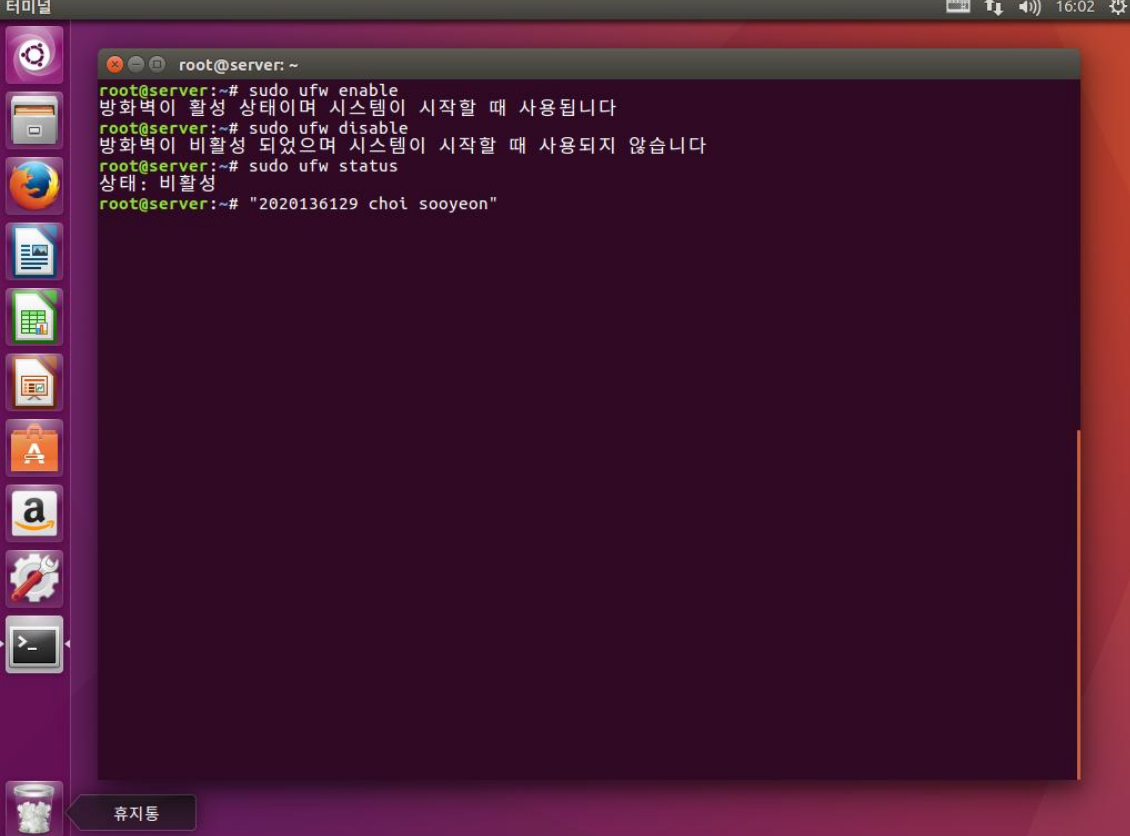


2020136129 최수연 컴퓨터공학입문 기말고사 실습시험 1~4번

1. 방화벽 활성화, 비활성화, 상태 확인하는 명령어를 입력하여 화면 캡처 후 한글 파일에 첨부.(3점)

A terminal window titled '터미널' (Terminal) is shown. The window has a dark purple background. The terminal text is as follows:

```
root@server: ~  
root@server:~# sudo ufw enable  
방화벽이 활성 상태이며 시스템이 시작할 때 사용됩니다  
root@server:~# sudo ufw disable  
방화벽이 비활성 되었으며 시스템이 시작할 때 사용되지 않습니다  
root@server:~# sudo ufw status  
상태: 비활성  
root@server:~# "2020136129 choi sooyeon"
```

The terminal window is part of a desktop environment with a purple sidebar on the left containing various application icons. At the bottom of the sidebar is a '휴지통' (Trash) icon. The top of the window shows system icons and the time '16:02'.

2. 자신의 이름과 학번 끝3자리(예:pjw001.kr)로 1개의 도메인을 구축하고 각각 1개의 호스트를 등록(DNS)하시오.(각 10점)

- rndc.conf를 이용하여 보안을 등록하시오.

The image consists of two screenshots of an Ubuntu desktop environment. The top screenshot shows a terminal window with the following commands and output:

```
root@server: ~  
ubuntu@server:~$ sudo bash  
[sudo] password for ubuntu:  
root@server:~# rndc-confgen > /etc/rndc.conf  
root@server:~# sudo gedit /etc/rndc.conf
```

The bottom screenshot shows the gedit editor editing the file /etc/rndc.conf. The content of the file is as follows:

```
# Start of rndc.conf  
key "rndc-key" {  
    algorithm hmac-md5;  
    secret "JMRsdvaxxzNrpwtqKPzDkg==";  
};  
  
options {  
    default-key "rndc-key";  
    default-server 127.0.0.1;  
    default-port 953;  
};  
# End of rndc.conf  
  
# Use with the following in named.conf, adjusting the allow list as needed:  
# key "rndc-key" {  
#     algorithm hmac-md5;  
#     secret "JMRsdvaxxzNrpwtqKPzDkg==";  
# };  
#  
# controls {  
#     inet 127.0.0.1 port 953  
#         allow { 127.0.0.1; } keys { "rndc-key"; };  
# };  
# End of named.conf
```

