finger

Finger( )

※ Finger( ): who
finger

rhel inetd

```
#cat /etc/inetd.conf
#finger stream tcp nowait bin /usr/lbin/fingered
```

fingerd

Step 1) /etc/inetd.conf finger # ( )

```
(      ) finger stream tcp nowait bin /usr/lbin/fingered fingerd
(      ) #finger stream tcp nowait bin /usr/lbin/fingered fingerd
```

Step 2) inetd

```
#ps -ef | grep inetd
 root 141 1 0 15:03:22 ? 0:01 /usr/sbin/inetd -s
#kill -HUP [PID]
```

rhel xinetd

```
#ls -alL /etc/xinetd.d/* | egrep "echo finger"
```

finger

Step 1) vi /etc/xinetd.d/finger Step 2) (Disable
= yes)

```
service finger
{
```

```
    socket_type = stream
    wait = no
    user = nobody
    server = /usr/sbin/in.fingerd
    disable = yes
}
```

Step 3) xinetd

```
 #service xinetd restart
```

Anonymous FTP

FTP   FTP

Anonymous FTP(FTP)   anonymous
                        local exploit

FTP

/etc/passwd   ftp   anonymous

```
#userdel ftp
```

ProFTP

conf/proftpd.conf   anonymous   User, Useralias
(proftpd.conf   )

```
<Anonymous ~ftp> <- Anonymous
 # User ftp <- anonymous
 Group ftp
 # UserAlias anonymous ftp <-
</Anonymous>
```

vsFTP

vsFTP   (/etc/vsftpd/vsftpd.conf   , /etc/vsftpd.conf)

```
anonymous_enable=NO
```

https://access.redhat.com/solutions/2048173

r

r-command   NET Backup

,

rsh, rlogin, rexec   r command   ,

rsh, rlogin, rexec (shell, login, exec)

```
#ls -alL /etc/xinetd.d/* | egrep "rsh|rlogin|rexec" | egrep -v
"grep|klogin|kshell|kexec"
```

Step 1) vi   /etc/xinetd.d/   rlogin, rsh, rexec

Step 2)   (Disable = yes   ) • /etc/xinetd.d/rlogin   • /etc/xinetd.d/rsh   •
/etc/xinetd.d/rexec

```
service rlogin
{
   socket_type = stream
   wait = no
   user = nobody
   log_on_success += USERID
   log_on_failure += USERID
   server = /usr/sdin/in.fingerd
   disable = yes
}
```

Step 3) xinetd
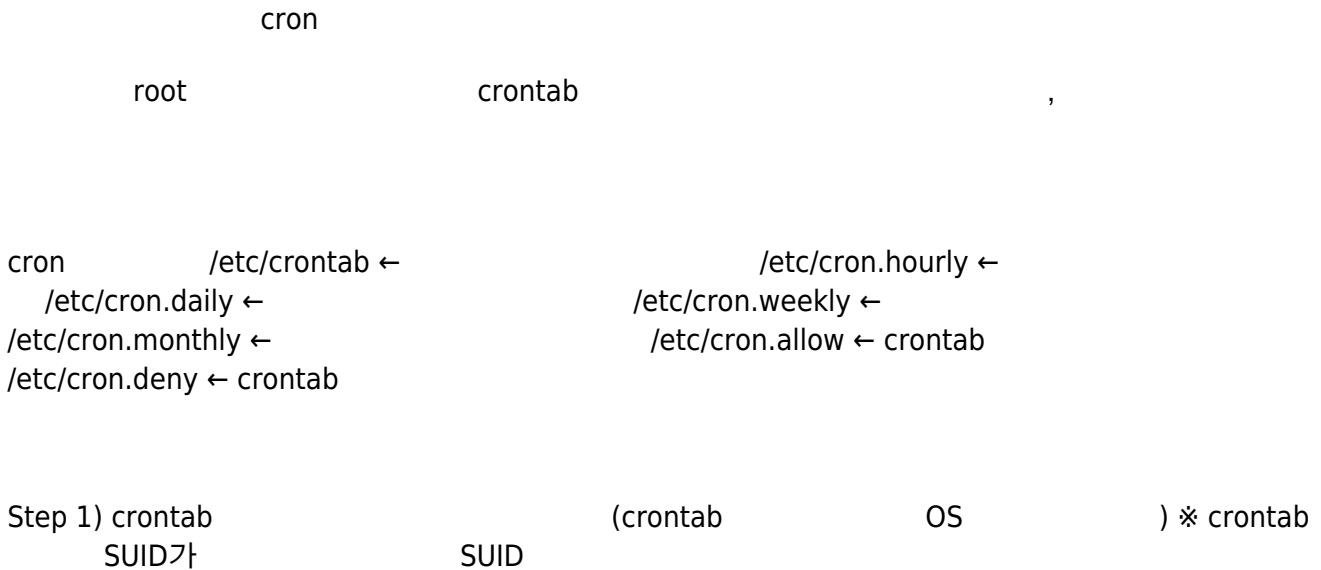
```
#service xinetd restart
```

