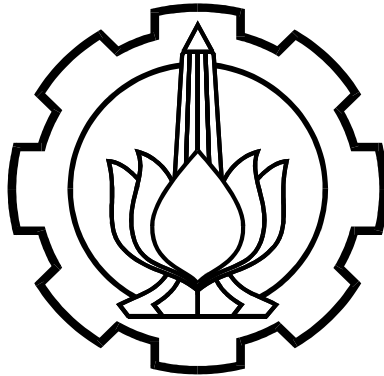


FTP Server



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FTP Server

I. Tujuan:

- Mahasiswa dapat memahami penggunaan service ftp pada sistem operasi unix/linux.
- Mahasiswa dapat melakukan proses instalasi dan konfigurasi ftp server pada sistem operasi unix/linux.
- Mahasiswa dapat memahami perbedaan antara user ftp dan anonymous ftp beserta kelebihan dan kekurangan masing-masing.
- Mahasiswa memahami hal-hal penting yang berhubungan dengan sistem keamanan pada service ftp.

II. Alat-alat:

1. Straight Cable	3 buah
2. Switch/hub	1 buah

III. Dasar teori

FTP menggunakan protokol transport TCP untuk mengirimkan file. TCP dipakai sebagai protokol transport karena protokol ini memberikan garansi pengiriman dengan FTP yang dapat memungkinkan user mengakses file dan directory secara interaktif, diantaranya:

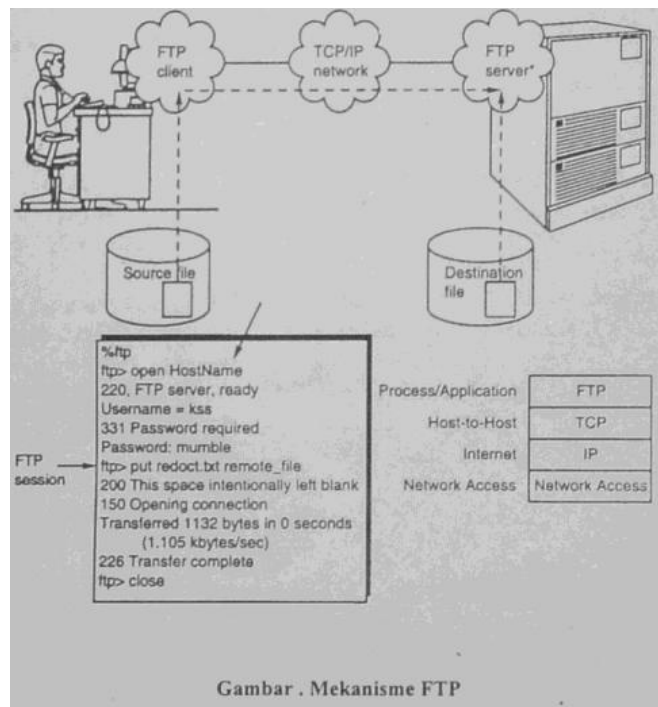
- Melihat daftar file pada directory remote dan local
- Mengganti nama dan menghapus file
- Transfer file dari host remote ke lokal (download)
- Transfer file dari host lokal ke remote (upload)

Pada gambar dibawah menunjukkan mekanisma transfer file dari host local ke remote, proses transfer file seperti ditunjukkan dengan tanda panah pada gambar tersebut. Tahapan FTP dimulai dari client memasuki jaringan TCP/IP, komputer remote yang akan dituju disebut host FTP, dan host FTP ini harus memiliki software FTP server yang telah diinstall agar dapat berinteraksi dengan sistem file pada host. Untuk memulai melakukan FTP, maka berikan perintah seperti berikut ini:

```
%ftp [hostname]
```

Tanda % adalah prompt default pada OS unix, *hostname* merupakan nama secarasimbolik atau IP address dari host yang akan dituju. Bila sudah dapat

tersambung maka akan ditanyakan nama *user* dan *password*, isian nama *user* dan *password* sesuai dengan *account* yang diberikan seperti yang digunakan bila user menggunakan server tersebut, tetapi pada FTP server yang umum, untuk nama user dapat digunakan ftp dan anonymous dengan menggunakan password yaitu e-mail, akan tetapi memiliki hak akses yang terbatas sesuai yang ditetapkan administrator FTP server.