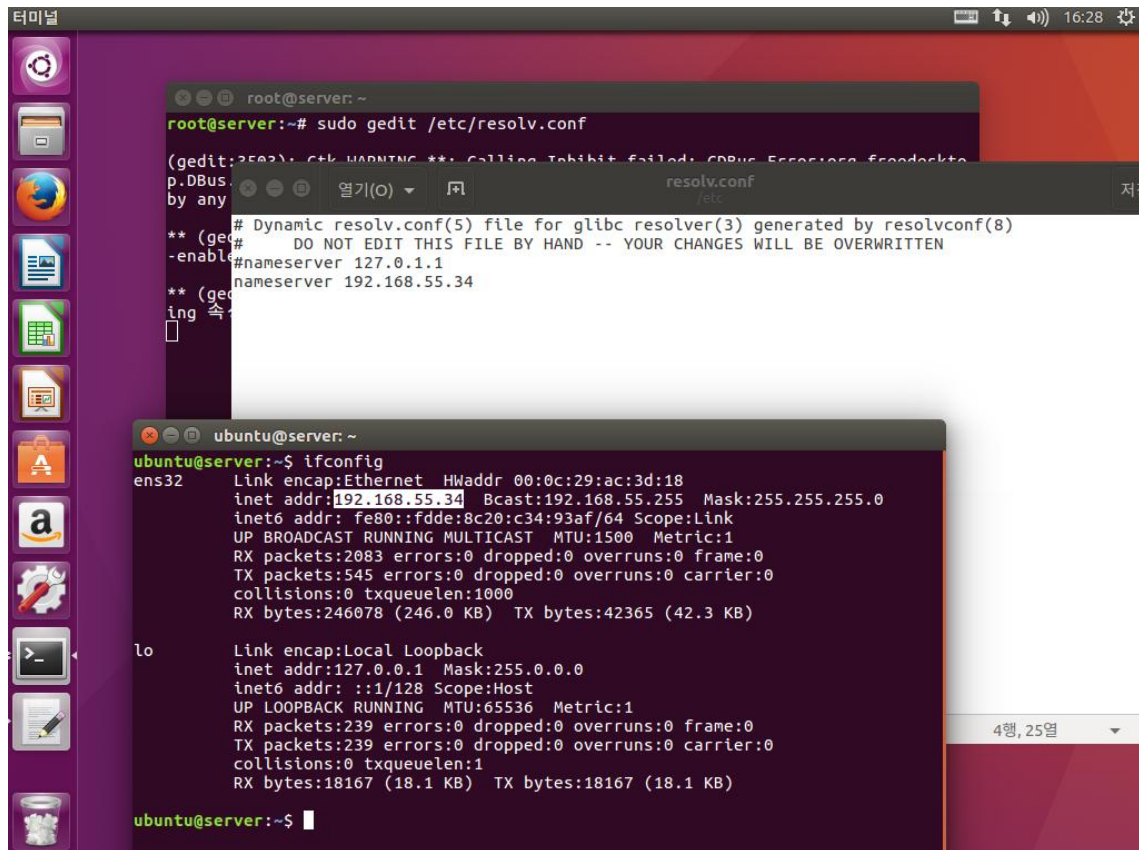
The bottom screenshot also shows a terminal window with the following commands and output:

```
root@server: ~  
root@server:~# sudo gedit /etc/bind/named.conf
```

The gedit editor shows the file /etc/bind/named.conf. The content of the file is as follows:

```
/*  
-enah  
ing  
** (// This is the primary configuration file for the BIND DNS server named.  
ing  
** (// Please read /usr/share/doc/bind9/README.Debian.gz for information on the  
-enah  
** (// structure of BIND configuration files in Debian, *BEFORE* you customize  
ing  
** (// this configuration file.  
ing  
** (// If you are just adding zones, please do that in /etc/bind/named.conf.local  
ing  
include "/etc/bind/named.conf.options";  
include "/etc/bind/named.conf.local";  
include "/etc/bind/named.conf.default-zones";  
  
# Use with the following in named.conf, adjusting the allow list as needed:  
key "rndc-key" {  
    algorithm hmac-md5;  
    secret "JMRsdvaxxzNrpwtqKPzDkg==";  
};  
  
controls {  
    inet 127.0.0.1 port 953  
        allow { 127.0.0.1; } keys { "rndc-key"; };  
};  
# End of named.conf
```

- ip는 local ip(192.168.xxx.yyy)로 각자 자신의 컴퓨터에 맞게 지정하기 바랍니다.