r-command   ($HOME/.rhosts, hosts.equiv   ) Step 1) r command
                                   - .rhosts, hosts.equiv   hostname(IP)
※ IP   IP   - .rhosts, hosts.equiv   600   -
TCP_Wrapper   IP

rlogin, rshell, rexec   backup,
                                   (/etc/hosts.equiv   .rhosts
                                              -

)

https://access.redhat.com/solutions/7321

cron

cron

root   crontab   ,

cron   /etc/crontab ←   /etc/cron.hourly ←
   /etc/cron.daily ←   /etc/cron.weekly ←
/etc/cron.monthly ←   /etc/cron.allow ← crontab
/etc/cron.deny ← crontab

Step 1) crontab   (crontab   OS   ) ※ crontab
       SUID   SUID

```
# ls -l /usr/bin/crontab
# chmod 750 /usr/bin/crontab
```

Step 2) cron

```
# chown root <cron        >
# chmod 640 <cron         >
```

■ crontab   Step 1) /etc/cron.d/cron.allow
/etc/cron.d/cron.deny

```
#chown root /etc/cron.d/cron.allow
#chmod 640 /etc/cron.d/cron.allow
#chown root /etc/cron.d/cron.deny
#chmod 640 /etc/cron.d/cron.deny
```

Step 2) /etc/cron.d/cron.allow   /etc/cron.d/cron.deny

```
# cat /etc/cron.allow (crontab                                  )
# cat /etc/cron.deny (crontabl                                 )
```

Dos

echo, discard, daytime, chargen, ntp, snmp

DoS(   )

LINUX (xinetd   )

Step 1) vi   /etc/xinetd.d/   echo, discard, daytime, chargen

Step 2)   (Disable = yes   )

• /etc/xinetd.d/echo   (echo-dgram, echo-stream) • /etc/xinetd.d/discard
  (discard-dgram, discard-stream) • /etc/xinetd.d/daytime   (daytime-dgram, daytime-
stream) • /etc/xinetd.d/chargen   (chargen-dgram, chargen-stream)

```
service echo
{
   disable = yes
   id = echo-stream
   type = internal
   wait = no
   socket_type = stream
}
```

Step 3) xinetd

```
#service xinetd restart
```

NFS

NFS

NFS

NFS   (NFS   SID   )

```
#ps -ef | egrep "nfs|statd|lockd"
root 3809 3721 0 08:44:40 ? 0:00 /usr/lib/nfs/nfsd
```

Step 1) NFS

```
#systemctl stop nfs
#systemctl disable nfs
#kill -9 [PID]
```

Step 2)   ,

```
 1.
#ls -al /etc/rc.d/rc*.d/* | grep nfs
 2.
#mv /etc/rc.d/rc2.d/S60nfs /etc/rc.d/rc2.d/_S60nfs
```

