INTERNSHIP REPORT ON ISP SERVER CONFIGURATION IN LINUX

SUBMITTED

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

Supervised By

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DAFFODIL INTERNATIONAL UNIVERSITY
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APPROVAL

This Internship titled **"ISP Server Installation and Configuration on Linux Platform**", submitted by Md.Nazmul Hosen 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 09/04/2018

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DECLARATION

I hereby declare that, this internship report is prepared by me, **Md.Nazmul Hosen**, ID No: 152-15-6206 to the department of Computer Science and Engineering, Daffodil International University. Under the supervision of **Fahad Faisal, Senior Lecturer, 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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First I express heartiest thanks and gratefulness to almighty God for His divine blessing makes us possible to complete the final year internship successfully.

I am grateful to **Mr. Sabbir Ahamed, General Manager of Daffodil Online Limited**. I am also grateful to Mr. **Mohammad Abul Basher, System Admin (Network & Training) of Daffodil Online Limited**. Without their continuous support I can't continue my internship in the company. Other members of the company helped me tremendously for doing my internship.

I really grateful and wish profound indebtedness to Fahad Faisal, Senior Lecturer, Department of CSE Daffodil International University, Dhaka. Deep Knowledge & keen interest of supervisor in the field of "**Linux System and Network Administration**" to carry out this internship. His endless patience, scholarly guidance, continual encouragement, constant and energetic supervision, constructive criticism, valuable advice, reading many inferior draft and correcting them at all stage have made it possible to complete this internship.

I would like to express heartiest gratitude to **Dr. Syed Akhter Hossain, Professor and Head, Department of CSE**, for his kind help to finish my internship and also to other faculty member and the staff of CSE department of Daffodil International University.

I would like to thank 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 parents.

ABSTRACT

An Internet service provider (ISP) is an organization that provides services for accessing, using, or participating in the Internet. It plays an important role in current day communication. It has made the information communication easier and affordable for the common people. ISP involves different types of servers (e.g., Ftp server, Nfs server, samba server etc) to support different types of need of the clients.

In this Internship, all types of servers used in ISP have been configured using Linux operating system. After implementation of all servers, the system is tested in different stages and it works successfully as a prototype. It helped me gain the hand on expertise to configure these servers. Nevertheless, this project report can be used as the manual for new ISP engineers.

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1.1 Introduction

Linux is an operating system which is commonly used in server computer. It is most commonly featured as a server maintaining operating system. It has different types of versions which is make it very easier to the user. Linux is a open source operating system, so it is used widely and the recommended supports also get very easily through the internet. It works on command base but in new version it is turn into graphical mode.

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.

During the internship I have found that I am perfectly skilled in the details of Linux network and server management. As an internet service provider I've getting my point across very well, communicating with people, understanding their needs and providing them better service. My skills lie in my ability to comprehensively read and understand the situation and act quickly and yet smartly.

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 is still in school, to coordinate job experience with academic training, and to help student to make the transition from classroom to job.

1.4 Introduction to the Company

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 they are customers. 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.

It may please you to know that they 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.

1.5 Report 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 offered in DOL and what are the roles of in jobs market of Linux.

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.

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

CHAPTER 2
Internship Enterprise

2.1 About the Company

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 worked with many national projects and international organizations with high appreciation from all concerned. It using the latest technologies and upgrading the services wherever it is required.

The centers Corporate Network Solution department is capable of providing state-of-art network and telecommunication solutions with a group of highly efficient technical experts. DOL has a very strong professional engineering and management team certified and associated 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 Responsibility ethos strengthens the sense of responsibility on Community, Workstation, Location and Market place. As a Group concern, DOL promotes 3 major platforms e.g., education, nation-building and environment, through its programs and services [1].

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**
    - 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, Data center & Co-Location.
    - Bulk SMS Service**.**
    - Proxy & DNS Server solution, Mail Server Solution.