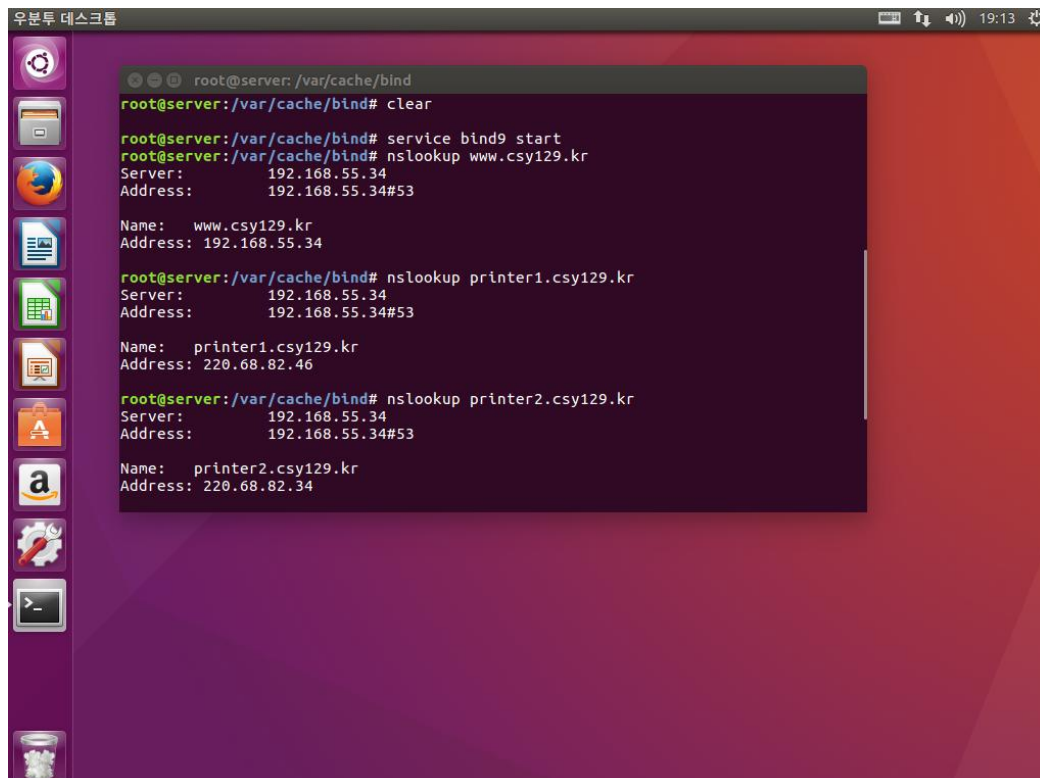
```
root@server:~# sudo gedit /etc/resolv.conf
(gedit:2502): Gtk-WARNING **: Calling Inhibit failed: GDBus.Error:org.freedesktop.DBus.Error:InhibitFailed
** (gedit:2502): DO NOT EDIT THIS FILE BY HAND -- YOUR CHANGES WILL BE OVERWRITTEN
# Dynamic resolv.conf(5) file for glibc resolver(3) generated by resolvconf(8)
# DO NOT EDIT THIS FILE BY HAND -- YOUR CHANGES WILL BE OVERWRITTEN
nameserver 127.0.1.1
nameserver 192.168.55.34

ubuntu@server:~$ ifconfig
ens32: Link encap:Ethernet HWaddr 00:0c:29:ac:3d:18
       inet addr:192.168.55.34 Bcast:192.168.55.255 Mask:255.255.255.0
       inet6 addr: fe80::fdde:8c20:c34:93af/64 Scope:Link
       UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
       RX packets:2083 errors:0 dropped:0 overruns:0 frame:0
       TX packets:545 errors:0 dropped:0 overruns:0 carrier:0
       collisions:0 txqueuelen:1000
       RX bytes:246078 (246.0 KB)  TX bytes:42365 (42.3 KB)

lo:    Link encap:Local Loopback
       inet addr:127.0.0.1 Mask:255.0.0.0
       inet6 addr: ::1/128 Scope:Host
       UP LOOPBACK RUNNING  MTU:65536  Metric:1
       RX packets:239 errors:0 dropped:0 overruns:0 frame:0
       TX packets:239 errors:0 dropped:0 overruns:0 carrier:0
       collisions:0 txqueuelen:1
       RX bytes:18167 (18.1 KB)  TX bytes:18167 (18.1 KB)

ubuntu@server:~$
```

- nslookup 또는 dig로 검색이 되어야 한다. 검색결과 화면 캡처해서 한글에 첨부.



```
root@server: /var/cache/bind
root@server:/var/cache/bind# clear
root@server:/var/cache/bind# service bind9 start
root@server:/var/cache/bind# nslookup www.csy129.kr
Server:      192.168.55.34
Address:     192.168.55.34#53

Name:   www.csy129.kr
Address: 192.168.55.34

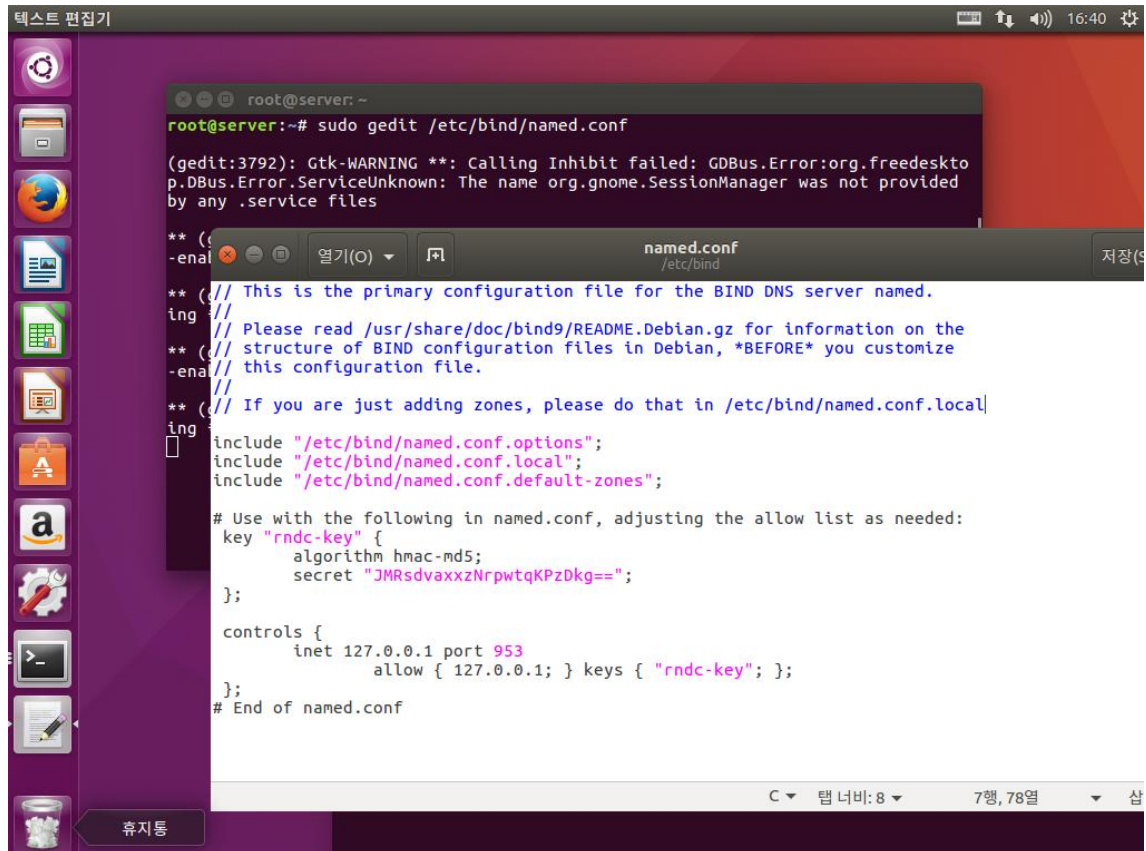
root@server:/var/cache/bind# nslookup printer1.csy129.kr
Server:      192.168.55.34
Address:     192.168.55.34#53

Name:   printer1.csy129.kr
Address: 220.68.82.46

root@server:/var/cache/bind# nslookup printer2.csy129.kr
Server:      192.168.55.34
Address:     192.168.55.34#53

Name:   printer2.csy129.kr
Address: 220.68.82.34
```

- /etc/bind/named.conf 파일을 한글 파일로 복사해서 첨부.



