LINUX SYSTEM AND NETWORK ADMINISTRATION

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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APPROVAL

This Internship titled **"Linux System and Network Administration**", submitted by Md. Tanveer Hasan, ID: 142-15-4203 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 Bachelor of Science in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on 5th May 2018.

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DECLARATION

I hereby declare that, this internship report is prepared by me, Md. Tanveer Hasan to the department of Computer Science and Engineering, Daffodil International University. Under the supervision of **Dr. Sheak Rashed Haider Noori, Associate Professor & Coordinator Ms in MIS,** 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 Western Grammar School and Data Center and Internet Service Provider (ISP) Based Company, Books and Internet.

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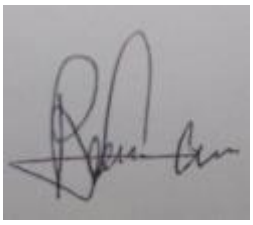

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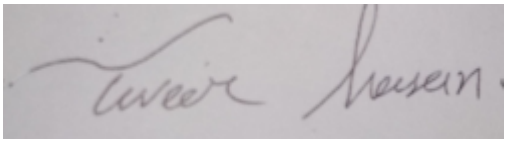

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I would like to thank our entire course mate in Daffodil International University, who took part in this discuss while completing the course work.

Finally, I must acknowledge with due respect the constant support and patients of our parents.

ABSTRACT

Linux is, in simplest terms, an operating system. It is the software on a computer that enables applications and the computer operator to access the devices on the computer to perform desired functions. The operating system (OS) relays instructions from an application to, for instance, the computer's processor. The processor performs the instructed task then sends the results back to the application via the operating system.
The medium or large size organizations need a server system to maintain their complex IT infrastructure. Peer-to-peer networks make problematic in the way of security and resource sharing for medium or large size organization. As the server is little expensive, here I try to design a cost effective server system of this type of organization. This system provides almost all the service need by an organization to maintain their infrastructure. This system increases reliability and network security for their network. The organization which wants to adopt this system can easily use this system for its reliability rather than other systems present in the market. This design is implemented using VMware Workstation 10.0 and CentOS 6.5. After implementation of all service, this system is tested in different stages and it works successfully as a prototype. In the future I need to improve centralize login system to get better performance for windows users.

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CHAPTER 1

Introduction

1.1 Introduction

The Daffodil international university has a nice opportunity that was the internship system. We get it on the last semester. I want to say that on this internship system I get a large amount of practical experience. It is my big challenge to prove me, in any time anywhere in any place. The full system support given by Western Grammar School, IT Support Dept.On that school I want to gather a large technical knowledge.I have used Linux Operating System and some monitoring tools.Due to globalization and advancement of science and technology it is impossible even think of a day without information technology. Information plays a huge role in every aspect of life whether in studies, business, communication and everyday life.

1.2 Motivation

I am currently pursuing my Bachelors in Computer Science Engineering at Daffodil International University, I understand the importance of gaining practical knowledge which will complement the textbook knowledge and help a student gain a wider perspective of the subjects. The IT enabled organizations are highly needed server to better manager business-critical information, sharing file, protect data by making backup for employee and clients. When an organization has 9 to 10 users in his networks then he need really consider investing a network server. Using windows it is really expensive to setup this type of system. So I use a free Operating System CentOS to setup this system to make this cost effective. Moreover Linux has own secured Kernel to protect it from Virus so we not need to buy antivirus to protect our system. For this reason I am using Linux to implement this system.

1.3 Internship Objectives

Ultimate objective of my internship program is to prepare myself as an eligible one in the competitive job market. So this is very effective of skill development. I would like to gather some extraordinary quality to provide myself as skilled one.

The internship in computer science is designed to provide work experience while students are still in school, to coordinate job experience with academic training, and to help student to make the transition from classroom to job. Self motivated and self-directed a desire to work.

1.4 Introduction to the Company

Western Grammar School is a Private School of Bangladesh. They are the most experienced and oldest School and they have a good ICT field where worked highly skilled and experienced person. Western Grammar School are basic business ethics is Long Term Relationship with they are Students and Customer. As we look at the growth over the decade since our inception, they are extremely proud of what they have achieved, and even more excited about they are outlook for an equally promising future.

They are using the latest technologies and upgrading the services wherever it is required. They are Corporate Network Solution department is capable to provide state-of-art network and telecommunication solutions with a highly efficient technical expertise group.

1.5Report Layout

In the chapter (1) I have described objective of internship, Motivation of internship and Introduction to the company.

In the chapter (2) I have described the methodology of my internship. And this chapter gives the information about where the internship has been attached to undertake this program. Also included about how did perform the internship works, about the company, what are the IT service in Western Grammar School and what are the roles of in jobs market.

In the chapter (3) I have described about daily task and activities, Events and Activities and Challenges.

In the chapter (4) I have described is Competencies Earned, Smart Plan, Reflections.

In the chapter (5) I have described is Conclusion and Future Scope. I discuss Future Scopes of Linux and write conclusion.

CHAPTER 2

Organization

2.1 Introduction

Western Grammar School is proud to be one of the trailblazers and oldest School in Bangladesh and providing one stop Question/ Answer Service in they are website. They use Fiber Optic & Radio Link MAN infrastructure to serve corporate, SME and individual clients.

The School has Corporate Network Solution department is capable of providing state-of-art network and telecommunication solutions with a group of highly efficient technical experts. They has a very strong professional engineering and management team certified and associated with BUET, DUET etc.

2.2 Product and Market Situation

Daffodil Online Ltd. prides itself as one of the leading nationwide Internet Service Provider (ISP) in Bangladesh. They are the most experienced and oldest company in the ICT field where they are basic business ethics is Long Term Relationship with the are customers. As they look at the growth over the decade since our inception, they are extremely proud of what we have achieved, and even more excited about our outlook for an equally promising future. Daffodil Online Ltd also provides different IT Services and Professional Training services. These are given below.

- **IT Services**
    - Computer Training
    - Security solution.
    - Website development.
    - Freelancer Training
    - State of the Art Data Centers.
    - Hi speed Wi-Fi Zone.
    - Data Connectivity, Data center& Co-Location.
    - Bulk SMS Service**.**
    - Professional course and trainings:
    -

- **Professional Training Services**
    - ISP Setup and administration 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 customer base includes all consumers and all small- to medium-sized businesses, including start-ups. The company plans to concentrate on SOHO clients, as these are perfect targets for our new high-speed offerings, and hold the greatest growth potential for the company. Web Solutions feels that these market segments have special pricing and service needs, and make more dedicated, reliable customers.

2.4 SWOT Analysis

SWOT Analysis is a useful technique for understanding your Strengths and Weaknesses, and for identifying both the Opportunities open to you and the Threats you face.

- **Strengths:**
  - ✓ Communication between people separated by distance (at home and within the workplace)
  - ✓ Working from home with ease
  - ✓ Setting up an online business
  - ✓ Gathering information (valuable asset in business)

- **Weaknesses:**
  - ✓ 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

- **Opportunities:**
  - ✓ 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 remains to be seen how far consumers can be persuaded to embrace Internet access.

2.5 Organizational Structure

Organizational Structure Western Grammar School, IT Dept.Shown below in fig 2.5:

Figure 2.5: Organizational structure of Western Grammar School

CHAPTER 3

Tasks, Projects and Activities

3.1 Daily Task and Activities

- Month - 1: In the first month of internship on Western Grammar School. IT Dept. I have learned and performed the following tasks:
  - Learning & understanding About Network Components.
  - Learning & understanding Basics of Linux.
  - Understanding Linux HDD Partitions.
  - Learning & understanding 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.

- **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.

- **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.

- **Swap Partition: swap**

  The partitions swap is used to support virtual memory. In other words, data is written to a swap partition when there is not enough RAM to store the data your system is processing. Partition Swap should equal 2x physical RAM for up to 2 GB of physical RAM, and then an additional 1x physical RAM for any amount above 2 GB, but it cannot 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

Shutdown = poweroff, init 0, shutdown –h now.

Reboot = reboot or init 6.