IV. Langkah percobaan:

1. Login ke sistem Linux sebagai root
2. Cek Apakah konfigurasi alamat IP untuk host


```

[root@WSC204-02 root]# ifconfig
eth0    Link encap:Ethernet  HWaddr 00:00:E2:9A:C2:17
        inet addr:10.252.105.102  Bcast:10.252.105.255
        Mask:255.255.255.0
        UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
        RX packets:1446 errors:0 dropped:0 overruns:0 frame:0
        TX packets:1000 errors:0 dropped:0 overruns:0 carrier:0
        collisions:0 txqueuelen:100
        RX bytes:725880 (708.8 Kb)  TX bytes:254267 (248.3 Kb)
        Interrupt:11 Base address:0xc000 Memory:e8000000-e8000038

lo      Link encap:Local Loopback
        inet addr:127.0.0.1  Mask:255.0.0.0
        UP LOOPBACK RUNNING  MTU:16436  Metric:1
        RX packets:11983 errors:0 dropped:0 overruns:0 frame:0
        TX packets:11983 errors:0 dropped:0 overruns:0 carrier:0
        collisions:0 txqueuelen:0
        RX bytes:818451 (799.2 Kb)  TX bytes:818451 (799.2 Kb)
[root@WSC204-02 root]# netstat -r
      
```

```
Kernel IP routing table
Destination Gateway Genmask Flags MSS Window irtt
Iface
10.252.105.0 * 255.255.255.0 U 0 0 0 eth0
169.254.0.0 * 255.255.0.0 U 0 0 0 eth0
127.0.0.0 * 255.0.0.0 U 0 0 0 lo
default 10.252.105.1 0.0.0.0 UG 0 0 0 eth0
```

```
Interface : Ethernet card (eth0)
IP Address : 10.252.105.102
Subnet Mask: 255.255.255.0
Default Gateway: 10.252.105.1
```

3. Catatlah berapa nomor port yang digunakan oleh ftp

```
[root@WSC204-02 root]# cat /etc/services |grep ftp
ftp-data 20/tcp
ftp-data 20/udp
# 21 is registered to ftp, but also used by fsp
ftp 21/tcp
ftp 21/udp fsp fspd
tftp 69/tcp
tftp 69/udp
sftp 115/tcp
sftp 115/udp
tftp-mcast 1758/tcp
tftp-mcast 1758/udp
mftpd 1759/udp
venus-se 2431/udp # udp sftp side effect
codasrv-se 2433/udp # udp sftp side effectQ
```

```
Port untuk ftp : 20 dan 21
Protol untuk ftp : tcp
```

4. Cek apakah program vsftpd sudah terinstall atau belum. Jika sudah, langsung kerjakan langkah nomor 8.

```
[root@WSC204-02 root]# rpm -qa|grep vsftpd
vsftpd-1.1.3-8
```

Versi vsftpd adalah 1.1.3-8

5-7 Proses Instalasi vsftpd

8. Mengaktifkan vsftpd server

```
[root@WSC204-02 xinetd.d]# rpm -ql vsftpd
/etc/logrotate.d/vsftpd.log
/etc/pam.d/vsftpd
/etc/rc.d/init.d/vsftpd
/etc/vsftpd
/etc/vsftpd.ftpusers
/etc/vsftpd.user_list
/etc/vsftpd/vsftpd.conf
/usr/sbin/vsftpd
/usr/share/doc/vsftpd-1.1.3
/usr/share/doc/vsftpd-1.1.3/AUDIT
/usr/share/doc/vsftpd-1.1.3/BUGS
/usr/share/doc/vsftpd-1.1.3/Changelog
```

```

/usr/share/doc/vsftpd-1.1.3/FAQ
/usr/share/doc/vsftpd-1.1.3/INSTALL
/usr/share/doc/vsftpd-1.1.3/LICENSE
/usr/share/doc/vsftpd-1.1.3/README
/usr/share/doc/vsftpd-1.1.3/README.security
/usr/share/doc/vsftpd-1.1.3/REWARD
/usr/share/doc/vsftpd-1.1.3/SECURITY
/usr/share/doc/vsftpd-1.1.3/SECURITY/DESIGN
/usr/share/doc/vsftpd-1.1.3/SECURITY/IMPLEMENTATION
/usr/share/doc/vsftpd-1.1.3/SECURITY/OVERVIEW
/usr/share/doc/vsftpd-1.1.3/SECURITY/TRUST
/usr/share/doc/vsftpd-1.1.3/SIZE
/usr/share/doc/vsftpd-1.1.3/SPEED
/usr/share/doc/vsftpd-1.1.3/TODO
/usr/share/doc/vsftpd-1.1.3/TUNING
/usr/share/doc/vsftpd-1.1.3/vsftpd.xinetd
/usr/share/man/man5/vsftpd.conf.5.gz
/usr/share/man/man8/vsftpd.8.gz
/var/ftp
/var/ftp/pub

