

**INTERNSHIP ON LINUX SYSTEM AND NETWORK
ADMINISTRATION AT DAFFODIL ONLINE LTD**

BY

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This Report Presented in Partial Fulfillment of the Requirements for the
Degree of Bachelor of Science in Computer Science and Engineering.

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**DAFFODIL INTERNATIONAL UNIVERSITY
DHAKA, BANGLADESH
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APPROVAL

This Project/internship titled “**Internship On Linux System and Network Administration at Dol Ltd.**”, submitted by Nazmul Hasan, ID No:153-15-6493 to the Department of Computer Science and Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on Friday 6th December 2019 .

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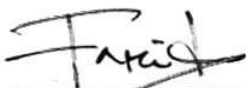
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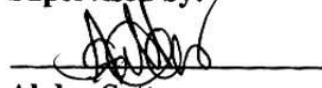
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DECLARATION

I hereby declare that, this internship report is prepared by me, **Md. Nazmul Hasan** to the department of Computer Science and Engineering, Daffodil International University. Under the supervision of **Abdus Sattar, Assistant professor, Department of CSE**, Daffodil International University. I also declare that neither this internship report nor any part of this internship report has been submitted elsewhere for award of any Degree or Diploma. I also declare that, I collect information from Daffodil Online Limited (DOL), Data Center and Internet Service Provider (ISP) Based Company, Books and Internet.

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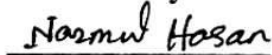
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ABSTRACT

Linux is a UNIX based operating system. It was first begun by Linux Torvalds. It is an open-source operating system that was created to provide free and low-cost operating systems for computer users. The medium or large size organizations need a server system to manage their complex IT infrastructure. Peer-to-peer networks make questionable in the way of safety and source sharing for medium or large size organization. As the server is a little expensive, here I try to design a cost-effective server system for this type of structure. This system presents almost all the services needed by a system to maintain its foundation. This system increases dependability and network protection for their network. This design is achieved using VMware Workstation10.0 and Centos6.5. After the implementation of all services, this system has experimented in several stages and it works successfully as an archetype. In the future, I need to improve the centralized login system to get better representation for Windows users.

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CHAPTER 1

Introduction

1.1 Introduction

Daffodil International University is a good opportunity, which was the internship system. We got it during the last I would like to say that in this internship system I have a lot of practical experience. Semester. It is a big challenge to prove myself, anytime and anywhere. The system's full support is with Daffodil Online Ltd. In the company, I want to gather great technical knowledge. I would like to say on behalf of this region that I was very proud to have the Daffodil International University.

1.2 Motivation

I am currently pursuing my Bachelors in Computer Science Engineering at **Daffodil International University**, I understand that it is important to have practical knowledge that complements the knowledge of the textbook and helps the student to gain a broader perspective on topics. IT organizations are much-needed servers that better handle important information, share files, and protect data by backing up employees and customers. When an organization has 9-10 users in its network, it has to really consider investing in a network server. Windows is very expensive to install such a system. So I'm using the free operating system **Centos**, which installs this system cost-effectively. In addition, **Moreover Linux** has its own shields to protect it from viruses, so we do not have to buy antivirus protection to protect the system. That is why I use Linux to implement this system.

1.3 Internship Objectives

The ultimate goal of my internship program is to prepare me for a competitive job market. So this is very effective in developing know-how. I would like to collect some extra features to give me a qualified person.

The internship in computer science is designed to provide work experience when students are still in school, coordinate work experience with academic education, and help students move from classroom to work. Self-motivating and independent desire to work.

1.4 Introduction to the Company

Daffodil Online Ltd. is proud to be one of Bangladesh's leading Network ISP providers. They are the most experienced and oldest ICT companies in which they are business ethics, have long-term relationships with customers. Growth has been exploring for decades now and they are extremely proud of what they have achieved and even more joyful that they are looking forward to a promising future. You may know that they have started their business in 2002 in recent years, they have expanded the operating and service portfolio according to the customer's recommendation, considering the time requirements. They worked with many national projects and international organizations and gained a reputation. They use the latest technology and update services where they are needed. They are Corporate Network Solution, which offers high-tech network and data communications solutions with a highly technical team of experts.

1.5 Report Layout

In chapter 1 I have explained the objective of internship, Impulse of internship and Dedication to the company.

In chapter 2 I have explained the methodology of my internship. And this chapter gives data about where the internship has been assigned to begin this program. Also covered how did perform the internship works, about the company, what are the IT service allowed in DOL and what are the purposes of in job market of Linux.

In chapter 3 I have described daily tasks and activities, Events and Activities and Tests.

In chapter 4 I have explained is Competencies Earned, Smart Plan, Reflections.

In chapter 5 I have explained is the Conclusion and Future Scope. I consider Future Scopes of Linux and write a conclusion.

CHAPTER 2

Organization

2.1 Introduction

Daffodil Online Ltd. (DOL) is proud to be one of the trailblazers and oldest ISP/ASPs in Bangladesh and providing one-stop integrated ICT services and solution since July 2002. It has its own Fiber Optic & Radio Link WAN infrastructure to serve corporate, SME and individual clients. The institute served with many national schemes and international organizations with high recognition from all concerned. It using the latest technologies and improving the assistance wherever it is required.

The center's Corporate Network Solution station is capable of affording state-of-art network and telecommunication solutions with a group of highly skilled technical authorities. DOL has a very strong expert engineering and supervision team certified and united with SUN, Cisco, Microsoft, Linux, and Oracle and actively involved with world-leading computing associations including IEEE, ACM, ACS, BCS, and PMI. Its Corporate Social Duty ethos increases the judgment of responsibility on Community, Workstation, Place and Market place. As a Group concern, DOL promotes 3 major platforms e.g., education, nation-building, and conditions, through its programs and co-operation. [1]

2.2 Product and Market Situation

Daffodil Online Ltd. prides itself as one of the front national Internet Service Provider (ISP) in Bangladesh. They are the most qualified and oldest company in the ICT field where they are basic business standards is Long Term relationships with the are clients. As they glance at the germination over the decade since our beginning, they are greatly proud of what we have done, and even more enthusiastic about our outlook for a uniformly likely future. Daffodil Online Ltd also provides different IT Services and Professional Training assistance. These are provided below.

IT Services:

- Corporate Internet Solution

- Security solution.
- Domain registration and web hosting.
- Website development.
- Open-source application solution.
- Internet Service Provider
- State of the Art Data Centers.
- Hi-speed Wi-Fi Zone.
- Data Connectivity, Datacenter & Co-Location.
- Bulk SMS Service.
- Proxy & DNS Server solution, Mail Server Solution.
- And all computer accessories
- Professional course and training

Professional Training Services:

- ISP Setup and management using Linux.
- Training Course on Certified Ethical Hacking (CEH).
- ISP Setup and Administration using MikroTik.
- Web site Development with Joomla.
- PHP and MYSQL for Website Development.
- E-commerce & Open source Joomla Virtue Mart.
- Red Hat Certified Security Specialist (RHCSS).
- Red Hat Certified Engineer (RHCE).

2.3 Target Group:

The company's client base includes all users and all small and medium-sized companies, including start-ups. The company plans to focus on SOHO clients as these are the perfect targets for our new high-speed contributions and have the company's largest germination potential. Web Solutions accepts that these market shares have special pricing and service needs and create a dedicated, more reliable customer.

2.4 SWOT Analysis

"SWOT Analysis is a useful method for getting your Forces and Defects, and for identifying both the Possibilities open to you and the Perils you face."

Forces:

- Connection between people divided by distance (at home and within the workplace)
- Working from home with comfort
- Placing up an online business
- Collecting information (a valuable asset in business)

Defects:

- New entrants underestimate levels of expertise needed to survive the market
- Large sums of money required to set up businesses
- Competition for small resellers
- Numerous pricing tariffs and service options

Possibilities:

- Age structure of the population changing
- Number of households in the UK increasing
- Introduction of simpler tariffs
- Revision of regulatory framework

Threats:

- The Economic Crisis - Householders less likely to increase their Broadband subscriptions
Stock Market's lack of confidence in the digital-communications market.

"- It prevails to be seen how far users can be persuaded to include Internet passage."

2.5 Organizational Structure

Organizational Structure of Daffodil Online Ltd. Shown below in fig 2.5:



Figure 2.5.1: Organizational structure of Daffodil Online Limited

CHAPTER 3

Tasks, Projects and Activities

3.1 Daily Task and Activities

Month - 1: In the first month of internship on daffodil online limited I have learned and performed the following tasks:

- Learning & understanding About Network Components.
- Knowledge & understanding Basics of Linux.
- Understanding Linux HDD Partitions.
- Knowledge & understanding of Linux Run Level.
- Linux Installation.

Month - 2: In the second month of internship on daffodil online limited I have learned and performed the following tasks:

- Basic Centos Commands.
- Linux User and Password Management.
- Know About logged in users.
- File and Directory Accessing.
- To Copy and Move File and Directories.
- Compressed and Decompressed File and Directories.
- Mount Unmount Drive.

