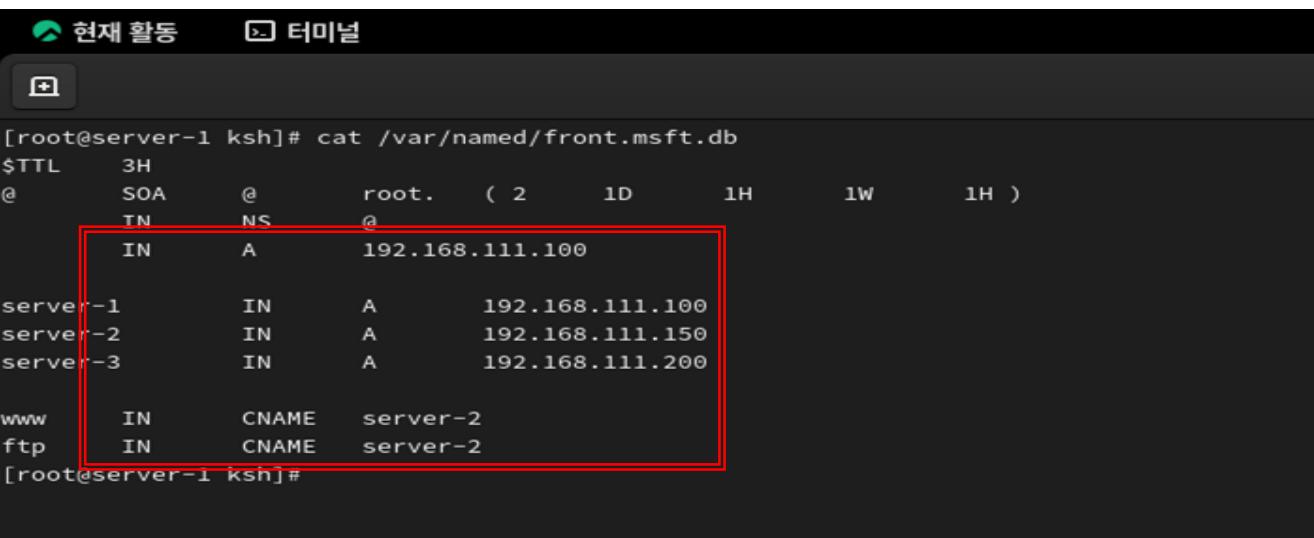
서버구성

3) DNS Server



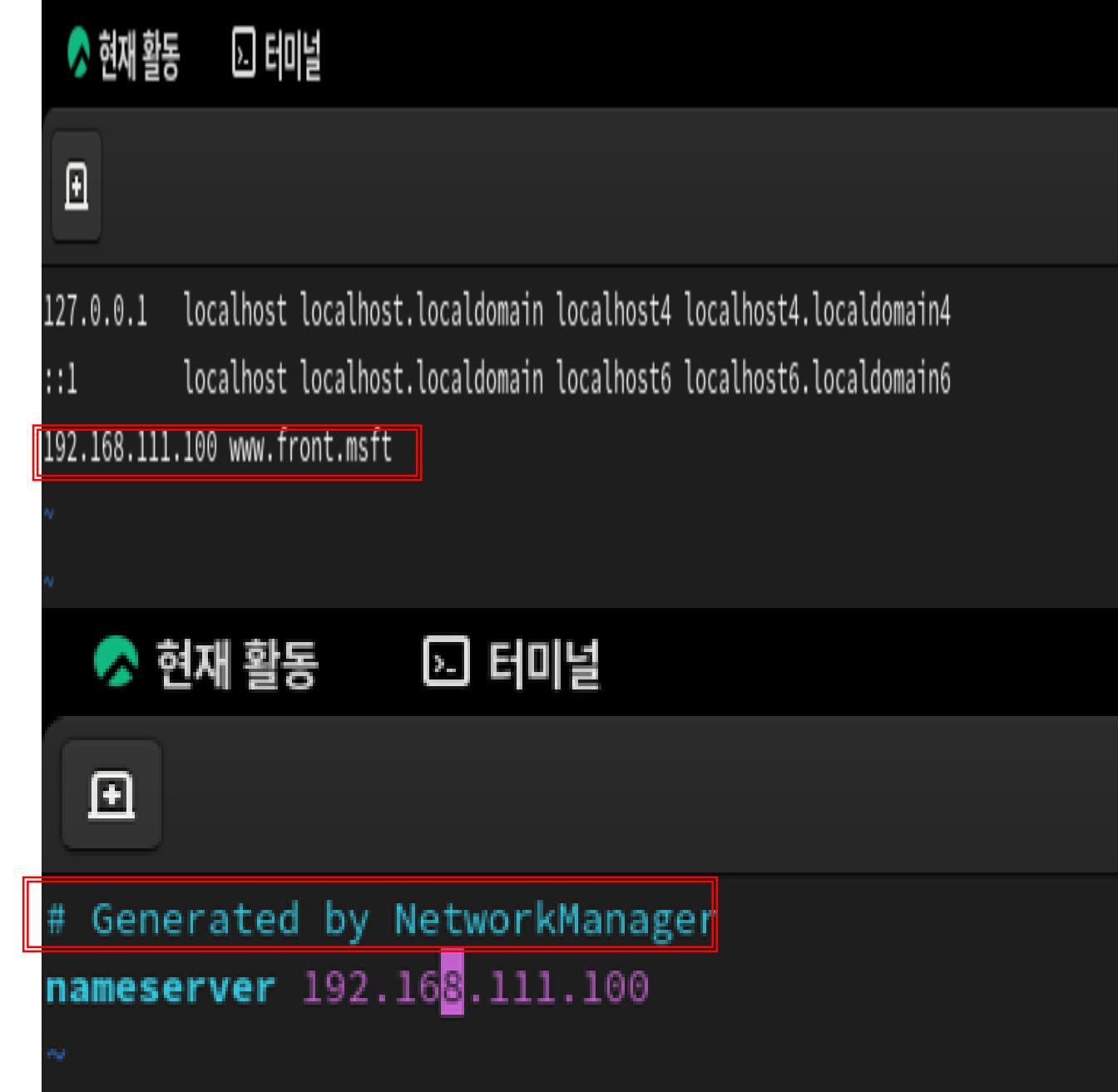
```
[root@server-1 ksh]# named-checkconf
[root@server-1 ksh]#
[root@server-1 ksh]# named-checkzone front.msft /var/named/front.msft.db
zone front.msft/IN: loaded serial 2
OK
[root@server-1 ksh]#
```

두 설정 파일 점검 명령어 실행 결과 이상없음



```
[root@server-1 ksh]# cat /var/named/front.msft.db
$TTL 3H
@ SOA @ root. ( 2 1D 1H 1W 1H )
@ NS @
    IN A 192.168.111.100
server-1 IN A 192.168.111.100
server-2 IN A 192.168.111.150
server-3 IN A 192.168.111.200
www IN CNAME server-2
ftp IN CNAME server-2
[root@server-1 ksh]#
```

설정파일 작성



```
127.0.0.1 localhost localhost.localdomain localhost4 localhost4.localdomain4
::1 localhost localhost.localdomain localhost6 localhost6.localdomain6
192.168.111.100 www.front.msft
# Generated by NetworkManager
nameserver 192.168.111.100
```

정상 작성 확인

3) DNS Server

DNS Server

```
[root@server-1 ksh]# dig www.front.msft
; <>> DiG 9.16.23-RH <>> www.front.msft
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 36122
;; flags: qr aa rd ra; QUERY: 1, ANSWER: 2, AUTHORITY: 0, ADDITIONAL: 1
;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
; COOKIE: 49106d00d30b14770100000067088e2b2c2ba1a454f52f59 (good)
;; QUESTION SECTION:
;www.front.msft.           IN      A
;; ANSWER SECTION:
www.front.msft.    10800   IN      CNAME   server-2.front.msft.
server-2.front.msft. 10800   IN      A       192.168.111.150
;; Query time: 0 msec
;; SERVER: 192.168.111.100#53(192.168.111.100)
;; WHEN: Fri Oct 11 11:32:11 KST 2024
;; MSG SIZE rcvd: 110
[root@server-1 ksh]#
```

```
[root@server-1 ksh]# ping -c 2 www.front.msft
PING www.front.msft (192.168.111.100) 56(84) bytes of data.
64 bytes from www.front.msft (192.168.111.100): icmp_seq=1 ttl=64 time=0.034 ms
64 bytes from www.front.msft (192.168.111.100): icmp_seq=2 ttl=64 time=0.086 ms

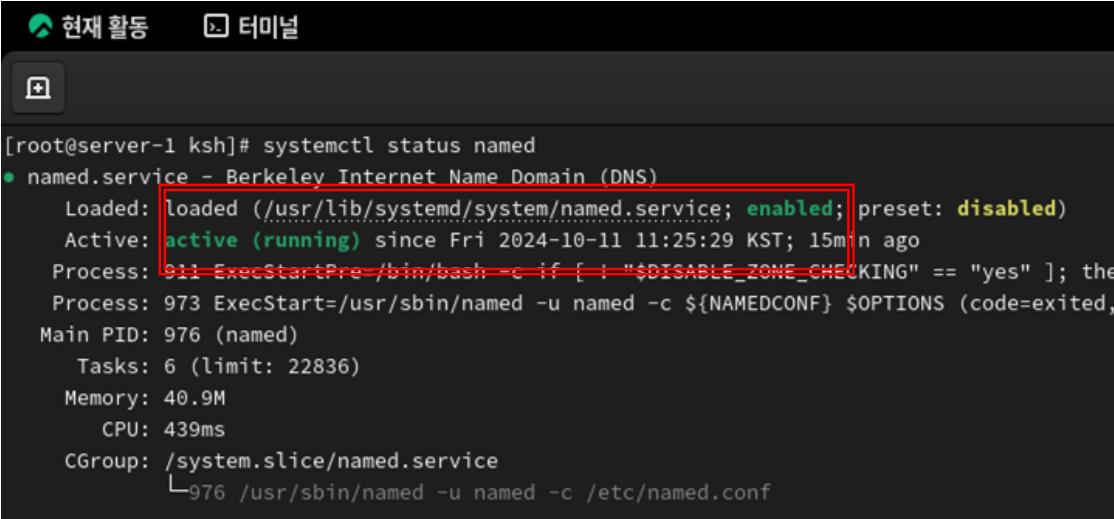
--- www.front.msft ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1030ms
rtt min/avg/max/mdev = 0.034/0.060/0.086/0.026 ms
[root@server-1 ksh]#
```

```
[root@server-1 ksh]# nslookup www.front.msft
Server:      192.168.111.100
Address:     192.168.111.100#53

www.front.msft canonical name = server-2.front.msft.
Name:        server-2.front.msft
Address:     192.168.111.150
[root@server-1 ksh]#
```