- And All computer accessories
- 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

Organogram Structure of Daffodil Online Ltd. shows in fig 2.5:

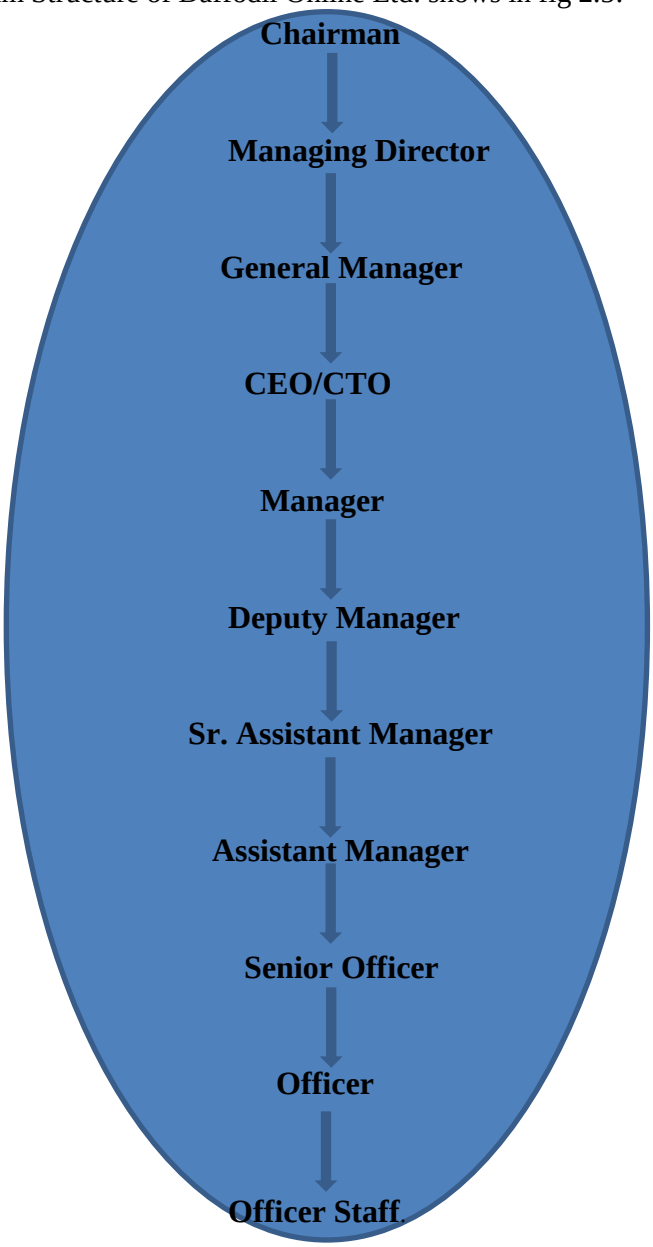

Figure 2.5: Shows Organogram of Daffodil Online Limited

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.
  - 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.
  - Crontab.
  - Mount Un mount 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.
  - 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 NFS Server.
  - Learning, understanding and configuring FTP Server.
  - Learning, understanding and configuring SAMBA Server.

VIRTUALIZATION

3.2 Introduction

In computing, virtualization means to create a virtual version of a device or resource, such as a server, storage device, network or even an operating system where the framework divides the resource into one or more execution environments. From the experience of dividing our Hard Drive into deferent partition we have the knowledge of virtualization. A partition is the logical division of a hard disk drive to create, in effect, two separate hard drives [2].There are three areas of virtualization; network virtualization, storage virtualization and server virtualization:

- Storage virtualization: the combination of multiple network storage devices into what appears to be a single storage unit. Storage virtualization is commonly used in storage area networks (SANs).
- Server virtualization: the partitioning a physical server into smaller virtual servers.
- Network virtualization: using network resources through a logical segmentation of a single physical network.

