

# How to Install And Configure FTP Server In Ubuntu

By **Mohammad Forhad Iftekher** - September 11, 2015



Today, we will walk thorough how to install, configure and test an ftp server. Let's began then.

## First, what is FTP?

The File Transfer Protocol (FTP) is a standard network protocol used to transfer computer files from one host to another host over a TCP-based network, such as the Internet or over LAN (Local Area Network). So, you can upload your files on a FTP server that you have and you can provide a url/link of that file to your friend to download. Your friend then can use a FTP client to download the file. Usually FTP runs on port 21.

We will use vsftpd so that it act like a FTP service on a server and hence we will call it FTP server.

I am assuming that you are running a Linux operating system distribution like Ubuntu, Debian, CentOS, RedHat or Fedora. I am using Ubuntu 14.04.3 LTS as my Linux distribution.

**Note:** To begin, make sure you have a static IP address manually assigned on your interface on the machine where your Linux is running and where we are going to install vsftpd. If you get an IP address from

a DHCP server, then you may have IP address dynamically assigned to your interface and it will change time to time.

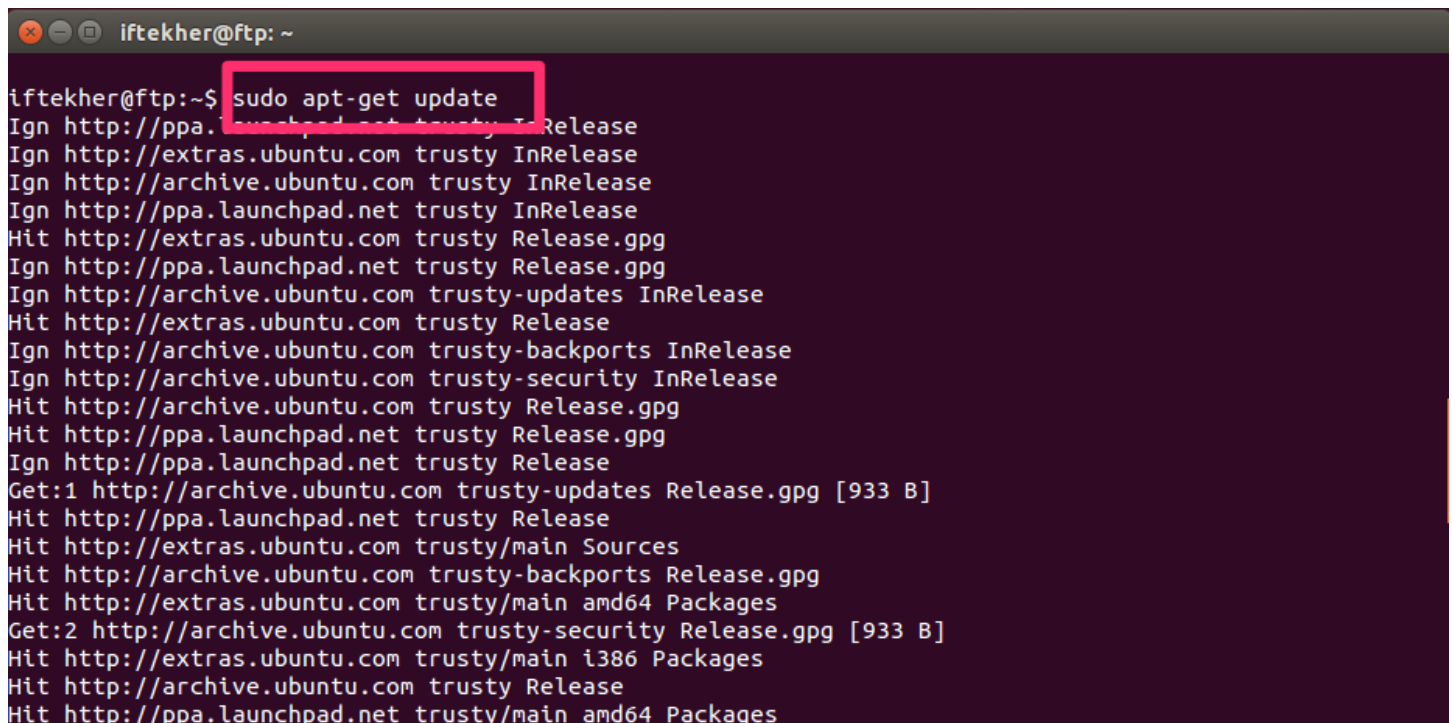
## # STEP 1

Update your package lists from the repositories. To do this, open a terminal.

Now type the following command in the terminal.

If you are a Ubuntu, Debian user:

```
sudo apt-get update
```



```
iftekher@ftp: ~  
iftekher@ftp:~$ sudo apt-get update  
Ign http://ppa.launchpad.net trusty InRelease  
Ign http://extras.ubuntu.com trusty InRelease  
Ign http://archive.ubuntu.com trusty InRelease  
Ign http://ppa.launchpad.net trusty InRelease  
Hit http://extras.ubuntu.com trusty Release.gpg  
Ign http://ppa.launchpad.net trusty Release.gpg  
Ign http://archive.ubuntu.com trusty-updates InRelease  
Hit http://extras.ubuntu.com trusty Release  
Ign http://archive.ubuntu.com trusty-backports InRelease  
Ign http://archive.ubuntu.com trusty-security InRelease  
Hit http://archive.ubuntu.com trusty Release.gpg  
Hit http://ppa.launchpad.net trusty Release.gpg  
Ign http://ppa.launchpad.net trusty Release  
Get:1 http://archive.ubuntu.com trusty-updates Release.gpg [933 B]  
Hit http://ppa.launchpad.net trusty Release  
Hit http://extras.ubuntu.com trusty/main Sources  
Hit http://archive.ubuntu.com trusty-backports Release.gpg  
Hit http://extras.ubuntu.com trusty/main amd64 Packages  
Get:2 http://archive.ubuntu.com trusty-security Release.gpg [933 B]  
Hit http://extras.ubuntu.com trusty/main i386 Packages  
Hit http://archive.ubuntu.com trusty Release  
Hit http://ppa.launchpad.net trusty/main amd64 Packages
```

This will also ask for your root password. Wait till it gets updated.

## # STEP 2

We will need a file editor to edit our configuration files. Here, I will use vim as an editor to edit our configuration file. Usually every Linux distribution comes up with vi installed and if you are familiar with vi, you can skip step 2. But vim has many advantages over vi and hence vim is more popular as a editor.