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 = ls rimon

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 –r helal(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 Vi Editor

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

For Go 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 (package name)

e.g. yum install vim -y

- Uninstall a package using yum

yum remove (package name)

e.g yum remove samba-y

- Update a package using yum

yum update (package name)

e.g yum update firefox

- Search a package using yum

yum search (package name)

e.g yum search firefox

- Display Additional Information about a Package

yum info (package name)

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 grouplist

- Install a specific soft group

yum groupinstalldnsnameserver

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

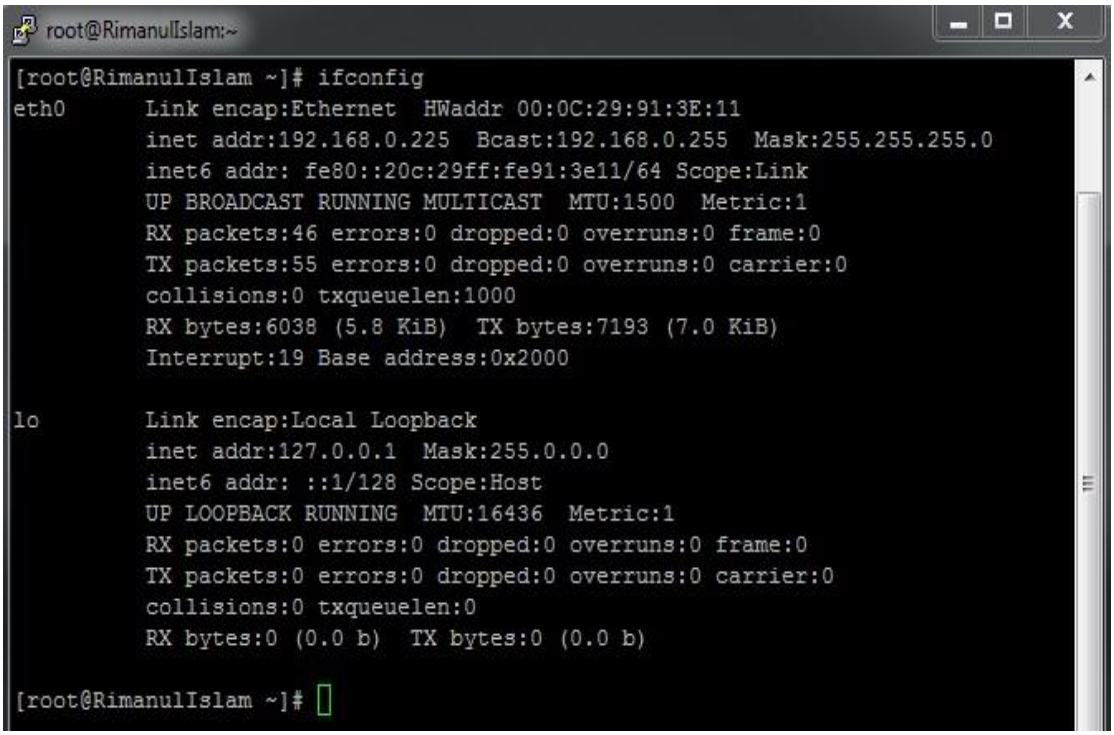


Figure3.1: IP address in centos

IP address amd Mac address I n command ifconfig eth0 by shown below figure 3.2

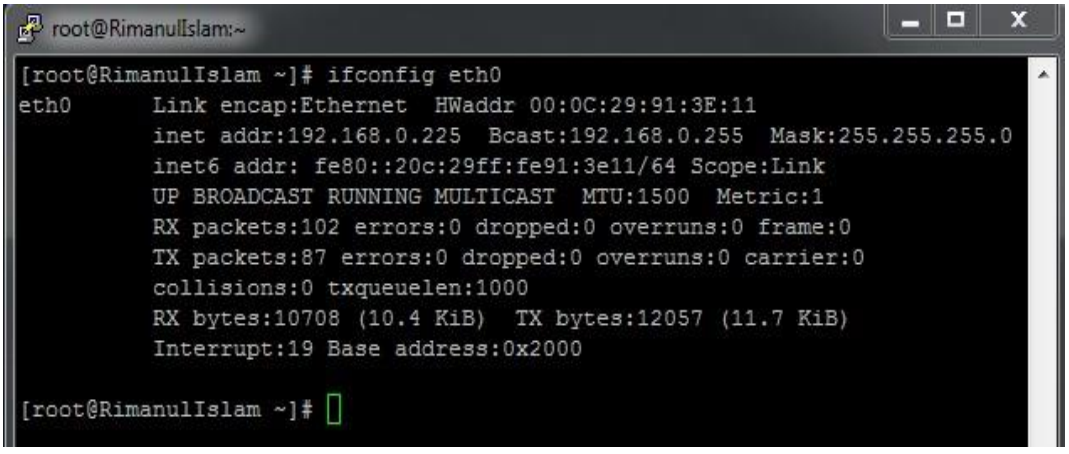


Figure3.2: Address in eth0 port

Setup IP Address permanently shown below by figure 3.3

Figure3.3: Setup ip address in eth0 permanently

Edit IP address: vi/etc/sysconfig/network-scripts/ifctg-eth0 Shown below figure3.4

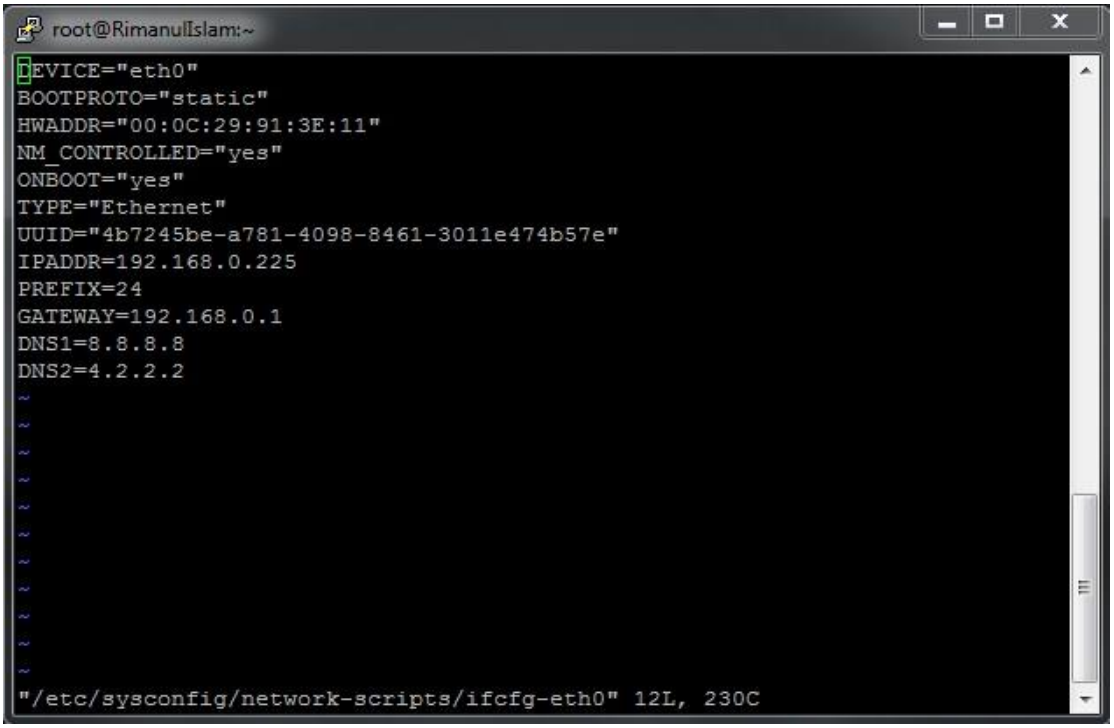


Figure3.4: Edit IP address eth0 port

3.13 Server Configuration

In Internet Service Provider [ISP] the Server Configuration is very important purpose. Server Selection is important for each server services. Many servers contains in Linux Operating System. Within Those Servers DNS server, DHCP server, FTP server, NFS server, MAIL server, WEB server, SAMBA server, Nagios server Internet Service Provider [ISP] can be configured.

FTP Server

FTP (File Transfer Protocol)

The File Transfer Protocol (FTP) is a standard network protocol used for the transfer of computer files between a client and server on a computer network. FTP is built on client-server model architecture and uses separate control and data connections between the client and the server. Many casual Internet users expect to download directly from their web browser with https. FTP is still used to support legacy applications and workflows with very specific needs. If you have a choice of what protocol to use, consider exploring the more modern options. When you do need FTP, however, vsftpd (very secure FTP daemon) is an excellent choice. Optimized for security, performance, and stability, vsftpd offers strong protection against many security 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: Intall the package vsftpd by using #yum intall vdftpd –y