3.2 Project Virtualized by Oracle VM virtual Box

We virtualized our project by using oracle VM virtual Box which is able to run multiple virtual machines. To set up new virtual machine first we have been installed the Oracle VM virtual Box. VM virtual Box installation procedure is given below:
At first open VM Virtual Box window. The setup wizard will install VM Virtual box and press next to continue shown in fig 3.1.

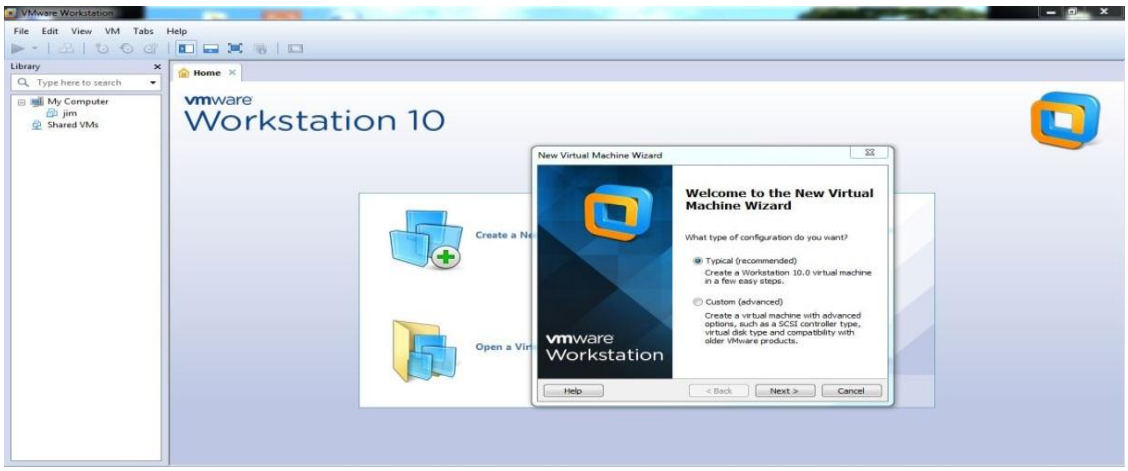

Fig 3.1: VM Virtual Box

- **STEP: 2**

Fill-up The circle of i will install the operation system later. The virtual will be created with a blank hard disk Then The Next button click[2].

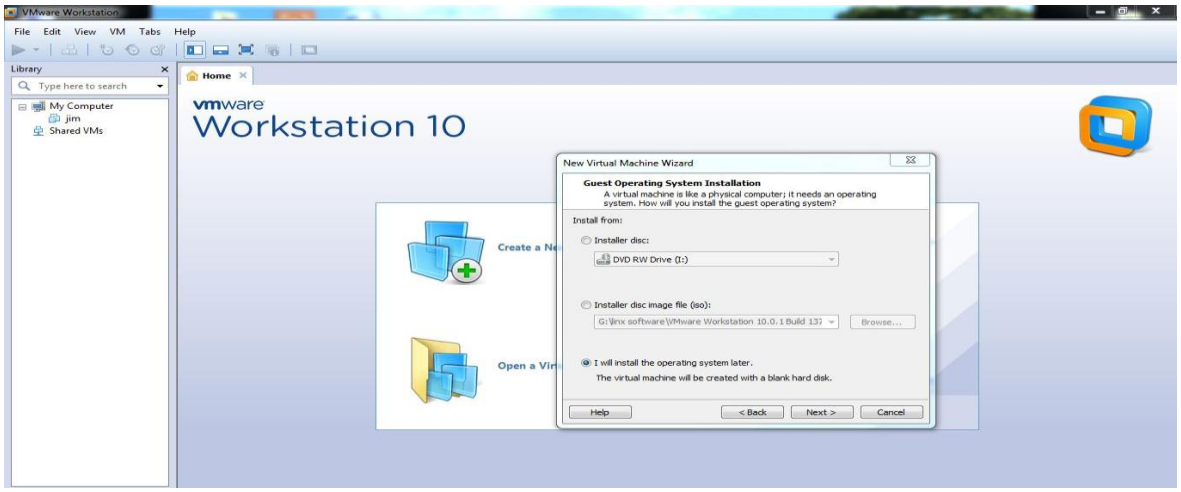

Fig 3.2: VM Virtual Box Fill-up The Circle Of Install The Operation System Later

- **STEP: 3**

The next step of select the circle of linux and version select of Centos 64 bit Then next button select then enter[2].