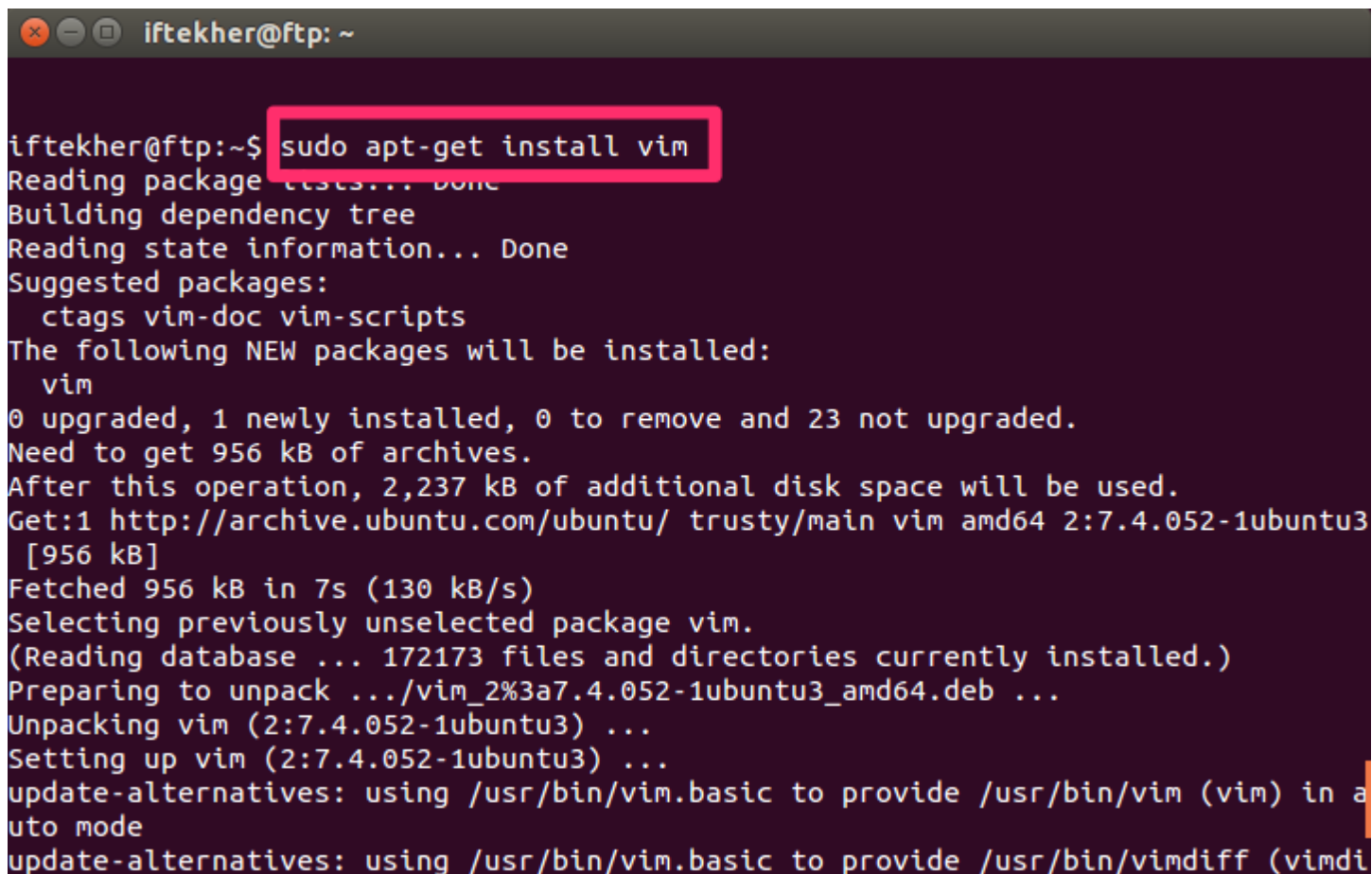
If you don't have vim installed on your Linux, please issue the following command on your terminal.

If you are a Ubuntu, Debian user:

```
sudo apt-get install vim
```

If you are a CentOS/RedHat/Fedora user:

```
sudo yum install vim
```

A terminal window titled 'iftekhher@ftp: ~' shows the command 'sudo apt-get install vim' being executed. The command is highlighted with a red rectangle. The output shows the package being installed, the disk space requirements, and the successful completion of the installation. The terminal text is as follows:

```
iftekhher@ftp:~$ sudo apt-get install vim
Reading package lists... Done
Building dependency tree
Reading state information... Done
Suggested packages:
  ctags vim-doc vim-scripts
The following NEW packages will be installed:
  vim
0 upgraded, 1 newly installed, 0 to remove and 23 not upgraded.
Need to get 956 kB of archives.
After this operation, 2,237 kB of additional disk space will be used.
Get:1 http://archive.ubuntu.com/ubuntu/ trusty/main vim amd64 2:7.4.052-1ubuntu3
[956 kB]
Fetched 956 kB in 7s (130 kB/s)
Selecting previously unselected package vim.
(Reading database ... 172173 files and directories currently installed.)
Preparing to unpack .../vim_2%3a7.4.052-1ubuntu3_amd64.deb ...
Unpacking vim (2:7.4.052-1ubuntu3) ...
Setting up vim (2:7.4.052-1ubuntu3) ...
update-alternatives: using /usr/bin/vim.basic to provide /usr/bin/vim (vim) in a
uto mode
update-alternatives: using /usr/bin/vim.basic to provide /usr/bin/vimdiff (vimdi
```

It will install vim on your Linux distribution. Wait till the installation of vim gets finished.

