



구해 조!

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개요

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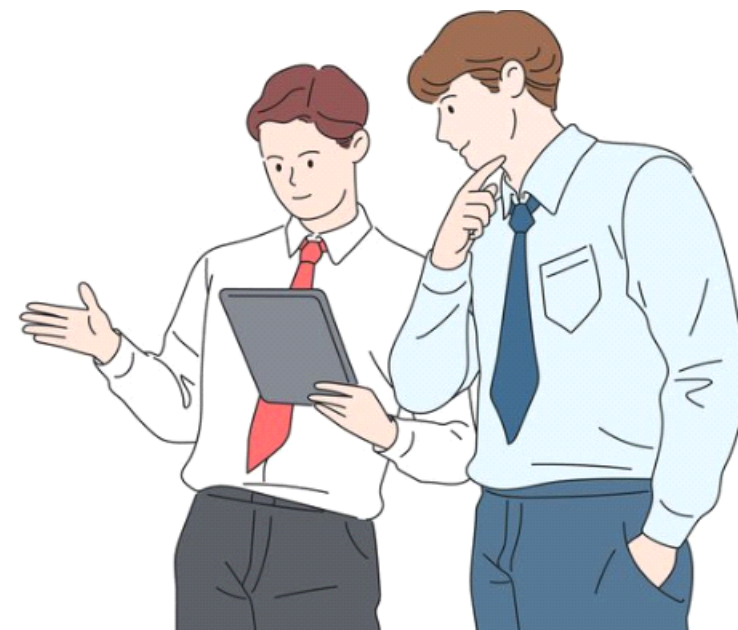
04. 사용 기술

「시나리오」

올해 6월 게임회사인 KH게임즈가 설립이 되었다 .

그러나 ...

보안 측면에서 미비점이 발견되어 보안 솔루션 회사인 '**PPKsecurity**' 에 보안 서버 구축을 요청하였다. 의뢰를 받은 '**PPKsecurity**'는 외부 접근에 방어할 수 있는 보안기능과 기본적인 서버의 기능을 제공하기로 한다.



「 개발 환경 및 사용 기술 」



- DB서버,
- DNS서버
- FTP서버
- DHCP서버
- WEB서버
- MAIL서버



- 부서별 pc 환경설정



- 네트워크 연결
- ACL설정
- VLAN설정
- 실제 네트워크 연결 및 서버 적용 시뮬레이션

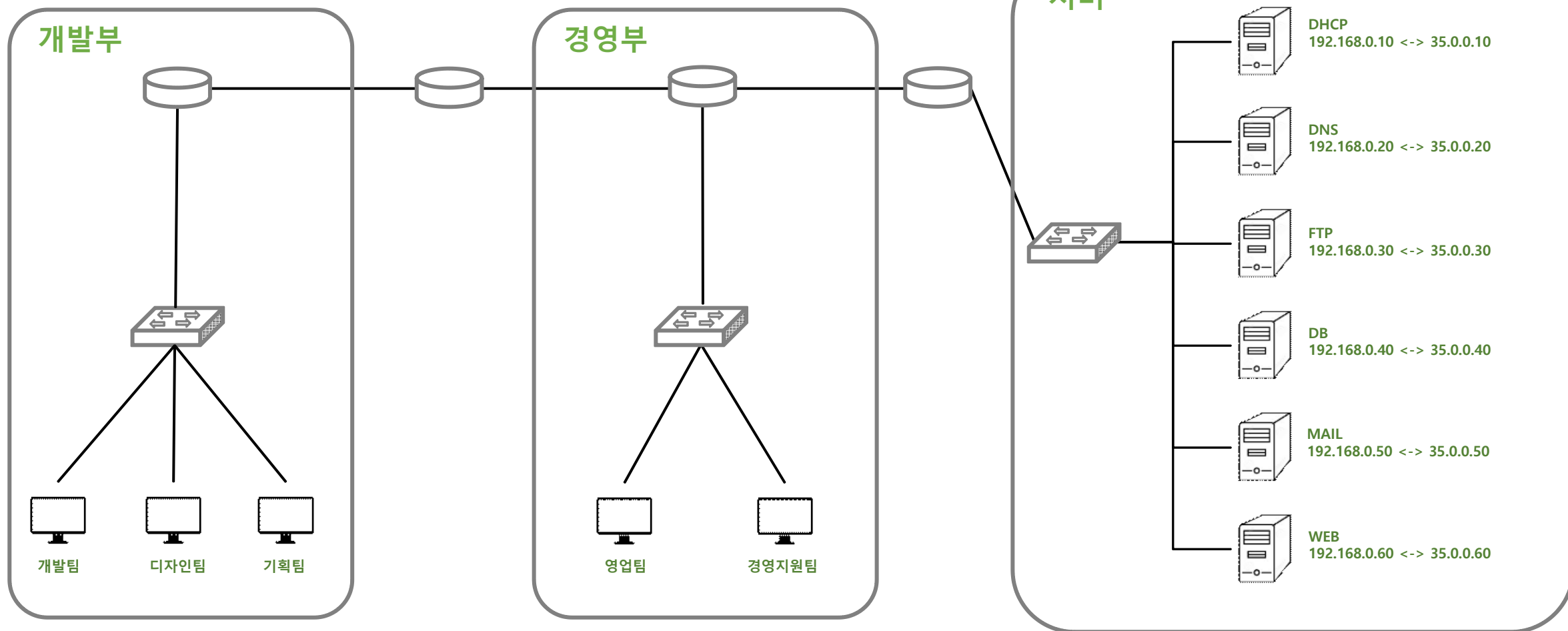
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토폴로지