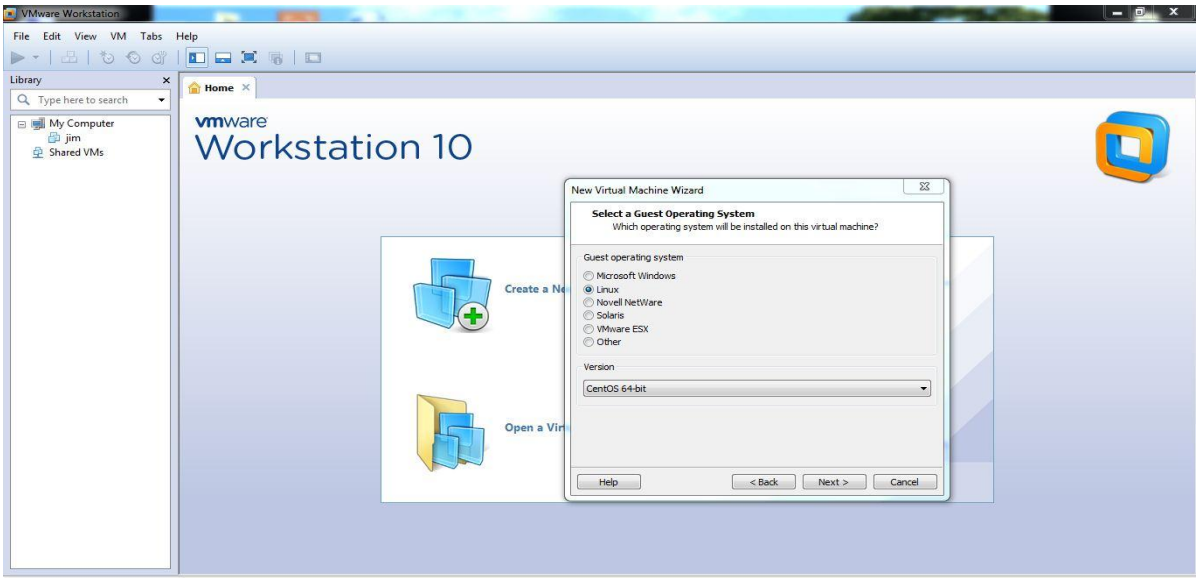

Fig 3.3: VM Virtual Box Fill-up The Circle of Linux

- **STEP: 3**

Name the virtual machine. What name would you like to use for this virtual machine?