셋 다 정상 작동되는 것을 보아 마스터 네임 서버가 정상 작동하는 것을 확인 가능

4) Web Server, FTP Server

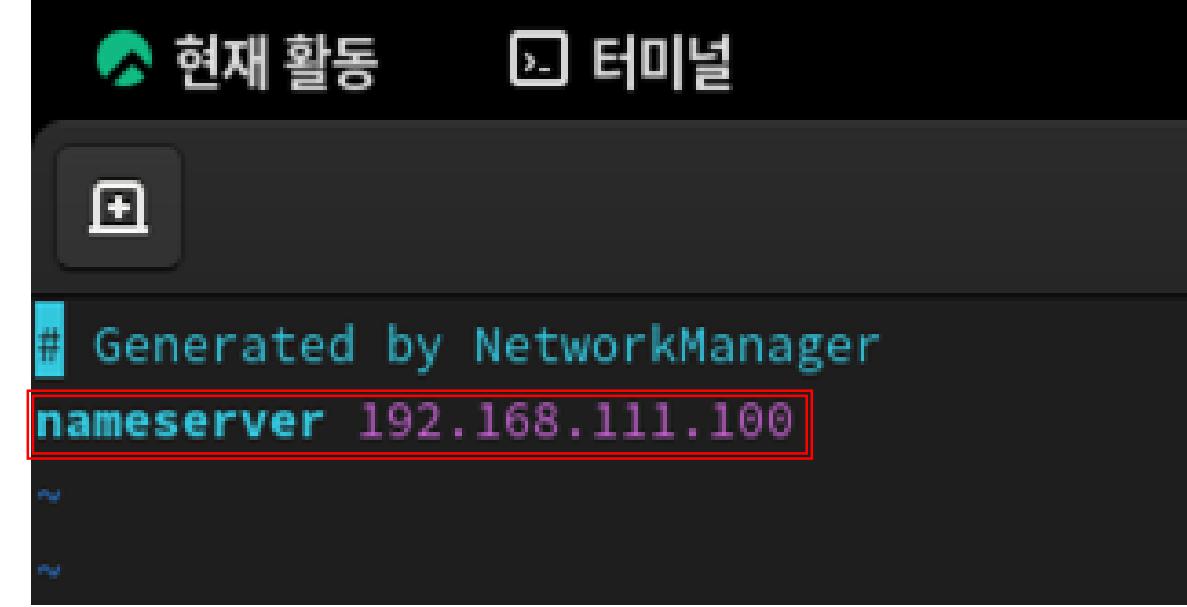


```
[root@server-1 ksh]# systemctl status named
● named.service - Berkeley Internet Name Domain (DNS)
  Loaded: loaded (/usr/lib/systemd/system/named.service; enabled; preset: disabled)
  Active: active (running) since Fri 2024-10-11 11:25:29 KST; 15min ago
    Process: 911 ExecStart=/bin/bash -c if [ ! "$DISABLE_ZONE_CHECKING" == "yes" ]; then
   Main PID: 976 (named)
     Tasks: 6 (limit: 22836)
    Memory: 40.9M
       CPU: 439ms
      CGroup: /system.slice/named.service
              └─ 976 /usr/sbin/named -u named -c /etc/named.conf

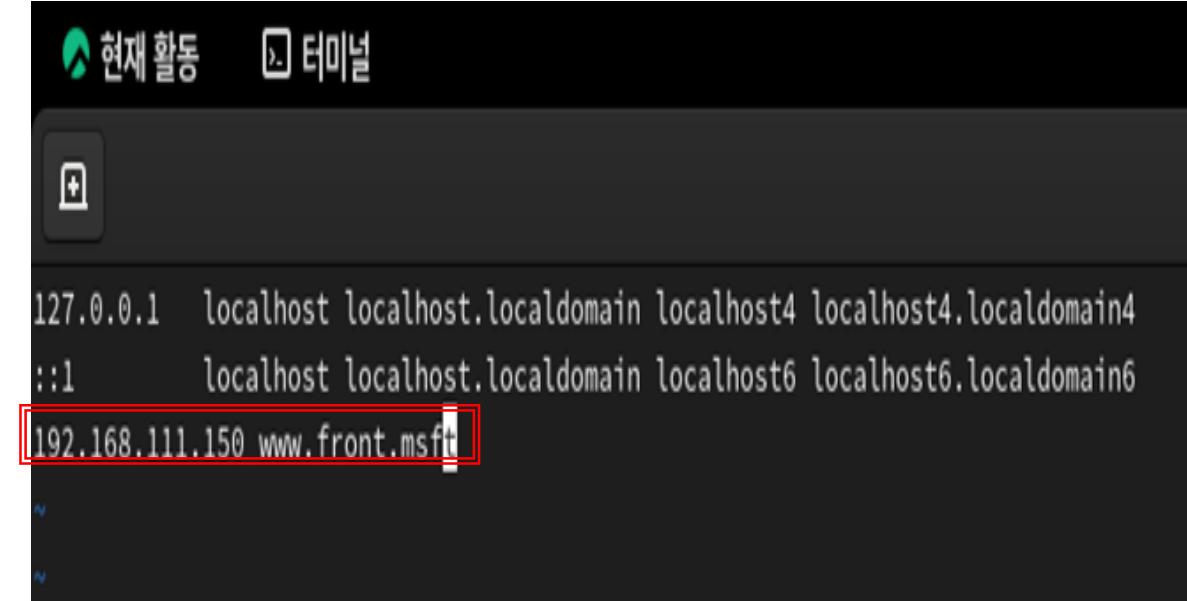
[root@server-1 ksh]# firewall-cmd --list-all
public (active)
  target: default
  icmp-block-inversion: no
  interfaces: ens160
  sources:
  services: cockpit dhcpv6-client dns ssh
  ports: 3389/tcp
  protocols:
  forward: yes
  masquerade: no
  forward-ports:
  source-ports:
  icmp-blocks:
  rich rules:
[root@server-1 ksh]#
```

active enabled 서비스 정상작동

services : dns 방화벽 허가됨을 알 수 있음



```
# Generated by NetworkManager
nameserver 192.168.111.100
```

```
127.0.0.1 localhost localhost.localdomain localhost4 localhost4.localdomain4
::1 localhost localhost.localdomain localhost6 localhost6.localdomain6
192.168.111.150 www.front.msft
```

server2

192.168.111.100을 네임서버로 하는 것을 알 수 있음

서버구성

4) Web Server, FTP Server

```
[root@server-2 ksh]# nslookup www.front.msft
Server: 192.168.111.100
Address: 192.168.111.100#53
www.front.msft canonical name = server-2.front.msft.
Name: server-2.front.msft
Address: 192.168.111.150

[root@server-2 ksh]#

```



```
[root@server-2 ksh]# ping www.front.msft
PING www.front.msft (192.168.111.150) 56(84) bytes of data.
64 bytes from www.front.msft (192.168.111.150): icmp_seq=1 ttl=64 time=0.034 ms
64 bytes from www.front.msft (192.168.111.150): icmp_seq=2 ttl=64 time=0.057 ms
64 bytes from www.front.msft (192.168.111.150): icmp_seq=3 ttl=64 time=0.055 ms
64 bytes from www.front.msft (192.168.111.150): icmp_seq=4 ttl=64 time=0.052 ms
^C
--- www.front.msft ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3096ms
rtt min/avg/max/mdev = 0.034/0.049/0.057/0.009 ms
[root@server-2 ksh]#

```



```
[root@server-2 ksh]# dig www.front.msft
; <>> DIG 9.16.23-RH <>> www.front.msft
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 55904
;; flags: qr aa rd ra; QUERY: 1, ANSWER: 2, AUTHORITY: 0, ADDITIONAL: 1
;; OPT PSEUDOSECTION:
;; EDNS: version: 0, flags:; udp: 1232
;; COOKIE: 3c623f3fd064dc700100000067088ec14e691bc618ae7a54 (good)
;; QUESTION SECTION:
;www.front.msft. IN A
;; ANSWER SECTION:
www.front.msft. 10800 IN CNAME server-2.front.msft.
server-2.front.msft. 10800 IN A 192.168.111.150
;; Query time: 0 msec
;; SERVER: 192.168.111.100#53(192.168.111.100)
;; WHEN: Fri Oct 11 11:34:41 KST 2024
;; MSG SIZE rcvd: 110
[root@server-2 ksh]#