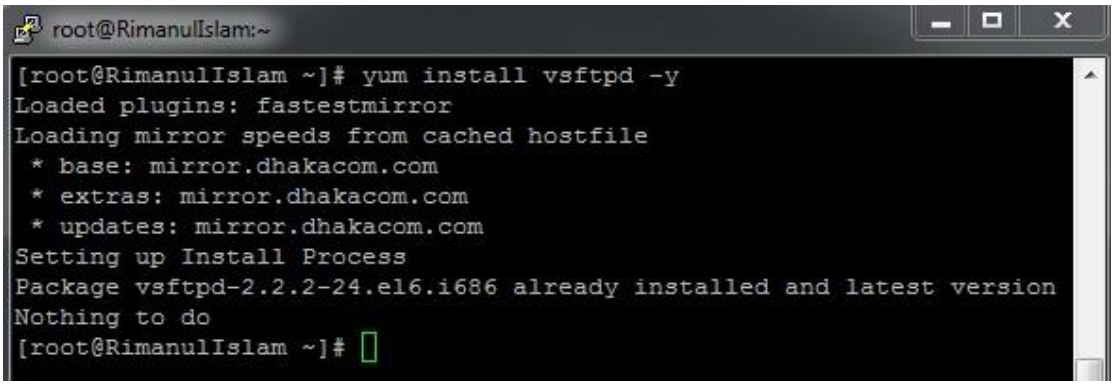


Figure3.5: Installing the package vsftpd

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

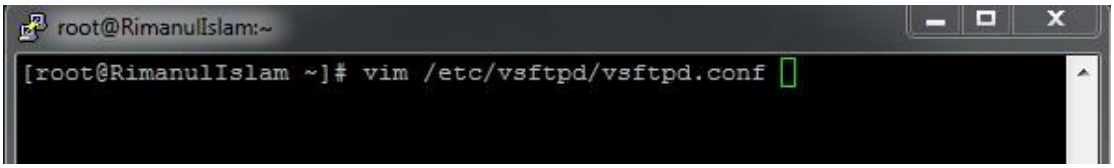


Figure3.6: Configuration file location

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

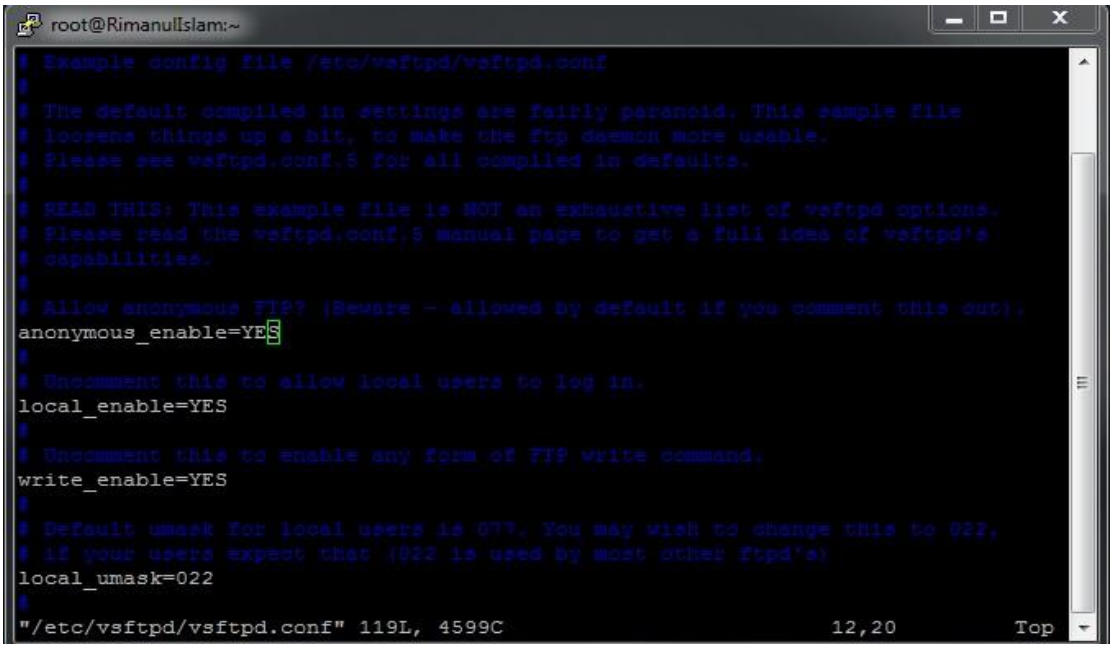


Figure3.7: Change the line anonymous Enable

Step 4: Go to line 85 and 96 active the line by deleting #

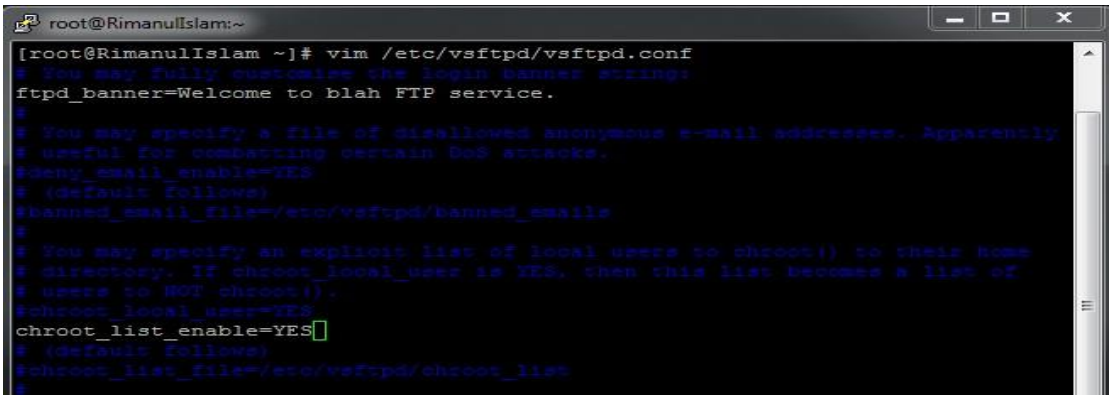


Figure3.8: Activating the line 85 and 96.

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

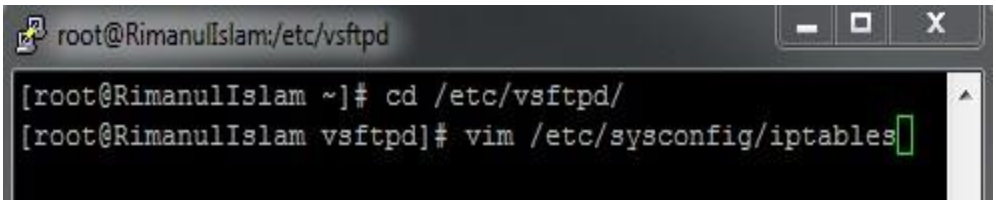


Figure3.9: Configuration file location.

Step 6: Now the Configuration and write those things.

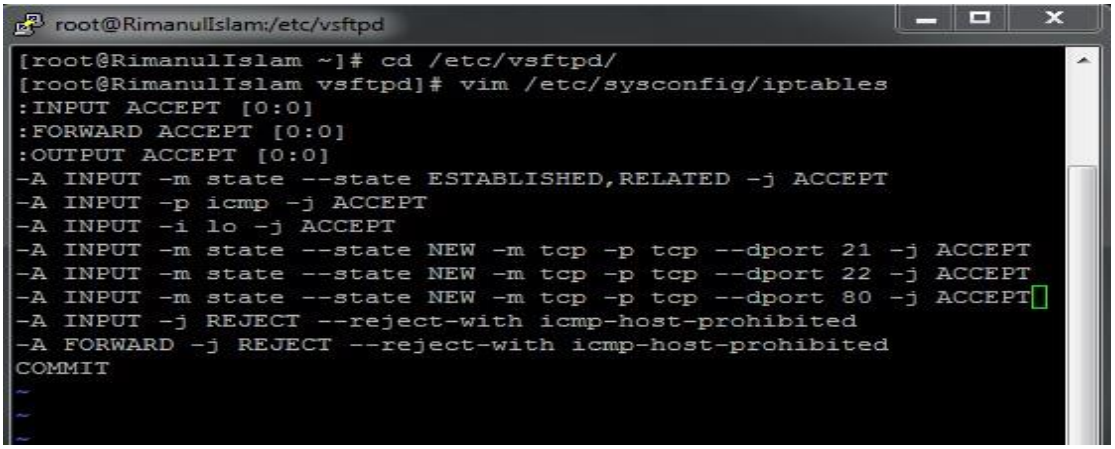


Figure3.10: Editing the Configuration.

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

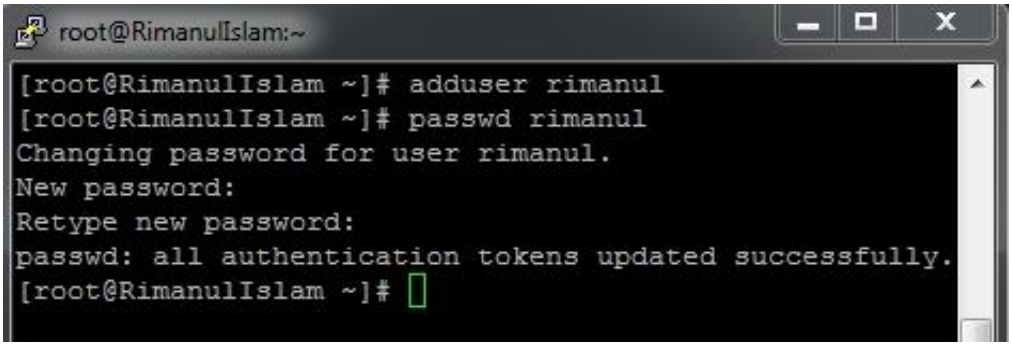


Figure3.11: Creating Ftp User and Password.