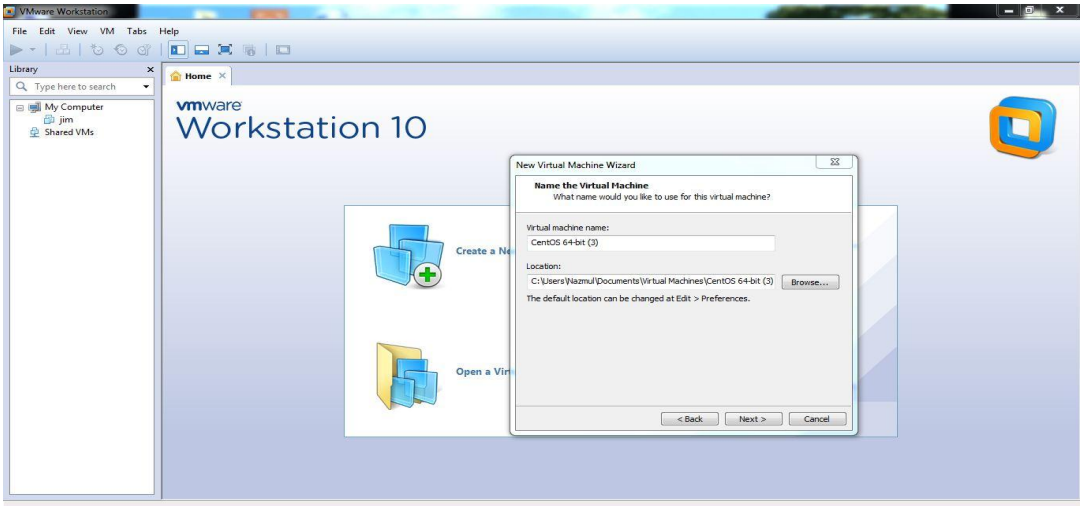

Fig3.4: Name Set Of Virtual Machine

- **STEP: 4**

Ready to create virtual machine.Click finish to create the virtual machine.

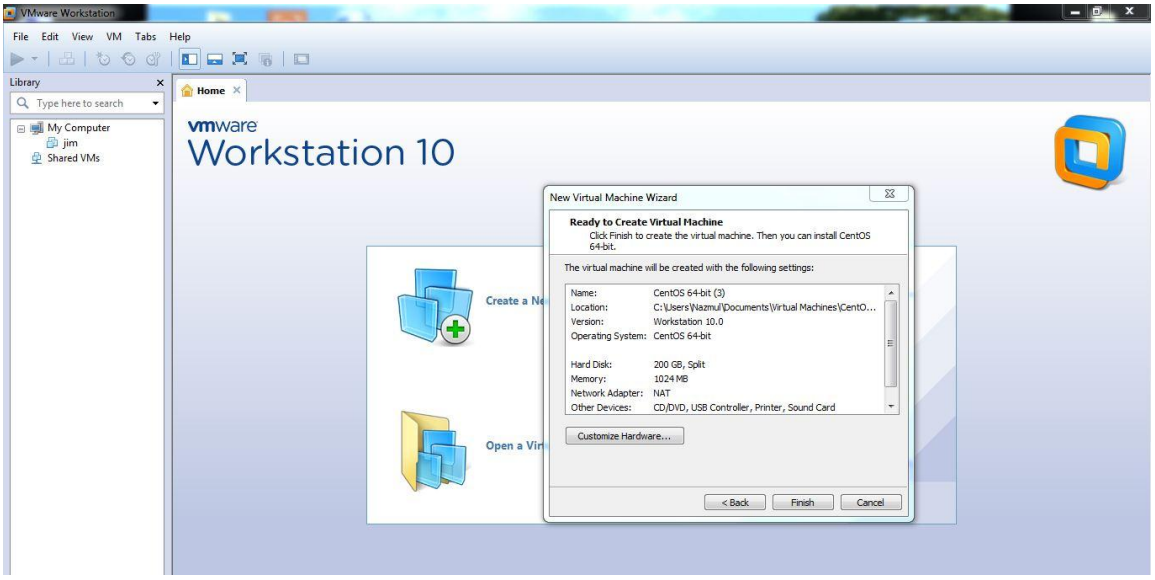

Fig3.5: Ready To Create Virtual Machine

- **STEP: 5**

Memory size increase and decrease the system and setup the network adaptor. Then other option setup the machine.