```

server2 > server1 ing nslookup dig www.front.msft 정상작동하는 것으로 보아
server1이 마스터네임 서버로 정상기동 하는 것을 알 수 있음

```
[root@server-2 ksh]# curl www.front.msft
<h1> FRONT TEAM PROJECT </h1>
[root@server-2 ksh]#

```

server2

마스터네임 서버가 인터넷에서 정상 작동하는 것을 확인

```
[root@server-2 ksh]# ftp ftp.front.msft
Connected to ftp.front.msft (192.168.111.150).
220-Welcome! This is Linux. FRONT TEAM FTP SERVER
220
Name (ftp.front.msft:root): anonymous
331 Please specify the password.
Password:
230 Login successful.
Remote system type is UNIX.
Using binary mode to transfer files.
ftp> 

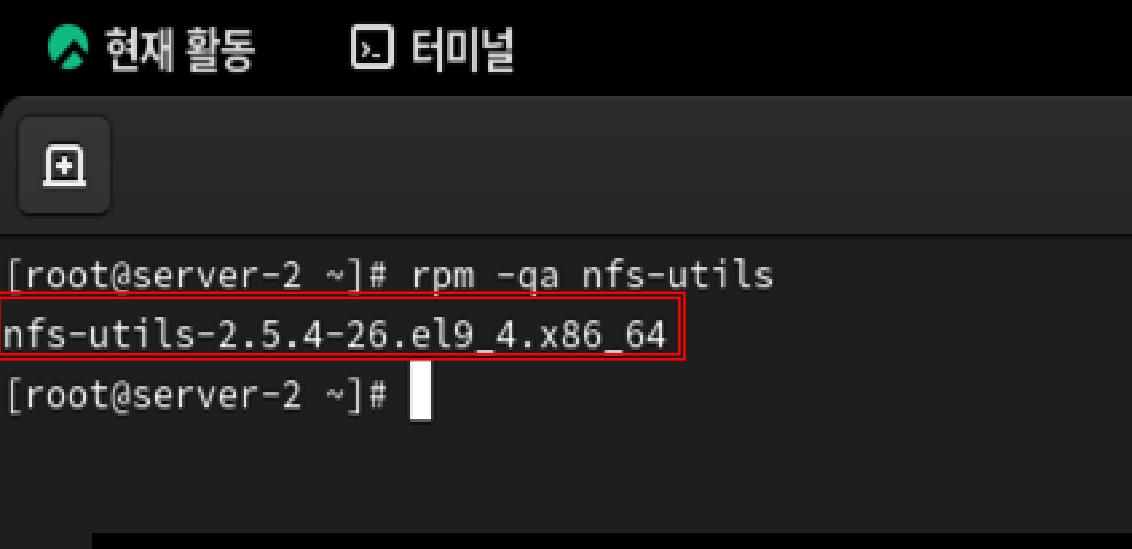
```

존파일에서 설정한 CNAME ftp가 정상 작동하는 것을 확인

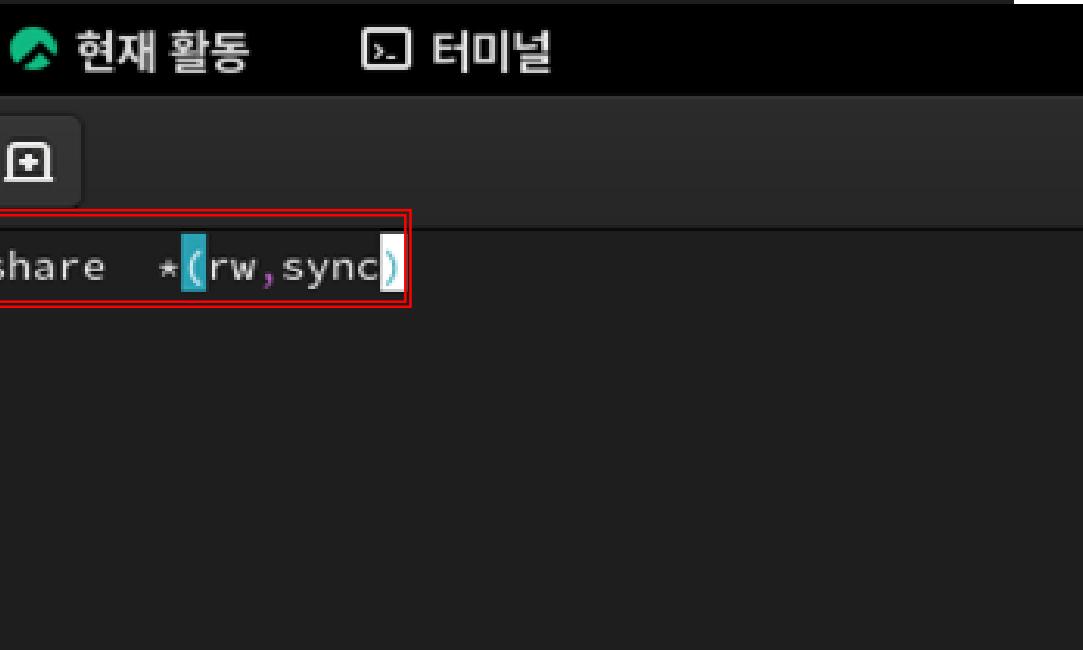
5

서버구성

5) NFS Server



```
[root@server-2 ~]# rpm -qa nfs-utils
nfs-utils-2.5.4-26.el9_4.x86_64
[root@server-2 ~]#
```