### # STEP 3

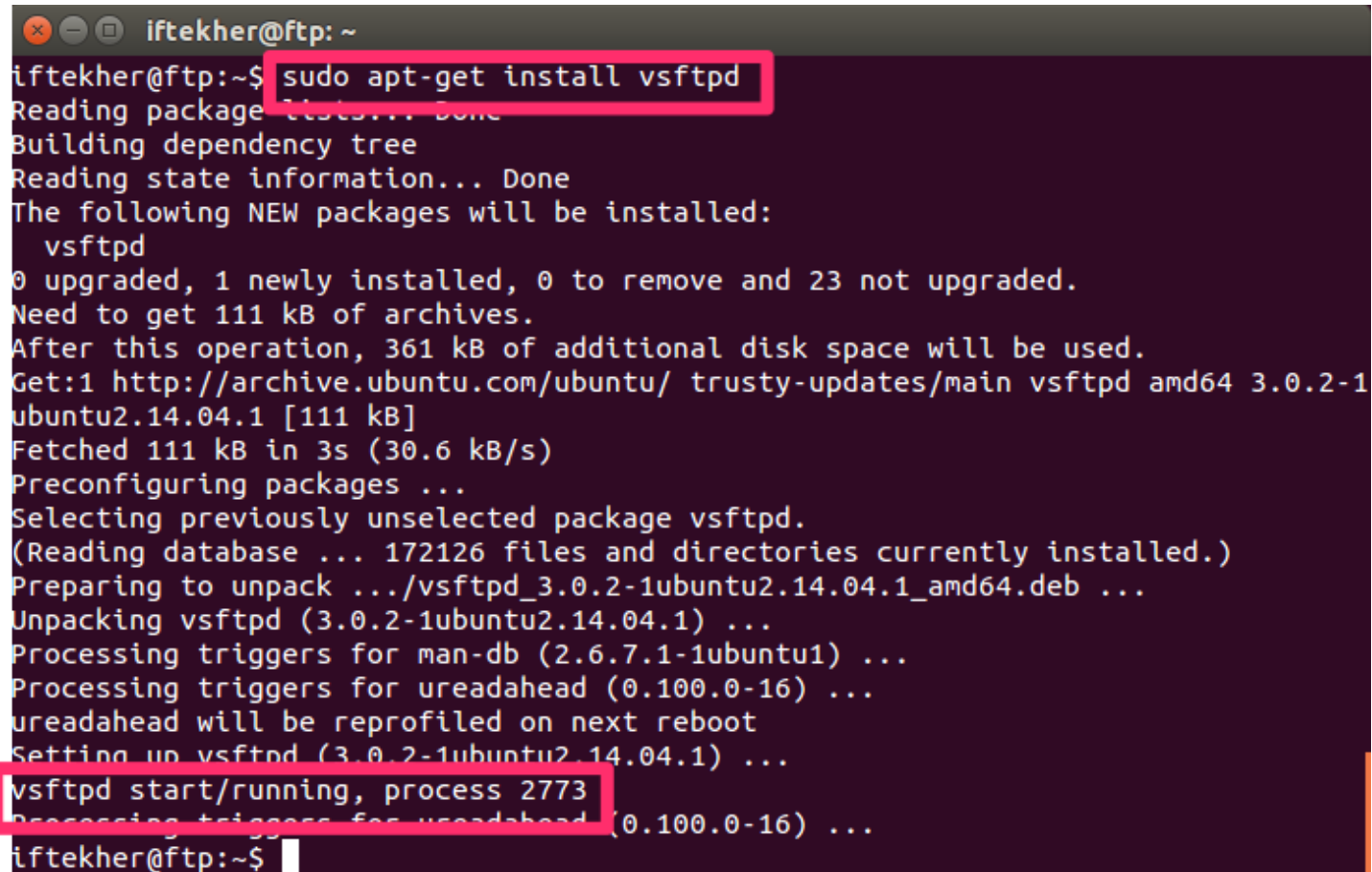
Now it's time to install vsftpd which will act like a FTP server. Issue the following command in the terminal which will download and install vsftpd on your Linux.

If you are a Ubuntu, Debian user:

```
sudo apt-get install vsftpd
```

If you are a CentOS/RedHat/Fedora user:

```
sudo yum install vsftpd
```



```
iftekher@ftp: ~  
iftekher@ftp:~$ sudo apt-get install vsftpd  
Reading package lists... Done  
Building dependency tree  
Reading state information... Done  
The following NEW packages will be installed:  
  vsftpd  
0 upgraded, 1 newly installed, 0 to remove and 23 not upgraded.  
Need to get 111 kB of archives.  
After this operation, 361 kB of additional disk space will be used.  
Get:1 http://archive.ubuntu.com/ubuntu/ trusty-updates/main vsftpd amd64 3.0.2-1ubuntu2.14.04.1 [111 kB]  
Fetched 111 kB in 3s (30.6 kB/s)  
Preconfiguring packages ...  
Selecting previously unselected package vsftpd.  
(Reading database ... 172126 files and directories currently installed.)  
Preparing to unpack .../vsftpd_3.0.2-1ubuntu2.14.04.1_amd64.deb ...  
Unpacking vsftpd (3.0.2-1ubuntu2.14.04.1) ...  
Processing triggers for man-db (2.6.7.1-1ubuntu1) ...  
Processing triggers for ureadahead (0.100.0-16) ...  
ureadahead will be reprofiled on next reboot  
Setting up vsftpd (3.0.2-1ubuntu2.14.04.1) ...  
vsftpd start/running, process 2773  
Processing triggers for ureadahead (0.100.0-16) ...  
iftekher@ftp:~$
```

Guess what, in this state your FTP server is already up & running. But we need to modify it a little bit to work properly.

#### # STEP 4

To configure your FTP server more, please open the following file on vim by typing the following command in your terminal.

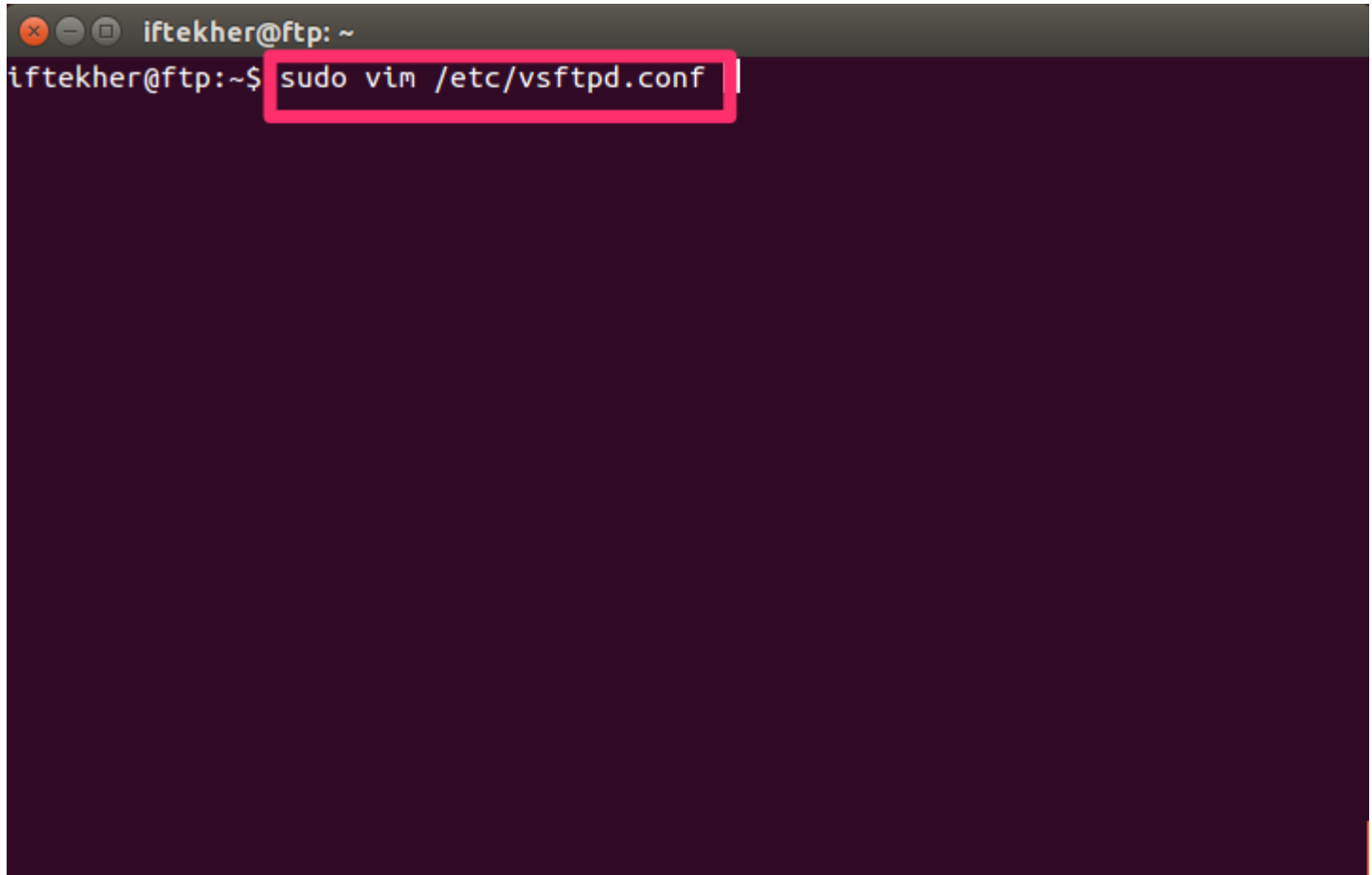
If you are a Ubuntu, Debian user:



```
sudo vim /etc/vsftpd.conf
```