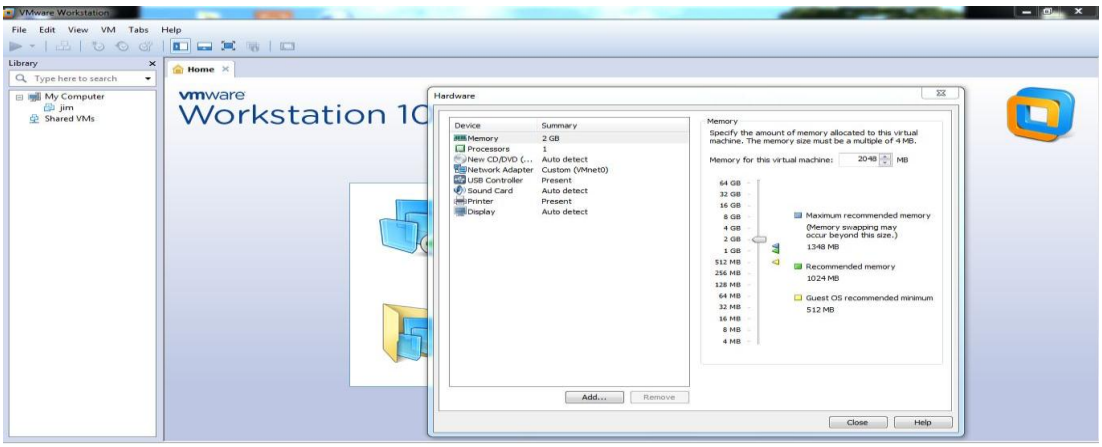

Fig3.6: Memory and Network Adaptor Set

- **STEP: 6**

Use iso image file circle the fill-up and browse button select and push the pc location and select the iso image file.

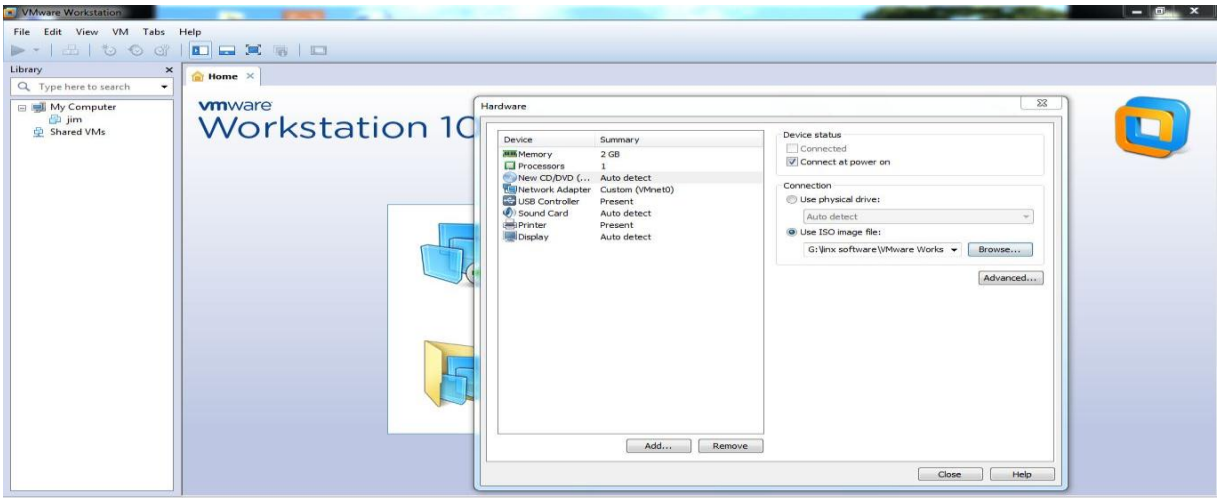

Fig3.7: Iso Image file selection

➢ **STEP: 7**

Installation of cents 6 and select the install or upgrade an existing system and next step keyboard key press enter.