Month – 3: In the third month of internship on daffodil online limited I have learned and performed the following tasks:

- File and Directory Permissions.
- Install, Update and Remove Package Using YUM.
- Concept of IP Addressing.
- Configuring IP Address in Centos.

Month – 4: The last month of internship on daffodil online limited I have learned and performed the following tasks:

- Learning, understanding and configuring FTP Server.
- Learning, understanding and configuring WEB Server.

- Learning, understanding and configuring SAMBA Server.

3.2 Events and Activities

- Monitor and Maintain Computer Systems and Network.
- Setting up user accounts, permissions and passwords.
- Troubleshooting servers and routers.
- Troubleshooting local area networks and switches.
- Fixing network faults.
- Technical support for people using the network.
- Day to day admin and monitoring of network use.
- Suggesting IT solutions to business problems.
- Client Support over the phone or Physical move to client Ends.

3.3 Project Task and Activities

Centos Install

3.4 Creating Linux Partition

For Installation of Linux we have to create at least 3 partitions root (/), /boot, and swap.

3.4.1 Root Partition: /

A Root Partition there is where “/” The root directory is located all files (except in /boot) are on the root partition. Minimum 5 GB HDD Space Required.

3.4.2 Boot Partition: /boot

The partition boot (100 MB): the partition mounted on /boot/ contains the operating system kernel (which allows your system to boot Linux), along with files used during the bootstrap process. Due to limitations, creating a native ext3 partition to hold these files is required. For most users, a 100 MB boot partition is sufficient.

3.4.3 Swap Partition: swap

Partitions are used to support virtual memory. In other words, the data is written to the replacement utility when there is not enough RAM to process information about your system.

However, the introduction of particulates must have 2x physical RAM for 2 GB of physical RAM and then 1x of extra physical RAM for each sum greater than 2 GB but may be less than 32 MB. [2]

3.5 Linux Run-Level Used by Centos

init 0 = Shut Down.

init 1 = Single User Mode.

init 2 = Multi User Mode.

init 3 = Full Multi User Mode. # init 4 =Unused.

init 5 = X-Window (GUI Mode) # init 6 =Reboot.

3.6 The Basic Command of Linux Centos

Shut down = power off, init 0, shutdown -h

now. Reboot = reboot or init6.

Logout = log the current user off the system.

Display a calendar = Cal, cal 2017, cal 28 1993

Display or change date or time = date.

Present Working Directory = pwd.

Create a blank file = touch rimon (File name).

Create a directory = mkdir rimon1 (directory name).

List information about file = lsrimon

Change Working Directory = cd /root/Desktop (directory path).

3.7 User Create and Password Management

Adding a user = useraddrimon(username).

Set a Password to New User = passwdrimon(username).

Password Disable/Remove = passwd -d rimon(username).

Delete a user = userdelrimon(username).

Delete a user with home directory = userdel -rhelal(username).

3.8 To Know About the Logged In User

w

who

who am i

3.9 To Copy or Move a File

Copy = cp filename destination example: cp -r /daffodil/root/desktop

Move = mv filename destination example: mv /root/desktop/class1

3.10 ViEditor

To Edit A File = vi rimon(file name)

To insert Text = press i

To delete the character = press dd

To copy line = press esc key and type 5yy to copy 5 line.

To paste = press p for paste.

To set line number = :set nu

To delete 3line number = 3dd

Search something = /abc for search abc

ForGo top of the lines = :0

For Go bottom of the lines = :\$

For Go Specific Line = :50 to go 50 no line.

To save the document = :wq! {save the current changes and exits vi editor}

= :w! {save the current changes but does not exist vi editor}

= :q! {exits vi editor without saving any changes}

3.11 Install/Update/Remove Packages in Centos

- Install a package using yum install

Yum install (packagename)

e.g. yum install vim-y

- Uninstall a package usingyum

yum remove (packagename)

e.g. yum removesamba-y

- Update a package using yum

yum update (packagename)

e.g. yum updatefirefox

- Search a package using yum

yum search (packagename)

e.g. yum search firefox

- Display Additional Information about a Package

yum info (packagename)

e.g. yum info firefox

- View All Available Package

yum list |less

- View Already Installed Package

yum list installed

- List of all available software group

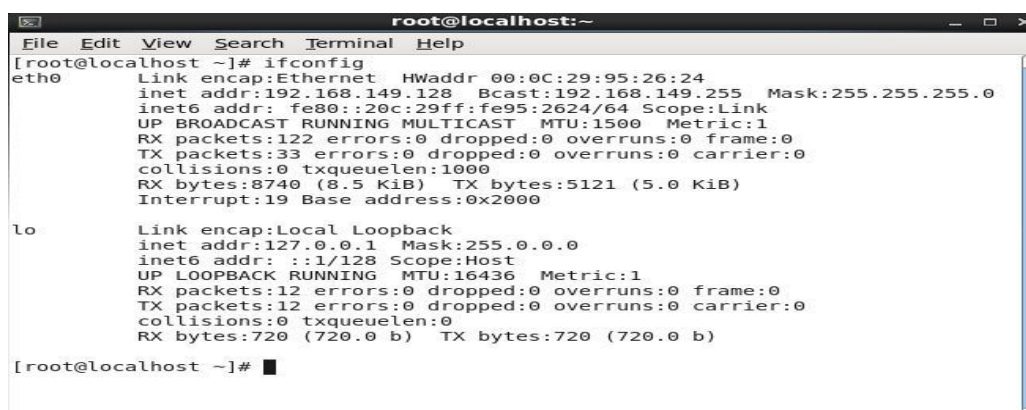
yum group list

- Install a specific soft group

yum group install dns name server

3.12 How to Add/Change/Delete and Display IP Address in Centos


To see ip address: ifconfig or ifconfig eth0 figure 3.1 shown below in ip address



```
root@localhost:~  
[root@localhost ~]# ifconfig  
eth0      Link encap:Ethernet  HWaddr 00:0C:29:95:26:24  
          inet addr:192.168.149.128  Bcast:192.168.149.255  Mask:255.255.255.0  
          inet6 addr: fe80::20c:29ff:fe95:2624/64 Scope:Link  
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1  
          RX packets:122 errors:0 dropped:0 overruns:0 frame:0  
          TX packets:33 errors:0 dropped:0 overruns:0 carrier:0  
          collisions:0 txqueuelen:1000  
          RX bytes:8740 (8.5 KiB)  TX bytes:5121 (5.0 KiB)  
          Interrupt:19 Base address:0x2000  
  
lo        Link encap:Local Loopback  
          inet addr:127.0.0.1  Mask:255.0.0.0  
          inet6 addr: ::1/128 Scope:Host  
          UP LOOPBACK RUNNING  MTU:16436  Metric:1  
          RX packets:12 errors:0 dropped:0 overruns:0 frame:0  
          TX packets:12 errors:0 dropped:0 overruns:0 carrier:0  
          collisions:0 txqueuelen:0  
          RX bytes:720 (720.0 b)  TX bytes:720 (720.0 b)  
  
[root@localhost ~]# █
```

Figure 3.1.1: IP address in centos

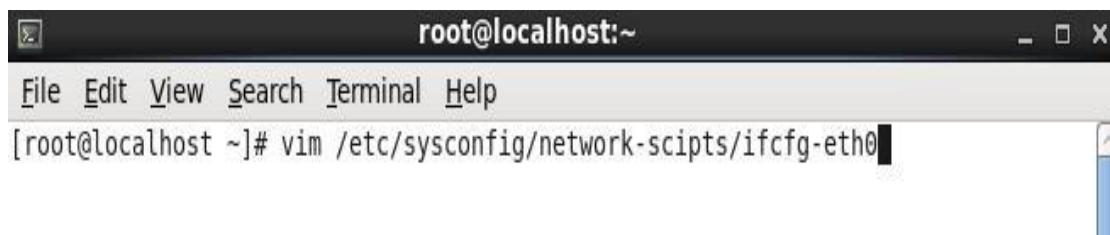
IP address and Mac address in command `ifconfig eth0` by shown below figure 3.2



```
root@localhost:~  
File Edit View Search Terminal Help  
[root@localhost ~]# ifconfig eth0  
eth0      Link encap:Ethernet HWaddr 00:0C:29:95:26:24  
          inet addr:192.168.149.128 Bcast:192.168.149.255 Mask:255.255.255.0  
          inet6 addr: fe80::20c:29ff:fe95:2624/64 Scope:Link  
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1  
          RX packets:44070 errors:0 dropped:0 overruns:0 frame:0  
          TX packets:25909 errors:0 dropped:0 overruns:0 carrier:0  
          collisions:0 txqueuelen:1000  
          RX bytes:52682095 (50.2 MiB)  TX bytes:2180856 (2.0 MiB)  
          Interrupt:19 Base address:0x2000  
  
[root@localhost ~]#
```