The screenshot shows a Linux desktop environment with a terminal window and a text editor. The terminal window displays the command `sudo gedit /etc/bind/named.conf` and the output of the command. The text editor window shows the contents of the `named.conf` file, which is a configuration file for the BIND DNS server. The file contains comments and configuration options for the server, including the `key` and `controls` sections.

```
root@server: ~
root@server:~# sudo gedit /etc/bind/named.conf

(gedit:3792): Gtk-WARNING **: Calling Inhibit failed: GDBus.Error:org.freedesktop.DBus.Error.ServiceUnknown: The name org.gnome.SessionManager was not provided by any .service files

** (
-ena
named.conf
/etc/bind
저장(S)

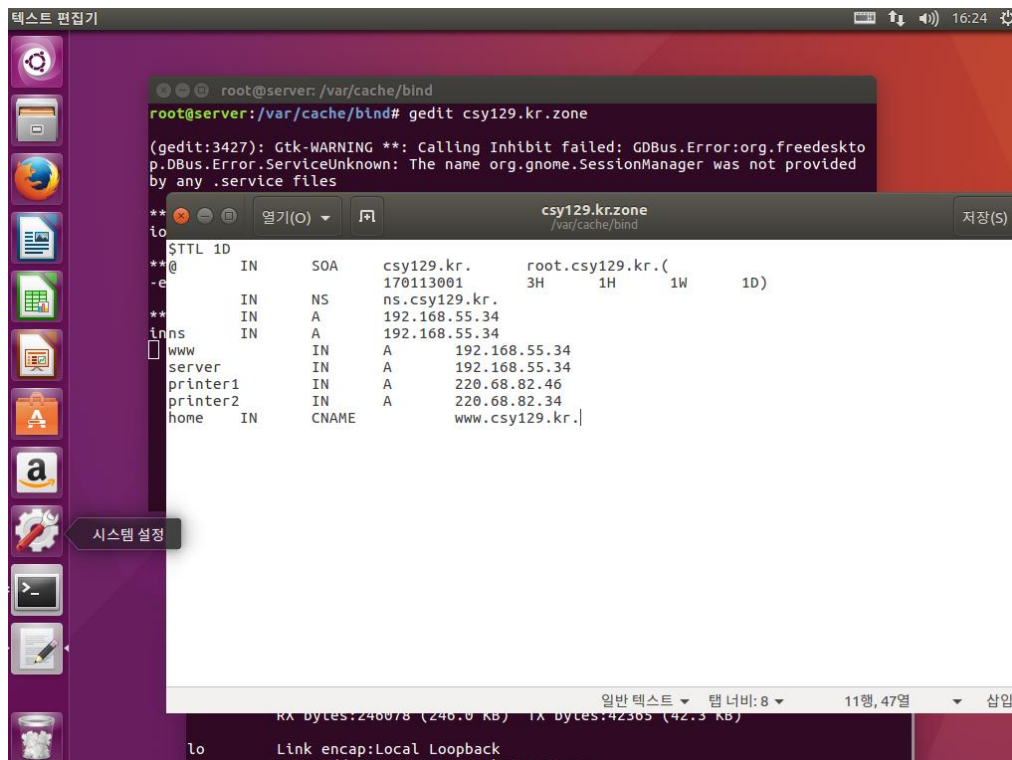
** (// This is the primary configuration file for the BIND DNS server named.
ing //
// Please read /usr/share/doc/bind9/README.Debian.gz for information on the
** (// structure of BIND configuration files in Debian, *BEFORE* you customize
-ena// this configuration file.
//
** (// If you are just adding zones, please do that in /etc/bind/named.conf.local
ing
include "/etc/bind/named.conf.options";
include "/etc/bind/named.conf.local";
include "/etc/bind/named.conf.default-zones";

# Use with the following in named.conf, adjusting the allow list as needed:
key "rndc-key" {
    algorithm hmac-md5;
    secret "JMRsdvaxxzNrpwtqKPzDkg==";
};

controls {
    inet 127.0.0.1 port 953
        allow { 127.0.0.1; } keys { "rndc-key"; };
};
# End of named.conf

C 탭 너비: 8 7행, 78열 삼
휴지등
```

- /var/cache/bind/pjw001.kr.zone 파일을 한글 파일로 복사해서 첨부.



