컴퓨터네트워크

- 11. Router -

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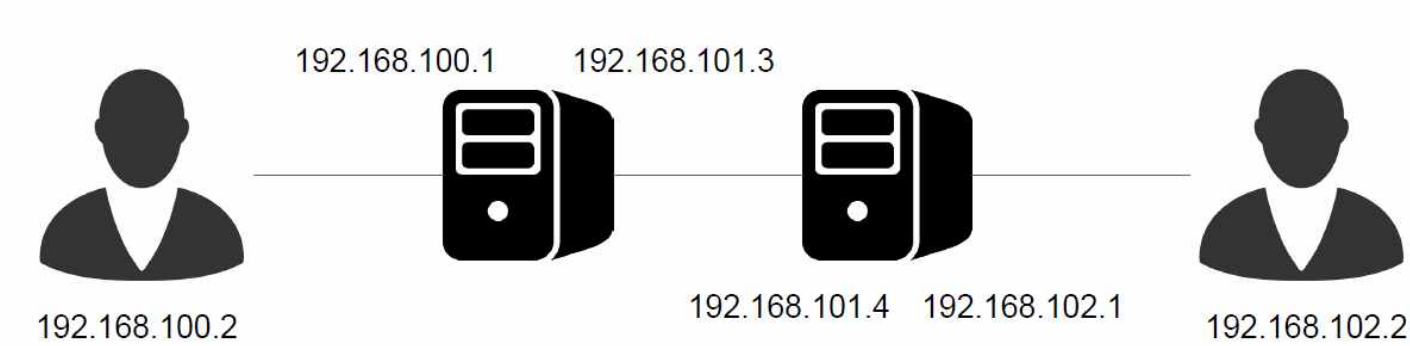
※ 과제 목표 및 해결 방법

· 과제 목표



host1에서 라우터 1과 2를 거쳐서 host2에게 핑을 보내고 반대로도 보내서 연결이 되는지 확인하는 과정을 보여주는 것이다.

· 해결 방법

※ vi /etc/network/interfaces

```
# interfaces(5) file used by ifup(8) and ifdown(8)
auto lo
iface lo inet loopback

auto eth0
iface eth0 inet dhcp

auto enp0s8
iface enp0s8 inet static
        address 192.168.100.2
        netmask 255.255.255.0
        gateway 192.168.100.1
```

[그림1]

```
# interfaces(5) file used by ifup(8) and ifdown(8)
auto lo
iface lo inet loopback

auto eth0
iface eth0 inet dhcp

auto enp0s8
iface enp0s8 inet static
        address 192.168.102.2
        netmask 255.255.255.0
        gateway 192.168.102.1
```

[그림2]

➔ host 1, host 2에 대한 ip 세팅이다.
gateway는 라우터와 host를 연결해서 하기 위한 것이다.

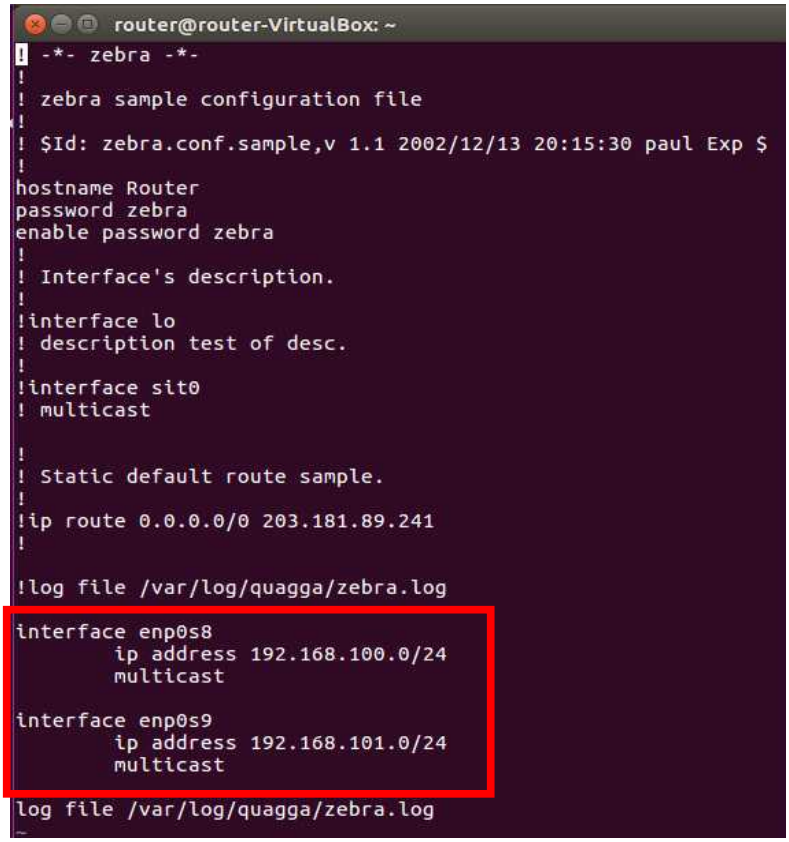
```
# interfaces(5) file used by ifup(8) and ifdown(8)
auto lo
iface lo inet loopback

auto eth0
iface eth0 inet dhcp

auto enp0s8
iface enp0s8 inet static
        address 192.168.100.1
        netmask 255.255.255.0

auto enp0s9
iface enp0s9 inet static
        address 192.168.101.3
        netmask 255.255.255.0
```