NFS

          ,

                    NFS   NFS
          , everyone   /etc/exports

Step 1) /etc/exports

```
(  ) #/stand host1(    IP    ) host2
```

Step 2)   nobody

```
 # vi /etc/export
 # /stand host1 (root_squash)
```

   ()   "insecure"

Step 3. NFS

```
 #/etc/exportfs –u
 #/etc/exportfs –a
```

automountd

automountd　　　　　RPC(Remote Procedure Call)

root 　　　　　　　　　　,
automountd

```
automountd
#ps -ef | grep automount(or autofs)
root 1131 1 0 jun 15 ? 32:11 /usr/sbin/automountd
Step 1) automountd
 #kill -9 [PID]
Step 2)                    ,
 1.
 #ls -al /etc/rc.d/rc*.d/* | grep automount(or autofs)
 2.
 #mv /etc/rc.d/rc2.d/S28automountd /etc/rc.d/rc2.d/_S28automountd
```

RPC

(　　　　　　　　　, Dos,　　　　　　　) 　　　　　　RPC

　　　　　　　　　(Buffer Overflow), Dos,　　　　　　　　　　　　　　　　RPC
　　　　root

　　　　RPC　　　　　: rpc.cmsd, rpc.ttdbserverd, sadmind, rusersd, walld, sprayd, rstatd, rpc.nisd, rexd, rpc.pcnfsd, rpc.statd, rpc.ypupdated, rpc.rquotad, kcms_server, cachefsd

LINUX (inetd　　　　) Step 1) /etc/inetd.conf　　　　　　　　　　# 　(　　　　　)

```
(     ) rpc.cmsd/2-4 dgram rpc/udp wait root /usr/dt/bin/rpc.cmsd rpc.cmsd
(     ) #rpc.cmsd/2-4 dgram rpc/udp wait root /usr/dt/bin/rpc.cmsd rpc.cmsd
```

Step 2) inetd

```
 #ps -ef | grep inetd
 root 141 1 0 15:03:22 ? 0:01 /usr/sbin/inetd -s
 #kill -HUP 141
```
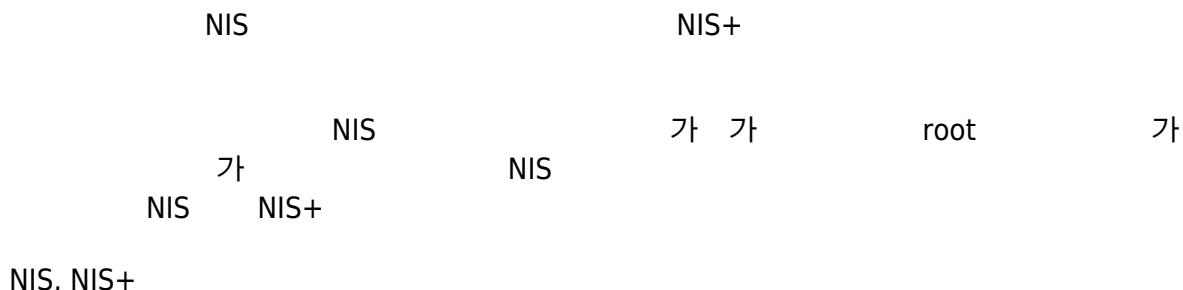
LINUX (xinetd   ) Step 1) vi   /etc/xinetd.d/   RPC
              Step 2)   (Disable = yes   )

```
service finger
{
   disable = yes
   socket_type = stream
   wait = no
-         -
}
```

Step 3) xinetd

```
#service xinetd restart
```

NIS, NIS+

                        NIS   NIS+

                              NIS   root
                                    NIS
                  NIS   NIS+

        NIS, NIS+

```
#ps -ef | egrep "ypserv|ypbind|ypxfrd|rpc.yppasswdd |rpc.ypupdated"
root 3809 3721 0 08:44:40 ? 0:00 /usr/lib/nis/ypserv
```