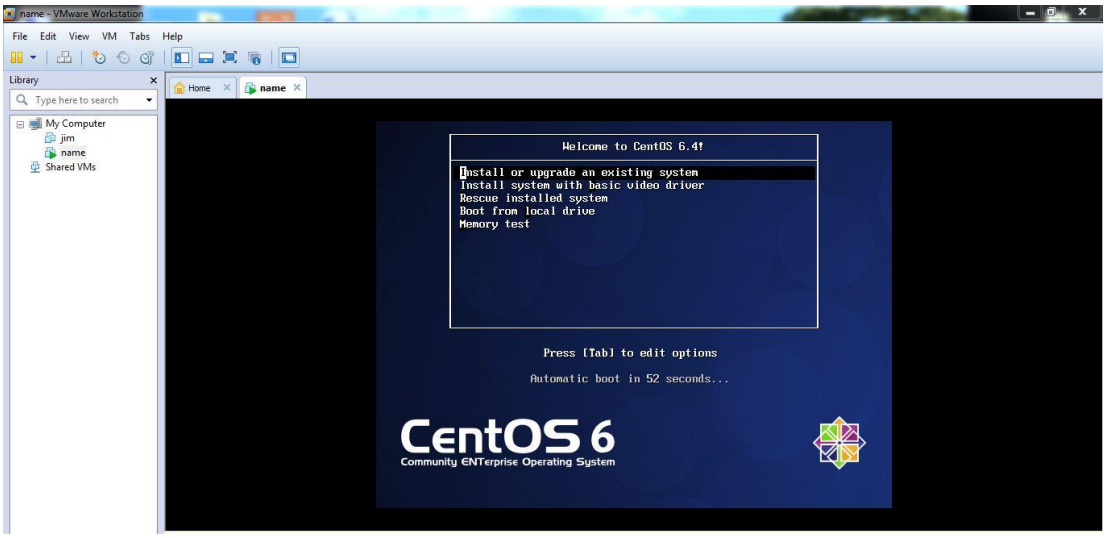

Fig3.8: Installation of centos 6

➢ **STEP: 8**

To begin testing the media before installation press ok and choose the skip buttom then keyboard key press enter.

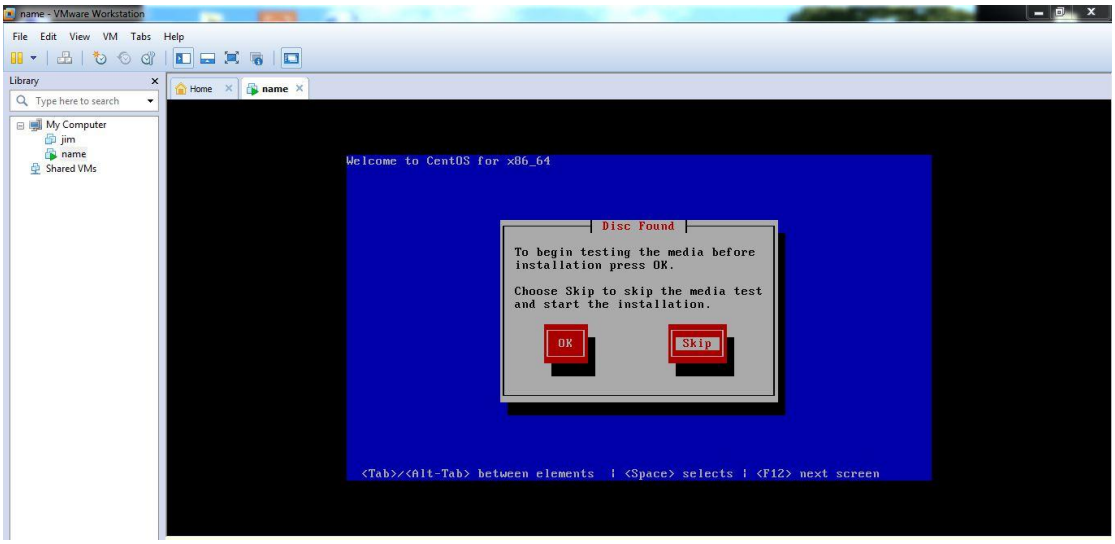

Fig3.9: Choose skip the media test and start the Installation

- **STEP: 9**

Welcome to centos 6 and next button click.