[그림3]

```
# interfaces(5) file used by ifup(8) and ifdown(8)
auto lo
iface lo inet loopback

auto eth0
iface eth0 inet dhcp

auto enp0s8
iface enp0s8 inet static
        address 192.168.101.4
        netmask 255.255.255.0

auto enp0s9
iface enp0s9 inet static
        address 192.168.102.1
        netmask 255.255.255.0
```

[그림4]

➔ router 1, router 2에 대한 ip 세팅이다.
router는 gateway가 필요없으므로 설정하지 않았다.



[그림3]

➔ **router 1의 zebra.conf 파일의 내용이다.**

```
! -*- ospf -*-
!
! OSPFd sample configuration file
!
!
hostname ospfd
password zebra
!enable password please-set-at-here
!
!router ospf
!  network 192.168.1.0/24 area 0
!
log stdout

interface enp0s8
        no ip ospf authentication-key
        ip ospf hello-interval 2
        ip ospf dead-interval 5

interface enp0s9
        no ip ospf authentication-key
        ip ospf hello-interval 2
        ip ospf dead-interval 5

router ospf
        network 192.168.100.0/24 area 0
        network 192.168.101.0/24 area 0

log file /var/log/quagga/ospfd.log
```

[그림4]

➔ **router 1의 ospfd.conf 파일의 내용이다.**

```
# This file tells the quagga package which daemons to start.
#
# Entries are in the format: <daemon>=(yes|no|priority)
#   0, "no"  = disabled
#   1, "yes" = highest priority
#   2 .. 10  = lower priorities
# Read /usr/share/doc/quagga/README.Debian for details.
#
# Sample configurations for these daemons can be found in
# /usr/share/doc/quagga/examples/.
#
# ATTENTION:
#
# When activation a daemon at the first time, a config file, even if it is
# empty, has to be present *and* be owned by the user and group "quagga", else
# the daemon will not be started by /etc/init.d/quagga. The permissions should
# be u=rw,g=r,o=.
# When using "vtysh" such a config file is also needed. It should be owned by
# group "quaggavty" and set to ug=rw,o= though. Check /etc/pam.d/quagga, too.
#
# The watchquagga daemon is always started. Per default in monitoring-only but
# that can be changed via /etc/quagga/debian.conf.
#
zebra=yes
bgpd=no
ospfd=yes
ospf6d=no
ripd=no
ripngd=no
isisd=no
babeld=no
```

[그림5]

```
! -*- zebra -*-
!
! zebra sample configuration file
!
! $Id: zebra.conf.sample,v 1.1 2002/12/13 20:15:30 paul Exp $
!
hostname Router
password zebra
enable password zebra
!
! Interface's description.
!
!interface lo
! description test of desc.
!
!interface sit0
! multicast

!
! Static default route sample.
!
!ip route 0.0.0.0/0 203.181.89.241
!

!log file /var/log/quagga/zebra.log

interface enp0s8
        ip address 192.168.101.0/24
        multicast

interface enp0s9
        ip address 192.168.102.0/24
        multicast

log file /var/log/quagga/zebra.log
~
```

[그림6]

```
! -*- ospf -*-
!
! OSPFd sample configuration file
!
!
hostname ospfd
password zebra
!enable password please-set-at-here
!
!router ospf
!  network 192.168.1.0/24 area 0
!
log stdout

interface enp0s8
        no ip ospf authentication-key
        ip ospf hello-interval 2
        ip ospf dead-interval 5

interface enp0s9
        no ip ospf authentication-key
        ip ospf hello-interval 2
        ip ospf dead-interval 5

router ospf
        network 192.168.101.0/24 area 0
        network 192.168.102.0/24 area 0

log file /var/log/quagga/ospfd.log
~
```

[그림7]

➔ **router 1, router 2의 daemons 파일의 내용이다. zebra와 ospfd를 사용해서 yes로 설정하였다.**