```

```

[root@WSC204-02 xinetd.d]# vi /etc/vsftpd/vsftpd.conf
# Example config file /etc/vsftpd.conf
#
# The default compiled in settings are very paranoid. This sample file
# loosens things up a bit, to make the ftp daemon more usable.
#
# Allow anonymous FTP?
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 ftpd's)
local_umask=022
#
# Uncomment this to allow the anonymous FTP user to upload files. This
# only
# has an effect if the above global write enable is activated. Also, you
# will
# obviously need to create a directory writable by the FTP user.
#anon_upload_enable=YES
#
# Uncomment this if you want the anonymous FTP user to be able to
# create
# new directories.
#anon_mkdir_write_enable=YES
#
# Activate directory messages - messages given to remote users when
# they
# go into a certain directory.
dirmessage_enable=YES

```

```
#
# Activate logging of uploads/downloads.
xferlog_enable=YES
#
# Make sure PORT transfer connections originate from port 20 (ftp-data).
connect_from_port_20=YES
#
# If you want, you can arrange for uploaded anonymous files to be
owned by
# a different user. Note! Using "root" for uploaded files is not
# recommended!
#chown_uploads=YES
#chown_username=whoever
#
# You may override where the log file goes if you like. The default is
shown
# below.
#xferlog_file=/var/log/vsftpd.log
#
# If you want, you can have your log file in standard ftpd xferlog format
xferlog_std_format=YES
#
# You may change the default value for timing out an idle session.
#idle_session_timeout=600
#
#
# You may change the default value for timing out a data connection.
#data_connection_timeout=120
#
# It is recommended that you define on your system a unique user which
the
# ftp server can use as a totally isolated and unprivileged user.
#nopriv_user=ftpsecure
#
# Enable this and the server will recognise asynchronous ABOR requests.
Not
# recommended for security (the code is non-trivial). Not enabling it,
# however, may confuse older FTP clients.
#async_abor_enable=YES
#
# By default the server will pretend to allow ASCII mode but in fact
ignore
# the request. Turn on the below options to have the server actually do
ASCII
# mangling on files when in ASCII mode.
# Beware that turning on ascii_download_enable enables malicious
remote parties
# to consume your I/O resources, by issuing the command "SIZE
/big/file" in
# ASCII mode.
# These ASCII options are split into upload and download because you
may wish
# to enable ASCII uploads (to prevent uploaded scripts etc. from
breaking),
# without the DoS risk of SIZE and ASCII downloads. ASCII mangling
should be
# on the client anyway..
```

```

#ascii_upload_enable=YES
#ascii_download_enable=YES
#
# You may fully customise the login banner string:
#ftpd_banner=Welcome to blah FTP service.
#
# You may specify a file of disallowed anonymous e-mail addresses.
Apparently
# useful for combatting certain DoS attacks.
#deny_email_enable=YES
# (default follows)
#banned_email_file=/etc/vsftpd.banned_emails
#
# You may specify an explicit list of local users to chroot() to their home
# directory. If chroot_local_user is YES, then this list becomes a list of
# users to NOT chroot().
#chroot_list_enable=YES
# (default follows)
#chroot_list_file=/etc/vsftpd.chroot_list
#
# You may activate the "-R" option to the builtin ls. This is disabled by
# default to avoid remote users being able to cause excessive I/O on
large
# sites. However, some broken FTP clients such as "ncftp" and "mirror"
assume
# the presence of the "-R" option, so there is a strong case for enabling
it.
#ls_recurse_enable=YES

pam_service_name=vsftpd
userlist_enable=YES
#enable for standalone mode
listen=YES
tcp_wrappers=YES
# /etc/rc.d/init.d/vsftpd start
[root@WSC204-02 xinetd.d]# vi /etc/rc.d/init.d/vsftpd start

#!/bin/bash
#
# vsftpd    This shell script takes care of starting and stopping
#           standalone vsftpd.
#
# chkconfig: - 60 50
# description: Vsftpd is a ftp daemon, which is the program \
#               that answers incoming ftp service requests.
# processname: vsftpd
# config: /etc/vsftpd/vsftpd.conf

# Source function library.
. /etc/rc.d/init.d/functions

# Source networking configuration.
. /etc/sysconfig/network

# Check that networking is up.
[ ${NETWORKING} = "no" ] && exit 0