The screenshot shows a Linux desktop environment with a terminal window and a text editor. The terminal window displays the command `gedit csy129.kr.zone` and the output of the command. The text editor window shows the contents of the `csy129.kr.zone` file, which is a zone file for the BIND DNS server. The file contains DNS records for the `csy129.kr` domain, including `SOA`, `NS`, `A`, and `CNAME` records.

```
root@server: /var/cache/bind
root@server:/var/cache/bind# gedit csy129.kr.zone

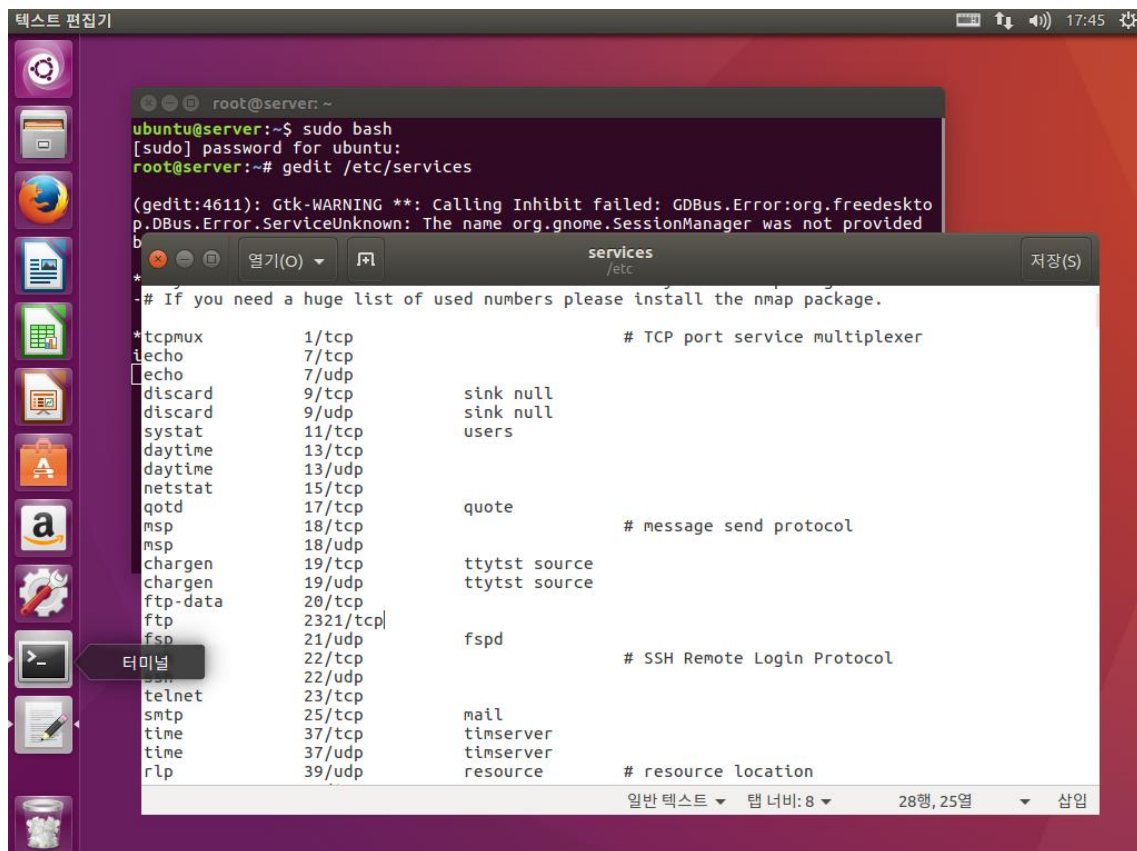
(gedit:3427): Gtk-WARNING **: Calling Inhibit failed: GDBus.Error:org.freedesktop.DBus.Error.ServiceUnknown: The name org.gnome.SessionManager was not provided by any .service files

** (
csy129.kr.zone
/var/cache/bind
저장(S)

** @
$TTL 1D
IN SOA csy129.kr. root.csy129.kr. (
-@ 170113001 3H 1H 1W 1D)
IN NS ns.csy129.kr.
** IN A 192.168.55.34
inns IN A 192.168.55.34
WWW IN A 192.168.55.34
server IN A 192.168.55.34
printer1 IN A 220.68.82.46
printer2 IN A 220.68.82.34
home IN CNAME www.csy129.kr.]

일반 텍스트 탭 너비: 8 11행, 47열 삼입
RX bytes:246078 (246.0 KB) TX bytes:42365 (42.3 KB)
Link encap:Local Loopback
inet addr:127.0.0.1 Mask:255.0.0.0
```