개요

토폴로지

「 토폴로지의 구성 」



3

네트워크

01. NAT

02. VLAN

03. ACL

「네트워크 구성(NAT)」

-NAT 설정 : 외부망과 통신을 목적으로 NAT 설정

STATIC NAT 설정

```
(config)#ip nat inside source static 192.168.0.10 35.0.0.10
(config)#ip nat inside source static 192.168.0.20 35.0.0.20
(config)#ip nat inside source static 192.168.0.30 35.0.0.30

(config)#ip nat inside source static 192.168.0.40 35.0.0.40

(config)#ip nat inside source static 192.168.0.50 35.0.0.50

(config)#ip nat inside source static 192.168.0.60 35.0.0.60
```

외부 PC에서 통신 결과

```
C:\Users\Administrator>ping 35.0.0.10

Ping 35.0.0.10 32바이트 데이터 사용:
35.0.0.10의 응답: 바이트=32 시간=59ms TTL=62
35.0.0.10의 응답: 바이트=32 시간=35ms TTL=62
35.0.0.10의 응답: 바이트=32 시간=45ms TTL=62
35.0.0.10의 응답: 바이트=32 시간=51ms TTL=62

35.0.0.10에 대한 Ping 통계:
    패킷: 보냄 = 4, 받음 = 4, 손실 = 0 (0% 손실),
    왕복 시간<밀리초>:
        최소 = 35ms, 최대 = 59ms, 평균 = 47ms
```

「 네트워크 구성(VLAN)」

-VLAN 설정 : 네트워크 트래픽을 효율적으로 사용할 목적으로 설정

VLAN ACCESS 모드 설정

①

```
(config)#vlan 10
(config-vlan)#exit
(config)#vlan 20
(config-vlan)#exit
(config)#vlan 30
```

②

```
ESW2(config)#interface fastEthernet 1/0
ESW2(config-if)#switchport mode access
ESW2(config-if)#switchport access vlan 10
```

③

```
interface FastEthernet1/0
 switchport access vlan 10
!
interface FastEthernet1/1
 switchport access vlan 20
!
interface FastEthernet1/2
 switchport access vlan 30
!
```

설정 단계별 설명

①

SWICH에서 VLAN 영역 설정

②

VLAN ACCESS 모드 설정

③

show run 명령어로 설정 확인

네트워크 구성(VLAN)

-VLAN 설정 : 네트워크 트래픽을 효율적으로 사용할 목적으로 설정

VLAN TRUNK 모드 설정

①

```
ESW2(config)#interface fastEthernet 1/3
ESW2(config-if)#switchport mode trunk
ESW2(config-if)#switchport trunk allowed vlan all
```

②

```
ESW2#show interfaces fastEthernet 1/3 trunk
```

Port	Mode	Encapsulation	Status	Native vlan
Fal/3	on	802.1q	trunking	1

Port	Vlans allowed on trunk
Fal/3	1-4094

Port	Vlans allowed and active in management domain
Fal/3	1,10,20,30

Port	Vlans in spanning tree forwarding state and not pruned
Fal/3	1,10,20,30

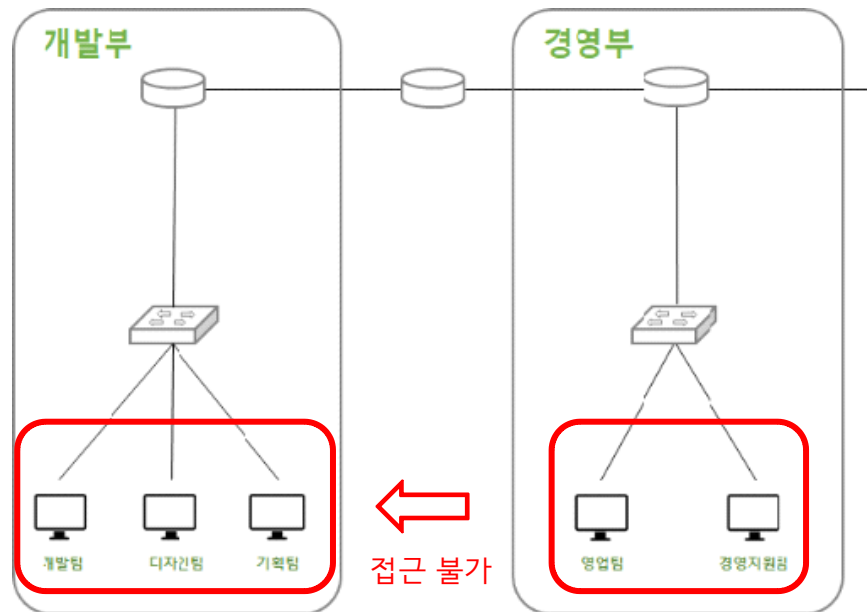
설정 단계별 설명

① VLAN TRUNK 모드 설정

② TRUNK 적용 확인

네트워크 구성(ACL)

-ACL 설정 : 경영부에서 개발부로 접근 제한 설정



30.30.30.0/24 대역의 경영부에서 10.10.10.0/26 대역의 개발부로 접근 제한 설정

```
access-list 101 deny ip 30.30.30.0 0.0.0.255 10.10.10.0 0.0.0.255  
access-list 101 permit ip any any
```

4

서버

01. DNS

02. DHCP

03. FTP

04. MAIL

05. DBMS

06. WEB

서버 구성(DNS)