Step 1) NFS

```
#kill -9 [PID]
```

Step 2)   ,   1.

```
#ls -al /etc/rc.d/rc*.d/* | egrep
"ypserv|ypbind|ypxfrd|rpc.yppasswdd|rpc.ypupdated"
```

2.

```
#mv /etc/rc.d/rc2.d/S73ypbind /etc/rc.d/rc2.d/_S73ypbind
```

tftp, talk

Linux [inetd]

```
#cat /etc/inetd.conf | grep "tftp|talk|ntalk"
tftp dgram udp6 SRC nobody /usr/sbin/tftpd tftpd -n
```

Step 1) vi "/etc/inetd.conf"

```
#vi /etc/inetd.conf
```

Step 2) tftp, talk, ntalk

```
#tftp dgram udp6 SRC nobody /usr/sbin/tftpd tftpd -n
#talk dgram udp wait root /usr/sbin/talkd talkd
#ntalk dgram udp wait root /usr/sbin/talkd talkd
```

Step 3) inetd

```
#kill -HUP [inetd pid]
```

Linux [xinetd] tftp, talk, ntalk

```
#vi /etc/xinetd.d/tftp
#vi /etc/xinetd.d/talk
#vi /etc/xinetd.d/ntalk
```

Step 1) vi /etc/xinetd.d/ tftp, talk, ntalk

Step 2) (Disable = yes) /etc/xinetd.d/tftp /etc/xinetd.d/talk
/etc/xinetd.d/ntalk

```
service tftp
{
    socket_type = dgram
    protocol = udp
    wait = yes
    user = root
    server = /usr/sbin/in.tftpd
    server_args = -s /tftpboot
    disable = yes
}
```

Step 3) xinetd

```
#service xinetd restart
```

Sendmail

Sendmail
Sendmail

Sendmail   (Buffer Overflow)

1. Sendmail

```
#ps -ef | grep sendmail
```

2. Sendmail

```
#telnet localhost 25
```

Sendmail   , http://www.sendmail.org/   ,   OS

SMTP   ,
Dos

SMTP

```
#ps -ef | grep sendmail | grep -v "grep"
#cat /etc/mail/sendmail.cf | grep "R$\*" | grep "Relaying denied"
R$* $#error $@ 5.7.1 $: "550 Relaying denied"
```

Step 1) vi   /etc/mail/sendmail.cf   /etc/sendmail.cf

Step 2)

```
(      ) #R$* $#error $@ 5.7.1 $: "550 Relaying denied"
(      ) R$* $#error $@ 5.7.1 $: "550 Relaying denied"
```

Step 3)   IP, domain, Email Address   sendmail   (
)

```
 #cat /etc/mail/access
 )
localhost.localdomain RELAY
localhost RELAY
127.0.0.1 RELAY
spam.com REJECT
```

Step 4)   DB

```
 #makemap hash /etc/mail/access.db < /etc/mail/access
```

Sendmail

              q   Sendmail   drop
        SMTP

              q   , Sendmail   drop
        SMTP

     SMTP   restrictqrun

```
#ps -ef | grep sendmail | grep -v "grep"
#grep -v '^ *#' /etc/mail/sendmail.cf | grep PrivacyOptions
```

Step 1) vi   /etc/mail/sendmail.cf

Step 2) O PrivacyOptions=   restrictqrun

```
(      ) O PrivacyOptions=authwarnings, novrfy, noexpn
(      ) O PrivacyOptions=authwarnings, novrfy, noexpn, restrictqrun
```