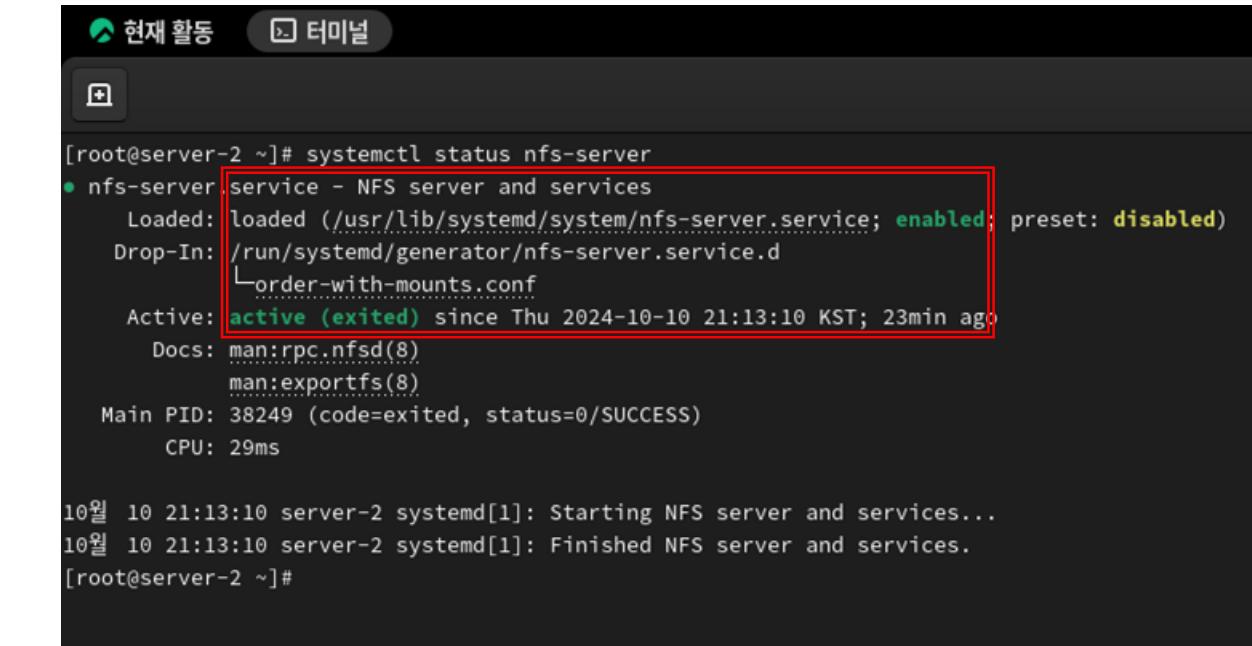


```
/share *(rw,sync)
```

공유할 디렉토리 설정

모든 대역대 진입 가능 rw 가능

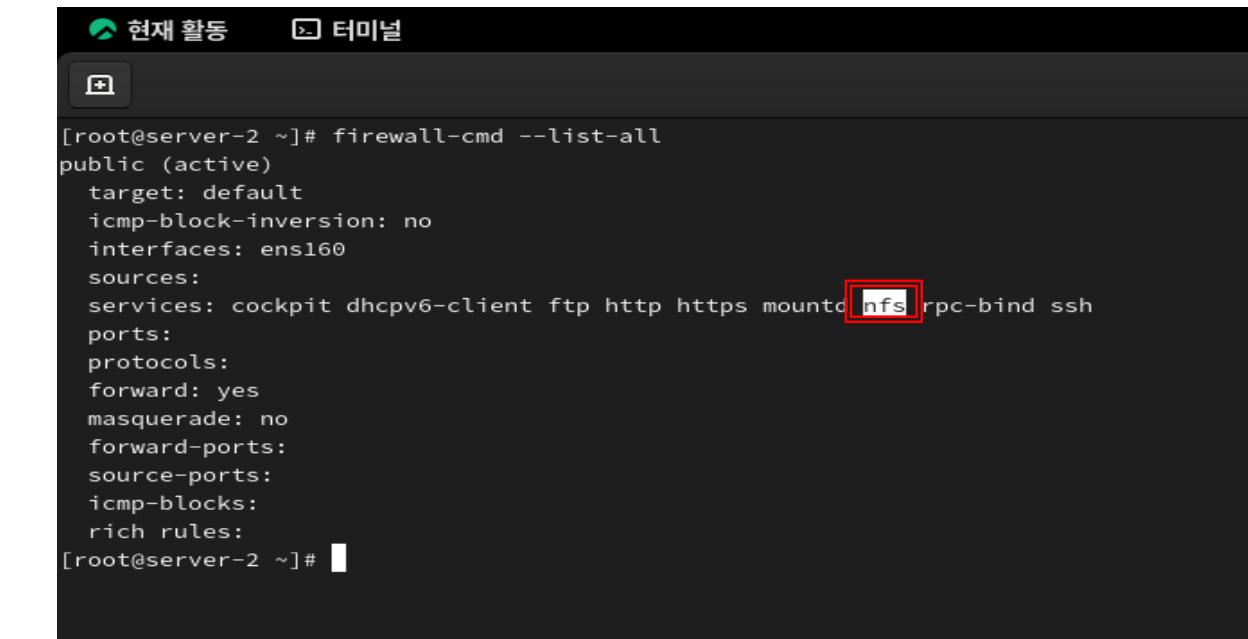
별다른 옵션 없음



```
[root@server-2 ~]# systemctl status nfs-server
● nfs-server.service - NFS server and services
  Loaded: loaded (/usr/lib/systemd/system/nfs-server.service; enabled; preset: disabled)
  Drop-In: /run/systemd/generator/nfs-server.service.d
            └─order-with-mounts.conf
  Active: active (exited) since Thu 2024-10-10 21:13:10 KST; 23min ago
    Docs: man:rpc.nfsd(8)
          man:exportfs(8)
  Main PID: 38249 (code=exited, status=0/SUCCESS)
    CPU: 29ms

10월 10 21:13:10 server-2 systemd[1]: Starting NFS server and services...
10월 10 21:13:10 server-2 systemd[1]: Finished NFS server and services.
[root@server-2 ~]#
```

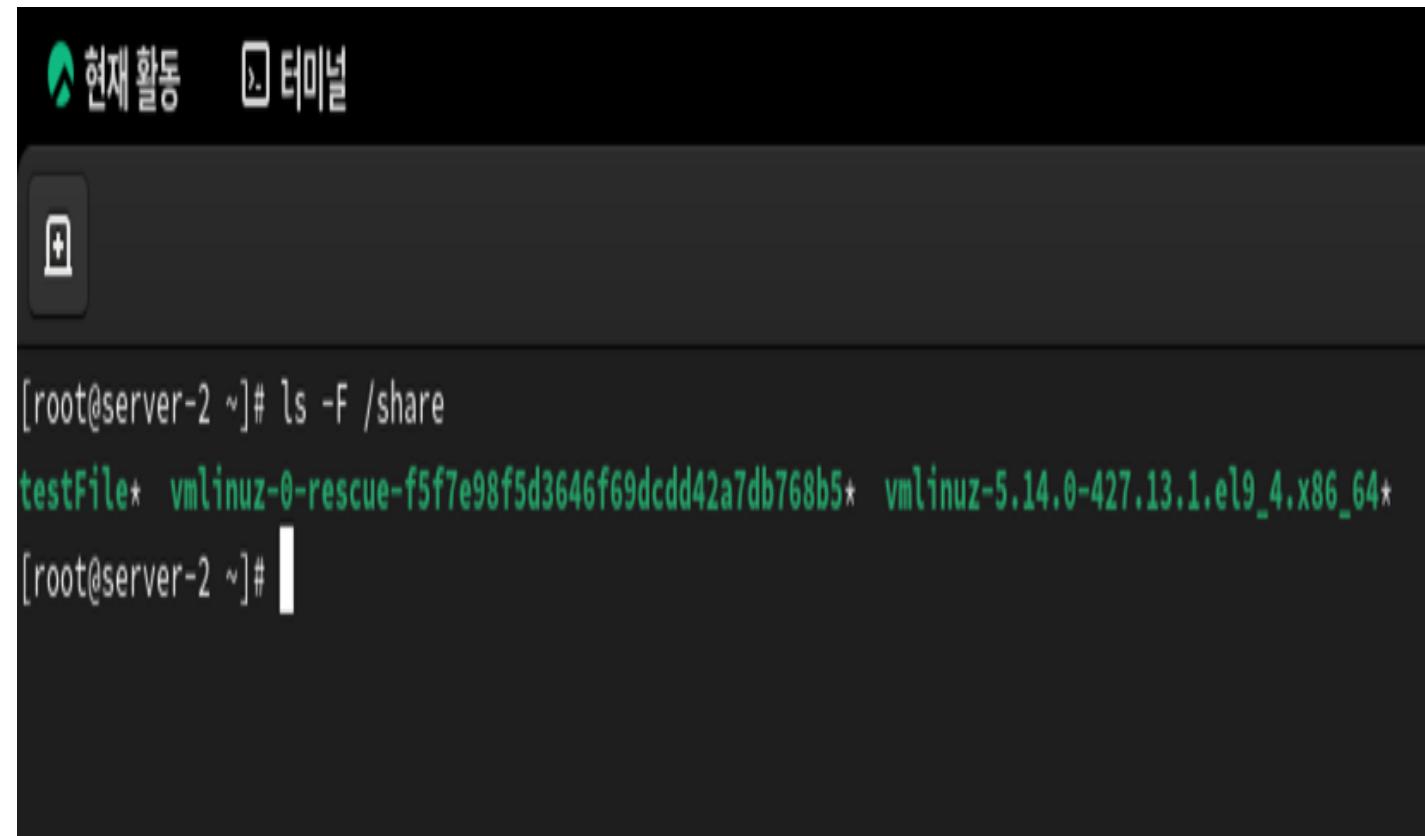
서비스 기동여부 확인 이상 없음



```
[root@server-2 ~]# firewall-cmd --list-all
public (active)
  target: default
  icmp-block-inversion: no
  interfaces: ens160
  sources:
  services: cockpit dhcpv6-client ftp http https mounted nfs rpc-bind ssh
  ports:
  protocols:
  forward: yes
  masquerade: no
  forward-ports:
  source-ports:
  icmp-blocks:
  rich rules:
[root@server-2 ~]#
```

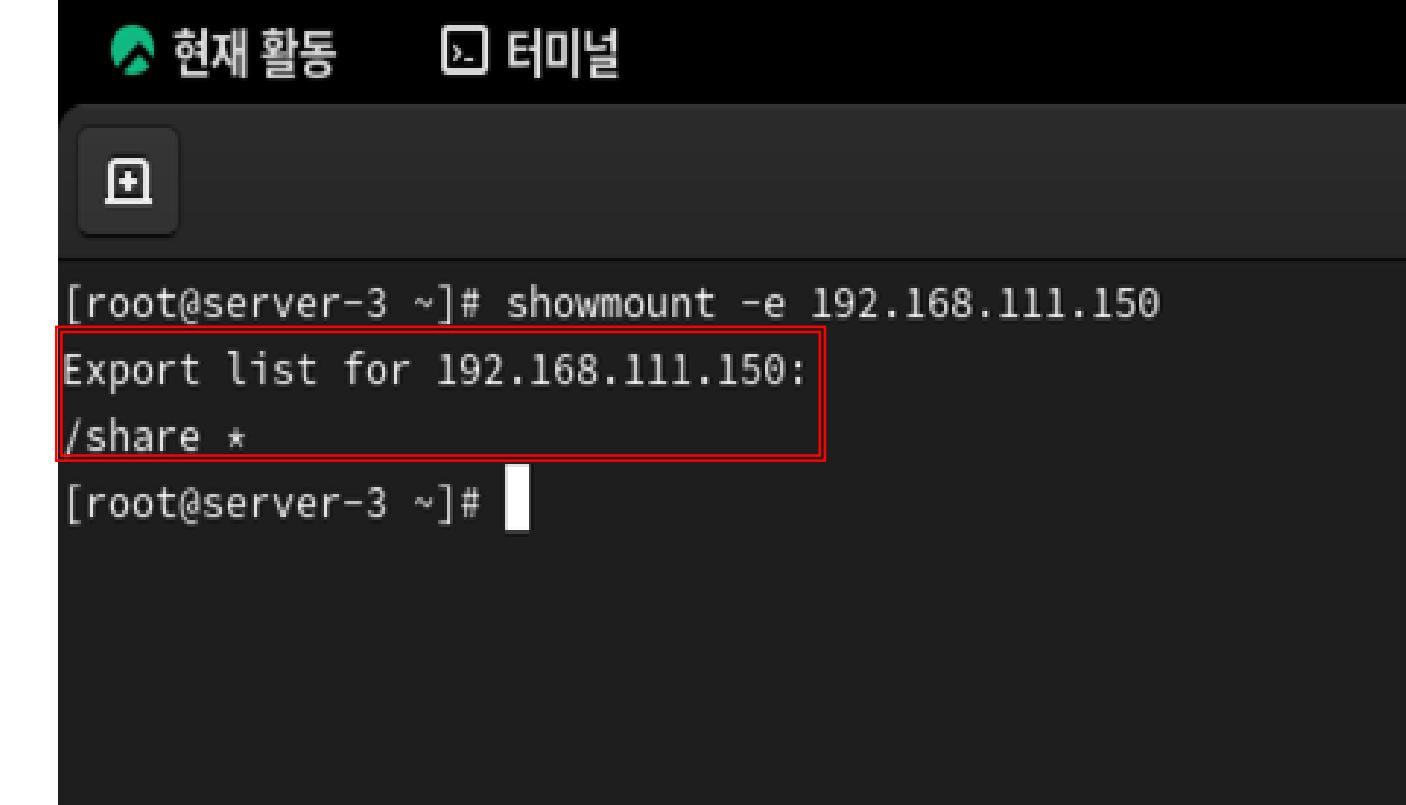
방화벽 nfs 허가 여부 확인

5) NFS Server



```
[root@server-2 ~]# ls -F /share
testFile* vmlinuz-0-rescue-f5f7e98f5d3646f69dcdd42a7db768b5* vmlinuz-5.14.0-427.13.1.el9_4.x86_64*
[root@server-2 ~]#
```