If you are a CentOS/RedHat/Fedora user:

```
sudo vim /etc/vsftpd/vsftpd.conf
```

A terminal window with a dark purple background. The title bar shows window control icons and the text 'iftekhher@ftp: ~'. The prompt is 'iftekhher@ftp:~\$'. The command 'sudo vim /etc/vsftpd.conf' is entered and highlighted with a red rectangular box. The cursor is at the end of the command.

```
iftekhher@ftp: ~  
iftekhher@ftp:~$ sudo vim /etc/vsftpd.conf
```

Let's change some parameter to configure it more to act like a real FTP server.

#### # STEP 5

By changing the value to `anonymous_enable=YES`, you can enable anonymous user. Then anyone can use the user name "anonymous" to login into your FTP server, which is a potential security threat. Don't enable this unless it is required.

```
iftekher@ftp: ~  
# capabilities.  
#  
#  
# Run standalone? vsftpd can run either from an inetd or as a standalone  
# daemon started from an initscript.  
listen=YES  
#  
# Run standalone with IPv6?  
# Like the listen parameter, except vsftpd will listen on an IPv6 socket  
# instead of an IPv4 one. This parameter and the listen parameter are mutually  
# exclusive.  
#listen_ipv6=YES  
#  
# Allow anonymous FTP? (Disabled by default)  
anonymous_enable=NO  
#  
# 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,  
31,1 6%
```

## # STEP 6

Uncomment write\_enable=YES

```
iftekher@ftp: ~  
# Run standalone? vsftpd can run either from an inetd or as a standalone  
# daemon started from an initscript.  
listen=YES  
#  
# Run standalone with IPv6?  
# Like the listen parameter, except vsftpd will listen on an IPv6 socket  
# instead of an IPv4 one. This parameter and the listen parameter are mutually  
# exclusive.  
#listen_ipv6=YES  
#  
# Allow anonymous FTP? (Disabled by default)  
anonymous_enable=NO  
#  
# 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  
#  
-- INSERT --
```

29,17

8%

## # STEP 7

Uncomment line `xferlog_file=/var/log/vsftpd.log` for enabling log for your FTP server.

```
iftekher@ftp: ~  
# in your local time zone. The default is to display GMT. The  
# times returned by the MDTM FTP command are also affected by this  
# option.  
use_localtime=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.  
# Note that the default log file location is /var/log/xferlog in this case.  
-- INSERT --
```

68,33

37%

For viewing log files of vsftpd, please type the following command in the terminal

```
sudo cat /var/log/vsftpd.log
```

To view the log file in real time, type the following command in the terminal

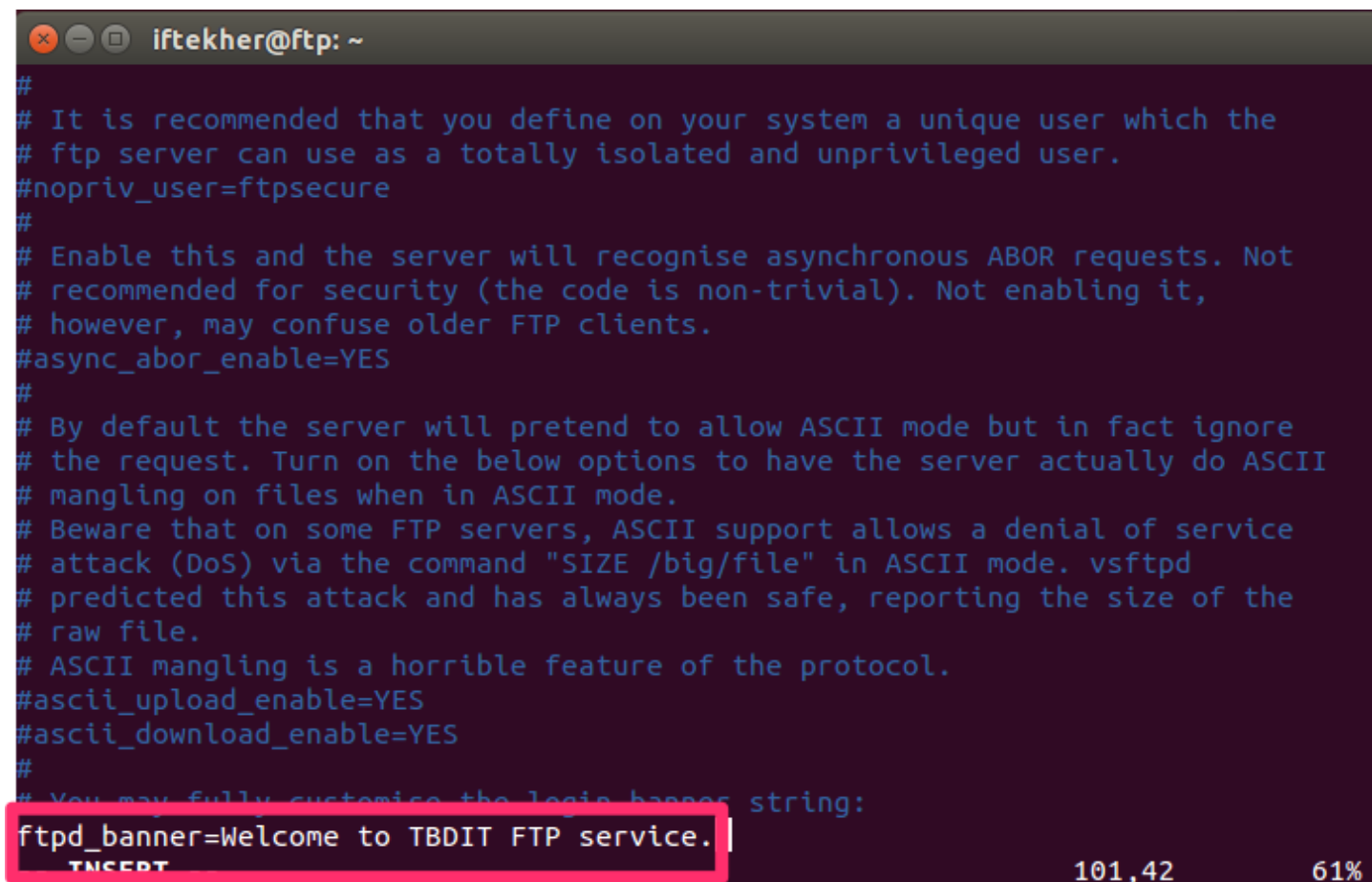
```
sudo tail -f /var/log/vsftpd.log
```

The above command will show last 20 lines dynamically for the FTP server log.