1. DNS서비스를 위한 패키지 설치 및 환경 설정

→

```
[root@localhost named]# yum install bind*  
[root@localhost named]# service named start
```

2. Named.conf 파일 설정

→

```
options {  
    listen-on port 53 { any; };  
    listen-on-v6 port 53 { ::1; };  
    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";  
    allow-query { any; };  
    recursion yes;  
  
    dnssec-enable no;  
    dnssec-validation no;  
    dnssec-lookaside no;  
};
```

Any / no 변경

3. ppk.com.zone 파일 설정 및 생성

→

```
zone " ppk.com" IN {  
    type master;  
    file "ppk.com.zone";  
};
```

서버 구성(DNS)

4. ppk.com.zone

```
[root@localhost named] # cd /var/named/  
[root@localhost named] # ls  
chroot data dynamic named.ca named.empty named.localhost named.loopback  
[root@localhost named] # cp named.local ppk.com.zone  
[root@localhost named] # ls  
chroot data dynamic named.ca named.empty named.localhost named.loopback ppk.com.zone slaves
```


5. chown 명령어 사용하여 ppk.com.zone 파일 그룹 권한을 root -> named로 수정

```
[root@localhost named] # ls -l  
합계 36  
drwxr-x--- 6 root named 4096 2023-06-22 19:52 chroot  
drwxrwx--- 2 named named 4096 2023-06-25 03:39 data  
drwxrwx--- 2 named named 4096 2023-06-22 21:46 dynamic  
-rw-r----- 1 root named 2075 2014-04-23 21:57 named.ca  
-rw-r----- 1 root named 152 2009-12-15 21:27 named.empty  
-rw-r----- 1 root named 152 2007-06-21 19:09 named.localhost  
-rw-r----- 1 root named 168 2009-12-15 21:27 named.loopback  
-rw-r----- 1 root root 285 2023-06-22 21:44 ppk.com.zone  
drwxrwx--- 2 named named 4096 2016-03-16 22:25 slaves
```

```
[root@localhost named] # ls -l  
합계 36  
drwxr-x--- 6 root named 4096 2023-06-22 19:52 chroot  
drwxrwx--- 2 named named 4096 2023-06-25 03:39 data  
drwxrwx--- 2 named named 4096 2023-06-22 21:46 dynamic  
-rw-r----- 1 root named 2075 2014-04-23 21:57 named.ca  
-rw-r----- 1 root named 152 2009-12-15 21:27 named.empty  
-rw-r----- 1 root named 152 2007-06-21 19:09 named.localhost  
-rw-r----- 1 root named 168 2009-12-15 21:27 named.loopback  
-rw-r----- 1 root named 285 2023-06-22 21:44 ppk.com.zone  
drwxrwx--- 2 named named 4096 2016-03-16 22:25 slaves
```

서버 구성(DNS)


6. ppk.com.zone 파일 수정



```
$TTL 1D
@      IN SOA  ns.ppk.com. admin.ppk.com. (
                                0      ; serial
                                1D      ; refresh
                                1H      ; retry
                                1W      ; expire
                                3H      ; minimum
)

      NS   ns.ppk.com.
ns      A   192.168.0.20
ftp     A   192.168.0.30
www     A   192.168.0.60
dhcp    A   192.168.0.10
db      A   192.168.0.40
```

7. DNS service 실행



```
[root@localhost named]# nslookup
> server 192.168.0.20
Default server: 192.168.0.20
Address: 192.168.0.20#53
> www.ppk.com
Server:      192.168.0.20
Address:     192.168.0.20#53

Name:   www.ppk.com
Address: 192.168.0.60
```

nslookup 명령어를 사용하여 다른 서버에서 작동하는지 확인

서버 구성(DNS)

8. 개발부 pc에서 DNS 작동 확인



```
C:\Documents and Settings\test>nslookup
DNS request timed out.
    timeout was 2 seconds.
*** Can't find server name for address 35.0.0.20: Timed out
*** Default servers are not available
Default Server: UnKnown
Address: 35.0.0.20

> ns.ppk.com
Server: UnKnown
Address: 35.0.0.20

Name: ns.ppk.com
Address: 35.0.0.20
```

서버 구성(DHCP)

1. DHCP서비스를 위한 패키지 설치

```
➔ [root@localhost dhcp]# yum install dhcp  
[root@localhost dhcp]# service dhcpd start
```

2. dhcp.conf.sample 파일을 /etc/dhcp디렉터리 하위에 dhcp.conf로 복사

```
➔ [root@localhost ~]# cp /usr/share/doc/dhcp*/dhcpd.conf.sample /etc/dhcp/dhcpd.conf  
cp: overwrite '/etc/dhcp/dhcpd.conf'? y
```

3. 서버 및 각 팀별 Pool 생성

```
➔ # server  
subnet 192.168.0.0 netmask 255.255.255.0 {  
    range 192.168.0.1 192.168.0.253;  
    option domain-name-servers 35.0.0.20;  
    option domain-name "ns.ppk.com";  
    option routers 192.168.0.254;  
    option broadcast-address 192.168.0.255;  
    default-lease-time 600;  
    max-lease-time 7200;  
}
```

```
# dev  
subnet 10.10.10.0 netmask 255.255.255.192 {  
    range 10.10.10.1 10.10.10.5;  
    option domain-name-servers 35.0.0.20;  
    option domain-name "dev";  
    option routers 10.10.10.62;  
    option broadcast-address 10.10.10.63;  
    default-lease-time 600;  
    max-lease-time 7200;  
}
```