Step 3. Sendmail

DNS

BIND

(2016.01   9.10.3-P2)   ,
(Buffer Overflow)   DNS

DNS   BIND

```
#ps -ef | grep named
named -v
```

DNS   DNS   BIND
                                        1. BIND
            2.   BIND   ,
                        • Inverse Query   (Buffer Overflow) : BIND 4.9.7   BIND 8.1.2
            • NXT   (buffer overflow) : BIND 8.2, 8.2 p1, 8.2.1   • solinger   (Denial of Service) :
BIND 8.1   • fdmax   (Denial of Service) : BIND 8.1   • Remote Execution of
Code(Buffer Overflow) : BIND 4.9.5 to 4.9.10, 8.1, 8.2 to 8.2.6, 8.3.0 to 8.3.3   • Multiple Denial of
Service: BIND 8.3.0 - 8.3.3, 8.2 - 8.2.6   • LIBRESOLV: buffer overrun(Buffer Overflow) : BIND 4.9.2
to 4.9.10   • OpenSSL (buffer overflow) : BIND 9.1, BIND 9.2 if built with OpenSSL(configure –with-
openssl) • libbind (buffer overflow) : BIND 4.9.11, 8.2.7, 8.3.4, 9.2.2   • DoS internal
consistency check (Denial of Service) : BIND 9 ~ 9.2.0   • tsig bug (Access possible) : BIND 8.2 ~
8.2.3   • complain bug (Stack corruption, possible remote access) : BIND 4.9.x   •
zxfr bug (Denial of service) : BIND 8.2.2, 8.2.2 patchlevels 1 through 6   • sigdiv0 bug (Denial of
service) : BIND 8.2, 8.2 patchlevel 1, 8.2.2   • srv bug(Denial of service): BIND 8.2, 8.2 patchlevel
1, 8.2.1, 8.2.2, 8.2.2 patchlevels 1-6   • nxt bug (Access possible) : BIND 8.2, 8.2 patchlevel 1,
8.2.1   • BIND 4.9.8   , 8.2.3   - TSIG
    - nslookupComplain()   - nslookupComplain() input validation   -
information leak   - sig bug Denial of service   - naptr bug Denial of service   -
maxdname bug enial of service

DNS Zone Transfer

                                        Zone Transfer   ,

Zone Transfer   Zone   ,   ,

      DNS   /etc/named.conf   allow-transfer   xfrnets

```
#ps -ef | grep named | grep -v "grep"
#cat /etc/named.conf | grep 'allow-transfer'
#cat /etc/named.boot | grep "xfrnets"
```

< DNS   > ■ BIND8 DNS   (named.conf)

```
Options {
 allow-transfer (                            IP;);
};
```

■ BIND4.9 DNS   (named.conf)

```
Options
 xfrnets                IP
```

< DNS   > DNS   (DNS   SID   )

```
#ps -ef | grep named
root 3809 3721 0 08:44:40 ? 0:00 /usr/sbin/in.named
```

DNS

```
#kill -9 [PID]
```

,   WEB
                      ,

          Indexes

```
#vi /[Apache_home]/conf/httpd.conf
Options Indexes FollowSymLinks
```

"Indexes"

Step 1) vi   /[Apache_home]/conf/httpd.conf

```
#vi /[Apache_home]/conf/httpd.conf
```

Step 2)   Options   Indexes   (   ) Option
Indexes

```
<Directory />
   Options Indexes FollowSymLinks
   AllowOverride None
   Order allow, deny
   Allow from all
</Directory>
```

(   ) Option   Indexes   -Indexes

```
<Directory />
   Options Indexes      (      -Indexes)
   AllowOverride None
   Order allow, deny
   Allow from all
</Directory>
```

             Apache   root

                              root   ,
                              root   root

             Apache   (User   Group)

```
#vi /[Apache_home]/conf/httpd.conf
User [root                    ]
Group [root                   ]
```

Step 1)　　　 User & Group　　　 User & Group　　　 root

User [root　　　　　　　　　　] Group [root　　　　　　　　　]

Step 2) Apache

　　　　　 AllowOverride　　　　　 Authconfig

```
#vi /[Apache_home]/conf/httpd.conf
AllowOverride None
```

AllowOverride　　　　　 None

Step 1) vi　　　　　　　　　 /[Apache_home]/conf/httpd.conf

```
#vi /[Apache_home]/conf/httpd.conf
```