Figure 3.2.1: Address in eth0 port

Setup IP Address permanently shown below by figure 3.3



```
root@localhost:~  
File Edit View Search Terminal Help  
[root@localhost ~]# vim /etc/sysconfig/network-scripts/ifcfg-eth0
```

Figure 3.3.1: Setup ip address in eth0 permanently

problems found in other FTP servers and is the default for many Linux distributions. We'll show you how to configure vsftpd to allow a user to upload files to his home directory using FTP with login identify secured by SSL/TLS. [3]

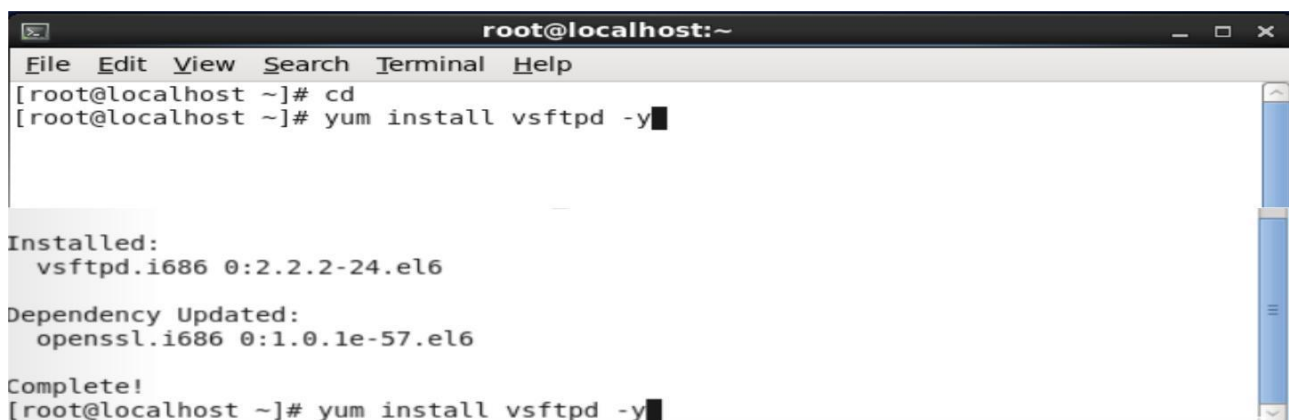
Configuring FTP Server Step by Step

Package Name: VSFTPD

Default Port: 20 (To transfer the data),

21 (To make control connection).

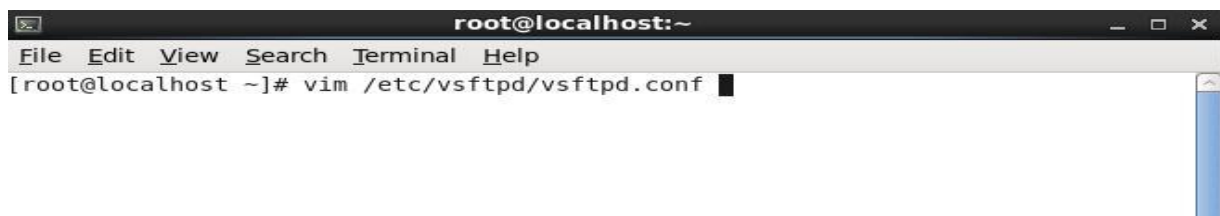
Step 1: Install the package vsftpd by using `#yum install vsftpd -y`



```
root@localhost:~  
File Edit View Search Terminal Help  
[root@localhost ~]# cd  
[root@localhost ~]# yum install vsftpd -y  
  
Installed:  
vsftpd.i686 0:2.2.2-24.el6  
  
Dependency Updated:  
openssl.i686 0:1.0.1e-57.el6  
  
Complete!  
[root@localhost ~]# yum install vsftpd -y
```

Figure 3.5.1: Installing the package vsftpd

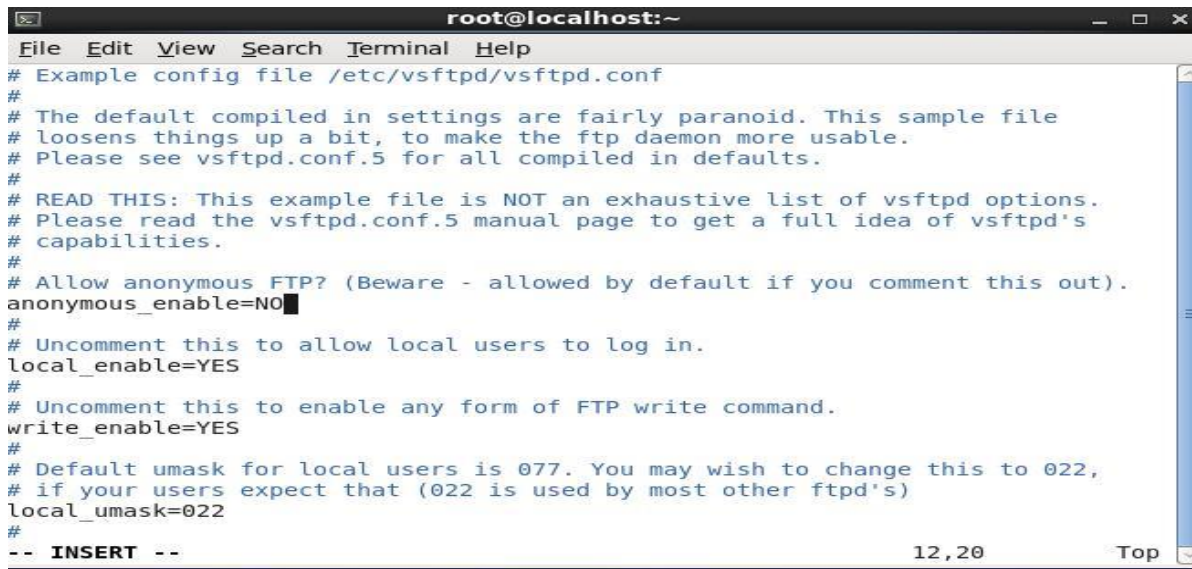
Step 2: Now Edit the Configuration file by using `#vim /etc/vsftpd/vsftpd.conf`



```
root@localhost:~  
File Edit View Search Terminal Help  
[root@localhost ~]# vim /etc/vsftpd/vsftpd.conf
```

Figure 3.6.1: Configuration file location

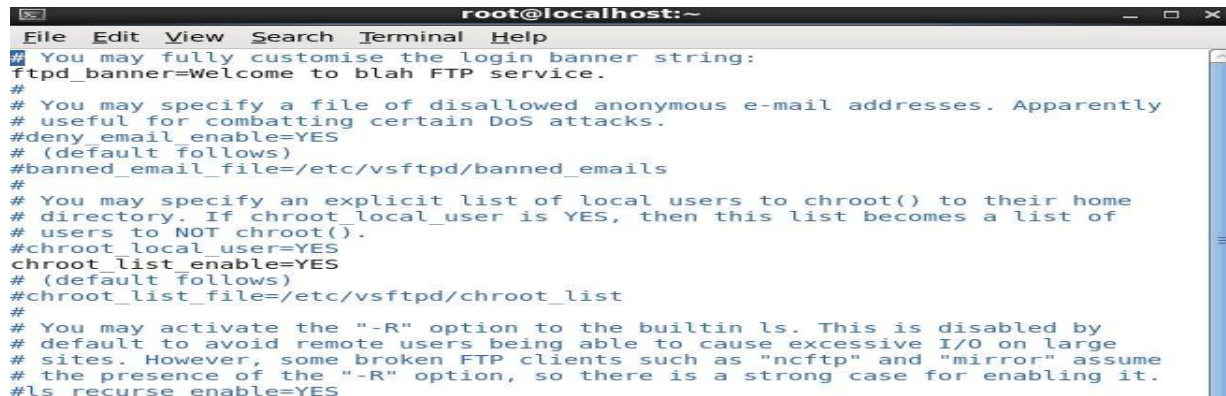
Step 3: Go the line 12 and change the line anonymous Enable=Yes to No



```
root@localhost:~  
File Edit View Search Terminal Help  
# Example config file /etc/vsftpd/vsftpd.conf  
#  
# The default compiled in settings are fairly paranoid. This sample file  
# loosens things up a bit, to make the ftp daemon more usable.  
# Please see vsftpd.conf.5 for all compiled in defaults.  
#  
# READ THIS: This example file is NOT an exhaustive list of vsftpd options.  
# Please read the vsftpd.conf.5 manual page to get a full idea of vsftpd's  
# capabilities.  
#  
# Allow anonymous FTP? (Beware - allowed by default if you comment this out).  
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 --  
12,20 Top
```

Figure 3.7.1: Change the line anonymous Enable

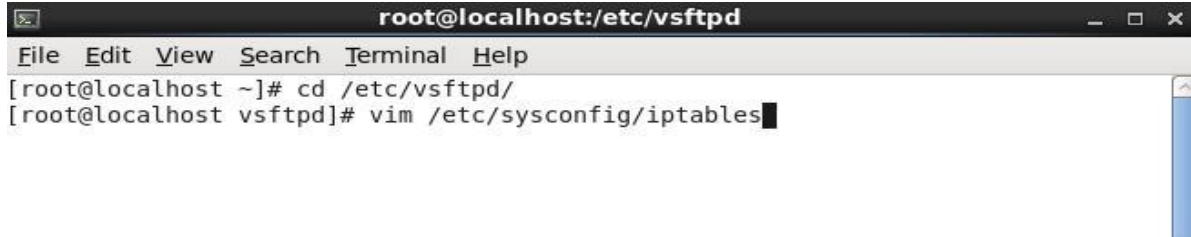
Step 4: Go to line 85 and 97 active the line by deleting #



```
root@localhost:~  
File Edit View Search Terminal Help  
## 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_local_user=YES  
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
```

Figure 3.8.1: Activating the line 85 and 97.