```

```

[ -x /usr/sbin/vsftpd ] || exit 0

RETVAL=0
prog="vsftpd"

start() {
    # Start daemons.

    if [ -d /etc/vsftpd ] ; then
        declare -a sites
        sites=( `ls /etc/vsftpd/*.conf` )
        site_count=${#sites[@]}
        index=0

        while [ "${index}" -lt "${site_count}" ] ; do
            site=`basename ${sites[${index}]} .conf`
            echo -n "Starting $prog for $site: "
            ( /usr/sbin/vsftpd ${sites[${index}]} & )
            daemon true
            RETVAL=$?
            echo
            [ $RETVAL -eq 0 ] && touch /var/lock/subsys/$prog
            let "index = index + 1"
        done
    else
        RETVAL=1
    fi
    return $RETVAL
}

stop() {
    # Stop daemons.
    echo -n "Shutting down $prog: "
    killproc $prog
    RETVAL=$?
    echo
    [ $RETVAL -eq 0 ] && rm -f /var/lock/subsys/$prog
    return $RETVAL
}

# See how we were called.
case "$1" in
    start)
        start
        ;;
    stop)
        stop
        ;;
    restart|reload)
        stop
        start
        RETVAL=$?
        ;;
    condrestart)
        if [ -f /var/lock/subsys/$prog ]; then
            stop
            start
        fi
        ;;
*)
    ;;
esac

```



```

        RETVAL=$?
    fi
    ;;
status)
    status $prog
    RETVAL=$?
    ;;
*)
    echo $"Usage: $0 {start|stop|restart|condrestart|status}"
    exit 1
esac

exit $RETVAL
[root@WSC204-02 xinetd.d]# /etc/rc.d/init.d/vsftpd start
Starting vsftpd for vsftpd:                [ OK ]

```

Konfigurasi dari vsftpd disimpan di /etc/vsftpd/vsftpd.conf dan untuk mengaktifkan atau merestart vsftpd adalah dengan /etc/rc.d/init.d/vsftpd

9. Menghapus rule firewall

```
[root@WSC204-02 xinetd.d]# iptables -F
```

10. Ujicoba dari localhost

```
[root@WSC204-02 etc]# ftp localhost
Connected to localhost.localdomain.
220 (vsFTPd 1.1.3)
530 Please login with USER and PASS.
530 Please login with USER and PASS.
KERBEROS_V4 rejected as an authentication type
Name (localhost:root):
```

Proses ftp berhasil

11. Cek kerja dari ftp server anda dengan melakukan koneksi ftp ke server anda sendiri (localhost/hostname dari server anda) dengan menjalankan perintah: **#ftp localhost** atau **#ftp nama_host_server**. Tuliskan pesan yang muncul.

```
[root@WSC204-02 etc]# ftp localhost
Connected to localhost.localdomain.
220 (vsFTPd 1.1.3)
530 Please login with USER and PASS.
530 Please login with USER and PASS.
KERBEROS_V4 rejected as an authentication type
Name (localhost:root):
```

12. Login sebagai user yang telah anda buat/nama user anda. Setelah itu ketikkan perintah **>help**. Tuliskan perintah-perintah tersebut. Catatan: untuk melihat deskripsi perintah ftp jalankan perintah **>help nama perintah**.
Kemudian Lengkapi tabel berikut ini:

Perintah	Penjelasan
bye	Keluar dari ftp
close	Menghentikan sesi ftp
binary	Mengeset tipe transfer binary
user	Mengirim informasi user baru
!	Keluar
get	Menerima file
mget	Mengambil file banyak
put	Mengirim satu file
mput	Mengirim banyak file
cd	Mengubah direktori aktif pada remote
mdir	Melihat isi dari direktori
mkdir	Membuat direktori pada remote PC
reset	Perintah membersihkan antrian
restart	Restart file pada hitungan byte

13. Buat tabel yang berisikan konfigurasi file utama beserta nilai defaultnya dan jelaskan maksudnya tiap baris konfigurasi:

Baris ke	Deklarasi konfigurasi	Nilai Default	Keterangan
1	Anonymous_enable	YES	Menyatakan apakah ftp server dapat diakses secara anonymous (public anonymous ftp server)
2	Local_enable	YES	Menyatakan apakah local user dapat log in
3	Write_enable	YES	Menyatakan apakah ftp dapat menggunakan perintah write
4	Local_umask	077	Menyatakan umask dari local user
5	anon_upload_enable	YES	Menyatakan apakah anonymous dapat men-upload file
6	anon_mkdir_write_enable	YES	Menyatakan apakah anonymous dapat men-create directory baru
7	Dirmessage_enable	YES	Untuk mengaktifkan pesan-pesan jika user masuk ke directory khusus
8	xferlog_enable	YES	Untuk mengaktifkan fasilitas upload dan download
9	connect_from_port_20	YES	Menyatakan koneksi PORT transfer original dari port 20 (ftp data)
10	Chown_uploads	YES	Jika diinginkan, anda dapat mengatur upload untuk anonymous untuk dijadikan milik pribadi oleh user
11	Chown_username	Whoever	User name untuk anonymous
12	xferlog_file	/var/log/vsftpd.log	Letak dari pada file xferlog
13	xferlog_std_format	YES	Jika anda ingin log file dalam format xferlog standart
14	Idle_session_timeout	600	Timing untuk sesi idle
15	Data_connection_timeout	120	Timing untuk koneksi data keluar
16	nopriv_user	ftpsecure	Direkomendasikan untuk menggunakannya bila menginginkan user yang unik

17	async_abor_enable	YES	Untuk mengenali request dari ABOR asynchronous
18	ascii_upload_enable	YES	Mengaktifkan upload ASCII
19	ascii_download_enable	YES	Mengaktifkan download ASCII
20	ftpd_banner	Welcome to lah FTP service.	Untuk merubah (customize) banner saat login
21	deny_email_enable	YES	Jika menginginkan untuk mengabaikan e-mail dari anonymous
22	banned_email_file	=/etc/vsftpd. banned_ema ils	Lokasi dari pada alamat email dari anonymous
23	chroot_list_enable	YES	Mengaktifkan file choort
24	chroot_list_file	=/etc/vsftpd. chroot_list	Lokasi dari file choort
25	ls_recurse_enable	NO	Untuk mengaktifkan perintah ls pada ftp
26	pam_service_name	VSFTPD	Nama service pam
27	userlist_enable	YES	Untuk mengaktifkan userlist
28	Listen	YES	Untuk mengaktifkan fasilitas listen
29	tcp_wrappers	YES	Untuk mengaktifkan fasilitas tcp

14. Berdiskusilah dengan rekan-rekan disebelah anda, perintahkan rekan-rekan anda untuk melakukan ftp ke PC anda.

```
[idris@WSC204-03 idris]$ hostname
WSC204-03
[idris@WSC204-03 idris]$ cd
[idris@WSC204-03 idris]$ touch dataku datague mydata
[root@WSC204-02 etc]# ftp 10.252.105.103
Connected to 10.252.105.103.
220 (vsFTPd 1.1.3)
530 Please login with USER and PASS.
530 Please login with USER and PASS.
KERBEROS_V4 rejected as an authentication type
Name (10.252.105.103:root): idris
331 Please specify the password.
Password:
230 Login successful. Have fun.
Remote system type is UNIX.
Using binary mode to transfer files.
ftp> hostname
?Invalid command
ftp> whoami
?Invalid command
ftp> pwd
257 "/home/idris"
ftp> finger
?Invalid command
ftp> mput *
mput CORBA? y
CORBA: not a plain file.
mput DIR_COLORS? y
227 Entering Passive Mode (10,252,105,103,253,56)
150 OK to send data.
```