서버 구성(DHCP)

4. VLAN을 설정한 스위치와 연결된 라우터에 ip helper-address 설정

➔

```
R7(config)#interface fastEthernet 0/0.10
R7(config-subif)#ip helper-address 35.0.0.10
```

5. 개발부에 속한 개발팀 PC에 IP 동적할당 확인

➔

```
C:\Documents and Settings\test>ipconfig /all

Windows IP Configuration

    Host Name . . . . . : parkhalin
    Primary Dns Suffix . . . . . :
    Node Type . . . . . : Unknown
    IP Routing Enabled. . . . . : No
    WINS Proxy Enabled. . . . . : No
    DNS Suffix Search List. . . . . : dev

Ethernet adapter 로컬 영역 연결:

    Connection-specific DNS Suffix . : dev
    Description . . . . . : VMware Accelerated AMD PCNet Adapter
    Physical Address. . . . . : 08-0C-29-62-4A-7E
    Dhcp Enabled. . . . . : Yes
    Autoconfiguration Enabled . . . . : Yes
    IP Address. . . . . : 10.10.10.1
    Subnet Mask . . . . . : 255.255.255.192
    Default Gateway . . . . . : 10.10.10.62
    DHCP Server . . . . . : 192.168.0.10
    DNS Servers . . . . . : 35.0.0.20
    Lease Obtained. . . . . : 2023년 6월 24일 토요일 오후 11:47:23
    Lease Expires . . . . . : 2023년 6월 24일 토요일 오후 11:57:23
```

서버 구성(FTP)

1. FTP서비스를 위한 패키지 설치

```
➔ [root@localhost 바탕화면]# yum install vsftpd  
[root@localhost 바탕화면]# service vsftpd start
```

2. 상위경로 이동은 관리자만 가능한 환경설정

```
➔ # directory. If chroot_local_user is YES, then this  
# users to NOT chroot().  
chroot_local_user=YES  
chroot_list_enable=YES  
# (default follows)  
chroot_list_file=/etc/vsftpd/chroot_list  
#  
# Allow anonymous FTP? (Beware - allowed by default if you comment this out).  
anonymous_enable=NO
```

익명접속 금지

3. 상위 이동 관리자 수정 및 변경

```
➔ 파일(F) 편집(E) 보기(V) 검색(S) 터미널(T) 도  
dev
```

서버 구성(FTP)

4. 디렉터리 소유권 및 허가권 설정

→

drwxrw----	2	dev	public	4096	2023-06-25	22:17	dev_info_dir1
drwxrwx---	2	dev	dev_plan	4096	2023-06-25	22:17	dev_info_dir2
drwxrw----	2	dev	root	4096	2023-06-25	10:25	dev_kh

5. 상위경로 이동은 관리자만 가능

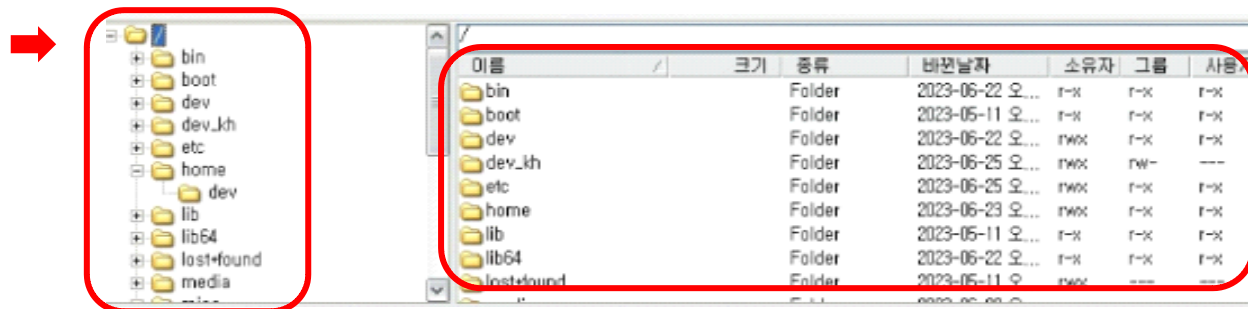
→

```
# directory. If chroot_local_user is YES, then this
# users to NOT chroot().
chroot_local_user=YES
chroot_list_enable=YES
# (default follows)
chroot_list_file=/etc/vsftpd/chroot_list
#
! Allow anonymous FTP? (Beware - allowed by default if you comment this out).
anonymous_enable=NO
```