Step 5: Now Edit the Configuration file by using #vim /etc/sysconfig/iptables



```
root@localhost:/etc/vsftpd
File Edit View Search Terminal Help
[root@localhost ~]# cd /etc/vsftpd/
[root@localhost vsftpd]# vim /etc/sysconfig/iptables
```

Figure 3.9.1: Configuration file location.

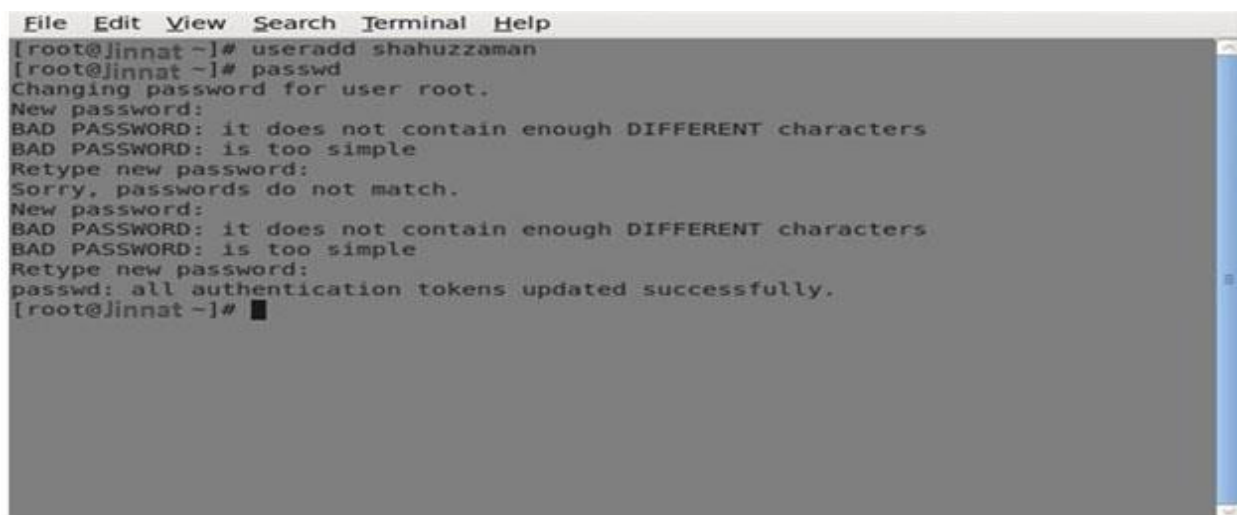
Step 6: Now the Configuration and write those things.



```
root@localhost:/etc/vsftpd
File Edit View Search Terminal Help
# Firewall configuration written by system-config-firewall
# Manual customization of this file is not recommended.
*filter
:INPUT ACCEPT [0:0]
:FORWARD ACCEPT [0:0]
:OUTPUT ACCEPT [0:0]
-A INPUT -m state --state ESTABLISHED,RELATED -j ACCEPT
-A INPUT -p icmp -j ACCEPT
-A INPUT -i lo -j ACCEPT
-A INPUT -m state --state NEW -m tcp -p tcp --dport 21 -j ACCEPT
-A INPUT -m state --state NEW -m tcp -p tcp --dport 22 -j ACCEPT
A INPUT m state state NEW m tcp p tcp dport 80 ACCEPT
-A INPUT -j REJECT --reject-with icmp-host-prohibited
-A FORWARD -j REJECT --reject-with icmp-host-prohibited
COMMIT
~
~
~
~
~
~
-- INSERT --
12,48 ALL
```

Figure 3.10.1: Editing the Configuration.

Step 7: Now I have to write #adduser for FTP user and #passwd for password.



```
File Edit View Search Terminal Help
[root@jinnat ~]# useradd shahuzzaman
[root@jinnat ~]# passwd
Changing password for user root.
New password:
BAD PASSWORD: it does not contain enough DIFFERENT characters
BAD PASSWORD: is too simple
Retype new password:
Sorry, passwords do not match.
New password:
BAD PASSWORD: it does not contain enough DIFFERENT characters
BAD PASSWORD: is too simple
Retype new password:
passwd: all authentication tokens updated successfully.
[root@jinnat ~]#
```

Figure 3.11.1: Creating Ftp User and Password.

Step 8: Now I have to open browser and given ftp://192.168.0.225 and show this page. Here I have write user name and password.

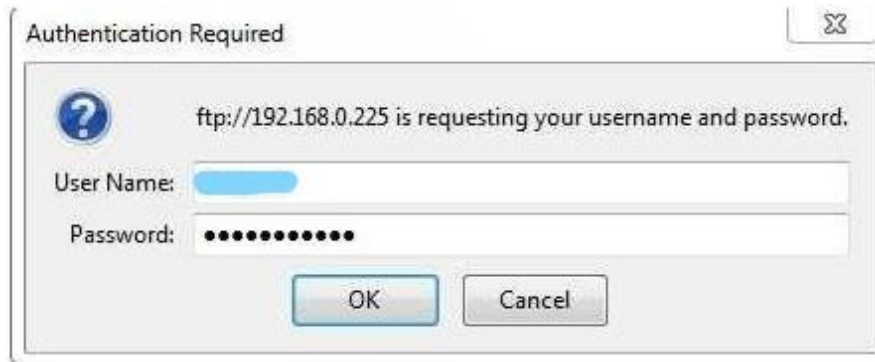


Figure 3.12.1: Screen print of a Name and Password.

Step 9: At last I have to press ok and show this result.

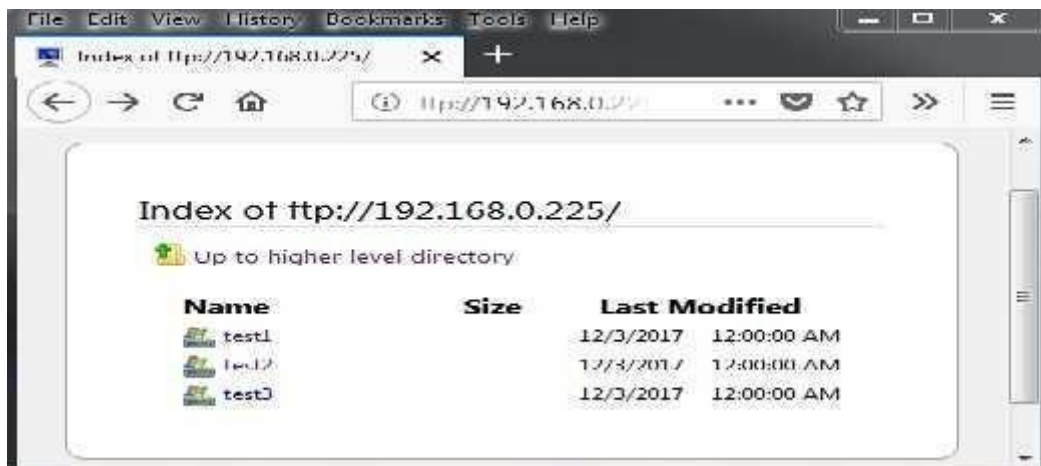


Figure 3.13.1: Screen print of a result.

3.13.2 WEB SERVER

The Apache HTTP server is a most popular web server across the entire World Wide Web. Apache server support Perl, Python, Tcl and PHP. Most popular authentication module like: cryptography (mod_ssl), proxy/gateway server (mod_proxy), URL rewriting mod rewrite, filtering support (mod include and mod_ext_filter) etc are supported by Apache HTTP server.

- Virtual Hosts

Virtual hosts can serve more than one domain from on same Apache server. There are mainly two type of Apache Virtual host configuration-

1. IP based virtual host
2. Name based virtual host

- IP Based Virtual Host

In this type of configuration, two websites (with different IP addresses) on the server have been configured with two different IP addresses. The disadvantages of this technique are that the server needs a different IP address for every website. This increases the administrative overhead.