226 File receive OK.
2456 bytes sent in 0.032 seconds (76 Kbytes/s)
mput DIR_COLORS.xterm? y
227 Entering Passive Mode (10,252,105,103,69,159)
150 Ok to send data.
226 File receive OK.
2434 bytes sent in 4.3e-05 seconds (5.5e+04 Kbytes/s)
mput FreeWnn? y
FreeWnn: not a plain file.
mput Muttrc? y
227 Entering Passive Mode (10,252,105,103,46,211)
150 Ok to send data.
226 File receive OK.
92336 bytes sent in 0.055 seconds (1.6e+03 Kbytes/s)
mput X11? y
X11: not a plain file.
mput a2ps-site.cfg? y
227 Entering Passive Mode (10,252,105,103,242,121)
150 Ok to send data.
226 File receive OK.
2562 bytes sent in 0.063 seconds (40 Kbytes/s)
mput a2ps.cfg? y
227 Entering Passive Mode (10,252,105,103,217,160)
150 Ok to send data.
226 File receive OK.
15228 bytes sent in 0.0011 seconds (1.4e+04 Kbytes/s)
mput adjtime? y
227 Entering Passive Mode (10,252,105,103,160,106)
150 Ok to send data.
226 File receive OK.
47 bytes sent in 0.011 seconds (4.4 Kbytes/s)
mput aep? y
aep: not a plain file.
mput aep.conf? y
227 Entering Passive Mode (10,252,105,103,31,187)
150 Ok to send data.
226 File receive OK.
688 bytes sent in 0.029 seconds (23 Kbytes/s)
mput aeplog.conf? y
227 Entering Passive Mode (10,252,105,103,233,127)
150 Ok to send data.
226 File receive OK.
703 bytes sent in 0.00014 seconds (4.7e+03 Kbytes/s)
mput alchemist? y
alchemist: not a plain file.
mput aliases? y
227 Entering Passive Mode (10,252,105,103,82,17)
150 Ok to send data.
226 File receive OK.
1343 bytes sent in 0.014 seconds (94 Kbytes/s)
mput aliases.db? y
227 Entering Passive Mode (10,252,105,103,248,106)
150 Ok to send data.
226 File receive OK.
12288 bytes sent in 0.023 seconds (5.2e+02 Kbytes/s)
mput alternatives? y
alternatives: not a plain file.

```

mput amanda? y
amanda: not a plain file.
mput amandates? y
227 Entering Passive Mode (10,252,105,103,179,62)
150 Ok to send data.
226 File receive OK.
mput amd.conf? y
227 Entering Passive Mode (10,252,105,103,202,215)
150 Ok to send data.
226 File receive OK.
688 bytes sent in 0.099 seconds (6.8 Kbytes/s)
mput amd.net? y
227 Entering Passive Mode (10,252,105,103,133,58)
150 Ok to send data.
226 File receive OK.
105 bytes sent in 0.00015 seconds (7e+02 Kbytes/s)
mput anacrontab? y
227 Entering Passive Mode (10,252,105,103,40,79)
150 Ok to send data.
226 File receive OK.
317 bytes sent in 0.013 seconds (24 Kbytes/s)
mput at.deny?
Continue with mput? n
ftp> ls
227 Entering Passive Mode (10,252,105,103,122,240)
150 Here comes the directory listing.
-rw-r--r--  1 506    506    2456 Jul 28 04:34 DIR_COLORS
-rw-r--r--  1 506    506    2434 Jul 28 04:34 DIR_COLORS.xterm
-rw-r--r--  1 506    506   92336 Jul 28 04:34 Muttrc
-rw-r--r--  1 506    506    2562 Jul 28 04:34 a2ps-site.cfg
-rw-r--r--  1 506    506   15228 Jul 28 04:34 a2ps.cfg
-rw-r--r--  1 506    506     47 Jul 28 04:34 adjtime
-rw-r--r--  1 506    506    688 Jul 28 04:34 aep.conf
-rw-r--r--  1 506    506    703 Jul 28 04:34 aeplog.conf
-rw-r--r--  1 506    506   1343 Jul 28 04:34 aliases
-rw-r--r--  1 506    506   12288 Jul 28 04:34 aliases.db
-rw-r--r--  1 506    506     0 Jul 28 04:34 amandates
-rw-r--r--  1 506    506    688 Jul 28 04:34 amd.conf
-rw-r--r--  1 506    506    105 Jul 28 04:34 amd.net
-rw-r--r--  1 506    506    317 Jul 28 04:34 anacrontab
-rw-r--r--  1 506    506    239 Jul 28 03:52 dataku
-rw-r--r--  1 506    506     10 Jul 28 03:52 namapc
drwxr-xr-x  2 506    506    4096 Jul 28 03:47 public_html
226 Directory send OK.
[root@WSC204-02 etc]# finger
Login   Name    Tty    Idle Login Time  Office  Office Phone
root    root    *:0    Jul 28 09:35
root    root    pts/0  Jul 28 10:01 (:0.0)

```

Perintah hostname, whoami, finger, dll dapat berjalan di telnet karena telnet berfungsi sebagai remote akses ke komputer lain, sebaliknya perintah tersebut tidak berjalan di ftp karena ftp di khususkan untuk transfer file