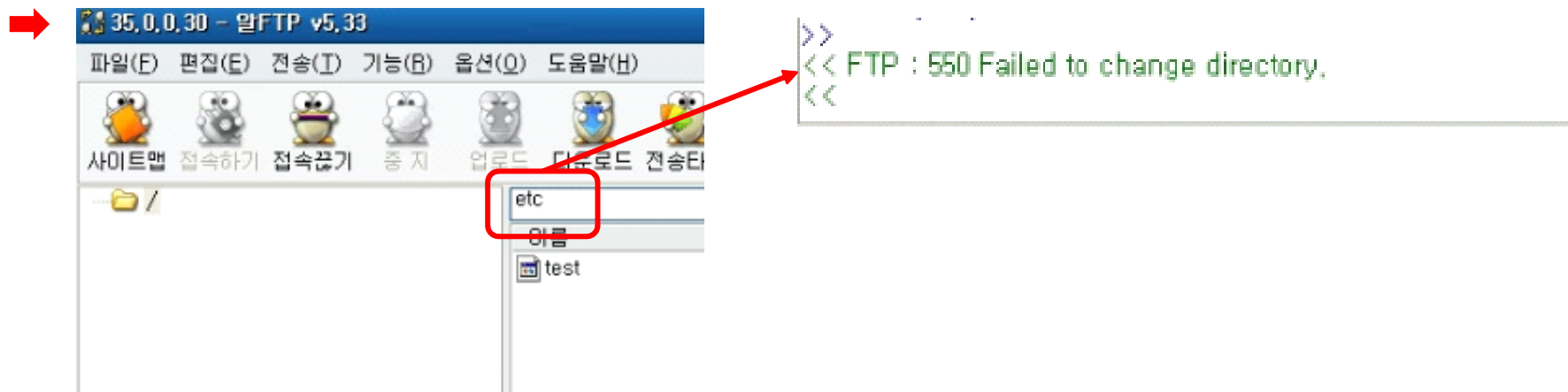
익명접속 금지

서버 구성(FTP)

6. 개발팀은 모든 디렉터리 이동 가능



7. 기획팀은 접근할 수 있는 디렉터리로만 이동 (검색 시 오류 메시지 생성)



서버 구성(MAIL)

1. MAIL서비스를 위한 패키지 설치

➔ `[root@localhost 바탕 화면] # yum install dovecot`

2. /etc/postfix/mail.cf 파일 수정

➔

```
Set nu:77 myhostname = mail.ppk.com
Set nu:85 mydomain = ppk.com
Set nu:101 myorigin = $mydomain
Set nu:115 inet_interfaces = all
Set nu:168 mydestination = $myhostname, localhost.$mydomain, localhost, $mydomain,
mail.$mydomain, www.$mydomain, ftp.$mydomain
Set nu:269 mynetworks = 0.0.0.0/0
```

3. 파일 별 설정

➔ `20 protocols = imap pop3 lmtp`
`26 listen = *, ::` /etc/dovecot/dovecot.conf

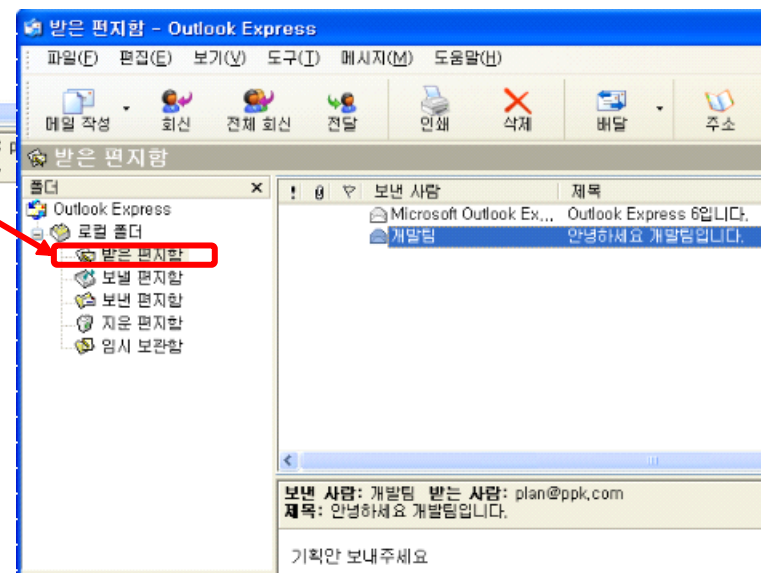
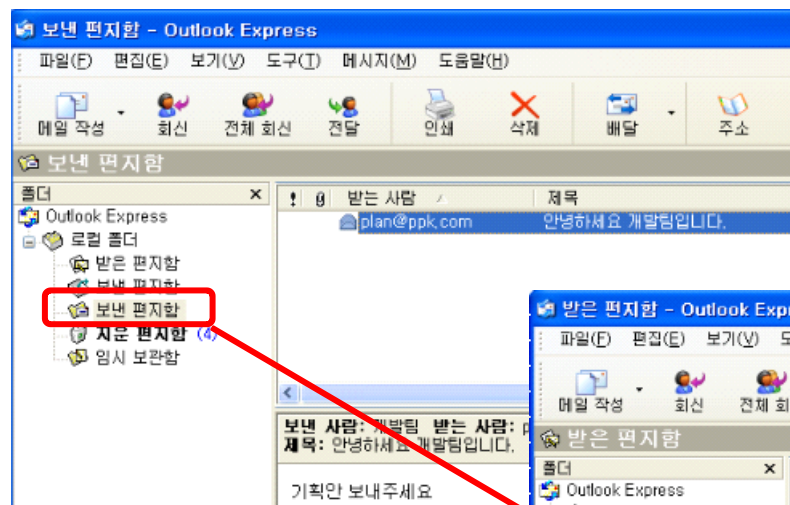
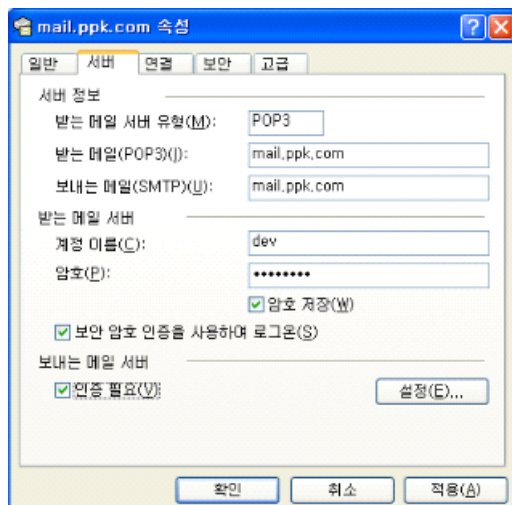
➔ `disable_plaintext_auth = yes` /etc/dovecot/conf.d/10-auth.conf