Step 2)　　　　　　　　　　　 AllowOverride　　　　　　 AuthConfig

```
(     ) AllowOverride        ''None''
<Directory "/usr/local/apache2/htdocs">
 AllowOverride None
 Allow from all
</Directory>

(     ) AllowOverride        ''AuthConfig''
<Directory "/usr/local/apache2/htdocs">
 AllowOverride AuthConfig
 Allow from all
</Directory>
```

Step 3)　　　　　　　　　　　　 .htaccess　　　　 (　　　　　　)

```
AuthName "                  "
AuthType Basic
```

```
AuthUserFile /usr/local/apache/test/.auth
Require valid-user
```

AuthName ( ) AuthType (Basic
, Digest) AuthUserFile ( ) AuthGroupFile
( ) Require ,

Step 4)

```
htpasswd -c /usr/local/apache/test/.auth test
 New password:
 Re-type new password:
 Adding password for user test
[root@localhost apache]#
```

Step 5) Apache

Apache

Apache htdocs

```
#ls -ld /[Apache_home]/htdocs/manual
#ls -ld /[Apache_home]/manual
```

,

Step 1) #ls

```
 #rm -rf /[Apache_home]/htdocs/manual
 #rm -rf /[Apache_home]/manual
```

Step 2) #ls

```
 #ls -ld /[Apache_home]/htdocs/manual
 #ls −ld /[Apache_home]/manual
```

Step 3)

, aliases

(DocumentRoot)   root   (/)
          root

     Options   FollowSymLinks

```
#vi /[Apache_home]/conf/httpd.conf
Options Indexes FollowSymLinks
```

Step 1) vi   /[Apache_home]/conf/httpd.conf

```
 #vi /[Apache_home]/conf/httpd.conf
```

Step 2)   Options   FollowSymLinks

```
 (     ) Options         FollowSymLinks
<Directory />
   Options Indexes FollowSymLinks
   AllowOverride None
   Order allow, deny
   Allow from all
</Directory>

 (     ) Options          FollowSymLinks          -FollowSymLinks
<Directory />
   Options FollowSymLinks         -FollowSymLinks
   AllowOverride None
   Order allow, deny
   Allow from all
</Directory>
```

LimitRequestBody

```
#vi /[Apache_home]/conf/httpd.conf
LimitRequestBody 5000000
(                              5M                        )
```

Step 1) vi   /[Apache_home]/conf/httpd.conf

```
 #vi /[Apache_home]/conf/httpd.conf
```

Step 2)   LimitRequestBody

```
 )
<Directory />
LimitRequestBody 5000000 (□ "/"                    5M                    :byte)
</Directory>
```

                              OS   ,

          DocumentRoot

```
#vi /[Apache_home]/conf/httpd.conf
DocumentRoot "/usr/local/apache/htdocs"
DocumentRoot "/usr/local/apache2/htdocs"
DocumentRoot "/var/www/html"
```

DocumentRoot

Step 1) vi   /[Apache_home]/conf/httpd.conf

```
#vi /[Apache_home]/conf/httpd.conf
```

Step 2) DocumentRoot /usr/local/apache/htdocs, /usr/local/apache2/htdocs, /var/www/html

```
DocumentRoot "       "
```

ssh

SSH /

Telnet, FTP /

Step 1) SSH

```
#service sshd start

#service ssh start

#systemctl start sshd
```

Step 2) SSH OS SSH

ftp

FTP

FTP (,)

```
    ftp
#ps -ef | grep ftp

vsftpd      ProFTP            (vsftpd, proftpd    SID   )
#ps -ef | egrep "vsftpd|proftp"
 root 3809 3721 0 08:44:40 ? 0:00 /usr/sbin/vsftpd
```

"ftp"

vsftpd   ProFTP

```
# service vsftpd(proftp) stop

#/etc/rc.d/init.d/vsftpd(proftp) stop      kill -9 [PID]
```

ftp   shell

FTP   ftp

                    (Shell)   ,   ftp

        ftp   /bin/false

```
#cat /etc/passwd
ftp:x:500:100:Anonymous FTP
USER:/var/ftp:/sbin/bash
```

passwd   /bin/false

Step 1) vi   /etc/passwd

Step 2) ftp   /bin/false

```
(      ) ftp:x:500:100:Anonymous FTP USER:/var/ftp:/sbin/bash
(      ) ftp:x:500:100:Anonymous FTP USER:/var/ftp:/bin/false
```