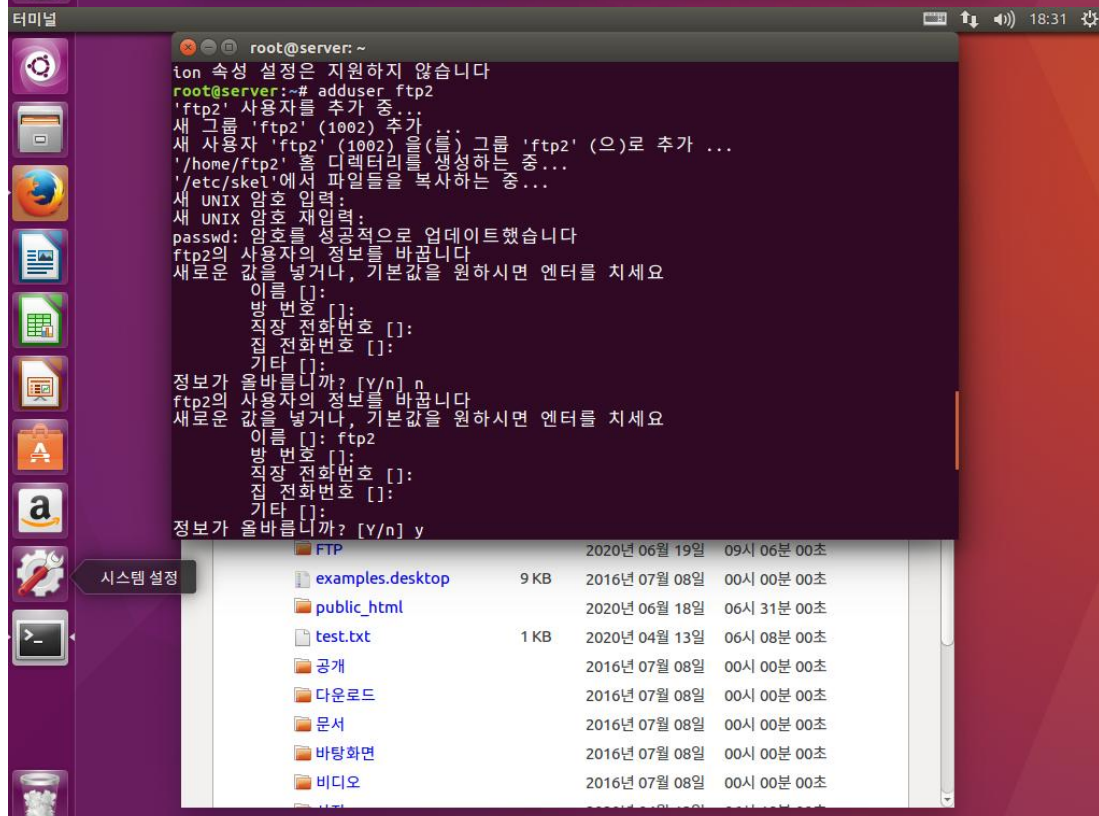
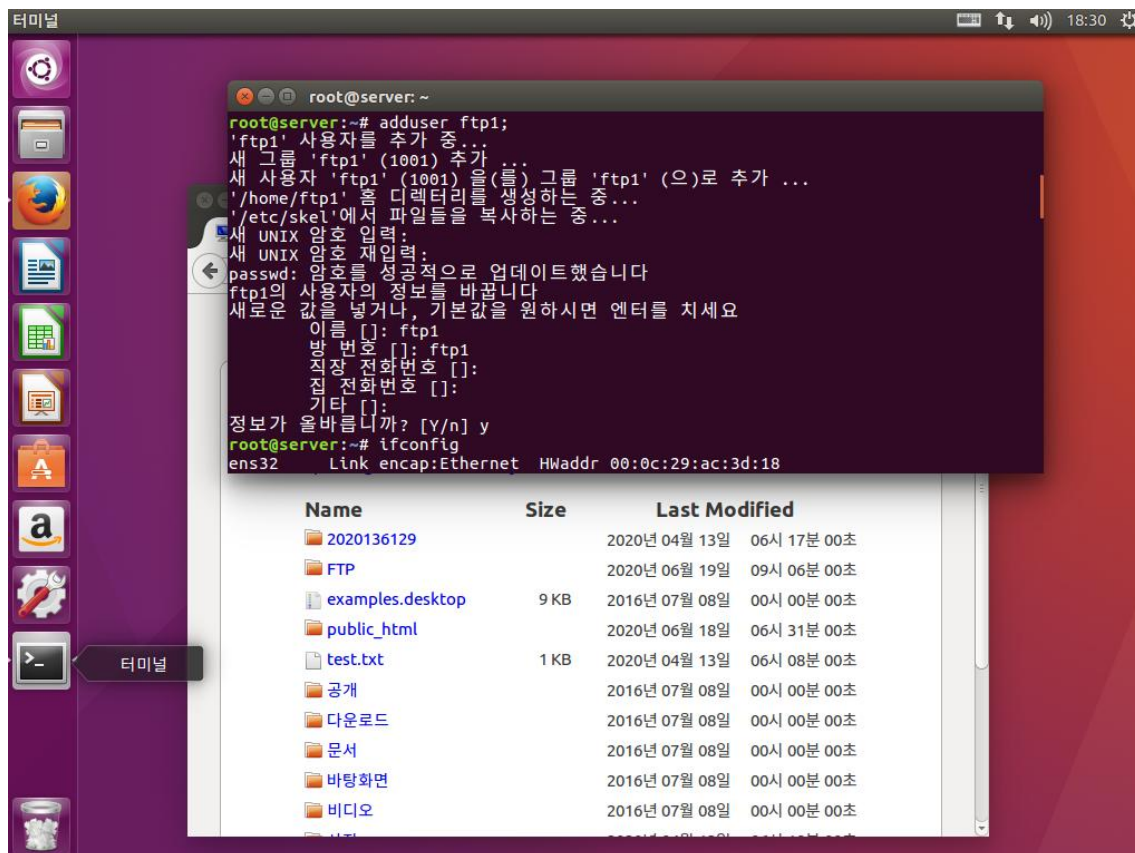

3. ftp 서버를 구축하고 11번에서 지정한 호스트 이름으로 접속이 되게 하시오.(총20점)
- ftp 서비스 포트를 2321번으로 변경하시오. (5점)