➔ `ssl = no` /etc/dovecot/conf.d/10-ssl.conf

➔ `mail_location = maildir:~/Maildir` /etc/dovecot/conf.d/10-mail.conf

서버 구성(MAIL)

4. 사용할 메일 계정 생성 (개발팀 → 기획팀 송수신 확인)



서버 구성(DBMS)

1. MYSQL 서비스를 위한 패키지 설치

➔ `[root@localhost 바탕화면]# yum install mysql-server`

2. /etc/myconf 환경 설정

➔

```
[client]
default-character-set=utf8

[mysqld]
default-storage-engine=InnoDB
datadir=/var/lib/mysql
socket=/var/lib/mysql/mysql.sock
user=mysql
# Disabling symbolic-links is recommended to prevent assorted security risks
symbolic-links=0

init_connect=SET collation_connection=utf8_general_ci
init_connect=SET NAMES utf8
character-set-server=utf8
collation-server=utf8_general_ci

[mysqld_safe]
log-error=/var/log/mysqld.log
pid-file=/var/run/mysqld/mysqld.pid

[mysqldump]
default-character-set=utf8

[mysql]
default-character-set=utf8
```

서버 구성(DBMS)

3. Database 생성



```
mysql> show databases;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| ppkgames_DB |
| test |
+-----+
4 rows in set (0.00 sec)
```

```
mysql> create database pkggames_DB;
Query OK, 1 row affected (0.00 sec)

mysql> use pkggames_DB;
Database changed
```

4. table 생성



```
mysql> show tables;
+-----+
| Tables_in_pkggames_DB |
+-----+
| account |
| account withdrawal |
| gamedata |
| item |
+-----+
4 rows in set (0.00 sec)
```

```
mysql> create table account(
-> no int not null primary key auto_increment,
-> id varchar(32) unique,
-> pass varchar(50),
-> name varchar(40),
-> sex varchar(1),
-> age int,
-> phone varchar(100),
-> email varchar(100),
-> address varchar(50));
Query OK, 0 rows affected (0.02 sec)
```

서버 구성(DBMS)

각 테이블 정보

```
mysql> desc account;
```

Field	Type	Null	Key	Default	Extra
no	int(11)	NO	PRI	NULL	auto_increment
id	varchar(32)	YES	UNI	NULL	
pass	varchar(50)	YES		NULL	
name	varchar(40)	YES		NULL	
sex	varchar(1)	YES		NULL	
age	int(11)	YES		NULL	
phone	varchar(100)	YES		NULL	
email	varchar(100)	YES		NULL	
address	varchar(50)	YES		NULL	

9 rows in set (0.00 sec)

```
mysql> desc gamedata;
```

Field	Type	Null	Key	Default	Extra
no	int(11)	NO	PRI	NULL	auto_increment
name	varchar(50)	YES		NULL	
level	varchar(100)	YES		NULL	
sex	varchar(1)	YES		NULL	
type	varchar(10)	YES		NULL	
attack	int(10) unsigned	YES		NULL	
skill	varchar(45)	YES		NULL	
hp	int(10) unsigned	YES		NULL	

8 rows in set (0.00 sec)

```
mysql> desc account_withdrawal;
```

Field	Type	Null	Key	Default	Extra
no	int(11)	NO	PRI	NULL	auto_increment
id	varchar(32)	YES	UNI	NULL	
name	varchar(40)	YES		NULL	
sex	varchar(1)	YES		NULL	
age	int(11)	YES		NULL	

5 rows in set (0.00 sec)

```
mysql> desc item;
```

Field	Type	Null	Key	Default	Extra
no	int(11)	NO	PRI	NULL	auto_increment
category	varchar(35)	YES		NULL	
name	varchar(50)	YES		NULL	
ability	varchar(100)	YES		NULL	
quantity	varchar(100)	YES		NULL	

5 rows in set (0.00 sec)

서버 구성(DBMS)

6. 각 데이터 조회 프로시저 생성

➔ 1

```
mysql> call addaccount('ljs','1234','이정수','M','20','010-1234-1234','kh@coogle.com','역삼');
Query OK, 1 row affected (0.00 sec)

mysql> call addaccount('phc','5678','박현철','M','10','010-5678-5678','lol@naver.com','선릉');
Query OK, 1 row affected (0.00 sec)

mysql> call addaccount('phl','4321','박하림','M','15','010-1358-1358','fck@next.com','강남');
Query OK, 1 row affected (0.00 sec)

mysql> call addaccount('gsm','0987','구승모','W','19','010-9876-6789','good@galaxy.com','삼성');
Query OK, 1 row affected (0.00 sec)

mysql> select * from account;
```