서버2 내부 공유 디렉토리 내용물

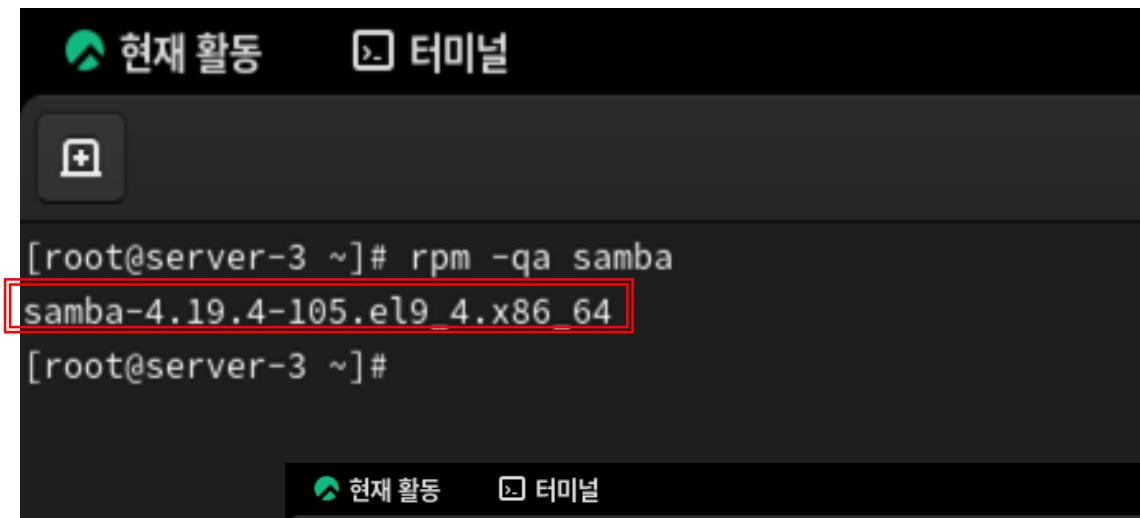


```
[root@server-3 ~]# showmount -e 192.168.111.150
Export list for 192.168.111.150:
/share *
```

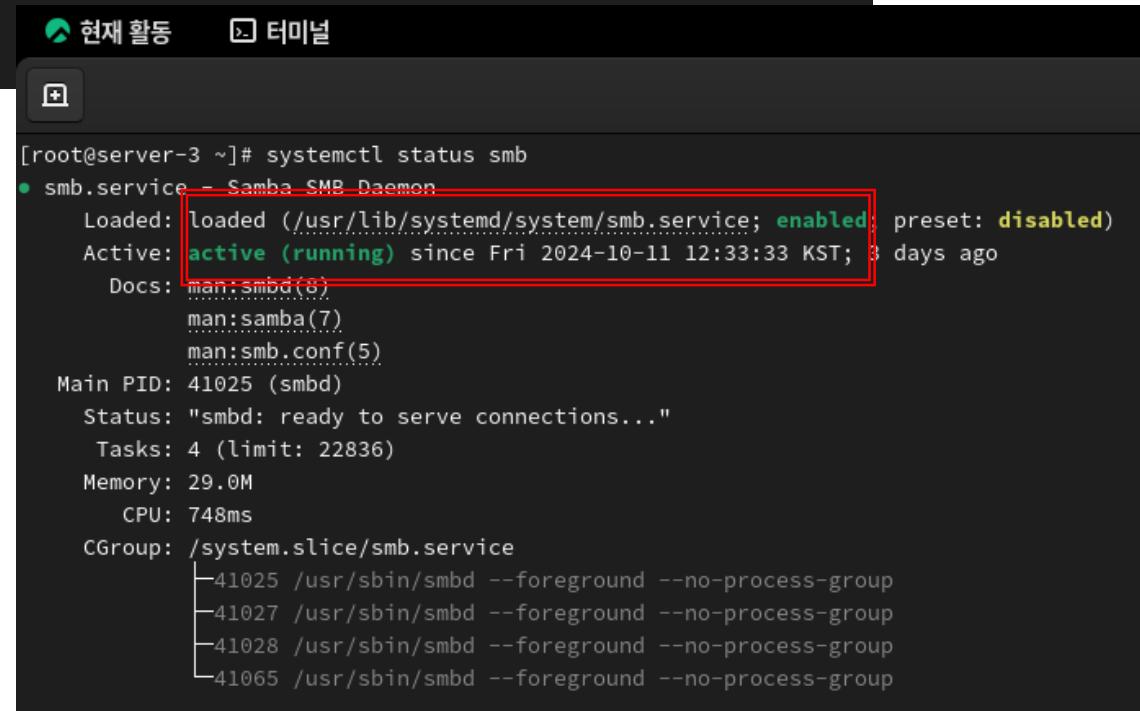
서버3에서 명령 실행 : 현재
/share 디렉터리가 서버 2에 의해 공유됨

6) SAMBA Server

삼바서비스 설치 여부 확인

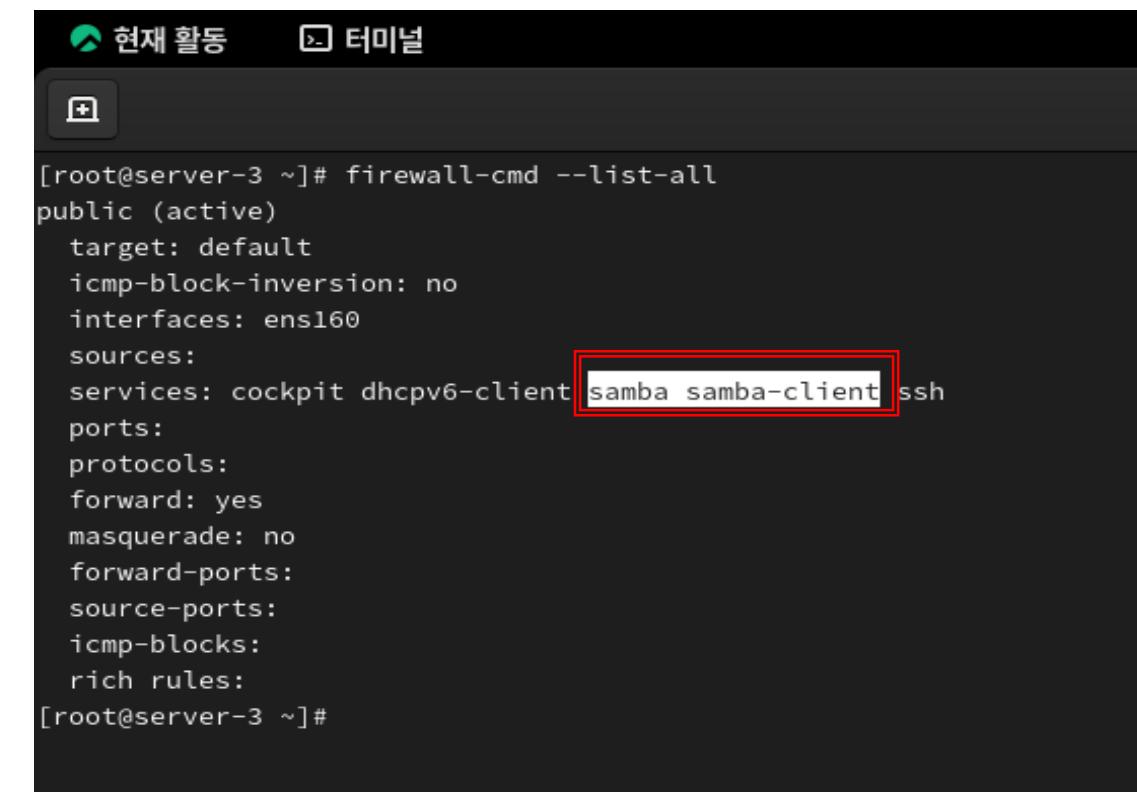


```
[root@server-3 ~]# rpm -qa samba
samba-4.19.4-105.el9_4.x86_64
[root@server-3 ~]#
```



```
[root@server-3 ~]# systemctl status smb
● smb.service - Samba SMB Daemon
    Loaded: loaded (/usr/lib/systemd/system/smb.service; enabled; preset: disabled)
    Active: active (running) since Fri 2024-10-11 12:33:33 KST; 3 days ago
      Docs: man:smbd(8)
             man:samba(7)
             man:smb.conf(5)
     Main PID: 41025 (smbd)
        Status: "smbd: ready to serve connections..."
           Tasks: 4 (limit: 22836)
          Memory: 29.0M
            CPU: 748ms
       CGroup: /system.slice/smb.service
               └─41025 /usr/sbin/smbd --foreground --no-process-group
                  ├─41027 /usr/sbin/smbd --foreground --no-process-group
                  ├─41028 /usr/sbin/smbd --foreground --no-process-group
                  ├─41065 /usr/sbin/smbd --foreground --no-process-group
```