Step 3) Step 2   usermod

```
# usermod –s /bin/false [   ID]
```

Ftpusers

                    ftp   ftpusers

      ftpusers   ,   FTP

ftpusers

```
#ls -al /etc/ftpusers
#ls -al /etc/ftpd/ftpusers
rw-r----- root <ftpusers     >
```

"ftpusers"   root   640

FTP   ftpusers   FTP /etc/ftpusers   , /etc/ftpd/ftpusers ProFTP
/etc/ftpusers   , /etc/ftpd/ftpusers vsFTP /etc/vsftpd/ftpusers,
/etc/vsftpd/user_list   , /etc/vsftpd.ftpusers, /etc/vsftpd.user_list

Step 1) /etc/ftpusers

```
#ls -l /etc/ftpusers
```

Step 2) /etc/ftpusers   (root,   640)

```
#chown root /etc/ftpusers
#chmod 640 /etc/ftpusers
```

※ vsFTP   FTP   (1) vsftpd.conf   userlist_enable=YES
  : vsftpd.ftpusers, vsftpd.user_list   ftpusers, user_list
(ftpusers, user_list   ) (2) vsftpd.conf
userlist_enable=NO   ,   : vsftpd.ftpusers   ftpusers
             (ftpusers   )

Ftpusers

            root   FTP   root

            FTP

                        ftp   root

```
#cat /etc/ftpusers
#cat /etc/ftpd/ftpusers
#root (        )      , root
```

ProFTP

```
#cat /etc/proftpd.conf
```

```
RootLogin on
```

vsFTP

```
#cat /etc/vsftp/ftpusers
#cat /etc/vsftp/user_list

#cat /etc/vsftpd.ftpusers
#cat /etc/vsftpd.user_list
#root (          )     , root
```

root   FTP

<   FTP   root   > Step 1) vi   ftpusers
(/etc/ftpusers   /etc/ftpd/ftpusers)

```
#vi /etc/ftpusers     /etc/ftpd/ftpusers
```

Step 2) ftpusers   root   ,

```
(      ) #root     , root
(      ) root
```

< ProFTP   ROOT   >

Step 1) vi   proftpd   (/etc/proftpd.conf)

```
#vi /etc/proftpd.conf
```

Step 2) proftpd   (/etc/proftpd.conf)   RootLogin off

```
(      ) RootLogin on
(      ) RootLogin off
```

Step 3) ProFTP

< vsFTP   ROOT   > Step 1) vi   ftpusers
(/etc/vsftp/ftpusers   , /etc/vsftpd.ftpusers)

```
#vi /etc/vsftp/ftpusers
```

Step 2) ftpusers   root   ,

```
(      ) #root      , root
(      ) root
```

Step 3) vsFTP

※ vsFTP   FTP   (1) vsftpd.conf   userlist_enable=YES
: vsftpd.ftpusers, vsftpd.user_list   ftpusers, user_list (ftpusers, user_list
) (2) vsftpd.conf   userlist_enable=NO   ,   :
vsftpd.ftpusers   ftpusers (ftpusers   )

at

                  at

      root   at   ,

                  /etc/at.allow ← at   /etc/at.deny ← at
      "cron"

Step 1) at   (at   OS   ) ※ at   SUID
            SUID

```
# ls -l /usr/bin/at
# chmod 4750 /usr/bin/at
```

Step 2) cron

```
# chown root <at        >
# chmod 640 <at        >
```

■ at   Step 1) /etc/cron.d/at.allow
/etc/cron.d/at.deny

```
#chown root /etc/cron.d/at.allow
#chmod 640 /etc/cron.d/at.allow
#chown root /etc/cron.d/at.deny
#chmod 640 /etc/cron.d/at.deny
```