no	id	pass	name	sex	age	phone	email	address
1	ljs	6323F850BA61DCB52C9656351D851D73	2FBA35E45357701416CECB0676ACEF21	M	20	18F645D72E6C18524ABAC8CEAECD772	1DFAC1AA2224F396D04ED8FDA7B8A32	4F1E79B5A743DFF54A07A2F4CC101E4C
2	phc	62BAF60F8CB16B3A9D9CC17C0CF17B3E	3ABD8E01F43CA36FC6BD19FC0D6B6D43	M	10	6968D66689ED7EAD277410F5040FB091	F846728D5FD1B33EEC2D4BE853CF8BE2	F6025917DE54BBE5A166240F94A62108
3	phl	BF0762315B8D3A1C06B3E0D4C620AF6D	64D583C2286238C0B7D8E125A36B15AC	M	15	7F3DFA14CF38453B49907AA8D73F6741	6EF63B69BB3B4EEAAAF19D242EF43E94D	B3AAAA7B93B0762F26363A6A2387562E
4	gsm	E7798CC10283C5E059F69BD0E2DAD46D	94E1D81B78CFC3DA35DB248BE1B3109E	W	19	A5FD0F5011621A839B4CB5B77A32E571	3FA39C98445CC7A45E71988BAAD63846	7658D77D0FBEBE97D6DB599A44E56CC2

rows in set (0.00 sec)

1 유저 회원추가 프로시저 생성

2 아이템 조회 프로시저 생성

3 게임데이터 조회 프로시저 생성

2

```
mysql> select * from item;
```

no	category	name	ability	quantity
1	권총	C. USP	damage +10up	10
2	권총	D. Eagle	damage +20up	12
3	권총	C. Anaconda	damage +20up	11
4	권총	B. 92Fs	damage +12up	50
5	돌격소총	AK-47	damage +55up	5
6	돌격소총	M4A1	damage +52up	1
7	돌격소총	cm901	damage +45up	12
8	저격소총	Scount SR_69	damage +90up	45
9	저격소총	TRG-21	damage +105up	5
10	저격소총	AWP	damage +109up	8

10 rows in set (0.00 sec)

3

```
mysql> select * from gamedata;
```

no	name	level	sex	type	attack	skill	hp
1	알랑방구	소위	M	권총병	10	hp up +10	100
2	나는돌격밖에몰라	병장	M	돌격병	20	damage up +10	150
3	정상수는병상수	소위	w	저격병	12	damage up +30	100
4	홍길동	학사	w	정보통신병	10	speed up +30	115
5	대포동	소령	M	포병	30	damage up +50	130
6	kh소속병	중령	M	폭탄처리병	15	def up +10	140
7	정수철한테해킹배움	학사	M	통신병	10	speed up +30	110
8	제력에몰빵한저격수	중장	w	저격병	10	hp up +20	150
9	이바다고인물	중사	M	돌격병	40	hp up +40	200

9 rows in set (0.00 sec)

서버 구성(DBMS)

6. 각 데이터 조회 프로시저 생성

➔ 4

```
> select * from account;
+-----+-----+-----+-----+-----+-----+
| no | id | pass | name | sex | age | phone |
+-----+-----+-----+-----+-----+-----+
| 1 | ljs | 6323F850BA61DCB52C9656351D851D73 | 2FBA35E45357701416CECB0676ACEF21 | M | 20 | 18F645D72E6C18524ABAC8CEAECD772 |
| 2 | phc | 62BAF60F8CB16B3A9D9CC17C0CF17B3E | 3ABD8E01F43CA36FC6BD19FC0D6B6D43 | M | 10 | 6968D65689ED7EAD277410F5040FB091 |
| 3 | phl | BFD762315B8D3A1C06B3EDD4C620AF6D | 64D583C2286238C0B7D8E125A36B15AC | M | 15 | 7F3DFA14CF38453B49907AA8D73F6741 |
| 4 | gsm | E7798CC10283C5E059F69BD0E2DAD46D | 94E1D81B78CFC3DA35DB248BE1B3109E | W | 19 | A5FD0F5011621A839B4CB5B77A32E571 |
+-----+-----+-----+-----+-----+-----+
rows in set (0.00 sec)

mysql> call searchaccount('ljs');
+-----+-----+-----+-----+
| id | pass | name | address |
+-----+-----+-----+-----+
| ljs | 1234 | 이정수 | 역삼 |
+-----+-----+-----+-----+
row in set (0.00 sec)

Query OK, 0 rows affected (0.00 sec)

mysql> call searchaccount('phc');
+-----+-----+-----+-----+
| id | pass | name | address |
+-----+-----+-----+-----+
| phc | 5678 | 박현철 | 신림 |
+-----+-----+-----+-----+
row in set (0.00 sec)

Query OK, 0 rows affected (0.00 sec)
```

4 복호화 프로시저 및 복호화 확인

서버 구성(DBMS)

6. 각 데이터 조회 프로시저 생성

→ 5

```
mysql> select * from account_withdrawal;
```

no	id	name	sex	age
1	test5	121E5A2738FAEFDFA3F9D926E94F524	NULL	NULL
2	ynyny	121E5A2738FAEFDFA3F9D926E94F524	NULL	NULL
3	ges	121E5A2738FAEFDFA3F9D926E94F524	NULL	NULL
4	gdses	121E5A2738FAEFDFA3F9D926E94F524	NULL	NULL

```
4 rows in set (0.00 sec)
```