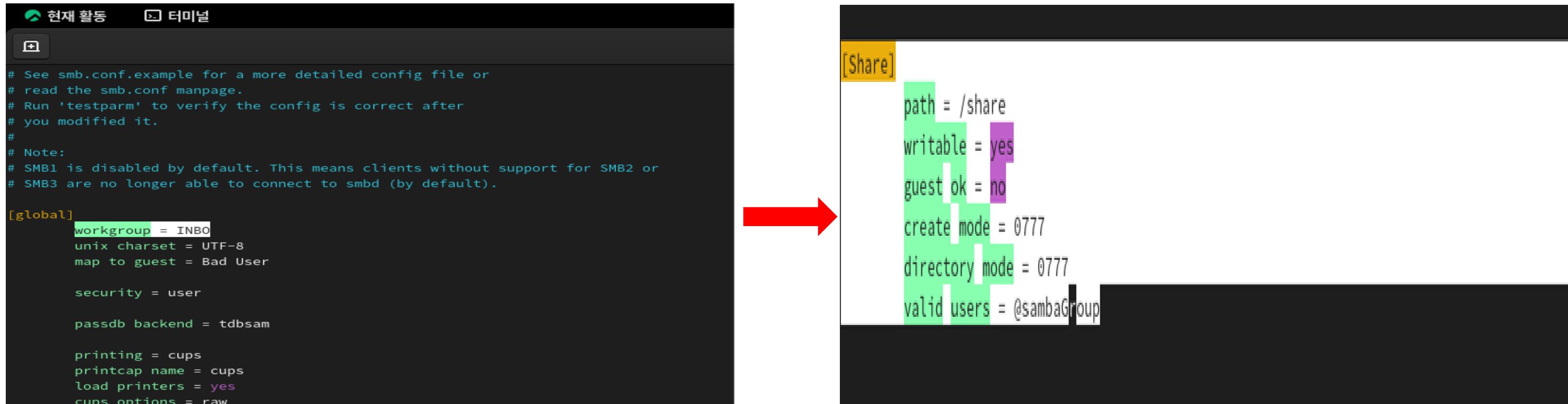
서비스 정상 작동 확인



```
[root@server-3 ~]# firewall-cmd --list-all
public (active)
  target: default
  icmp-block-inversion: no
  interfaces: ens160
  sources:
  services: cockpit dhcpv6-client samba samba-client ssh
  ports:
  protocols:
  forward: yes
  masquerade: no
  forward-ports:
  source-ports:
  icmp-blocks:
  rich rules:
[root@server-3 ~]#
```

방화벽 허가 여부 확인

6) SAMBA Server



```
# See smb.conf.example for a more detailed config file or
# read the smb.conf manpage.
# Run 'testparm' to verify the config is correct after
# you modified it.
#
# Note:
# SMB1 is disabled by default. This means clients without support for SMB2 or
# SMB3 are no longer able to connect to smbd (by default).

[global]
    workgroup = INBO
    unix charset = UTF-8
    map to guest = Bad User

    security = user

    passdb backend = tdbsam

    printing = cups
    printcap name = cups
    load printers = yes
    cups options = raw
```

[Share]

```
path = /share
writable = yes
guest ok = no
create mode = 0777
directory mode = 0777
valid users = @sambaGroup
```

global 섹션 workgroup INBO로 변경

사용자정의 섹션인 [Share]에서는 공유경로, 쓰기허용 기본 0777 허용유저 sambagrup인 것을 확인

5

서버구성

6) SAMBA Server

sambaGroup 생성 여부 확인

```
[root@server-3 ~]# cat /etc/group | grep samba
sambaGroup:x:1014:ksh
[root@server-3 ~]#
```

현재 공유 디렉토리 확인

/share가 공유

```
10월 14일 19 : 56
root@server-3:~

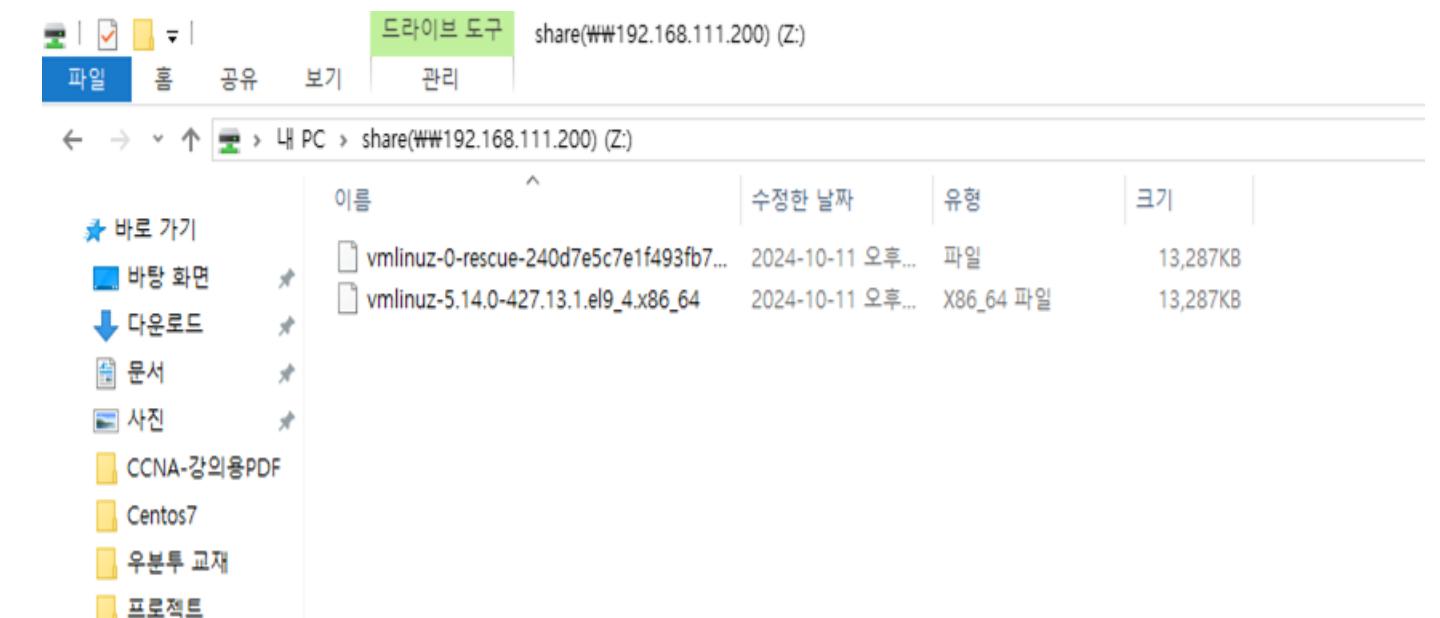
[root@server-3 ~]# smbstatus
Samba version 4.19.4
PID Username Group Machine Protocol Version Encryption Signing
41065 ksh krsoccer 192.168.111.1 (ipv4:192.168.111.1:52492) SMB3_11 - partial(AES-128-CMAC)

Service pid Machine Connected at Encryption Signing
Share 41065 192.168.111.1 금 10월 11 13시 42분 54초 2024 KST -
Locked files:
Pid User(ID) DenyMode Access R/W Oblock SharePath Name Time
41065 1001 DENY_NONE 0x100080 RDONLY NONE /share . Fri Oct 11 13:42:54 2024
[root@server-3 ~]#
```

```
[root@server-3 ~]# sestatus
SELinux status: enabled
SELinuxfs mount: /sys/fs/selinux
SELinux root directory: /etc/selinux
Loaded policy name: targeted
Current mode: enforcing
Mode from config file: enforcing
Policy MLS status: enabled
Policy deny_unknown status: allowed
Memory protection checking: actual (secure)
Max kernel policy version: 33
[root@server-3 ~]#
```

selinux
사용여부 확인

```
[root@server-3 ~]# getenforce
Enforcing
[root@server-3 ~]#
```



서버 3의 공유디렉토리(/share) 내부와 동일

7) DHCP Server

dhcp서버 설치 여부 확인

현재 활동 터미널

```
[root@server-3 ~]# rpm -qa dhcp-server
dhcp-server-4.4.2-19.b1.el9.x86_64
[root@server-3 ~]#
```