## # STEP 8

Uncomment ftpd\_banner and place your own welcome text.





```
iftekher@ftp: ~  
#  
# 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 on some FTP servers, ASCII support allows a denial of service  
# attack (DoS) via the command "SIZE /big/file" in ASCII mode. vsftpd  
# predicted this attack and has always been safe, reporting the size of the  
# raw file.  
# ASCII mangling is a horrible feature of the protocol.  
#ascii_upload_enable=YES  
#ascii_download_enable=YES  
#  
# You may fully customize the login banner string:  
ftpd_banner=Welcome to TBDIT FTP service.  
INSERT 101,42 61%
```

Here, I typed, "Welcome to TBDIT FTP service" for my own banner. Please type yours one.

## # STEP 9

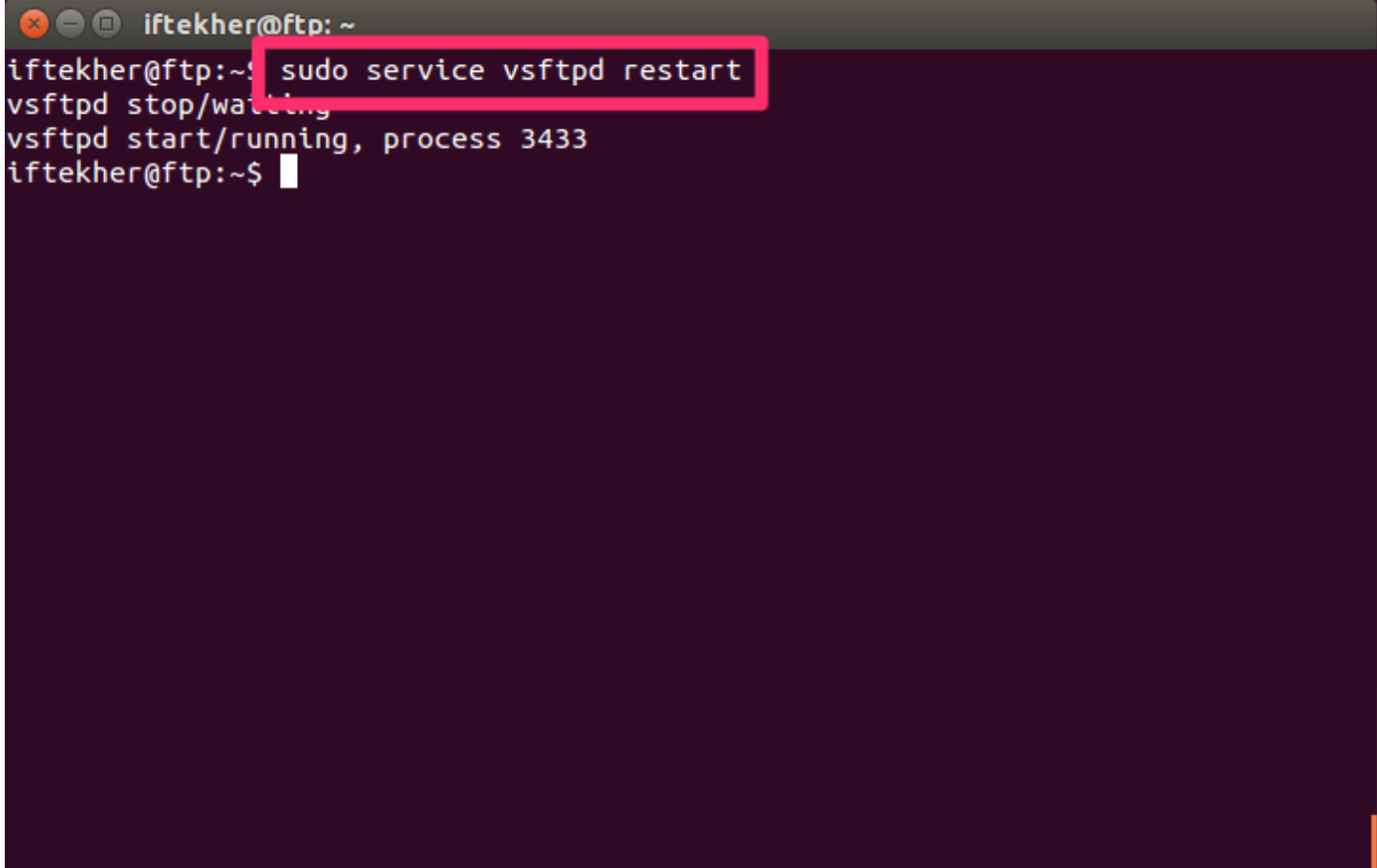
Now, save & exit from the vsftpd.conf file. To do so, if you are using vim then

Press esc then press & hold shift button and then press : and then finally press x and then press enter. This will save and exit from the file.

## # STEP 10

Our initial configuring is done. Now, make sure you are restarting your vsftpd service to accept the changes that we had made so far. To do so, please type the following in your terminal

```
sudo service vsftpd restart
```



```
iftekher@ftp: ~  
iftekher@ftp:~$ sudo service vsftpd restart  
vsftpd stop/waiting  
vsftpd start/running, process 3433  
iftekher@ftp:~$
```