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

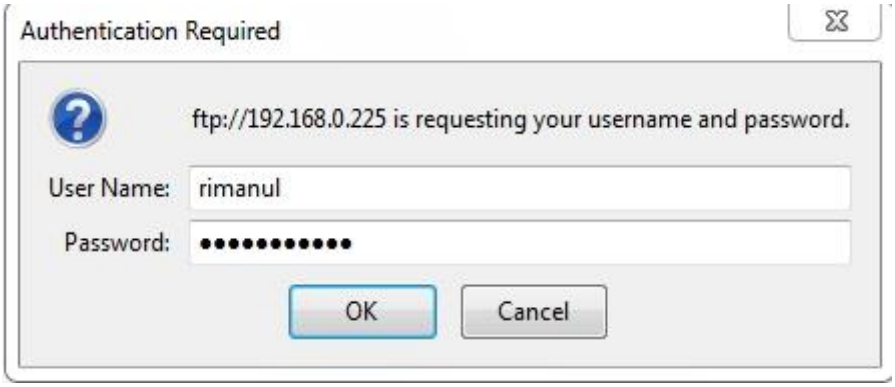


Figure3.12: Screen print of a Name and Password.

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

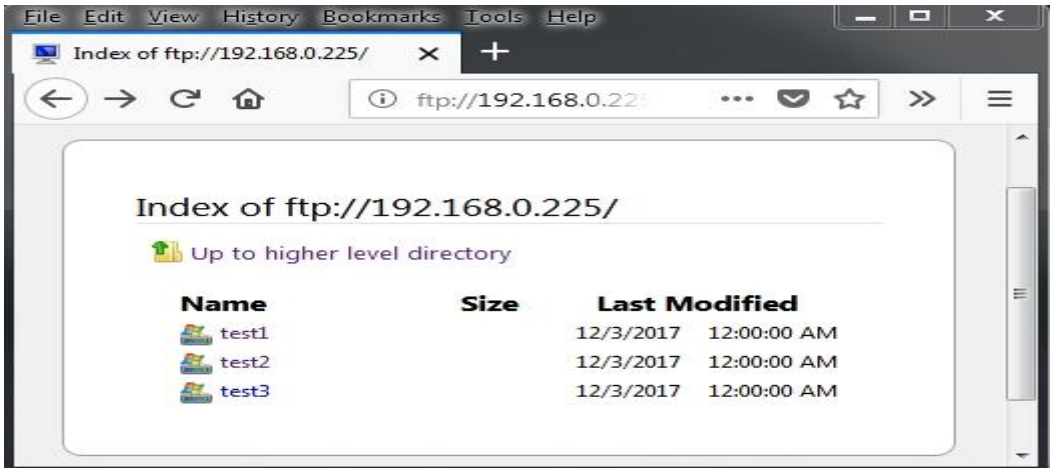


Figure3.13: Screen print of a result.

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 address) on the server have configured with two different IP address. The disadvantages of this technique that server needs a different IP address for every web sites. This increase 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: **httpd**

Default http port: 80

Default https port: 443

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

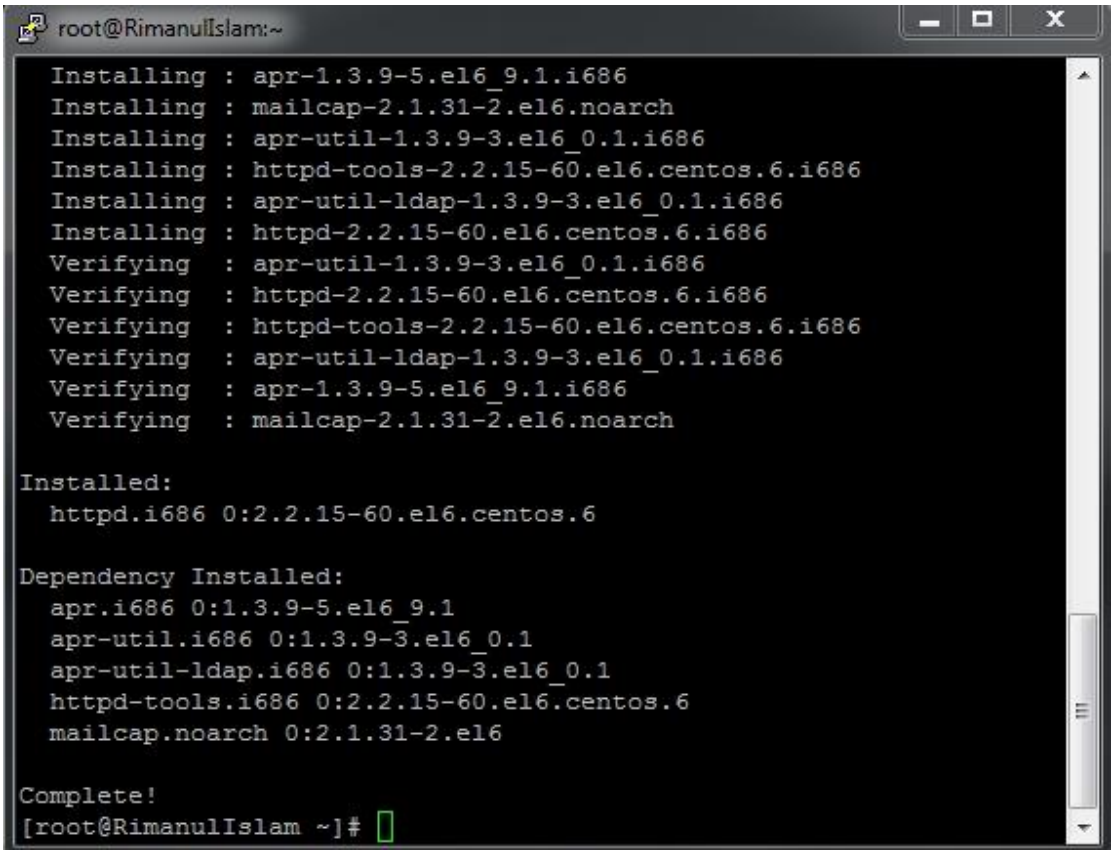


Figure3.14: Screen print of a yum installation

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

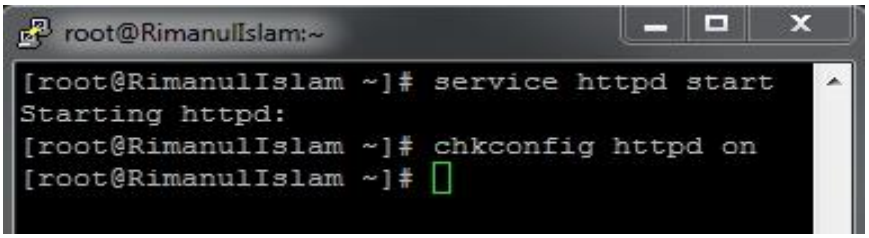


Figure3.15: Shown a command.

Step 3: Now default location and this command is **#cd /var/www/html** then creating a Static Site command is **#vim index.html**

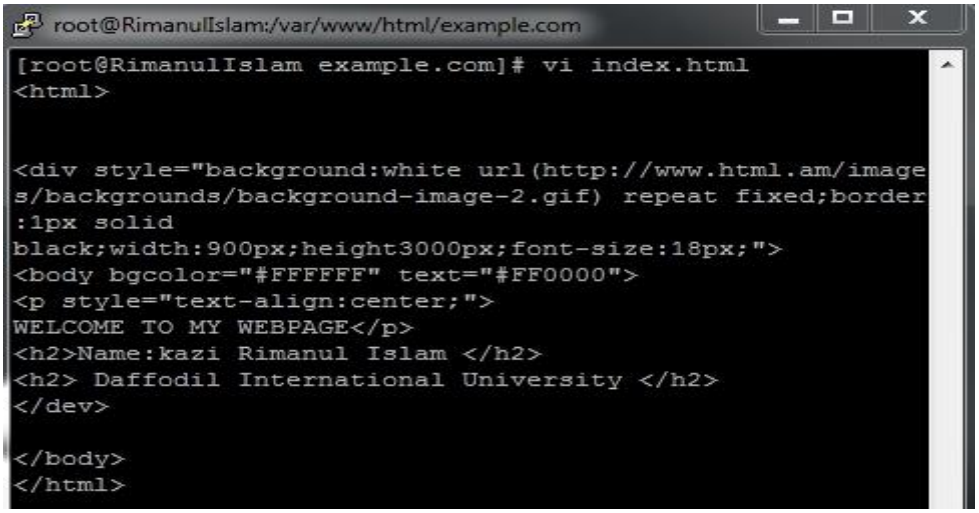


Figure3.16: Static Site Creating.