현재 활동 터미널

```
[root@server-3 ~]# systemctl status dhcpcd
● dhcpcd.service - DHCPv4 Server Daemon
  Loaded: loaded (/usr/lib/systemd/system/dhcpcd.service; enabled; preset: disabled)
  Active: active (running) since Mon 2024-10-14 20:15:37 KST; 10min ago
    Docs: man:dhcpcd(8)
          man:dhcpcd.conf(5)
   Main PID: 1164 (dhcpcd)
     Status: "Dispatching packets..."
      Tasks: 1 (limit: 22836)
     Memory: 11.7M
        CPU: 113ms
       CGroup: /system.slice/dhcpcd.service
               └─1164 /usr/sbin/dhcpcd -f -cf /etc/dhcp/dhcpcd.conf -user dhcpcd -group dhcpcd --no-pid
```

dhcp서비스 기동 여부

현재 활동 터미널

```
[root@server-3 ~]# firewall-cmd --list-all
public (active)
  target: default
  icmp-block-inversion: no
  interfaces: ens160
  sources:
  services: cockpit dhcp dhcpcv6-client samba samba-client ssh
  ports:
  protocols:
  forward: yes
  masquerade: no
  forward-ports:
  source-ports:
  icmp-blocks:
  rich rules:
[root@server-3 ~]#
```

방화벽 dhcp 허가 여부 확인

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서버구성

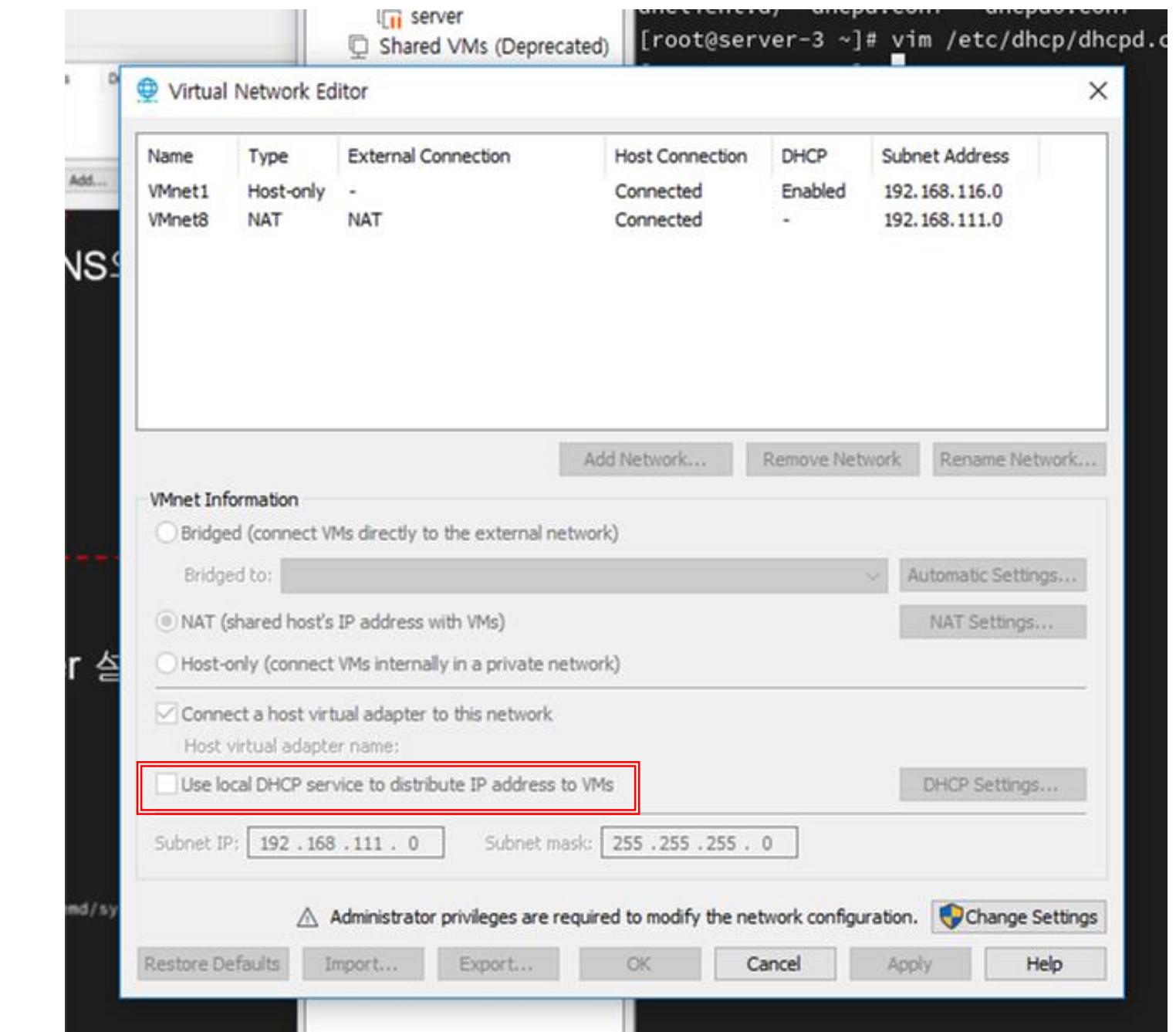
7) DHCP Server

```

ddns-update-style interim;
subnet 192.168.111.0 netmask 255.255.255.0 {
    option routers 192.168.111.2 ;
    option subnet-mask 255.255.255.0 ;
    range dynamic-bootp 192.168.111.55 192.168.111.99 ;
    option domain-name-servers 8.8.8.8 ;
    default-lease-time 10000 ;
    max-lease-time 50000 ;
}

```

ip 할당 범위가 192.168.111.55~99 인것을 확인



vmware 네트워크 설정 편집

vnet8 -> vmware 를 통한 dhcp 할당 취소

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서버구성

8) Mail Server

메일 서버 서비스 설치 여부 확인

```
[root@server-3 named]# rpm -qa sendmail
sendmail-8.16.1-11.el9.x86_64
[root@server-3 named]#
```

```
[root@server-3 named]# systemctl status sendmail
● sendmail.service - Sendmail Mail Transport Agent
   Loaded: loaded (/usr/lib/systemd/system/sendmail.service; enabled; preset: disabled)
   Active: active (running) since Mon 2024-10-14 20:41:10 KST; 19min ago
     Main PID: 4439 (sendmail)
        Tasks: 1 (limit: 22836)
       Memory: 4.8M
          CPU: 196ms
         CGroup: /system.slice/sendmail.service
             └─4439 "sendmail: accepting connections"

Oct 14 20:41:10 server-3 named[4439]:
```

서비스 정상 작동 확인 enabled active

현재 활동 터미널

```
[root@server-3 named]# firewall-cmd --list-all
public (active)
  target: default
  icmp-block-inversion: no
  interfaces: ens160
  sources:
  services: cockpit dhcpv6-client imap mountd nfs pop3 rpc-bind smtp ssh
  ports:
  protocols:
  forward: yes
  masquerade: no
  forward-ports:
  source-ports:
  icmp-blocks:
  rich rules:
[root@server-3 named]#
```

방화벽 허가 여부 확인

```
include "/etc/named.rfc1912.zones";
include "/etc/named.root.key";
zone "frontss.com"{
    type master;
    file "/var/named/frontss.com.db";
};
```

mail서버 존파일 /var/named/frontss.com.db 확인 가능

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서버구성

8) Mail Server

named.conf 오류없음

```
[root@server-3 named]# vim /etc/named.conf
[root@server-3 named]# named-checkconf
[root@server-3 named]#
```

존 파일 설정 확인

```
$TTL 3H
@ SOA e. root. ( 2 1D 1H 1W 1H )
IN NS e.
IN A 192.168.111.200
IN MX 10 mail.frontss.com.

mail IN A 192.168.111.200
~
```

존파일 설정 오류 없음

```
[root@server-3 named]# named-checkzone frontss.com /var/named/frontss.com.db
zone frontss.com/IN: loaded serial 2
OK
[root@server-3 named]#
```

192.168.111 대역의 접속허가 (RELAY)

```
# Check the /usr/share/doc/sendmail/README.cf file for a description
# of the format of this file. (search for access_db in that file)
# The /usr/share/doc/sendmail/README.cf is part of the sendmail-doc
# package.
#
# If you want to use AuthInfo with "M:PLAIN LOGIN", make sure to have the
# cyrus-sasl-plain package installed.
#
# By default we allow relaying from localhost...
Connect:localhost.localdomain RELAY
Connect:localhost RELAY
Connect:127.0.0.1 RELAY
frontss.com 192.168.111 RELAY
```

8) Mail Server

메일서버주소 mail 전용 alias 설정

```
# local-host-names - include all aliases for your machine here.

mail.frontss.com

# file containing names of hosts for which we receive email
Fw/etc/mail/local-host-names

# my official domain name
# ... define this only if sendmail cannot automatically determine your domain
```

cw : 호스트 명시

fw : forward(해당 파일을 사용하겠다)

```
260 # verify RHS in newaliases?
261 O CheckAliases=False
262
263 # default messages to old style headers if no special punctuation?
264 O OldStyleHeaders=True
265
266 # SMTP daemon options
267
268 O DaemonPortOptions=Port=smtp, Name=MTA
269
270 # SMTP client options
271 #O ClientPortOptions=Family=inet, Address=0.0.0.0
272
273 # Modifiers to define {daemon_flags} for direct submissions
274 #O DirectSubmissionModifiers
275
```