- Name Based Virtual Host

Enables the virtual server to respond one or more alternate host names when used with name based virtual host. This allows a web-server hosting multiple sites using only one IP address to deliver the requested website. [4]

Configuring Web Server Step By Step -

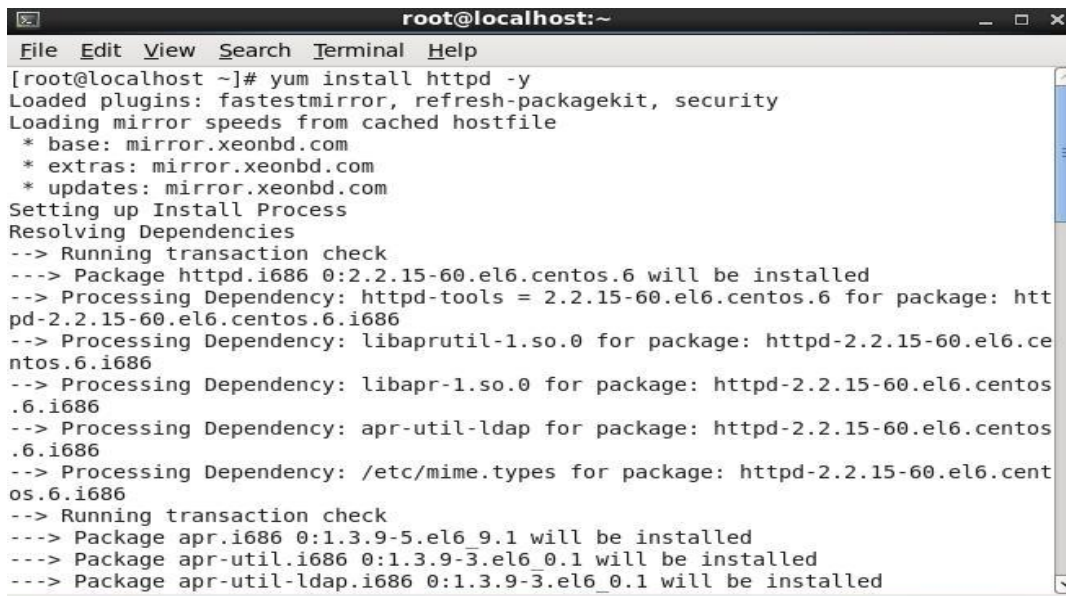
Package Name:

httpdDefault http

port: 80 Default https

port: 443

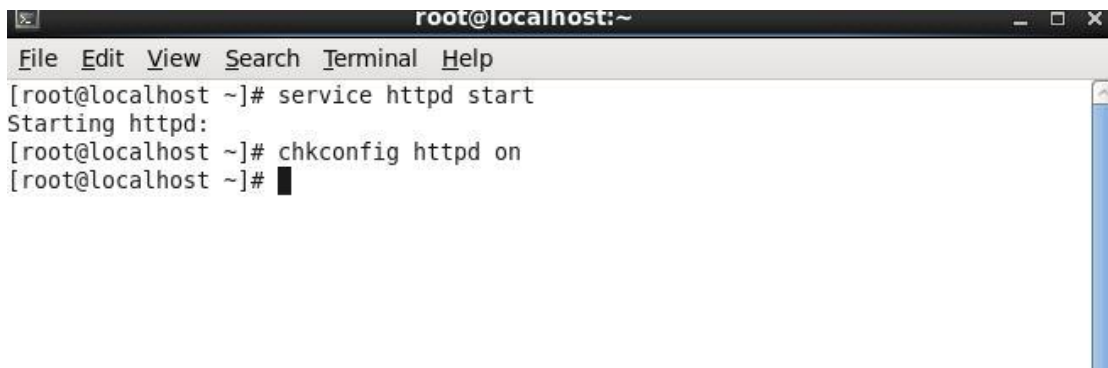
Step 1: At first install a httpd package by yum install- #yum install httpd -y

A terminal window titled 'root@localhost:~' showing the output of the command 'yum install httpd -y'. The output includes the yum command, loaded plugins (fastestmirror, refresh-packagekit, security), mirror speeds from a cached hostfile, base and extras mirrors (mirror.xeonbd.com), and the installation process. It shows the resolution of dependencies for httpd, including httpd-tools, libaprutil-1, libapr, apr-util-ldap, and /etc/mime.types. The transaction check shows that httpd, apr, apr-util, and apr-util-ldap will be installed.

```
root@localhost:~  
File Edit View Search Terminal Help  
[root@localhost ~]# yum install httpd -y  
Loaded plugins: fastestmirror, refresh-packagekit, security  
Loading mirror speeds from cached hostfile  
* base: mirror.xeonbd.com  
* extras: mirror.xeonbd.com  
* updates: mirror.xeonbd.com  
Setting up Install Process  
Resolving Dependencies  
--> Running transaction check  
---> Package httpd.i686 0:2.2.15-60.el6.centos.6 will be installed  
--> Processing Dependency: httpd-tools = 2.2.15-60.el6.centos.6 for package: httpd-2.2.15-60.el6.centos.6.i686  
--> Processing Dependency: libaprutil-1.so.0 for package: httpd-2.2.15-60.el6.centos.6.i686  
--> Processing Dependency: libapr-1.so.0 for package: httpd-2.2.15-60.el6.centos.6.i686  
--> Processing Dependency: apr-util-ldap for package: httpd-2.2.15-60.el6.centos.6.i686  
--> Processing Dependency: /etc/mime.types for package: httpd-2.2.15-60.el6.centos.6.i686  
--> Running transaction check  
---> Package apr.i686 0:1.3.9-5.el6_9.1 will be installed  
--> Package apr-util.i686 0:1.3.9-3.el6_0.1 will be installed  
--> Package apr-util-ldap.i686 0:1.3.9-3.el6_0.1 will be installed
```

Figure 3.14.1: Screen print of a yum installation

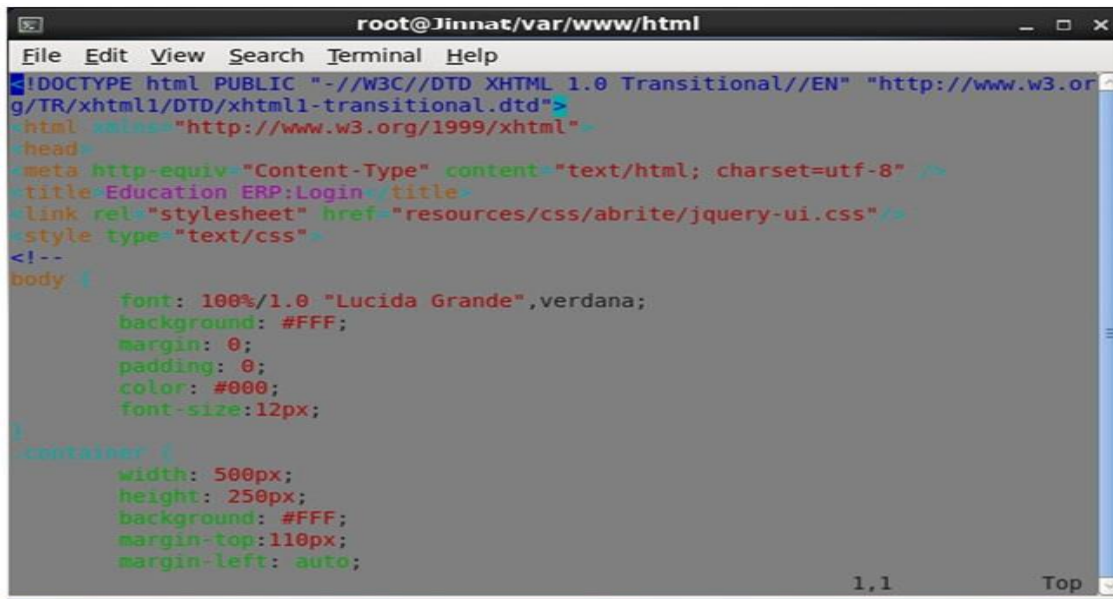
Step 2: Now command of #service httpd start then #chkconfig httpd on

A terminal window titled 'root@localhost:~' showing the execution of two commands: 'service httpd start' and 'chkconfig httpd on'. The first command outputs 'Starting httpd:' and the second command outputs nothing, leaving a cursor on the line.

```
root@localhost:~  
File Edit View Search Terminal Help  
[root@localhost ~]# service httpd start  
Starting httpd:  
[root@localhost ~]# chkconfig httpd on  
[root@localhost ~]# █
```