Step 2) /etc/cron.d/at.allow   /etc/cron.d/at.deny

```
# cat /etc/at.allow (at                                    )
# cat /etc/at.deny (at                                     )
```

SNMP

SNMP   SNMP

SNMP

Step 1) ps –ef | grep snmp

```
#ps –ef | grep snmp
root 2028 1 0 Nov 24 ? 0:00 /usr/sbin/snmpdm
```

Step 2) snmp

```
#service snmpd stop
```

SNMP

Community String   Public, Private
SNMP   Community String

Community String   Default   public, private   ,
String   ,
Dos

```
#vi /etc/snmp/snmpd.conf

com2sec notConfigUser default public
```

public   , private

Step 1) vi   SNMP

```
#vi /etc/snmp/snmpd.conf
```

Step 2) Community String   (   )

```
(        ) com2sec notConfigUser default public
(        ) com2sec notConfigUser default <        >
```

Step 3)

```
# service snmpd restart
```


                                                                    '

                                                     OS
                                          OS

            Step 1)   : vi   /etc/motd

```
#vi /etc/motd
```

Step 2) Telnet   : vi   /etc/issue.net

```
#vi /etc/issue.net
```

Step 3) FTP   : vi   /etc/vsftpd/vsftpd.conf

```
#vi /etc/vsftpd/vsftpd.conf
 ftpd_banner="                    "
```

Step 4) SMTP   : vi   /etc/mail/sendmail.cf

```
#vi /etc/mail/sendmail.cf
 O Smtp GreetingMessage="                "
```

Step 5) DNS   : vi   /etc/named.conf

```
#vi /etc/named.conf
```

NFS

NFS

NFS

```
#ls -al /etc/exports
 rw-r--r-- root <nfs              >
```

"NFS"   root   644

/etc/exports   (root,   644)

```
#chown root /etc/exports
#chmod 644 /etc/exports
```

expn, vrfy

SMTP   expn, vrfy

VRFY, EXPN   ,

noexpn, novrfy

```
#vi /etc/mail/sendmail.cf
O PrivacyOptions= (noexpn, novrfy       goaway                )
```

※ goaway   : authwarnings, noexpn, novrfy, noverb, needmailhelo, needexpnhelo, needvrfyhelo, nobodyreturn

<   > Step 1) vi   /etc/mail/sendmail.cf

```
#vi /etc/mail/sendmail.cf
```

Step 2) /etc/mail/sendmail.cf   noexpn, novrfy

```
(        ) O PrivacyOptions=authwarnings
(        ) O PrivacyOptions=authwarnings, noexpn, novrfy        goaway
```

Step 3) SMTP

<   > Step 1)

```
#ps –ef | grep sendmail
root 441 1 0 Sep19 ? 00:00:00 sendmail: accepting connections
#kill -9 [PID]
```

Step 2)   SMTP   OS   1.

```
#ls –al /etc/rc*.d/* | grep sendmail
```

2.

```
#mv /etc/rc2.d/S88sendmail /etc/rc2.d/_S88sendmail
```

Apache

        HTTP   ,   , OS

        ServerTokens, ServerSignature

```
# vi /[Apache_Home]/conf/httpd.conf
 ServerTokens Prod
 ServerSignature off
```

httpd.conf   ServerTokens, ServerSignature

Step 1) vi /[Apache_home]/conf/httpd.conf

```
#vi /[Apache_home]/conf/httpd.conf
```

Step 2)   ServerTokens   Prod   ServerSignature Off
    Off   (   )

```
<Directory />
    Options Indexes FollowSymlinks
    ServerTokens Prod
    ServerSignature Off
  -          -
</Directory>
```

ServerTokens

Prod		Apache
Min		Apache/2.2.3
OS	+	Apache/2.2.3 (CentOS) ( )
Full		Apache/2.2.3 (CentOS) DAV/2 PHP/5.16