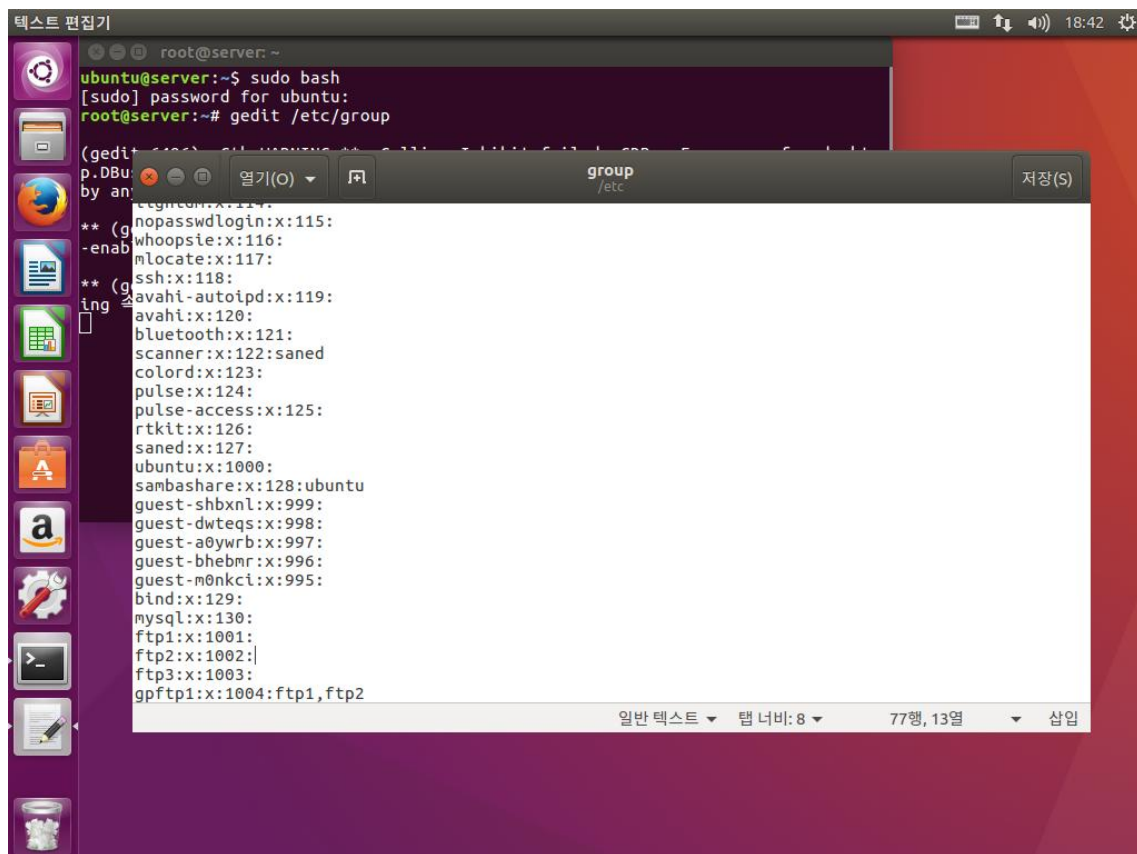


The screenshot shows a terminal window and a gedit editor window. The terminal window shows the user switching to root and editing the /etc/services file. The gedit window shows the contents of the /etc/services file, where the ftp service is configured to use port 2321/tcp.

```
root@server: ~  
ubuntu@server:~$ sudo bash  
[sudo] password for ubuntu:  
root@server:~# gedit /etc/services  
(gedit:4611): Gtk-WARNING **: Calling Inhibit failed: GDBus.Error:org.freedesktop.DBus.Error.ServiceUnknown: The name org.gnome.SessionManager was not provided  
b  
services  
/etc  
*  
-# If you need a huge list of used numbers please install the nmap package.  
*tcpmux          1/tcp                # TCP port service multiplexer  
echo             7/tcp  
echo             7/udp  
discard          9/tcp                sink null  
discard          9/udp                sink null  
sysstat          11/tcp               users  
daytime          13/tcp  
daytime          13/udp  
netstat          15/tcp  
qotd             17/tcp               quote  
msp              18/tcp                # message send protocol  
msp              18/udp  
chargen          19/tcp               ttytst source  
chargen          19/udp               ttytst source  
ftp-data         20/tcp  
ftp              2321/tcp  
fsp              21/udp               fspd  
telnet           22/tcp               # SSH Remote Login Protocol  
telnet           22/udp  
telnet           23/tcp  
smtp             25/tcp               mail  
time             37/tcp               timserver  
time             37/udp               timserver  
rlp              39/udp               resource  
# resource location  
일반 텍스트 ▼ 탭 너비: 8 ▼ 28행, 25열 ▼ 삼입
```

- ftp 사용자 3명(ftp1, ftp2, ftp3)을 추가(암호는 12341234로 통일)하고, gpftp1 그룹을 생성하여 멤버로 ftp1, ftp2를 지정하시오.(5점)



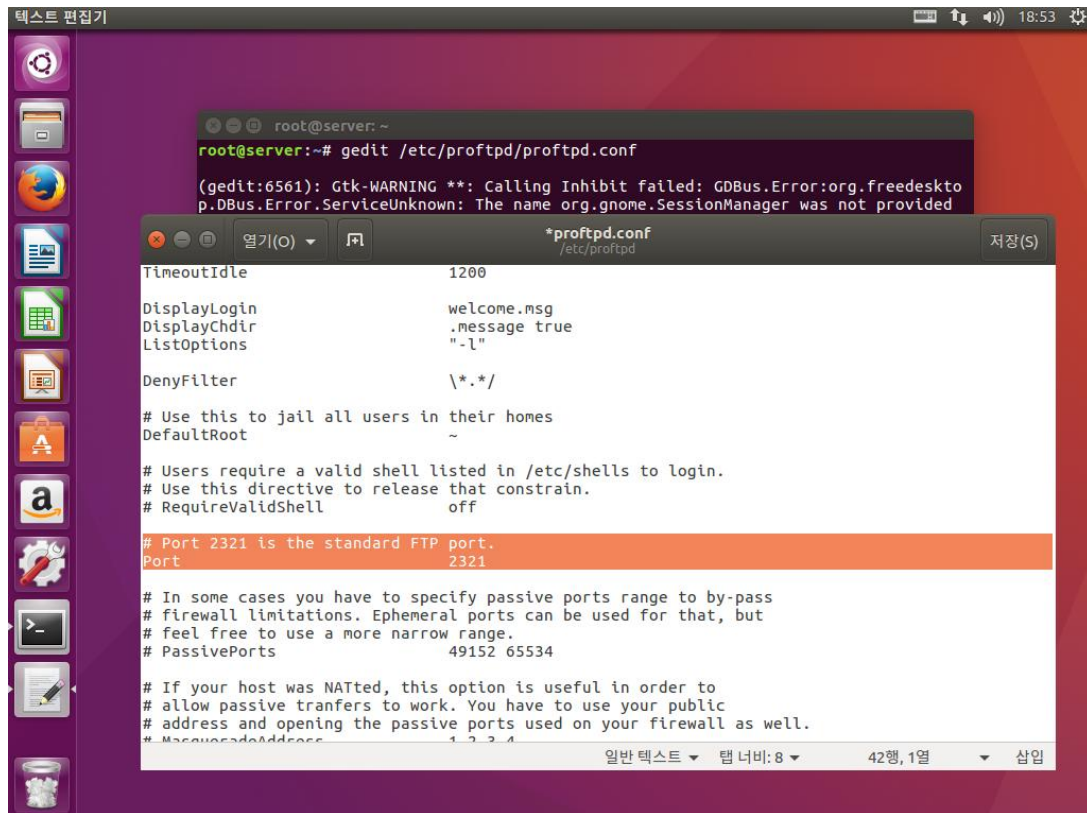


- gpftp1그룹은 filezilla로 접속하였을 때 최상위 디렉토리인 /를 포함하여 다른 디렉터리도 볼 수 있게 하시오.(5점)

