ftp server is used to transfer files between server and clients. All major operating system supports ftp. ftp is the most used protocol over internet to transfer files. Like most Internet operations, FTP works on a client/ server model. FTP client programs can enable users to transfer files to and from a remote system running an FTP server program.

Any Linux system can operate as an FTP server. It has to run only the server software—an FTP daemon with the appropriate configuration. Transfers are made between user accounts on client and server systems. A user on the remote system has to log in to an account on a server and can then transfer files to and from that account's directories only.

A special kind of user account, named **ftp**, allows any user to log in to it with the username **"anonymous."** This account has its own set of directories and files that are considered public, available to anyone on the network who wants to download them.

The numerous FTP sites on the Internet are FTP servers supporting FTP user accounts with anonymous login. Any Linux system can be configured to support anonymous FTP access, turning them into network FTP sites. Such sites can work on an intranet or on the Internet.

Configuring the ftp Server

The vsftpd RPM package is required to configure a Red Hat Enterprise Linux system as an ftp server. If it is not already installed, install it with rpm commands as described in our pervious article. After it is installed, start the service as root with the command service vsftpd start. The system is now an ftp server and can accept connections. To configure the server to automatically start the service at boot time, execute the command chkconfig vsftpd on as root. To stop the server, execute the command service vsftpd stop. To verify that the server is running, use the command service vsftpd status.

Configure vsftpd server

In this example we will configure a **vsftpd** server and will transfer files from client side.

For this example we are using three systems one Linux server one Linux clients and one Windows XP clients. To complete these per quest of ftp server as follow

Per quest of vsftpd server

- ***A Linux server with IP address 192.168.0.254 and hostname Server***
- ***A Linux client with IP address 192.168.0.1 and hostname Client1***
- ***A window client with IP address 192.168.0.2 and hostname Client2***
- ***Updated /etc/hosts file on both Linux system***
- ***Running portmap and xinetd services***
- ***Firewall should be off on server***

We have configured all these steps in our pervious article.

Necessary configuration for vsftpd server

We suggest you to review that article before start configuration of ssh server. Once you have completed the necessary steps follow this guide.

Three rpm are required to configure ssh server. vsftpd, portmap, xinetd check them if not found then install

```
[root@Server ~]# rpm -qa vsftpd
vsftpd-2.0.5-10.el5
[root@Server ~]# rpm -qa portmap
portmap-4.0-65.2.2.1
[root@Server ~]# rpm -qa xinetd
xinetd-2.3.14-10.el5
[root@Server ~]# _
```

Now check vsftpd, portmap, xinetd service in system service it should be on

#setup

Select System service from list

[*]portmap

[*]xinetd

[*]vsftpd

Now restart xinetd and portmap and vsftpd service

```
[root@Server ~]# service portmap restart
Stopping portmap:                                          [  OK  ]
Starting portmap:                                          [  OK  ]
[root@Server ~]# service xinetd restart
Stopping xinetd:                                           [  OK  ]
Starting xinetd:                                           [  OK  ]
[root@Server ~]# _
```

```
[root@Server ~]# service vsftpd restart
Shutting down vsftpd:                                      [  OK  ]
Starting vsftpd for vsftpd:                                [  OK  ]
[root@Server ~]# chkconfig vsftpd on
[root@Server ~]# _
```

To keep on these services after reboot on then via chkconfig command

```
[root@Server ~]# chkconfig portmap on
[root@Server ~]# chkconfig xinetd on
[root@Server ~]# _
```

After reboot verify their status. It must be in running condition

```
[root@Server ~]# service portmap status
portmap (pid 3430) is running...
[root@Server ~]# service xinetd status
xinetd (pid 3462) is running...
[root@Server ~]# _
```

Create a normal user named vinita

```
[root@Server backup]# useradd vinita
[root@Server backup]# passwd vinita
Changing password for user vinita.
New UNIX password:
BAD PASSWORD: it is WAY too short
Retype new UNIX password:
passwd: all authentication tokens updated successfully.
[root@Server backup]#
```

Login for this user on other terminal and create a test file

```
[vinita@Server ~]$ cat > test
This is test file created on Linux ftp server
[vinita@Server ~]$ _
```