Figure 3.15.1: Shown a command

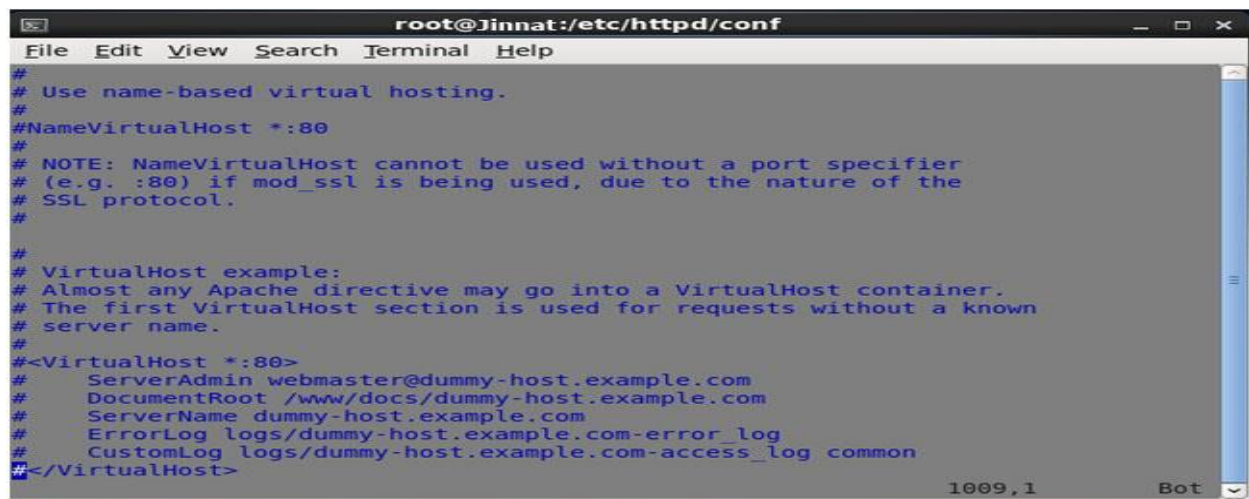
Step3: Now default location and this command is `#cd /var/www/html` then creating a Static command is `#vim index.html`



```
root@Jinnat/var/www/html
File Edit View Search Terminal Help
!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
<meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
<title Education ERP:Login /title>
<link rel="stylesheet" href="resources/css/abrite/jquery-ui.css"/>
<style type="text/css">
<!--
body {
    font: 100%/1.0 "Lucida Grande",verdana;
    background: #FFF;
    margin: 0;
    padding: 0;
    color: #000;
    font-size:12px;
}
.container {
    width: 500px;
    height: 250px;
    background: #FFF;
    margin-top:110px;
    margin-left: auto;
}
1,1 Top
```

Figure 3.16.1: Static Site Creating.

Step 4: Now use file location this command is `#cd /etc/httpd/conf`
Then vim configures file location and this command is `#vim httpd.conf`



```
root@Jinnat:/etc/httpd/conf
File Edit View Search Terminal Help
#
# Use name-based virtual hosting.
#
#NameVirtualHost *:80
#
# NOTE: NameVirtualHost cannot be used without a port specifier
# (e.g. :80) if mod_ssl is being used, due to the nature of the
# SSL protocol.
#
#
# VirtualHost example:
# Almost any Apache directive may go into a VirtualHost container.
# The first VirtualHost section is used for requests without a known
# server name.
#
#<VirtualHost *:80>
#   ServerAdmin webmaster@dummy-host.example.com
#   DocumentRoot /www/docs/dummy-host.example.com
#   ServerName dummy-host.example.com
#   ErrorLog logs/dummy-host.example.com-error_log
#   CustomLog logs/dummy-host.example.com-access_log common
#</VirtualHost>
1009,1 Bot
```

Figure 3.17.1: Screen Print of a vim configuration.

Step 5: At last open browser and write `http://192.168.0.225` and show my web page.

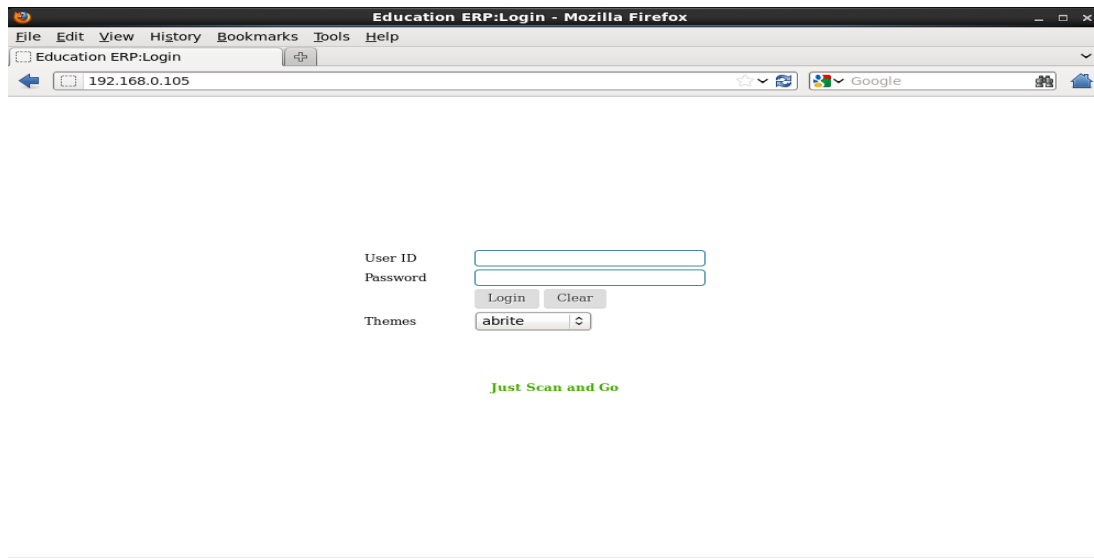


Figure 3.18.1: Web page result

3.13.3 SAMBA SERVER

Samba is the standard windows interoperability suite of programs for Linux and UNIX. Provides file and print sharing for windows clients from Linux servers. By supporting this protocol, Samba enables computers running UNIX to get in on the action, communicating with the same networking protocol as Microsoft Windows and appearing as another Windows system on the network from the perspective of a Windows client. [5]

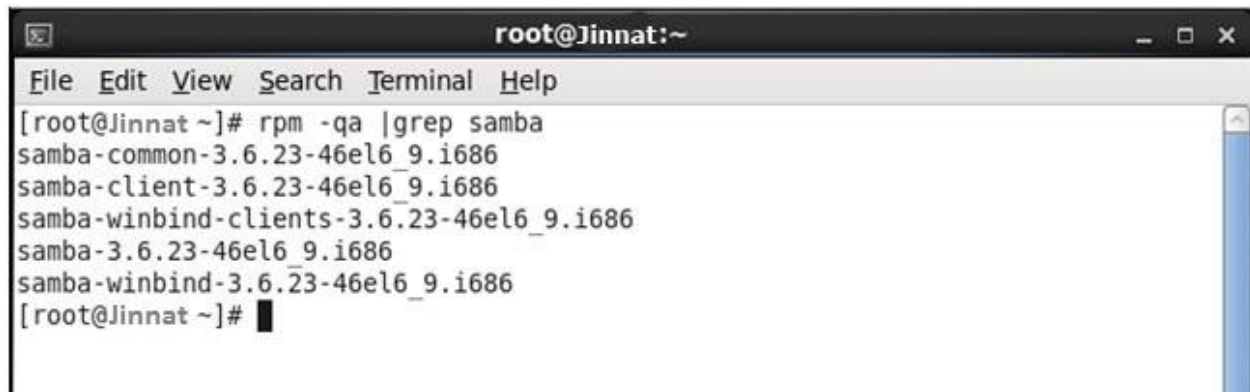
Why SAMBA?

In this system, I implement the SAMBA server to share the printer and other important files to all clients such as Windows, Linux, and UNIX. I can run the SAMBA directory and add a samba password. By using this directory, all authorized users can share information or print them to other authorized users.

- Configuring Samba Server Step By Step

Step 1: At first check ping google.com then installing package `#yum insall samba`

Samba client. Now package check this command `#rpm -qa | grep samba`.



```
root@Jinnat:~  
File Edit View Search Terminal Help  
[root@Jinnat ~]# rpm -qa |grep samba  
samba-common-3.6.23-46el6_9.i686  
samba-client-3.6.23-46el6_9.i686  
samba-winbind-clients-3.6.23-46el6_9.i686  
samba-3.6.23-46el6_9.i686  
samba-winbind-3.6.23-46el6_9.i686  
[root@Jinnat ~]# █
```

Figure 3.19.1: Installing samba package.

Step 2: Now package start `#service smb start` `#service nmb start` then status check `#service smb status` `#service nmb status` then permanently on `#chkconfig smb on` `#chkconfig nmb on`.