앞에서 생성한 개인 사용자(ftp1,ftp2,ftp3 등)들이 개인 홈페이지를 운영할 수 있도록 하고 (5점)

사용자들의 홈디렉토리 아래에 있는 www 디렉토리가 홈페이지로(예: <http://www.pjw001.kr/~ftp1> 등) 사용 하시오.(5점)

- proftpd.conf 파일을 한글 파일로 복사해서 첨부.

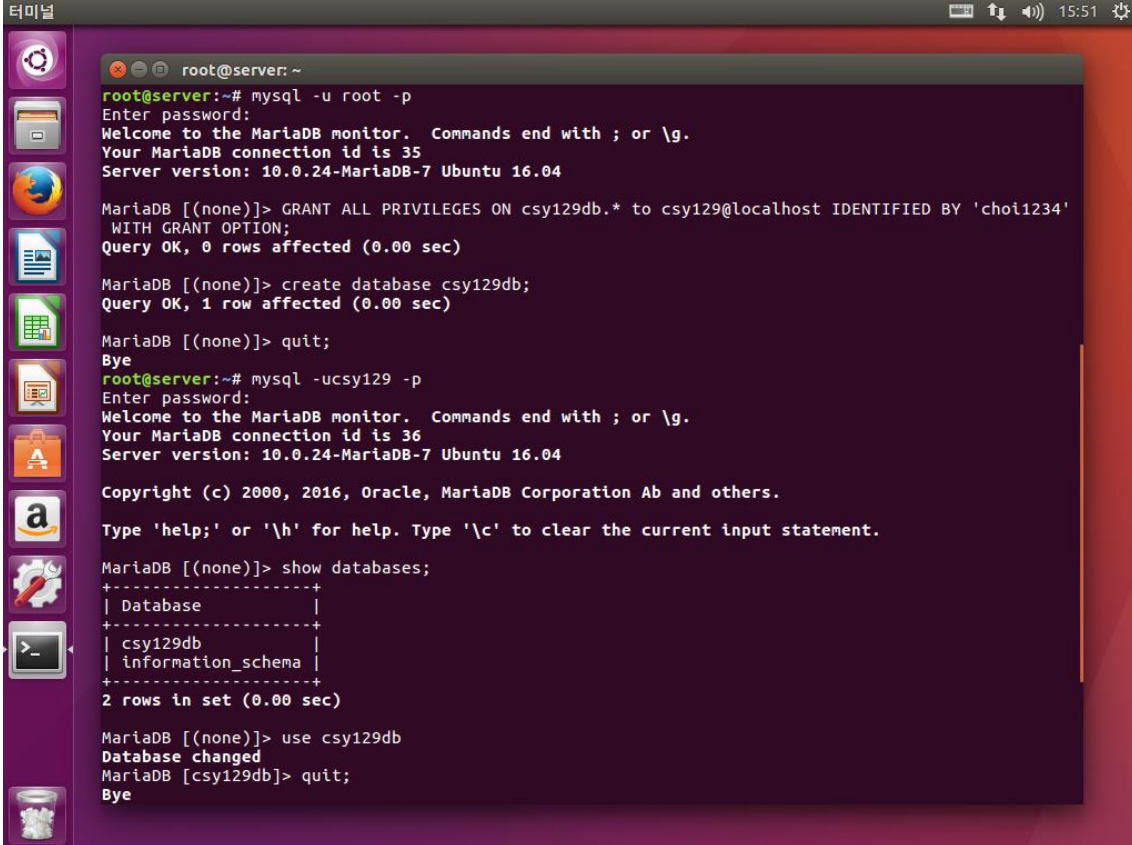


-수정한 웹서버 설정 파일들을 한글 파일로 복사해서 첨부.

4. 자신의 이름과 학번 끝3자리(예:pjw001.kr)

www.pjw001.kr 의 mariadb에 pjw001사용자를 등록하고 권한 설정(7점)

- \$mysql-upjw001-p를 사용하여 pjw001사용자로 접속
- mysql> show databases를 통하여 pjw001db가 보여야함
- 해당 결과 화면을 캡처하여 한글파일에 첨부

A terminal window titled '터미널' (Terminal) showing a series of commands and their outputs in a Linux environment. The user is root@server. The commands include connecting to MySQL as root, granting all privileges to a user 'csy129db.*', creating a database 'csy129db', and then connecting as 'ucsy129' to show the list of databases, which includes 'csy129db' and 'information_schema'.

```
root@server:~# mysql -u root -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 35
Server version: 10.0.24-MariaDB-7 Ubuntu 16.04

MariaDB [(none)]> GRANT ALL PRIVILEGES ON csy129db.* to csy129@localhost IDENTIFIED BY 'choi1234'
WITH GRANT OPTION;
Query OK, 0 rows affected (0.00 sec)

MariaDB [(none)]> create database csy129db;
Query OK, 1 row affected (0.00 sec)

MariaDB [(none)]> quit;
Bye
root@server:~# mysql -ucsy129 -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 36
Server version: 10.0.24-MariaDB-7 Ubuntu 16.04

Copyright (c) 2000, 2016, 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 |
+-----+
| csy129db |
| information_schema |
+-----+
2 rows in set (0.00 sec)

MariaDB [(none)]> use csy129db
Database changed
MariaDB [csy129db]> quit;
Bye
```