On Linux client

ping for ftp server and run ftp command and give username and password

```
[root@Client1 ~]# ftp 192.168.0.254
Connected to 192.168.0.254.
220 (vsFTPd 2.0.5)
530 Please login with USER and PASS.
530 Please login with USER and PASS.
KERBEROS_V4 rejected as an authentication type
Name (192.168.0.254:root): vinita
331 Please specify the password.
Password:
230 Login successful.
Remote system type is UNIX.
Using binary mode to transfer files.
ftp> get test
local: test remote: test
227 Entering Passive Mode (192,168,0,254,240,40)
150 Opening BINARY mode data connection for test (46 bytes).
226 File send OK.
46 bytes received in 0.0026 seconds (17 Kbytes/s)
ftp> quit
221 Goodbye.
[root@Client1 ~]# ls
anaconda-ks.cfg  Desktop  install.log  install.log.syslog  test
[root@Client1 ~]# cat test
This is test file created on Linux ftp server
[root@Client1 ~]# _
```

After login you can download files from the specified directories

Most commonly commands used on ftp prompt are

put	**To upload files on server**
get	**To download files from server**
mput	**To upload all files**
mget	**To download all files**

? **To see all available command on ftp prompts**

cd **To change remote directory**

lcd **To change local directory**

```
ftp> ?
Commands may be abbreviated.  Commands are:

!               delete          literal         prompt
?               debug           ls              put
append          dir             mdelete         pwd
ascii           disconnect      mdir            quit
bell            get             mget            quote
binary          glob            mkdir           recv
bye             hash            mls             remotehelp
cd              help            mput            rename
close           lcd             open            rmdir
ftp> _
```

On window clients

Now go on window clients and create a file. copy con command is used to create files on window. To save use CTRL+Z

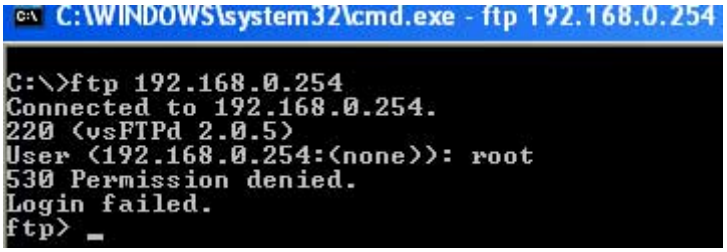
```
C:\WINDOWS\system32\cmd.exe

C:\>copy con win
this is test file created on window
^Z
        1 file(s) copied.

C:\>
```

Now ping from ftp server and invoke ftp session from server, login from user account and download as well as uploads files

```
C:\WINDOWS\system32\cmd.exe

C:\>ftp 192.168.0.254
Connected to 192.168.0.254.
220 (vsFTPd 2.0.5)
User (192.168.0.254:(none)): vinita
331 Please specify the password.
Password:
230 Login successful.
ftp> get test
200 PORT command successful. Consider using PASV.
150 Opening BINARY mode data connection for test (46 bytes).
226 File send OK.
ftp: 46 bytes received in 0.00Seconds 46000.00Kbytes/sec.
ftp> put win
200 PORT command successful. Consider using PASV.
150 Ok to send data.
226 File receive OK.
ftp: 37 bytes sent in 0.00Seconds 37000.00Kbytes/sec.
ftp> quit
221 Goodbye.

C:\>type test
This is test file created on Linux ftp server

C:\>_
```

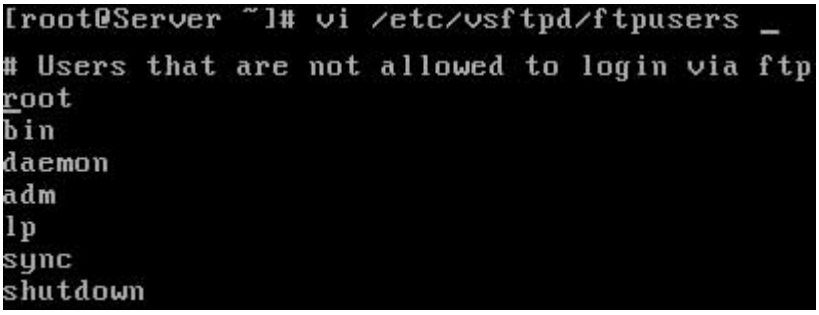
Enable root account for ftp session and set permission on user

By default on vsftpd server root account is disable. You cannot login from root account.