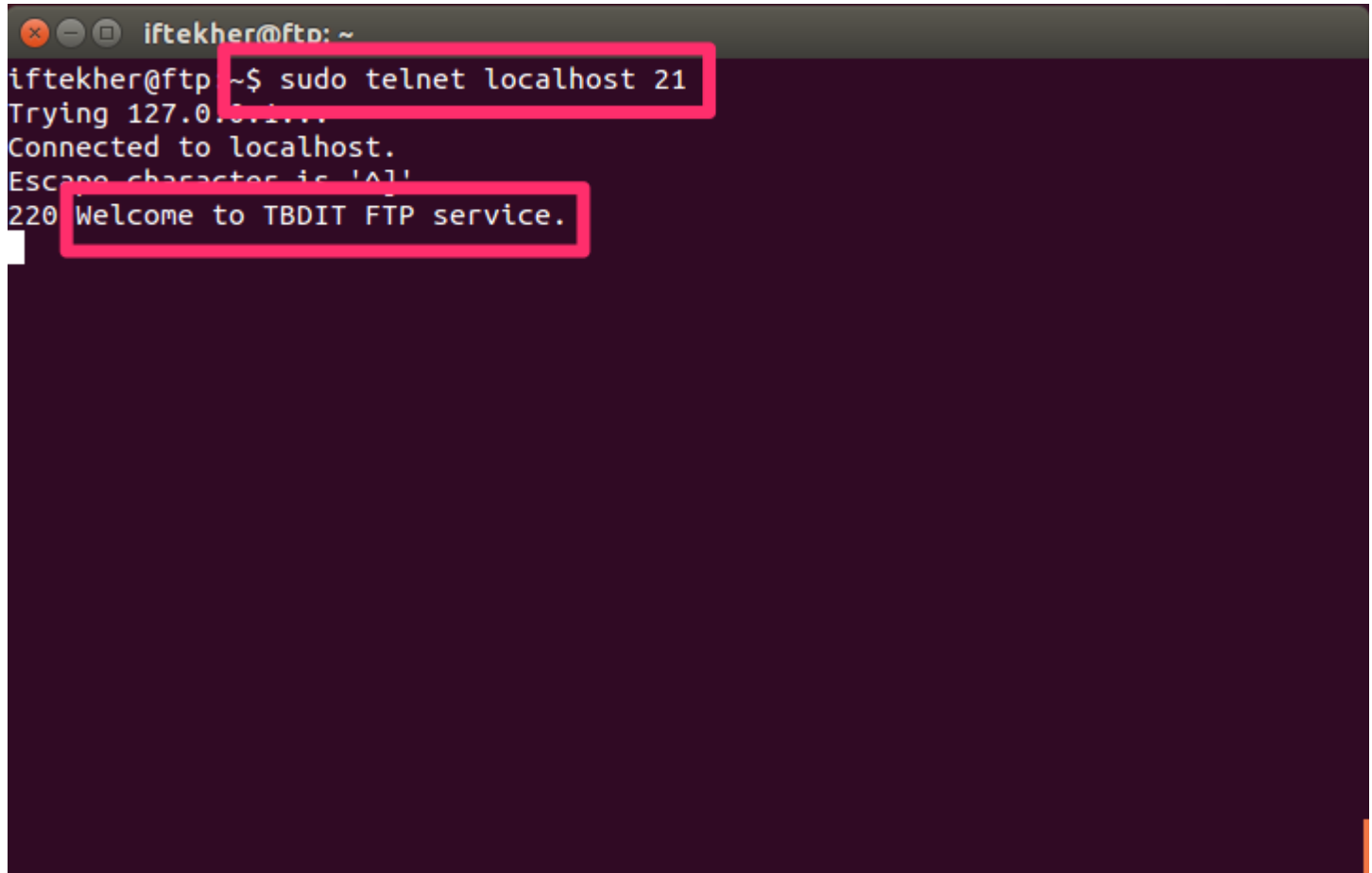
This will restart the vsftpd service with the new configuration that we had made so far.

#### # STEP 11

Though you will come to know from the previous step that your vsftpd is up and running, still we need to make sure that it is properly listening to port 21.

To do so, please type the following in your terminal and wait for something like this

```
sudo telnet localhost 21
```

A terminal window with a dark purple background. The title bar shows 'iftekher@ftp: ~'. The terminal text is as follows:

```
iftekher@ftp ~$ sudo telnet localhost 21
Trying 127.0.0.1...
Connected to localhost.
Escape character is '^['
220 Welcome to TBDIT FTP service.
```

Two red rectangular boxes highlight the command 'sudo telnet localhost 21' and the response '220 Welcome to TBDIT FTP service.'.

You will see the welcome text banner that you had wrote before. It means everything is fine and working 😊

Also, you can type the following in your terminal to see whether vsftpd is up and running for you

```
ps -aux | grep vsftpd
```

```
iftekher@ftp:~$ ps -aux | grep vsftpd
root      3466  0.0  0.0  25544  2432 ?        Ss   12:06   0:00 /usr/sbin/vsftpd
iftekher  3479  0.0  0.0  15944  2268 pts/0    S+   12:13   0:00 grep --color=auto vsftpd
iftekher@ftp:~$
```

And lastly, type the following in the terminal and see that vsftpd is listening on the port 21 for any incoming FTP connection.

```
sudo netstat -ntaulp | grep vsftpd
```

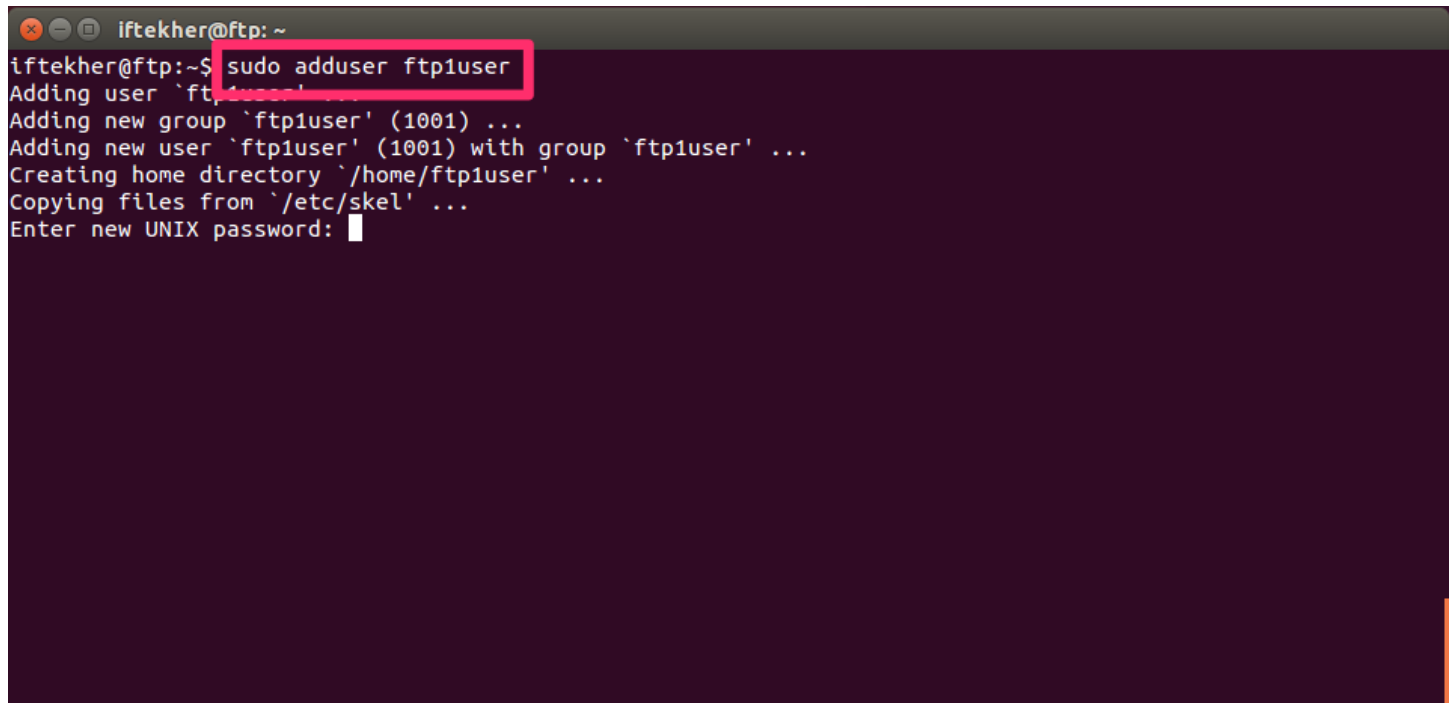
```
iftekher@ftp:~$ sudo netstat -ntaulp | grep vsftpd
tcp        0      0 0.0.0.0:21 0.0.0.0:*    LISTEN      802/vsftpd
iftekher@ftp:~$
```

## # STEP 12

Now, add a user in your Linux.