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.**

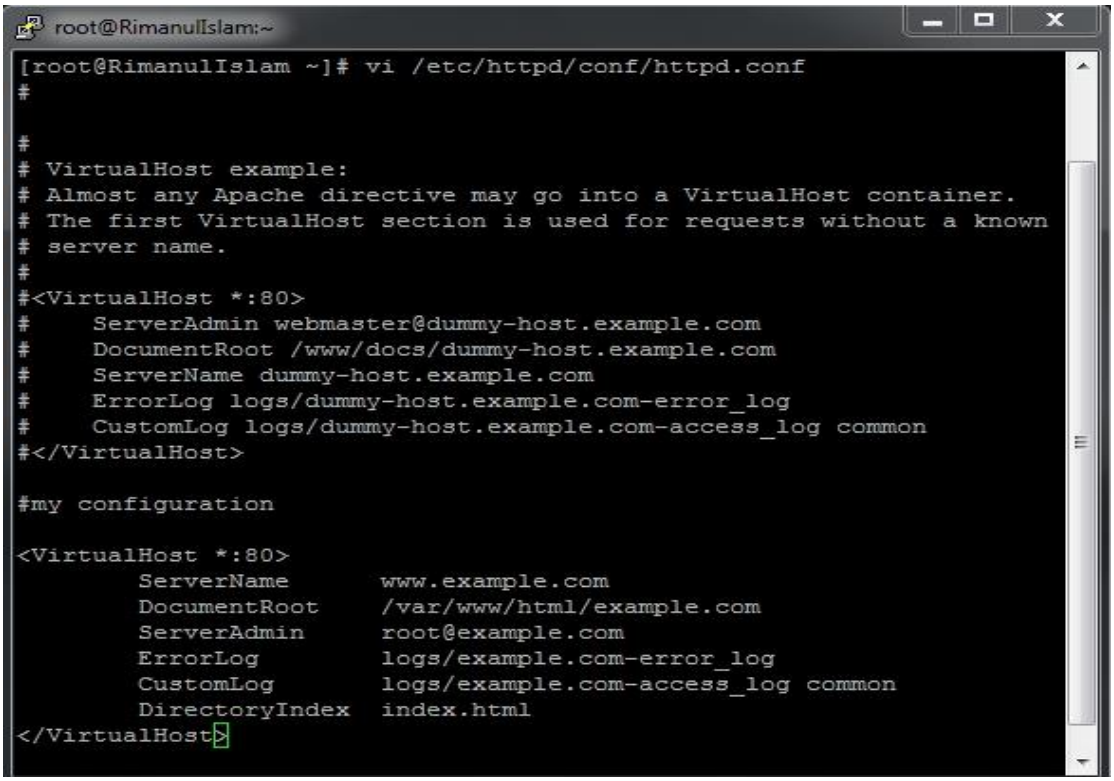


Figure3.17: Screen Print of a vim configuration.

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

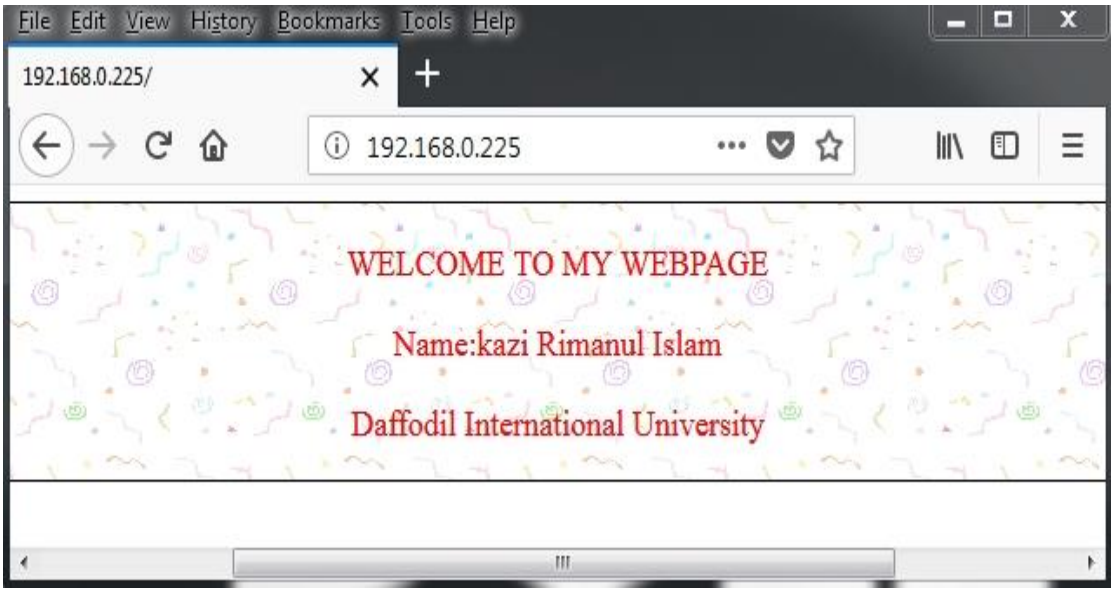


Figure3.18: Web page result

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 SAMABA server to share printer and other important files to all clients like Windows, Linux& UNIX. I share a directory using SAMBA and add samba password to it. Using this directory any authorized user can share their data or print 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.**

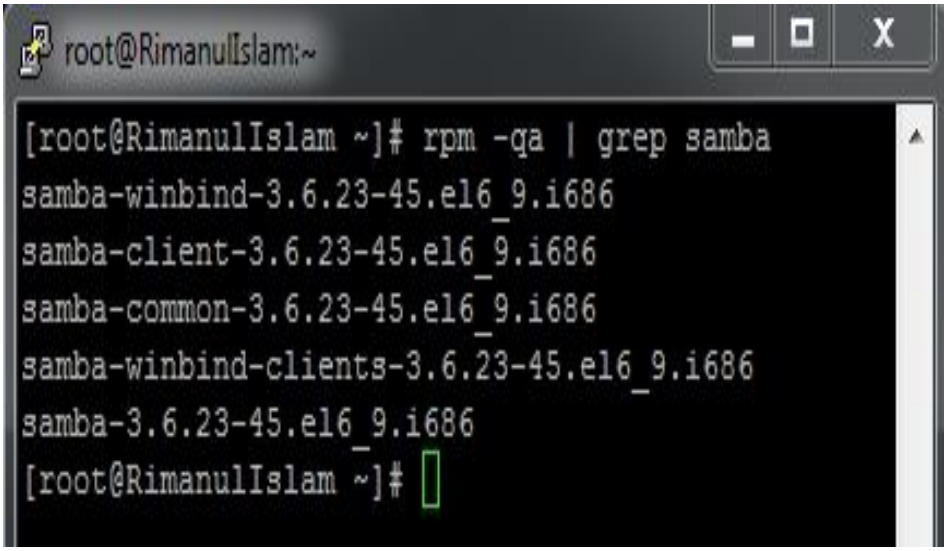


Figure3.19: Installing samba package.

Step 2: Now packsge 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.**

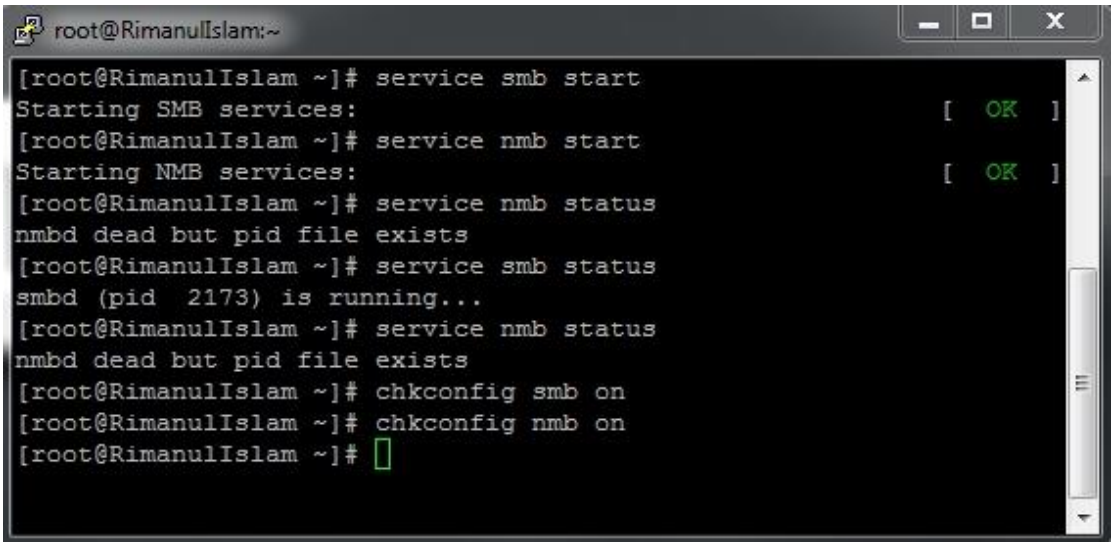


Figure3.20: Screen print of configuration result.

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.**

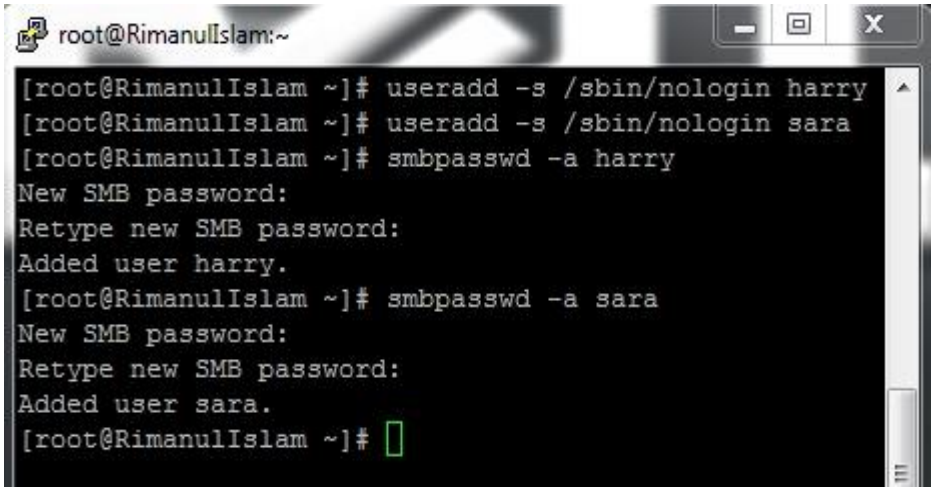


Figure3.21: User adds command.