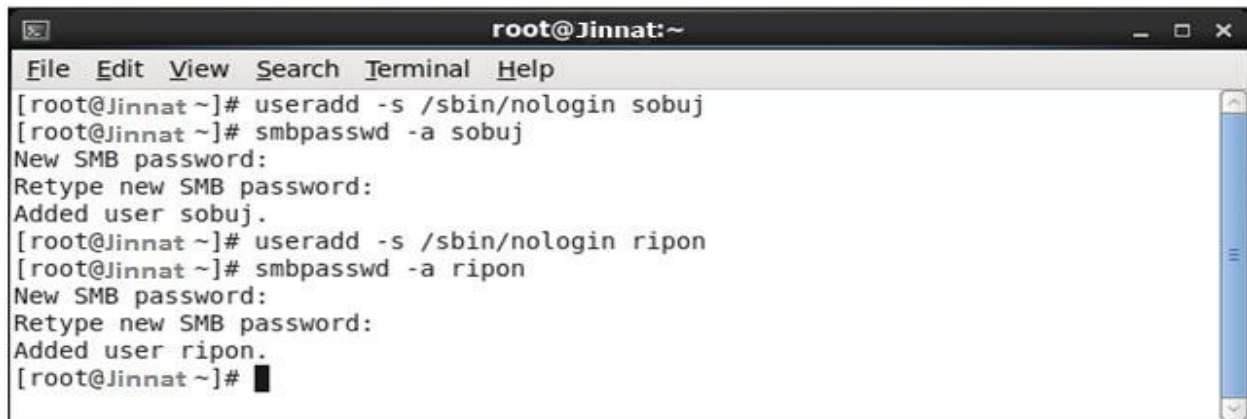


```
root@Jinnat:~  
File Edit View Search Terminal Help  
[root@Jinnat ~]# service smb start  
Starting SMB services: [ OK ]  
[root@Jinnat ~]# service nmb start  
Starting NMB services: [ OK ]  
[root@Jinnat ~]# service smb status  
smbd (pid 7523) is running...  
[root@Jinnat ~]# service nmb status  
nmbd dead but pid file exists  
[root@Jinnat ~]# chkconfig nmb on  
[root@Jinnat ~]# chkconfig smb on  
[root@Jinnat ~]# █
```

Figure 3.20.1: Screen print of configuration result.

Step 3: Now add two users then one to read/write permission and other user to write Permission. `#useradd -s /sbin/nologin/harry` then `#useradd -s /sbin/nologin/sara` Then

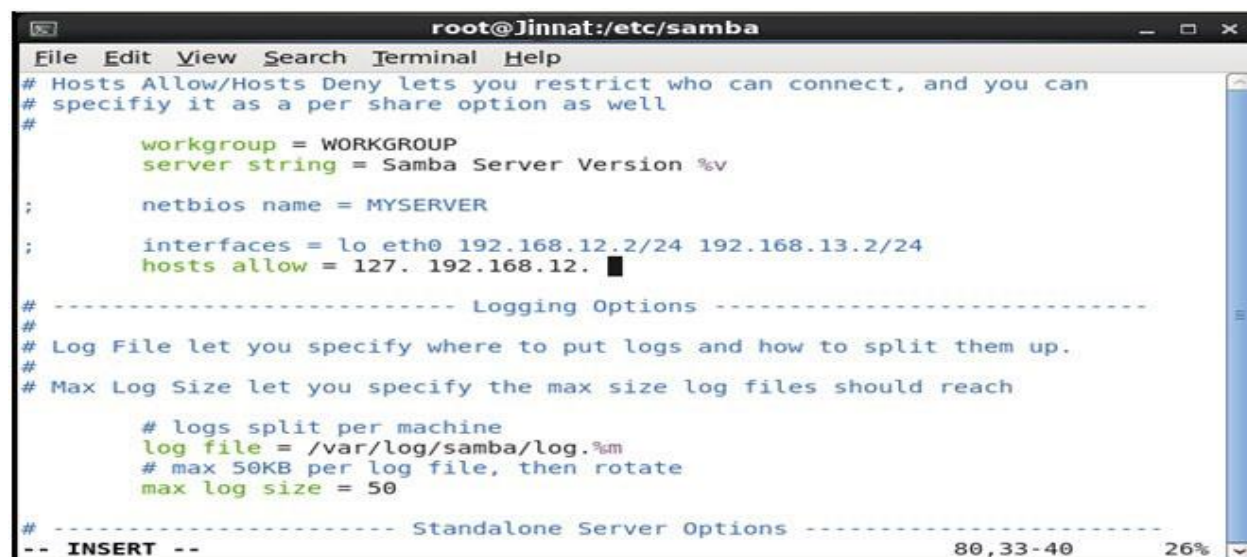
check SE linux enable or disable this command #getenforce.



```
root@Jinnat:~  
File Edit View Search Terminal Help  
[root@Jinnat ~]# useradd -s /sbin/nologin sobuj  
[root@Jinnat ~]# smbpasswd -a sobuj  
New SMB password:  
Retype new SMB password:  
Added user sobuj.  
[root@Jinnat ~]# useradd -s /sbin/nologin ripon  
[root@Jinnat ~]# smbpasswd -a ripon  
New SMB password:  
Retype new SMB password:  
Added user ripon.  
[root@Jinnat ~]# █
```

Figure 3.21.1: User adds command.

Step 4: Now I write vim editor and the command is #vim smb.conf then go to line 74 and edit workgroup=WORKGROUP then go to line 80 remove (;) and write IP Address like as 192.168.0.



```
root@Jinnat:/etc/samba  
File Edit View Search Terminal Help  
# Hosts Allow/Hosts Deny lets you restrict who can connect, and you can  
# specify it as a per share option as well  
#  
workgroup = WORKGROUP  
server string = Samba Server Version %v  
;  
netbios name = MYSERVER  
;  
interfaces = lo eth0 192.168.12.2/24 192.168.13.2/24  
hosts allow = 127. 192.168.12. █  
# ----- Logging Options -----  
# Log File let you specify where to put logs and how to split them up.  
# Max Log Size let you specify the max size log files should reach  
# logs split per machine  
log file = /var/log/samba/log.%m  
# max 50KB per log file, then rotate  
max log size = 50  
# ----- Standalone Server Options -----  
-- INSERT -- 80,33-40 26%
```

Figure 3.22.1: Screen print of smb.conf.

Then Shift+G go to last line write the following command:

[JINNAT] then path= /sharedir then valid users=harry,sara then read only=yes


```
root@Jinnat:/etc/samba
File Edit View Search Terminal Help
: [Profiles]
: path = /var/lib/samba/profiles
: browseable = no
: guest ok = yes
:
# A publicly accessible directory, but read only, except for people in
# the "staff" group
: [public]
: comment = Public Stuff
: path = /home/samba
: public = yes
: writable = yes
: printable = no
: write list = +staff
[sobuj]
comment= linux samba share
path= /sharedir
valid user= sobuj,ripon
read only= yes
write list= sobuj
browseable= yes
-- INSERT -- 296,1 Bot
```

Figure 3.23.1: Edit the smb.conf.

Step 5: Now #service smb restart then #service nmb restart and then go to Computer click Map Network Drive. Then IP address then click to finish

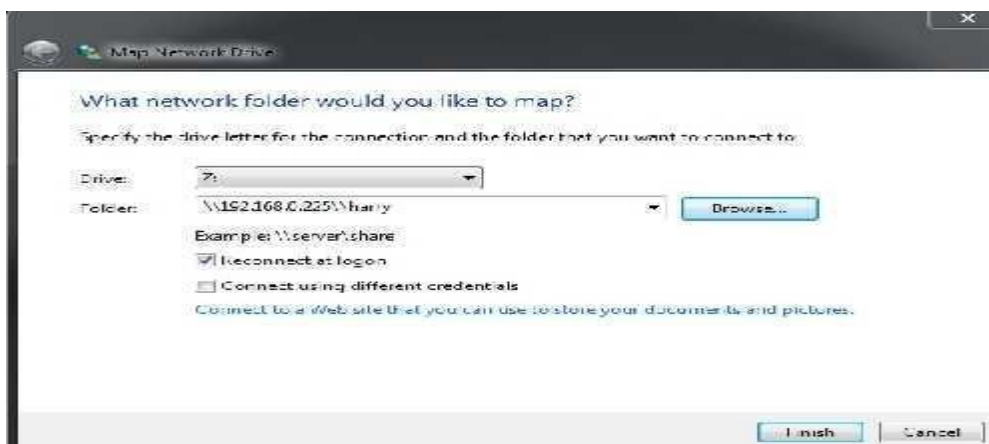


Figure 3.24.1: Screen print of Map Network Drive.

Then show this windows security then write user name and password.