smtp 프로토콜 관련 설정

5

서버구성

ping dig nslookup 결과 성공적으로
마스턴네임서버에
mail.frontss.com이 명시된 것을 확인

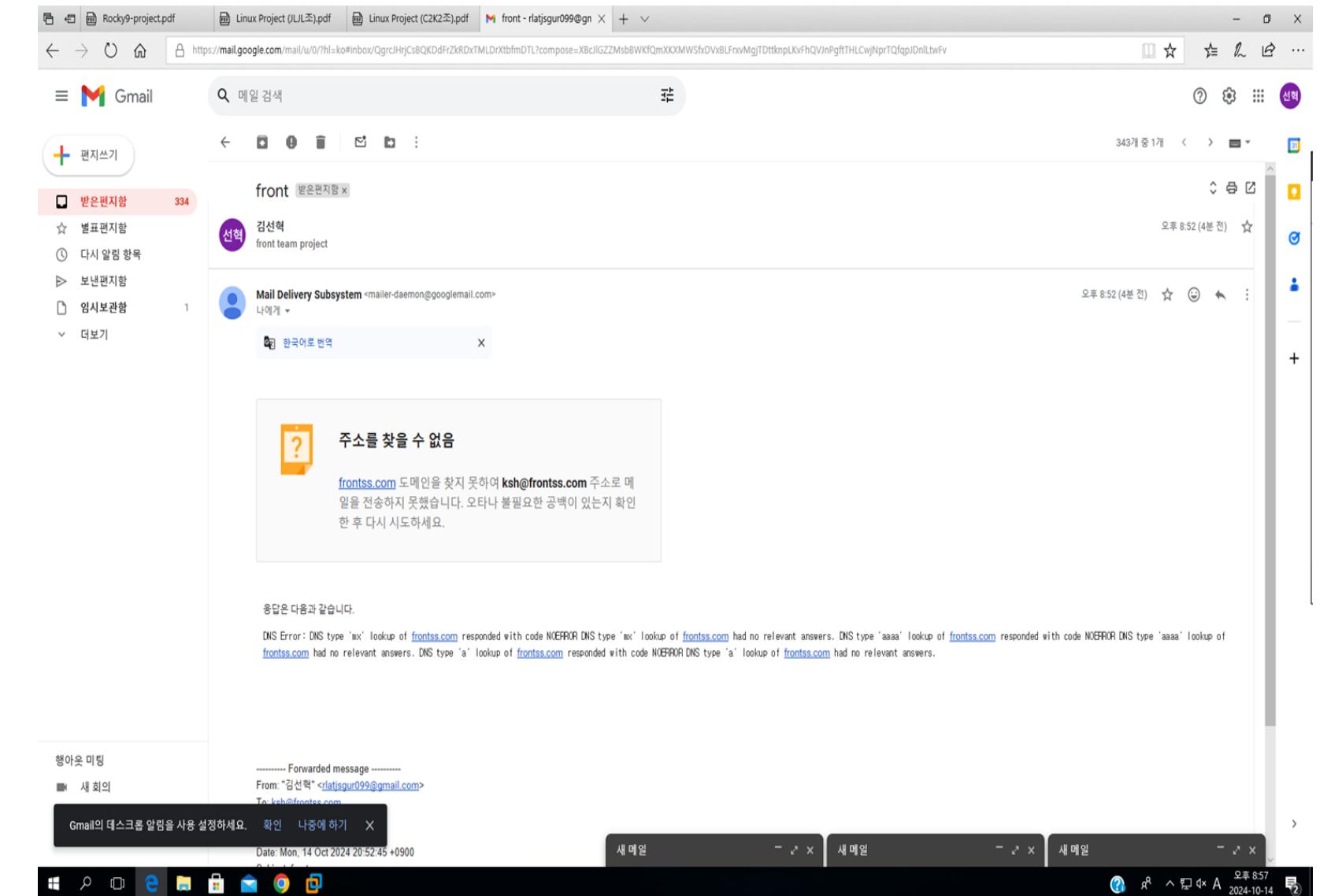
8) Mail Server

```
[root@server-3 named]# ping mail.frontss.com
PING mail.frontss.com (192.168.111.200) 56(84) bytes of data.
64 bytes from mail.frontss.com (192.168.111.200): icmp_seq=1 ttl=64 time=0.034 ms
64 bytes from mail.frontss.com (192.168.111.200): icmp_seq=2 ttl=64 time=0.061 ms
64 bytes from mail.frontss.com (192.168.111.200): icmp_seq=3 ttl=64 time=0.046 ms

[root@server-3 named]# dig mail.frontss.com
; <>> _DIG_ 9.16.23-RH <>> mail.frontss.com
;; global options: +cmd
;; Got answer:
;; ->>HEADER<- opcode: QUERY, status: NOERROR, id: 62325
;; flags: qr aa rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 1
;;
;; OPT PSEUDOSECTION:
;; EDNS: version: 0, flags:; udp: 1232
;; COOKIE: 70ba83d91b87a0d01000000670d09891eb2d7c447d6621b (good)
;; QUESTION SECTION:
;mail.frontss.com.           IN      A
;;
;; ANSWER SECTION:
mail.frontss.com.    10800   IN      A       192.168.111.200
;;
;; Query time: 0 msec
;; SERVER: 192.168.111.200#53(192.168.111.200)
;; WHEN: Mon Oct 14 21:07:37 KST 2024
;; MSG SIZE rcvd: 89

[root@server-3 named]#
[root@server-3 named]# nslookup mail.frontss.com
Server:      192.168.111.200
Address:     192.168.111.200#53
Name: mail.frontss.com
Address: 192.168.111.200

[root@server-3 named]#
```



메일주소는 수신은 안되었으나 전송됨을 확인 가능

9) DB

마리아db(server client) 성공적으로 설치

```
[root@server-3 ~]# rpm -qa mariadb-server mariadb
mariadb-10.5.22-1.el9_2.x86_64
mariadb-server-10.5.22-1.el9_2.x86_64
[root@server-3 ~]#
```

```
[root@server-3 ~]# systemctl status mariadb
● mariadb.service - MariaDB 10.5 database server
  Loaded: loaded (/usr/lib/systemd/system/mariadb.service; enabled; preset: disabled)
  Active: active (running) since Mon 2024-10-14 20:51:32 KST; 22min ago
    Docs: man:mariadb(8)
          https://mariadb.com/kb/en/library/systemd/
   Main PID: 6527 (mariadbd)
     Status: "Taking your SQL requests now..."
      Tasks: 10 (limit: 22836)
     Memory: 77.4M
        CPU: 533ms
       CGroup: /system.slice/mariadb.service
                 └─6527 /usr/libexec/mariadbd --basedir=/usr
```

마리아 db구동 (active enabled)

```
[root@server-3 ~]# firewall-cmd --list-all
public (active)
  target: default
  icmp-block-inversion: no
  interfaces: ens160
  sources:
  services: cockpit dhcp dhcpcv6-client samba samba-client ssh
  ports: 3306/tcp
  protocols:
  forward: yes
  masquerade: no
  forward-ports:
  source-ports:
  icmp-blocks:
  rich rules:
[root@server-3 ~]#
```

mysql포트인 3306/tcp가 방화벽 허가됨을 확인

9) DB

```

[root@server-3 ~]# mysql -u root -p 1234
Enter password:
ERROR 1049 (42000): Unknown database '1234'
[root@server-3 ~]# mysql -u root -p
Enter password:
Welcome to the MariaDB monitor. Commands end with ; or \g.
Your MariaDB connection id is 13
Server version: 10.5.22-MariaDB MariaDB Server

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MariaDB [(none)]> SHOW DATABASES
    --> Ctrl-C -- exit!
Aborted
[root@server-3 ~]# mysql -u root -p 1234
Enter password:
ERROR 1049 (42000): Unknown database '1234'
[root@server-3 ~]# mysql -u root -p
Enter password:
Welcome to the MariaDB monitor. Commands end with ; or \g.
Your MariaDB connection id is 15
Server version: 10.5.22-MariaDB MariaDB Server

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MariaDB [(none)]> SHOW DATABASES;
+-----+
| Database      |
+-----+
| information_schema |
| mysql          |
| performance_schema |
| shopping_db    |
+-----+
4 rows in set (0.000 sec)

MariaDB [(none)]>

```

mysql 접속 성공(root)

shoppingdb_ 성공적으로 작성됨을 확인

```

[root@server-1 ~]# mysql -h 192.168.111.200 -u root -p
Enter password:
ERROR 1045 (28000): Access denied for user 'root'@'192.168.111.100' (using password: YES)
[root@server-1 ~]# history | grep mysql
204 mysql
206 mysql -h 192.168.111.200 -u root -p
207 history | grep mysql
208 mysql -h 192.168.111.150 -u root -p
209 mysql -h 192.168.111.200 -u root -p
210 history | grep mysql
[root@server-1 ~]# history | grep mysql
204 mysql
206 mysql -h 192.168.111.200 -u root -p
207 history | grep mysql
208 mysql -h 192.168.111.150 -u root -p
209 mysql -h 192.168.111.200 -u root -p
210 history | grep mysql
[root@server-1 ~]# mysql -h 192.168.111.150 -u root -p
Enter password:
ERROR 2002 (HY000): Can't connect to MySQL server on '192.168.111.150' (115)
[root@server-1 ~]# mysql -h 192.168.111.200 -u root -p
Enter password:
Welcome to the MariaDB monitor. Commands end with ; or \g.
Your MariaDB connection id is 19
Server version: 10.5.22-MariaDB MariaDB Server

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MariaDB [(none)]> SHOW DATABASES;
+-----+
| Database      |
+-----+
| information_schema |
| mysql          |
| performance_schema |
| shopping_db    |
+-----+
4 rows in set (0.001 sec)

MariaDB [(none)]> use shopping_db;
Database changed
MariaDB [shopping_db]>

```

서버1(클라이언트) > 서버3(DB서버) 접속 성공

DB 조회 성공

Linux

2024.10.17

Thank you!

여기까지 읽어주셔서 감사합니다.