15. Amatilah proses-proses yang terjadi di PC anda (server)

```

[root@WSC204-02 etc]# finger
Login   Name    Tty    Idle Login Time  Office  Office Phone

```

```

root    root    *:0          Jul 28 09:35
root    root    pts/0       Jul 28 10:01 (:0.0)
[root@WSC204-02 etc]# netstat
Active Internet connections (w/o servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State
tcp    0      0 wsc204-02:ftp          wsc204-03:34177       ESTABLISHED
tcp    15     0 wsc204-02:34146        wsc204-02:ftp         CLOSE_WAIT
tcp    0      0 localhost.localdo:34371 localhost.localdoma:ipp TIME_WAIT
tcp    0      0 localhost.localdo:34370 localhost.localdoma:ipp TIME_WAIT
.....
.....
Active UNIX domain sockets (w/o servers)
Proto RefCnt Flags   Type       State         I-Node Path
unix  11    [ ]     DGRAM          1182 /dev/log
unix   3    [ ]     DGRAM          28392
unix   3    [ ]     DGRAM          28391
unix   2    [ ]     DGRAM          28390
unix   2    [ ]     DGRAM          6583
unix   3    [ ]     STREAM        CONNECTED    4984
unix   3    [ ]     STREAM        CONNECTED    4983
unix   3    [ ]     STREAM        CONNECTED    4979 /tmp/orbit-
root/linc-5b6-0-5b08cbddf17eb
unix   3    [ ]     STREAM        CONNECTED    4978
unix   3    [ ]     STREAM        CONNECTED    4977 /tmp/orbit-
root/linc-514-0-e80626291bb
unix   3    [ ]     STREAM        CONNECTED    4976
unix   3    [ ]     STREAM        CONNECTED    4975 /tmp/orbit-
root/linc-5b6-0-5b08cbddf17eb
unix   3    [ ]     STREAM        CONNECTED    4974
unix   3    [ ]     STREAM        CONNECTED    4971 /tmp/orbit-
root/linc-512-0-6fa247f74437e
unix   3    [ ]     STREAM        CONNECTED    4970
unix   3    [ ]     STREAM        CONNECTED    4968 /tmp/.ICE-
unix/1223
unix   3    [ ]     STREAM        CONNECTED    4967
unix   3    [ ]     STREAM        CONNECTED    4961 /tmp/.X11-unix/X0
unix   3    [ ]     STREAM        CONNECTED    4960
.....
.....
unix   3    [ ]     STREAM        CONNECTED    2285 /tmp/.font-
unix/fs7100
unix   3    [ ]     STREAM        CONNECTED    2284
unix   4    [ ]     STREAM        CONNECTED    2287 /tmp/.X11-unix/X0
unix   3    [ ]     STREAM        CONNECTED    2270
unix   2    [ ]     DGRAM          1987
unix   2    [ ]     DGRAM          1917
unix   2    [ ]     DGRAM          1897
unix   2    [ ]     DGRAM          1409
unix   2    [ ]     DGRAM          1258
unix   2    [ ]     DGRAM          1197

```

```
[root@WSC204-02 etc]# cat /var/log/secure
Jul 28 10:39:14 wsc204-02 xinetd[1634]: START: telnet pid=16243
from=127.0.0.1
Jul 28 10:47:29 wsc204-02 xinetd[1634]: START: telnet pid=16287
from=127.0.0.1
Jul 28 10:48:16 wsc204-02 groupadd[16330]: new group:
name=temanku, gid=511
Jul 28 10:48:34 wsc204-02 useradd[16331]: new user: name=windi,
uid=511, gid=511, home=/home/windi, shell=/bin/bash
Jul 28 10:48:42 wsc204-02 xinetd[1634]: START: telnet pid=16332
from=10.252.105.124
Jul 28 10:51:24 wsc204-02 xinetd[1634]: START: telnet pid=16343
from=10.252.105.103
Jul 28 11:00:08 wsc204-02 xinetd[1634]: START: telnet pid=16422
from=10.252.105.103
Jul 28 11:00:09 wsc204-02 xinetd[1634]: START: telnet pid=16424
from=10.252.105.121
Jul 28 11:17:05 wsc204-02 xinetd[1634]: START: telnet pid=16607
from=10.252.105.102
```