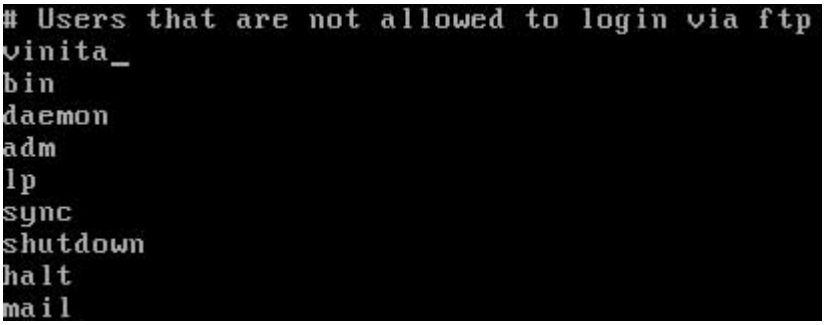


Now we will enable root account for ftp session and same time we will disable our normal user vinita to use ftp sessions.

Open file /etc/vsftpd/ftpusers. Users whose name are set in this file will not allowed to login from ftp.



By default this file have an entry for root that why root are not allowed to use ftp. Remove root from list and add user vinita



Now remove entry form /etc/vsftpd/user_list files. Users whose names are set in this file are also not allowed to login from ftp even they are not prompt for password.

```
# vsftpd userlist
# If userlist_deny=NO, only allow users in this file
# If userlist_deny=YES (default), never allow users in this file, and
# do not even prompt for a password.
# Note that the default vsftpd pam config also checks /etc/vsftpd/ftpusers
# for users that are denied.
root
bin
daemon
```

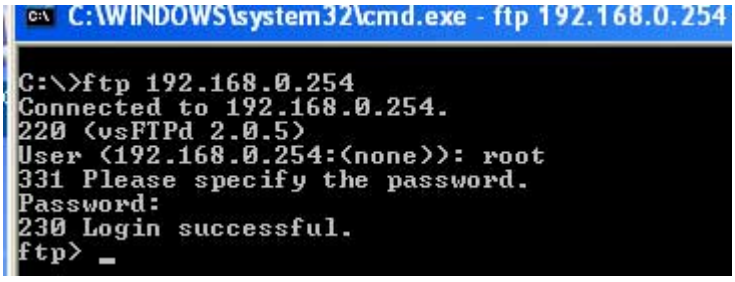
By default this file have an entry for root that way root is denied form login even not asked for password remove root from list and add user Vinita

```
# vsftpd userlist
# If userlist_deny=NO, only allow users in this file
# If userlist_deny=YES (default), never allow users in this file, and
# do not even prompt for a password.
# Note that the default vsftpd pam config also checks /etc/vsftpd/ftpusers
# for users that are denied.
vinita_
bin
daemon
adm
```

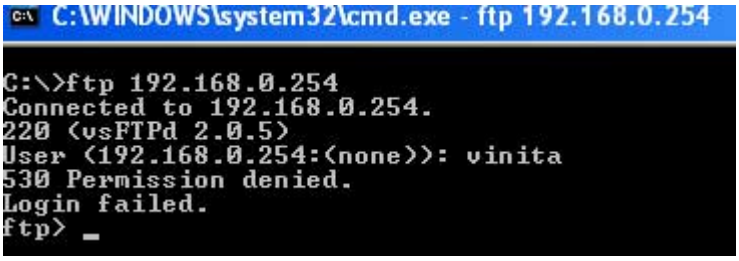
After saving change in these files restart the vsftpd service

```
[root@Server ~]# service vsftpd restart
Shutting down vsftpd:                                      [  OK  ]
Starting vsftpd for vsftpd:                                [  OK  ]
[root@Server ~]# chkconfig vsftpd on
[root@Server ~]# _
```

Now go on client system and login from root this time root will login



Now try to login form user vinita she should not prompt form password also



How to set login banner for ftp server

To set login banner open /etc/vsftpd/vsftpd.conf file and search for this tag

```
# raw file.
# ASCII mangling is a horrible feature of the protocol.
#ascii_upload_enable=YES
#ascii_download_enable=YES
#
# You may fully customise the login banner string:
#ftpd_banner=Welcome to blah FTP service.
```

Uncomment this tag and set your banner and save file, and restart the vsftpd service

```
# raw file.
# ASCII mangling is a horrible feature of the protocol.
#ascii_upload_enable=YES
#ascii_download_enable=YES
#
# You may fully customise the login banner string:
ftpd_banner=Welcome to CompleteNetworkingNotes.com_
```

Go on client system and check banner it will appear before user login