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.

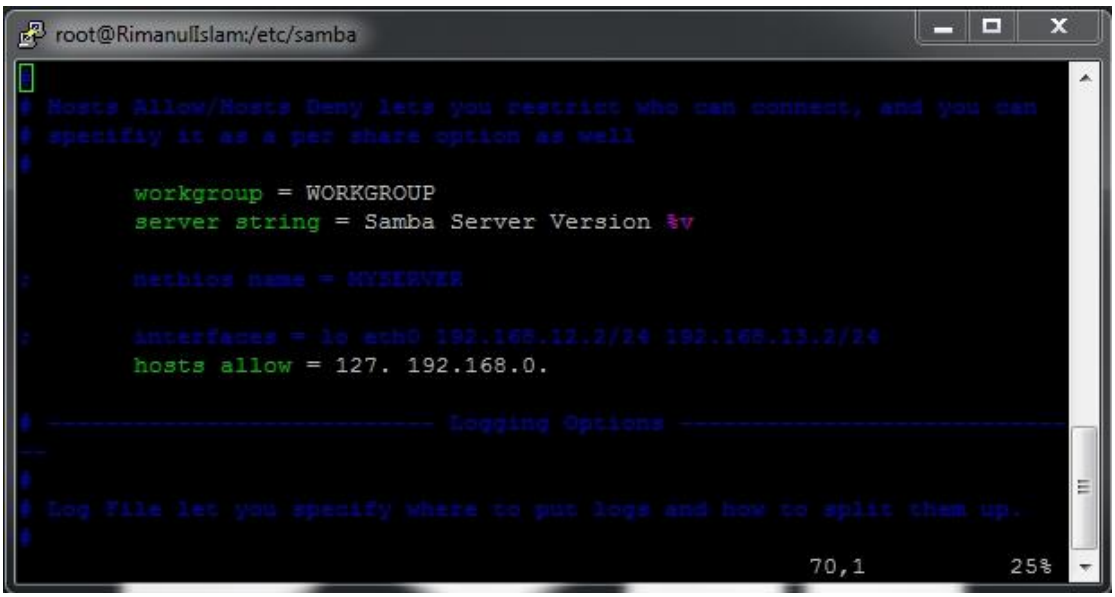


Figure3.22: Screen print of smb.conf.

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

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

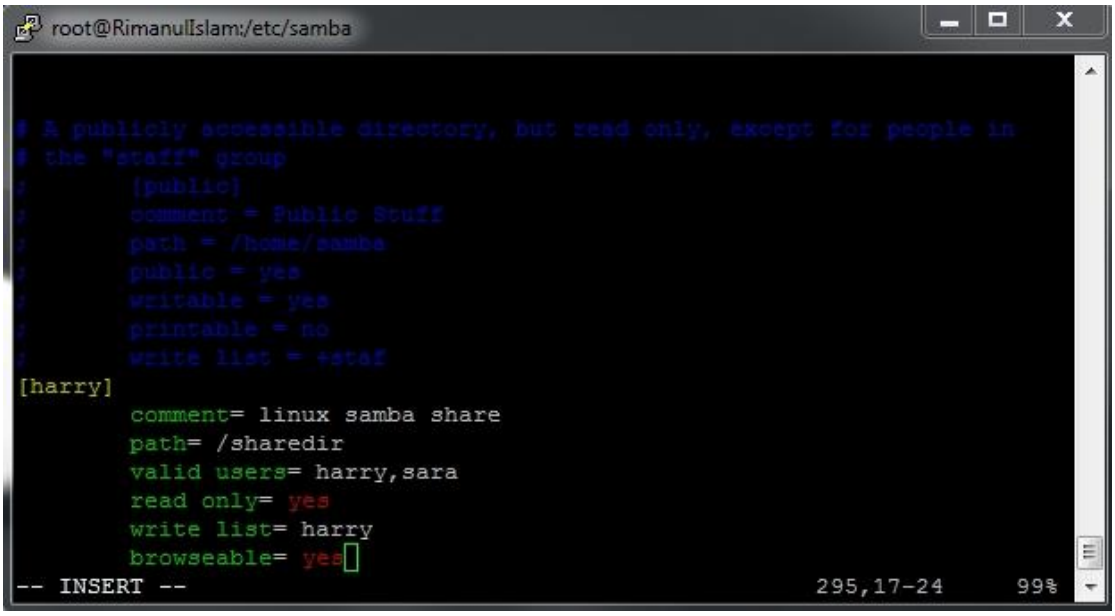


Figure3.23: Edit the smb.conf.

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

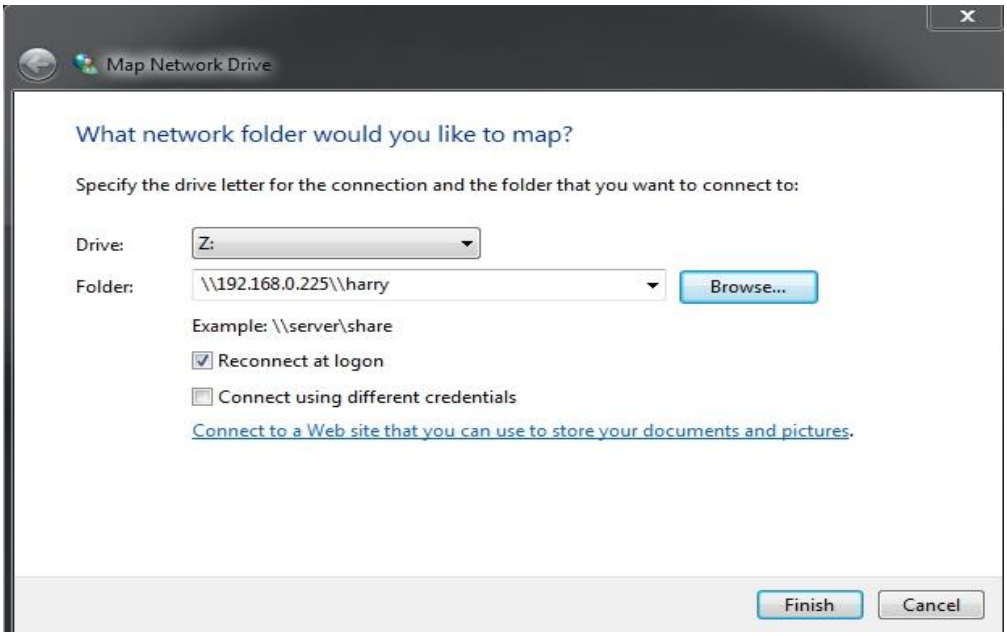


Figure3.24: Screen print of Map Network Drive.

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

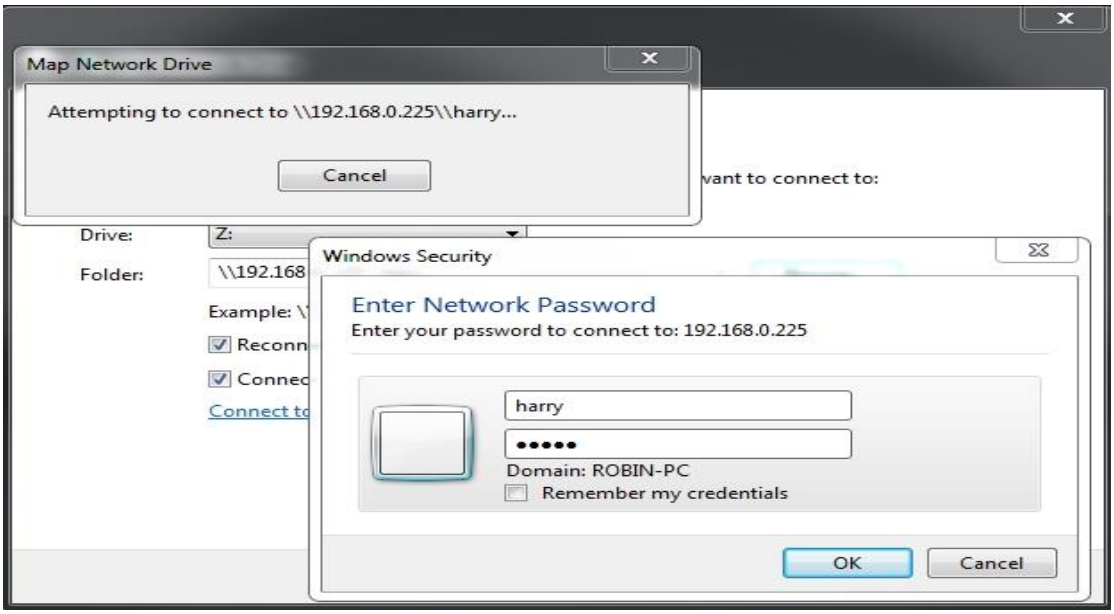


Figure3.25: Screen print of windows security.