To add a user in your Linux distribution, type the following in your terminal

```
sudo adduser ftp1user
```

A terminal window with a dark purple background. The prompt is 'iftekher@ftp: ~'. The command 'sudo adduser ftp1user' is entered and highlighted with a red rectangle. The output shows the process of adding a new user: 'Adding user `ftp1user` ...', 'Adding new group `ftp1user` (1001) ...', 'Adding new user `ftp1user` (1001) with group `ftp1user` ...', 'Creating home directory `/home/ftp1user` ...', 'Copying files from `/etc/skel` ...', and 'Enter new UNIX password: ' followed by a cursor.

```
iftekher@ftp: ~  
iftekher@ftp:~$ sudo adduser ftp1user  
Adding user `ftp1user` ...  
Adding new group `ftp1user` (1001) ...  
Adding new user `ftp1user` (1001) with group `ftp1user` ...  
Creating home directory `/home/ftp1user` ...  
Copying files from `/etc/skel` ...  
Enter new UNIX password: █
```

This will add a user named ftp1user on your Linux OS.

Type a password that you can remember easily or write in a safe place in case if you forget it.

### # STEP 13

Now, use another computer or workstation (laptop/desktop) whatever you have to download Filezilla. Please visit this link <https://filezilla-project.org/> and download filezilla according to your operating system. We will use Filezilla application, which is an open source ftp client and widely used for uploading and download files to & from any FTP server.

Actually, there are few ways of uploading or downloading files to our FTP server. One is, we can use command line terminal and the other one is using a free or paid ftp client like Filezilla. We can use a web browser to download file from our FTP server as well.

After downloading Filezilla, just follow on screen instructions to install it. It's very easy to install it.

Important thing is, make sure you are using the same network subnet or class for this computer or workstation where you are installing Filezilla. Say, your FTP server has an IP address of 192.168.0.1/32 where you install the vsftpd. So, the computer or workstation that you are using to install Filezilla must have an IP address of that same class as well such as 192.168.0.2/32. You can use whatever IP address you want to use except the broadcast IP address of that class. If the IP address are not from the same class, your workstation and the FTP server will not be able to communicate between them.

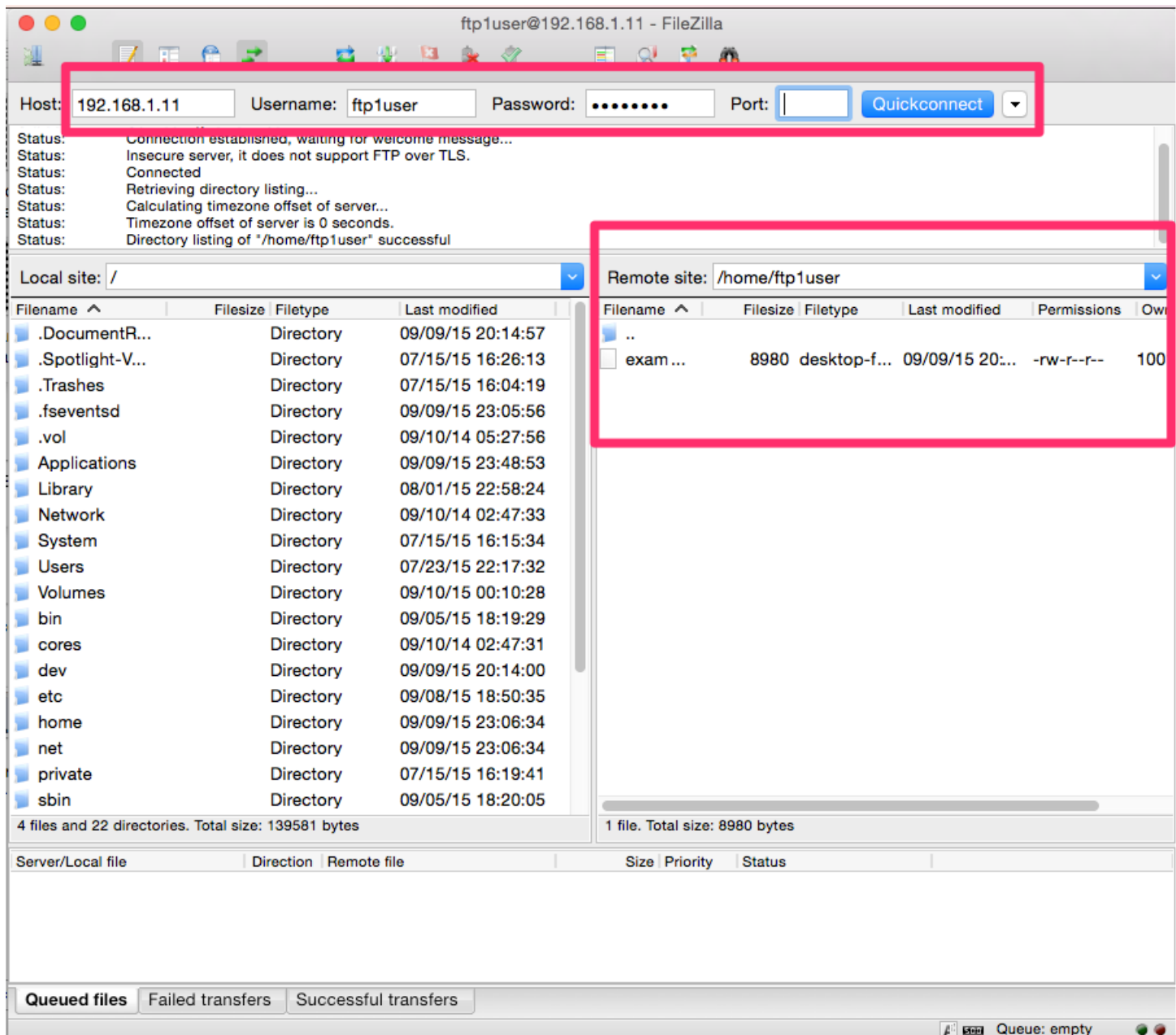
#### # STEP 14

It's time to connect our FTP server by using Filezilla application. Here, my FTP server IP address is 192.168.1.11

Open FileZilla application.