16. Mencoba anonymous ftp

```
[root@WSC204-02 etc]# cd /var/ftp/pub
[root@WSC204-02 pub]# echo "Ini komputerku, namanya"
`hostname` >namapcku
[root@WSC204-02 pub]# ifconfig>ip.komputerku
[root@WSC204-02 pub]# touch filekosong1 filekosong2 filekosong3
[root@WSC204-02 pub]# ls -l
total 12
-rw-r--r-- 1 root root 0 Jul 28 11:45 filekosong1
-rw-r--r-- 1 root root 0 Jul 28 11:45 filekosong2
-rw-r--r-- 1 root root 0 Jul 28 11:45 filekosong3
-rw-r--r-- 1 root root 868 Jul 28 11:45 ip.komputerku
-rw-r--r-- 1 root root 21 May 7 09:52 namakomp
-rw-r--r-- 1 root root 34 Jul 28 11:44 namapcku
```

```
[root@WSC204-02 pub]# ftp 10.252.105.102
Connected to 10.252.105.102.
220 (vsFTPd 1.1.3)
530 Please login with USER and PASS.
530 Please login with USER and PASS.
KERBEROS_V4 rejected as an authentication type
Name (10.252.105.102:root): anonymous
331 Please specify the password.
Password:
230 Login successful. Have fun.
Remote system type is UNIX.
Using binary mode to transfer files.
ftp> hostname
?Invalid command
ftp> whoami
?Invalid command
ftp> pwd
257 "/"
ftp> wl
?Invalid command
ftp> ls
227 Entering Passive Mode (10,252,105,102,189,47)
```

```

150 Here comes the directory listing.
drwxr-xr-x  2 0      0      4096 Jul 28 04:46 pub
226 Directory send OK.
ftp> cd pub
250 Directory successfully changed.
ftp> ls
227 Entering Passive Mode (10,252,105,102,23,191)
150 Here comes the directory listing.
-rw-r--r--  1 0      0      0 Jul 28 04:45 filekosong1
-rw-r--r--  1 0      0      0 Jul 28 04:45 filekosong2
-rw-r--r--  1 0      0      0 Jul 28 04:45 filekosong3
-rw-r--r--  1 0      0     868 Jul 28 04:45 ip.komputerku
-rw-r--r--  1 0      0     21 May 07 02:52 namakomp
-rw-r--r--  1 0      0     34 Jul 28 04:44 namapcku
226 Directory send OK.
ftp> mget *
mget filekosong1? y
227 Entering Passive Mode (10,252,105,102,141,68)
150 Opening BINARY mode data connection for filekosong1 (0 bytes).
226 File send OK.
mget filekosong2? y
227 Entering Passive Mode (10,252,105,102,126,165)
150 Opening BINARY mode data connection for filekosong2 (0 bytes).
226 File send OK.
mget filekosong3? y
227 Entering Passive Mode (10,252,105,102,153,116)
150 Opening BINARY mode data connection for filekosong3 (0 bytes).
226 File send OK.
mget ip.komputerku? y
227 Entering Passive Mode (10,252,105,102,211,134)
150 Opening BINARY mode data connection for ip.komputerku (868
bytes).
226 File send OK.
868 bytes received in 5.6e-05 seconds (1.5e+04 Kbytes/s)
mget namakomp? y
227 Entering Passive Mode (10,252,105,102,226,77)
150 Opening BINARY mode data connection for namakomp (21 bytes).
426 Failure writing network stream.
mget namapcku? y
227 Entering Passive Mode (10,252,105,102,215,66)
150 Opening BINARY mode data connection for namapcku (34 bytes).
226 File send OK.
34 bytes received in 3.7e-05 seconds (9e+02 Kbytes/s)
ftp> bye
221 Goodbye.
[root@WSC204-02 pub]# ls -l
total 8
-rw-r--r--  1 root  root      0 Jul 28 11:48 filekosong1
-rw-r--r--  1 root  root      0 Jul 28 11:48 filekosong2
-rw-r--r--  1 root  root      0 Jul 28 11:48 filekosong3
-rw-r--r--  1 root  root    868 Jul 28 11:48 ip.komputerku
-rw-r--r--  1 root  root      0 Jul 28 11:48 namakomp
-rw-r--r--  1 root  root     34 Jul 28 11:48 namapcku

```

User ftp memiliki kekuasaan untuk dapat melakukan fasilitas lebih banyak dari pada anonymous karena anonymous di tujukan untuk public (umum) jadi secara otomatis kekuasaanya dalam ftp terbatas.

User ftp dapat melakukan download dan upload sedang anonymous hanya dapat melakukan download saja (itupun tidak semua dapat didownload secara penuh)