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

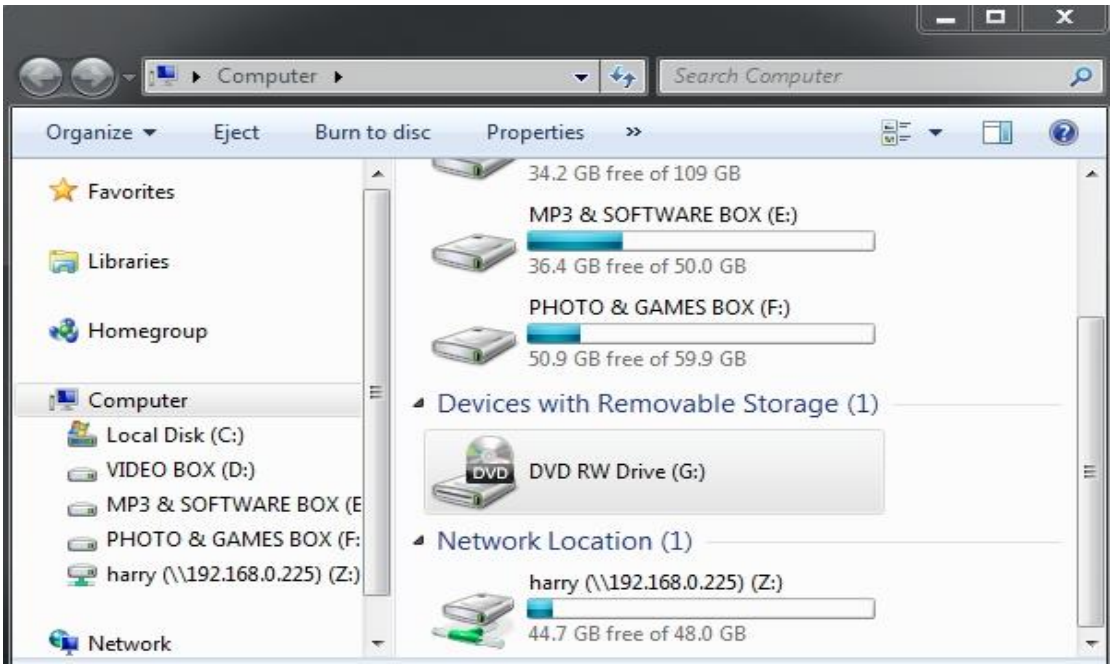


Figure3.26: Screen print of samba Drive.

Nagios Server

Nagios is a free and open source computer software application that monitors system networks and entire IT infrastructure.Nagios monitors entire infrastructure to ensure systems servers, switches, applications, services and business processes are functioning properly.

Configuring Nagios server Step by Step

Step 1: At first check ping google.com then install the package #yum install httpd php gcc glibc glibc-common gd gd-devel make net-snmp –y

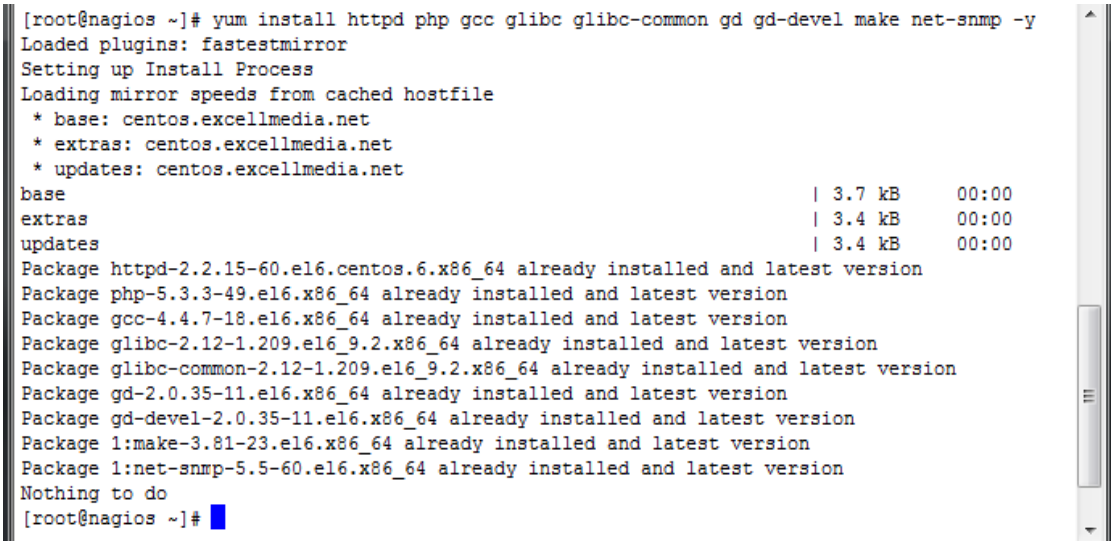


Figure3.27: Installing nagios package.

Step 2: Then add a user #useradd nagios and passwd nagios.Then groupadd nagcmd

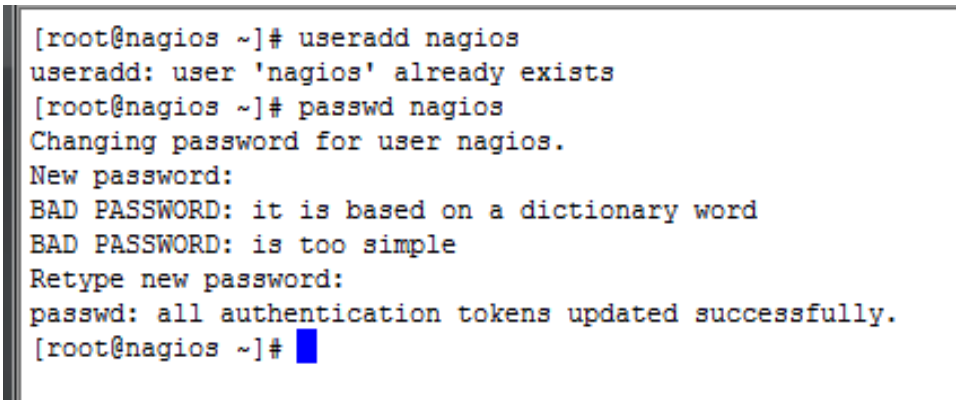


Figure3.28: Add a user and group.

Step 3: Then #usermod –G nagcmd nagios and usermod –G nagcmd apache.this configure is by default nagios and apache under the group.then check the configure #tail -2 /etc/group.

Step 4: Then yum install wget –y and #tar –xvf nagios-4.2.0.tar.gz then cd nagios-4.2.0 then #./configure --with-command-group=nagcmd then make all then yum install unzip –y then make install.

```
     - Read the documentation on the Nagios Library at:
          https://library.nagios.com

before you post a question to one of the mailing lists.
Also make sure to include pertinent information that could
help others help you.  This might include:

     - What version of Nagios you are using
     - What version of the plugins you are using
     - Relevant snippets from your config files
     - Relevant error messages from the Nagios log file

For more information on obtaining support for Nagios, visit:

       https://support.nagios.com

************************************************************

Enjoy.

[root@nagios nagios-4.2.0]# make install
```

Figure 3.29: Install wget and tar nagios-4.2.0

Step 5: Then make install-init, make install-commandmode, make install-config, make install-webconf then server for password create #htpassws –s –c /usr/local/nagios/etc/htpasswd.users nagiosadmin.then #service httpd restart.

```
*** Nagios/Apache conf file installed ***

[root@nagios nagios-4.2.0]# htpasswd -s -c /usr/local/nagios/etc/htpassw
New password:
Re-type new password:
htpasswd: password verification error
[root@nagios nagios-4.2.0]# htpasswd -s -c /usr/local/nagios/etc/htpassw
New password:
Re-type new password:
Adding password for user nagiosadmin
[root@nagios nagios-4.2.0]# service httpd restart
Stopping httpd:                                            [  OK  ]
Starting httpd:                                            [  OK  ]
```

Figure3.30: Restart apache for the setting.

Step 6: Then wget link and tar –xvf nagios-plugins-2.1.2.tar.gz then cd nagios-plugins-2.1.2 then #./configure --with-nagios-user=nagios –with-nagios-group=nagios then make then make install then cd.

Step 7: Then /usr/nagios/bin/nagios –v /usr/local/nagios/etc/nagios.cfg then service nagios restart then service httpd restart then service iptables stop. Then open a browser to access the nagios server.

Figure3.31: Access the nagios server.