Type your FTP server IP address in the Host input field. My FTP server IP address is 192.168.1.11. Type ftp1user as your User Name in the Username field. And your password that you have set earlier for the user ftp1user in the Password field. Type 21 in the Port field.

Now, click quickconnect and it will connect to your server and it will move you to the user home directory on the right hand side panel.



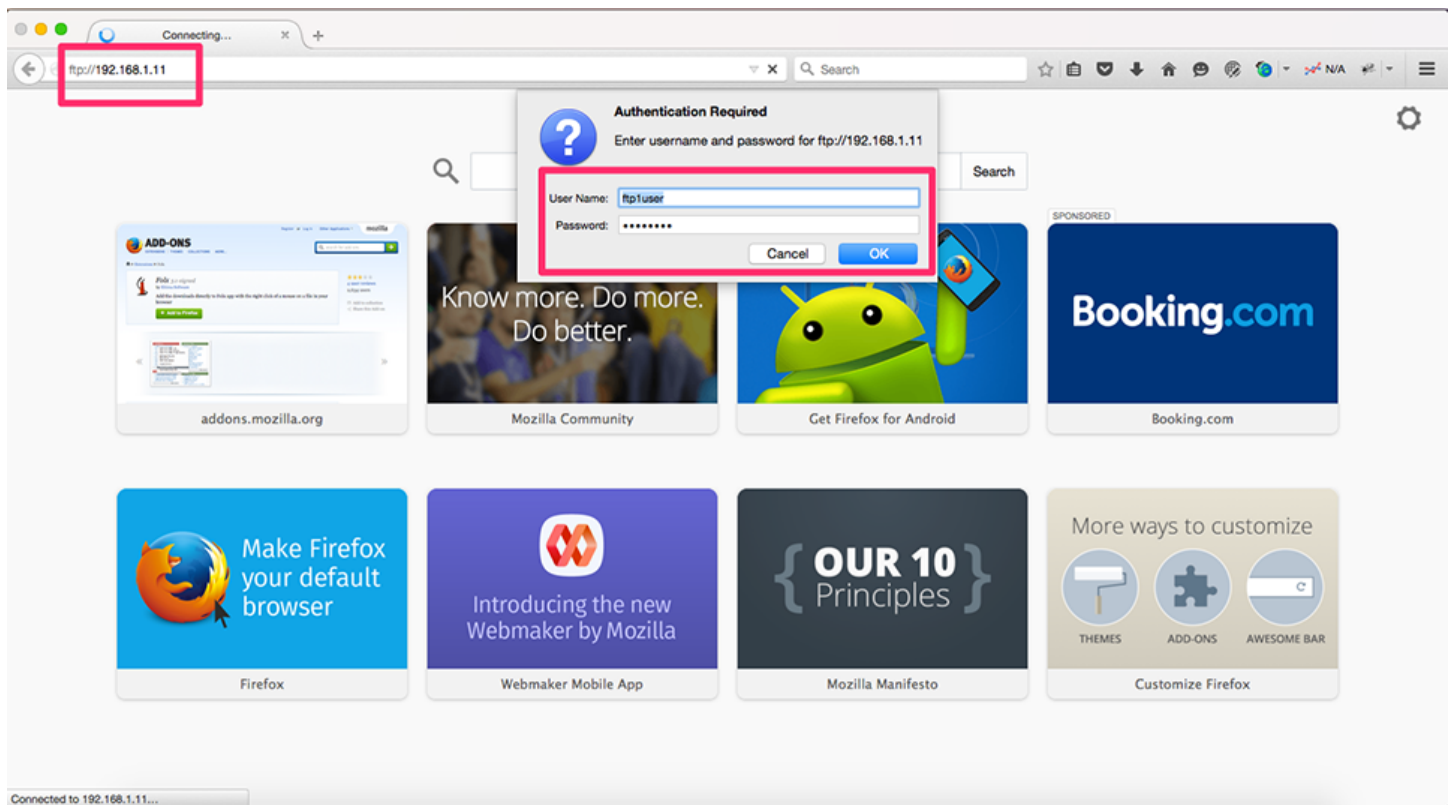
Now, browse to any directory and upload a file. Here, I am uploading a file name Hello FTP.txt to my FTP server.

To download the file you can use filezilla or you can use any web browser to download the file.

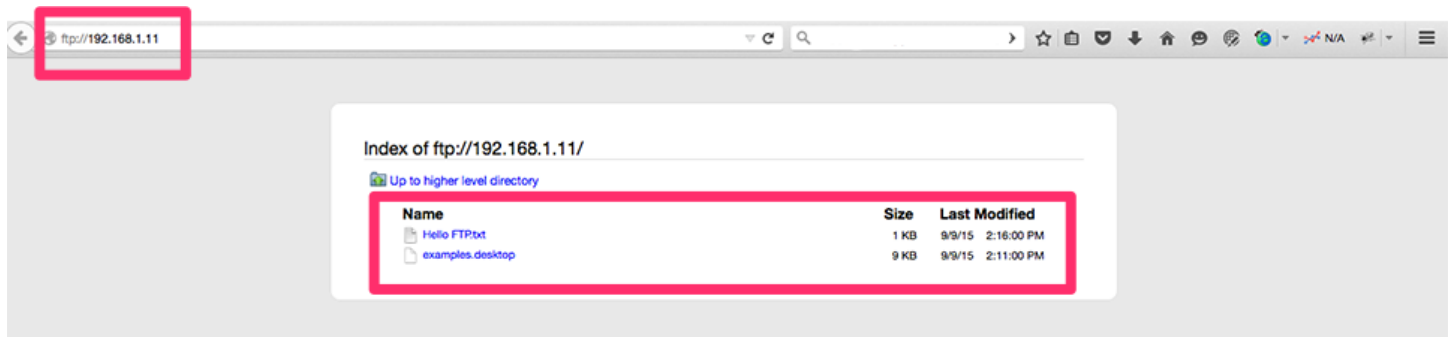
Type **ftp://192.168.1.11/** on your favorite web browser from your workstation (laptop/desktop).

Here 192.168.1.11 is my FTP server IP address. Please use your FTP server IP address.

It will ask for your username & password and enter ftp1user and it's password respectively.



If everything goes well, you will see the file that you have uploaded earlier. I can see my Hello FTP.txt file there. Now click the file to download it.



That's all for today. Hope you enjoyed it.

Feature image: [Craig Chapman-Hall via Flickr](#).

**Mohammad Forhad Iftekher**

<http://www.tbdit.net>





## You May Like

Sponsored Links by Taboola

### People from Cameroon cannot believe these flight prices

Trips Shop

### Top 10 Most Dangerous Countries To Visit

WomenArticle.com

### You are one step away from your green card application!

Usafis

### 15 Places You Need to Visit Before You Die

BleuBloom.com

### The 20 Most Generous Billionaires In The World

AfriZap

### Canada is looking for skilled immigrants!

Canadian Visa Professionals

### The Top 10 Best Countries To Buy A House & Invest In Real Estate

Bored Articles

### 5 Countries That May Give Free Housing To New Residents

Women's Article