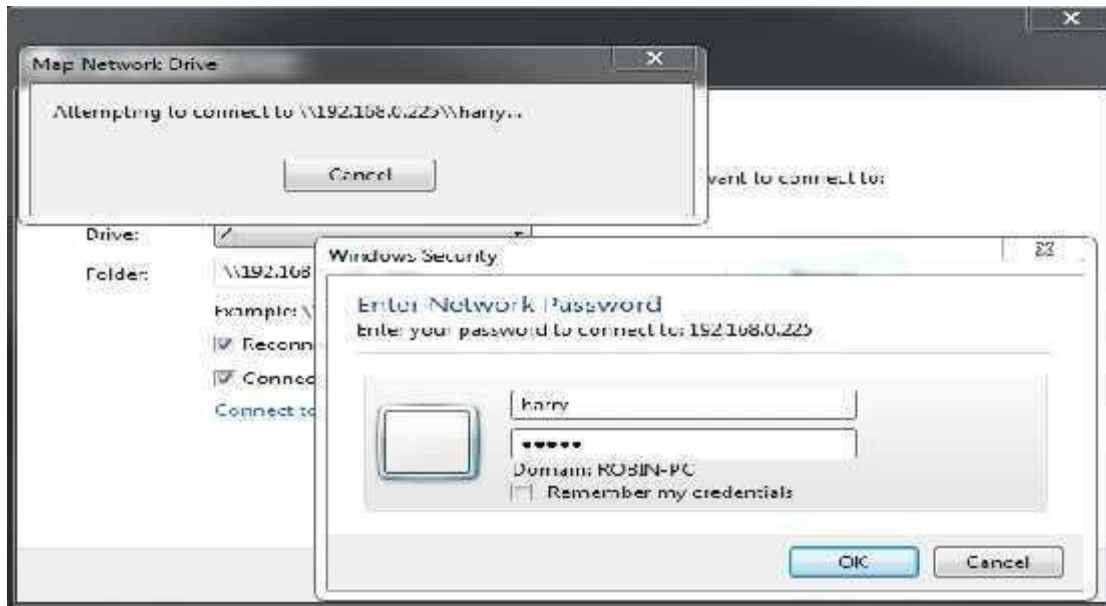


Figure 3.25.1: Screen print of windows security.

Step 6: Finally completed this step and show the samba driver

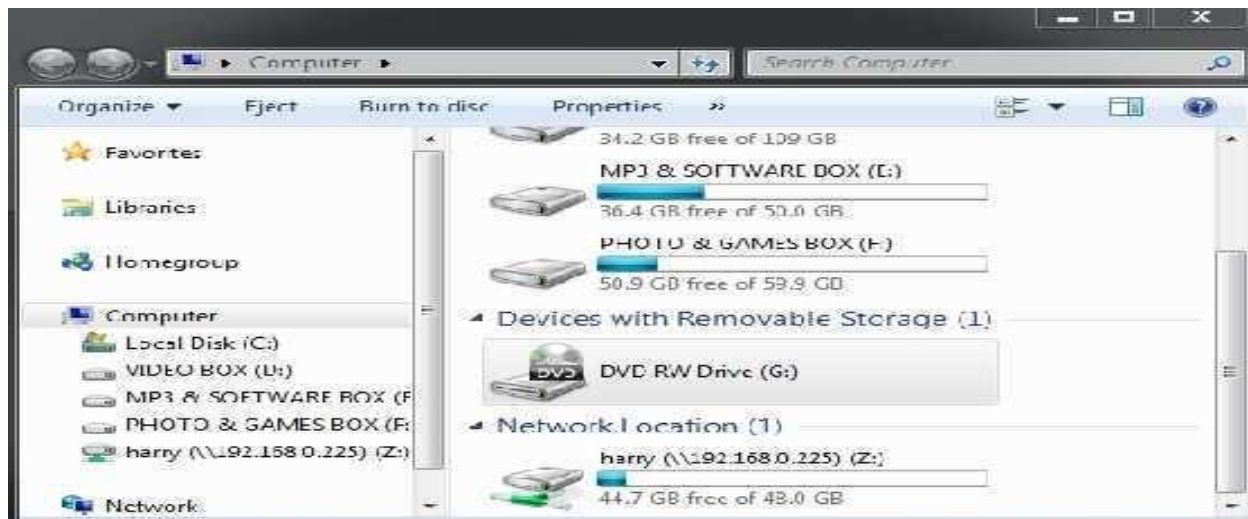


Figure 3.26.1: Screen print of samba Drive.

3.14 Challenges

No work is a challenge, but after four months of practical experience and sharing of friends, after a happy feeling, I discovered that the intern has common challenges. I think the prisoner has three things: unpaid/under temporary, and they have experience. Sometimes work is not enough I have not been given enough work. I'm bored, belittled, I got my fingers to my desk and I am tempted to go on Facebook. Too much work: Because the intern is ready to go to the door, some jobs can benefit young workers by giving them a long, boring and repetitive working time. I am afraid to question the questions: suddenly there is work, and finally, I have the opportunity to prove myself! But I'm not sure x, y, z ... I can feel the pressure to be an independent and independent employee but it is better to clarify the uncertainties! Competing with another intern: Fortunately, he was a trainee; we wonder and can easily join projects that have worked in teams that have cooperative relationships. Interns in a future job opening, or a recommendation for a good letter will be competing in other office environments, may not be so friendly.

CHAPTER 4

Competencies and Smart Plan

4.1 Competencies Earned

Skills Knowledge as a result or outcome is a statement of what the student is expected to know, understand, or may lead to as a result of the learning process. Installation and disassembly of network and server machines in two data centers. The key role of advanced Linux software, such as LDAPHA, is tailored to program learning outcomes, field evaluations, and internships. The Student Association facility funds many student Intern Learning Outcomes: Society and organizing data in practice Project Report: Take part in the revision of the Linux Lab web site. Learning Objectives Run and configure programs and updates; Install, configure, and test network worker services. In addition, the location counselor gives instructions on how the organization works and practices in accordance with the learning objectives.

4.2 Smart Plan

Every company should have an intelligent plan to succeed. Basically, some of the ordinary things combine an intelligent plan. How to make a secure network can be deployed. Each company must have a specific plan that helps them rise above. Find out your problems and solve them. Be able to take any kind of risk.

4.3 Reflections

Daffodil Online Ltd. started operations in 2002. In recent years, they have offered their work and service offering on the basis of customer recommendations and have taken into account the time requirements. They have been working with many national projects and international organizations and have received a reputation. They use the latest technology and update the services they need. This is the Corporate Network Solution that provides advanced telecommunication networks and commissions with a highly technical team of experts.

CHAPTER 5

Conclusion and Future Career

5.1 Discussion and Conclusion

Review this internship has been a great and rewarding experience. I have seen the future and I can help me with the opportunity to establish contact with many who have been able to confirm it. Through this practice, I learned one of the most important problems and time skills and self-motivation. When I started, it was eight hours a day, six days a week I could sit in the office, and did not believe it. When I realized what I had to do, my emotions did not overlap, I arranged my daily work. Organized and it was time to get a clear answer to the questions that need to be learned. This internship and time spent working hours, I had to learn to motivate myself. I'm still looking for a variety of suggestions and ideas to use with your business. But the options will continue to be open to new opportunities, and I will continue to work at the University of Bangladesh in the world. I enjoy this job. I continue my work hard and hope that the student will learn about the industry and meet new people. It was a great experience and I hope that another trainee has gained a lot of profit.

5.2 Scope for Further Career

There are career opportunities in different areas of Linux. Professional opportunities in Linux not only mention the Linux platform, but cover many different areas, such as Desktop Software Development, Peripherals, and Core Drivers Nowadays, their strong open source software and open source engineers many companies have moved to Linux and free software. A company such as Google, Yahoo, Boeing, Lufthansa, wiki.org has moved many companies to a cost-effective open source solution. LINUX professionals have strong demand.

References

[1] Get idea about Daffodil online limited (DOL), Available at:
http://www.daffodilnet.com/index.php?option=com_content&view=article&id=54&Itemid=112
, last accessed on 11October2019,10.30pm.

[2] About Recommended Partitioning Scheme, Available at:
www.centos.org/docs/5/html/5.2/Installation_Guide/s2-diskpartrecommen-ppc.html, last
accessed on 18October2019,9.00pm.

[3] Get Concept about FTP server, Available at:
<http://opensourecsoftwareandme.blogspot.com/1016/88/sharing-ftp-server-between-un.html>,last accessed on 25October 2019, 10.45pm.

Appendices

Appendix A: Internship Reflection

The main objective of internship in a professional environment, practical solutions to Global problems involve applying the information in the classroom. Appropriate skills and relationships in the professional environment, learn to master new knowledge, skills, and ability to decide on refining and developing plans. Add to the network with other professional managers and professional relationships. To do the exercises I use correctly business etiquette. Mission / vision for establishing a humanitarian organization, how to contacting colleagues, how power is shared, how it is structured, how decision share, how to understand the professional organization's culture and how much responsibility and feedback to the organization. Assessment after internships and internships personally conferences offer the opportunity to make professional opinions. Internship experience preparing to live in a global society, leadership and service, my gift to practice it.

Appendix B: Company Detail



Head Office

Name: Daffodil Online Limited
Address: 102, Shukrabad (3rd floor), Mirpur Road,
Dhanmondi, Dhaka - 1207, Bangladesh
Telephone: 02-9143258-60
Fax: 880-2-8116103
E-mail: info@daffodilnet.com
Website: www.daffodilnet.com
Type of Organization: Nationwide Internet Service Provider (ISP)

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