3.14 Challenges

No work has not challenges, but four months of my internship experience and to share friends after hearing about the happy hour, I've found that there is some common challenges intern. I think it is that interns three things: unpaid / under, temporary, and they are in a race to gain experience. Sometimes Not enough work: There's not enough work assigned to me. I'm bored, underutilized, strumming my fingers at my desk and tempted to peruse Facebook.Too much work: Because interns are just glad to get a foot in the door, some work places may take advantage of young workers by giving them very long hours of dull repetitive work. Afraid to ask questions: All of a sudden there's an influx of work, and I finally have the chance to prove myself! But I'm not sure about x, y, z….I may feel the pressure to be an independent and self-sufficient worker, but it's so much better to clarify uncertainties! Compete with other Intern: Luckily I was an intern; we ask questions of each other and can easily team up with projects that have worked in teams where there was such a collaborative relationship. 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

Competencies Earned or learning outcome is a statement of what a learner is expected to know, understand or be able to do as a result of a learning process. Install and decommission of both network and server machines at two datacenters. Lead role in advanced Linux software implementations, for example LDAP HA, aligned to program learning outcomes, field and internship evaluations. The Student Association office funds many student Intern Learning Outcomes: Gathering and organizing information into a Internship Project Description: Participate in the redesign of the Linux Lab web site. Learning Outcomes. Install & Configure software and upgrades; Install, configure & test network Employer Services • Furthermore, consistent with the learning outcomes, the Internship On-Site Supervisor will provide an orientation concerning organizational policies and procedures.

4.2 Smart Plan

Every company should have a smart plan to gain the success. Basically some common things of combination create a smart plan.

4.3 Reflections

Daffodil Online Ltd. started they are operation in the year **2002**. During the past years, they extended they are operation and service portfolio according to the customer's recommendation and considering demands of time. They worked with many national projects and international organizations and achieved the reputation. They are using the latest technologies and upgrading the services wherever it is required. They are Corporate Network Solution department is capable to provide state-of-art network and telecommunication solutions with a highly efficient technical expertise group.

CHAPTER 5

Conclusion and Future Career

5.1 Discussion and Conclusion

Review this internship has been a wonderful and rewarding experience. I have seen the future and I will be able to help me with the opportunity to network with a lot of people have been able to confirm that. Through this internship, I have learned that one of the main issues and time management skills as well as self-motivation. When I first started I was eight hours a day, six days a week is going to be able to sit in an office and did not think that. Once I realized what I had to do my hours of overlapping is not broken, so I organize my day job. Organized and it was the right time, when I get a response prepared for questions that need to be learned. This internship and time management of the office for many hours, I had to learn how to motivate myself through. I'm still looking for using the company came up with the various proposals and ideas. I'm still keeping my options open to new opportunities, however, are continuing to work for the University of Bangladesh in the world. I'm enjoying this line of work. I continue to work hard for my position and hope to continue to learn about the industry and meet new people will. It was a wonderful experience, and I hope the other intern got a lot out of it.

5.2 Scope for Further Career

Career opportunities are available in different areas under Linux. The career opportunities in Linux's mentioning not only the Linux platform, it covers lot of different areas like: Desktop Application Development, Kernel & Device Drivers Development Today their huge demand open source software's and open source software's developers and network engineers. There many company today migrated to Linux and open source software's. The company like Google, Yahoo, Boeing, Lufthansa, wiki.org, many companies migrated to cost effective open source solution. There is a huge demand for the skilled professionals in LINUX.

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 11September 2017, 11.30pm.

[2] About Recommended Partitioning Scheme, Available at: www.centos.org/docs/5/html/5.2/Installation_Guide/s2-diskpartrecommend-ppc.html, last accessed on 18September 2017, 4.00pm.

[3] Get Concept about FTP server, Available at: http://opensourecesoftwareandme.blogspot.com /2016/08/sharing-ftp-server-between-un.html,last accessed on 27September 2017, 10.45pm.

[4] Get Concept about Web Server, Available at: <<http://www.webopedia.com>>/term/w/web_server.html, last accessed on 11October 2017, 9.50am.

[5] Get Concept About Samba Server, Available at: <<https://www.samba.org>>/samba/docs/using_samba/ch01.html, last accessed on 23October 2017, 6am.

Appendices

Appendix A: Internship Reflection

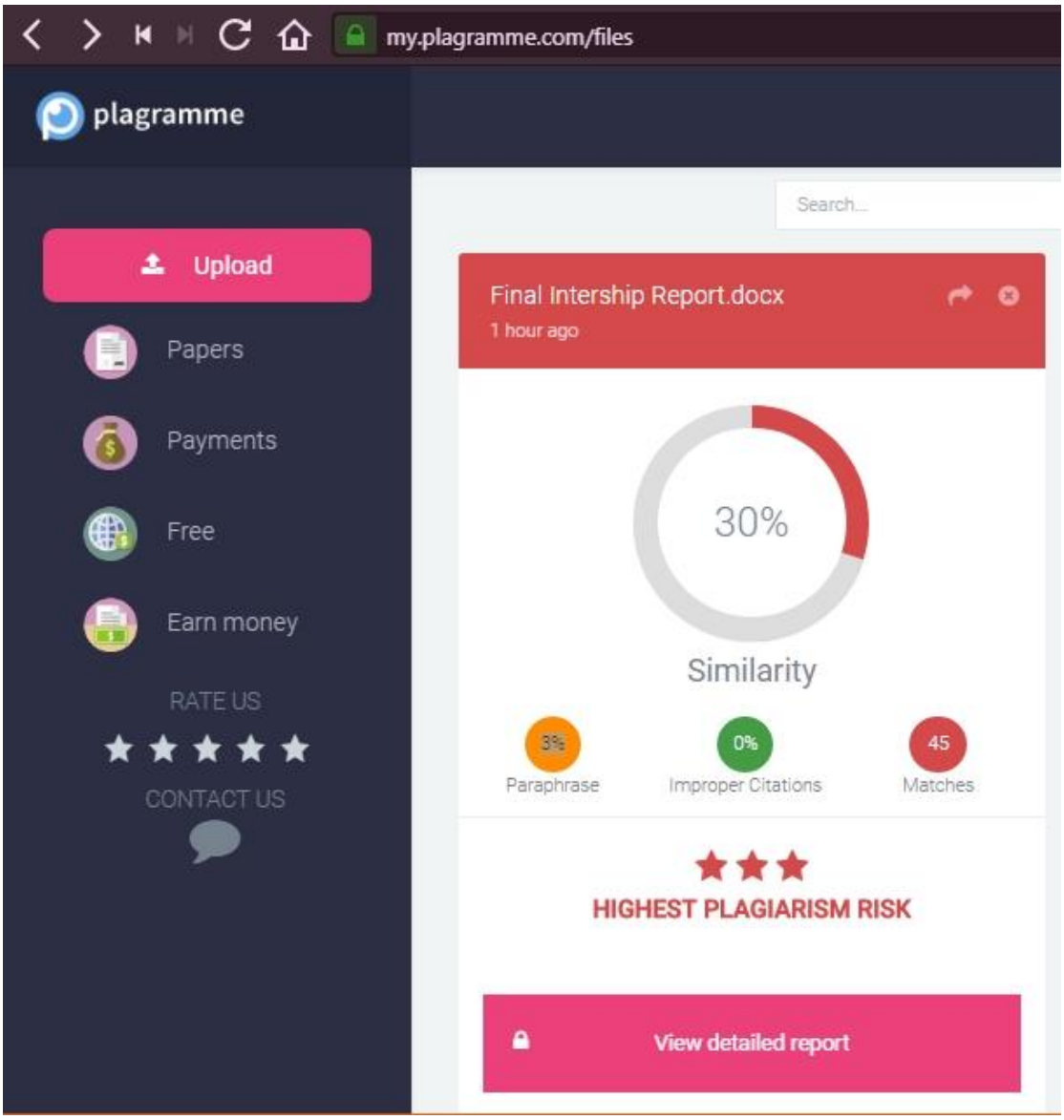
The primary goal of my internship in a professional setting, practical solutions to real-world problems is to apply the knowledge gained in the classroom. And professionally relevant competencies and relationships in a professional setting, learning to deal with new knowledge, skills, and the ability to determine how to sharpen and develop plans. Add to network with other professional's supervisors and professional relationships. To fulfill the duties of my internship, I'm exercising proper business etiquette. I am an organization's mission / vision is implemented, how to contact colleagues, how power is shared, how it is structured, how decisions are made, how to understand the culture of a professional organization, and what degree of accountability and feedback to the organization. With an assessment at the end of my internship supervisor and internship experience running through individual meetings provides an opportunity to take a professional opinion. Internship experiences to prepare for life in a global society, leadership and service, my gift to be able to put it to use.

Appendix B: Company Detail

Head Office

Name	Western Grammar School
Address	255/A, D. Kudrat-E-Khuda (Elephant) Road, Katabon , Dhaka
Telephone	02-9667528, 02-9669562
E-mail	info@westerncollegebd.org
Website	www.westerncollegebd.org
Type of Organization	School and College
Employees	89

Plagiarism


my.plagramme.com/files
plagramme
Search...
Upload
Papers
Payments
Free
Earn money
RATE US
CONTACT US
Final Intership Report.docx
1 hour ago
30%
Similarity
3%
Paraphrase
0%
Improper Citations
45
Matches
HIGHEST PLAGIARISM RISK
View detailed report