5

회원삭제 프로시저 입력 후
탈퇴된 회원 조회 확인

7. 전체 프로시저 확인

→

```
mysql> show procedure status;
```

Db	Name	Type	Definer	Modified	Created	Security_type	Comment	character_set_client	collation_connection	Database Collation
ppkgames_DB	addaccount	PROCEDURE	root@localhost	2023-06-23 21:52:10	2023-06-23 21:52:10	DEFINER		utf8	utf8_general_ci	utf8_general_ci
ppkgames_DB	addgmdata	PROCEDURE	root@localhost	2023-06-23 20:10:19	2023-06-23 20:10:19	DEFINER		utf8	utf8_general_ci	utf8_general_ci
ppkgames_DB	additem	PROCEDURE	root@localhost	2023-06-23 19:39:11	2023-06-23 19:39:11	DEFINER		utf8	utf8_general_ci	utf8_general_ci
ppkgames_DB	delaccount	PROCEDURE	root@localhost	2023-06-23 21:14:35	2023-06-23 21:14:35	DEFINER		utf8	utf8_general_ci	utf8_general_ci
ppkgames_DB	searchaccount	PROCEDURE	root@localhost	2023-06-24 00:12:07	2023-06-24 00:12:07	DEFINER		utf8	utf8_general_ci	utf8_general_ci

```
5 rows in set (0.00 sec)
```

서버 구성(DBMS)

8. 회원탈퇴 시 자동 회원탈퇴 테이블 추가되는 트리거 생성



```
mysql> show triggers;
+-----+-----+-----+-----+
| Trigger | Event | Table | Statement |
+-----+-----+-----+-----+
| outaccount | DELETE | account | begin
insert into account_withdrawal set id=old.id, name=old.name;
end | BEFORE | NULL | root@localhost | utf8 | ut
+-----+-----+-----+-----+
1 row in set (0.00 sec)
```

서버 구성(WEB)

1. WEB 서비스를 위한 패키지 설치

➡ `[root@localhost ~]# yum install httpd`

2. WEB 서버와 vscode의 연동

➡

```
session_start();
if($_SESSION['loginID'] != ""){

    mysql_connect("localhost", "root", "P@ssw0rd");
    mysql_select_db("webhacktest");
    $sql = "select * from member where id='".$_SESSION['loginID']."'";
    $result = mysql_fetch_array(mysql_query($sql));
    echo "<h3>$result[name]님 환영합니다.</h3><br>";
}
?>

| | | | | <h1>KH정보교육원 Attack!</h1><br>
<a href="cookie.php">팝업창 일주일동안 다시보지 않기</a><br>
<a href="login.html">로그인</a><br>
<a href="join.html">회원가입</a><br>
<a href="board.php">게시판</a><br>
<a href="pollice.php">신고하기</a><br>
<a href="hackdownload.php">해킹 다운로드</a><br>
<a href="gamestart.php">게임 시작</a><br>
<a href="hack.php">해킹 계정 로그인</a><br>
<a href="logout.php">로그아웃</a><br>
<a href="hacklogout.php">해킹 계정 로그아웃</a><br>
</body>
</html>
```

```
<!DOCTYPE html>
<html>

<head>
    <title>WebHackTest</title>
    <style>
        body {
            background-color: #rgb(0, 0, 0);
        }
        h1 {
            color: #rgb(255, 0, 0);
            text-align: #rgb(255, 0, 0);
        }
        h1 {
            text-align: center;
        }
    </style>
</head>
<body>
```


서버 구성(WEB)

3. Apache 서버에 SSL을 지원하는 mod_ssl 패키지 설치

➡ `[root@localhost /] yum install mod_ssl`

4. WEB 서버의 개인키와 인증요청서 생성

➡ `[root@localhost 바탕 화면]# openssl req -nodes -newkey rsa:2048 -keyout kh.key -out kh.csr`
Generating a 2048 bit RSA private key
.....
.....+++
.....+++
writing new private key to 'kh.key'

You are about to be asked to enter information that will be incorporated
into your certificate request.
What you are about to enter is what is called a Distinguished Name or a DN.
There are quite a few fields but you can leave some blank
For some fields there will be a default value,
If you enter '.', the field will be left blank.

Country Name (2 letter code) [XX]:

서버 구성(WEB)

5. WEB서버 개인인증서 생성

➡ `[root@localhost 바탕화면]# openssl x509 -req -days 365 -in kh.csr -signkey kh.key -out kh.crt`

6. 생성한 인증서, 키, 요청서를 해당 위치로 이동

➡ `[root@localhost 바탕화면]# mv kh.crt /etc/pki/tls/certs/kh.crt`
`[root@localhost 바탕화면]# mv kh.csr /etc/pki/tls/private/kh.csr`
`[root@localhost 바탕화면]# mv kh.key /etc/pki/tls/private/kh.key`

7. /etc/httpd/conf.d/ssl.conf 파일에서 설정

➡ `SSLCertificateFile /etc/pki/tls/certs/kh.crt`
`# Server Private Key:`
`# If the key is not combined with the certificate, use this`
`# directive to point at the key file. Keep in mind that if`
`# you've both a RSA and a DSA private key you can configure`
`# both in parallel (to also allow the use of DSA ciphers, etc.)`
`SSLCertificateKeyFile /etc/pki/tls/private/kh.key`

서버 구성(WEB)

8. /etc/httpd/conf/httpd.conf 파일 설정



```
<VirtualHost *:443>
    SSL Engine on
    SSLCertificateFile /etc/pki/tls/certs/kh.crt
    SSLCertificateKeyFile /etc/pki/tls/private/kh.key
    ServerAdmin kh@ppk.com
    DocumentRoot /var/www/html
    ServerName ppk.com
    ErrorLog logs/ssl_error_log
    CustomLog logs/ssl_access_log common
</VirtualHost>
```

서버 구성(WEB)

9. https로 웹사이트 접속