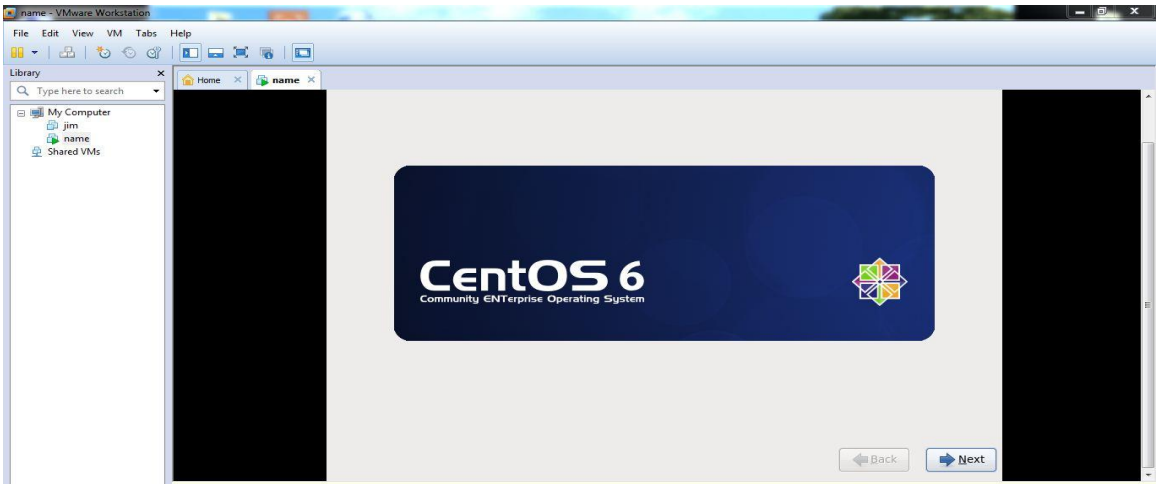

Fig3.10: Show the centos 6

- **STEP: 10**

Language selection of the centos6 and click the next button.

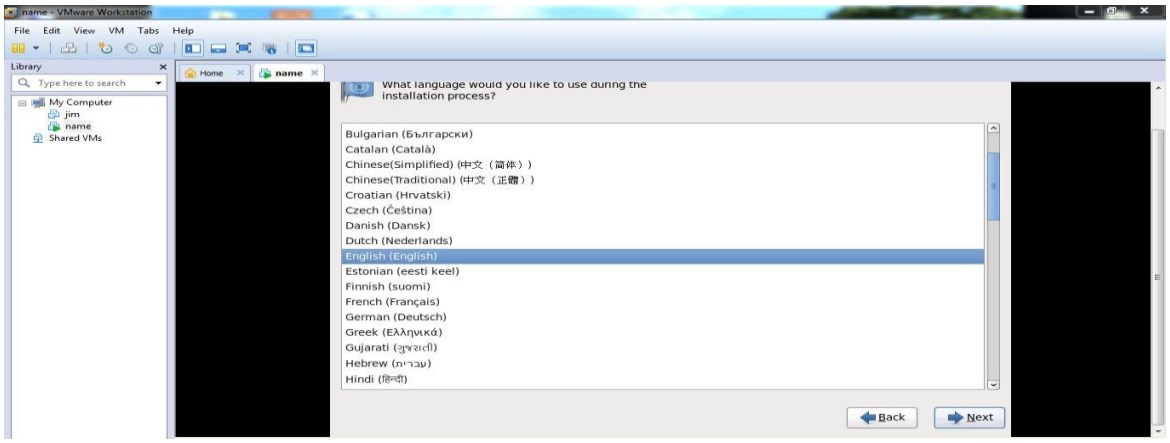

Fig3.11: Language selection part

➢ **STEP: 11**

Basic storage device circle fill-up. Then next button select and keyboard key enter press.

Fig 3.12: Basic storage device selection

➢ **STEP: 12**

Hostname identifies the computer on a network and next button press the keyboard.

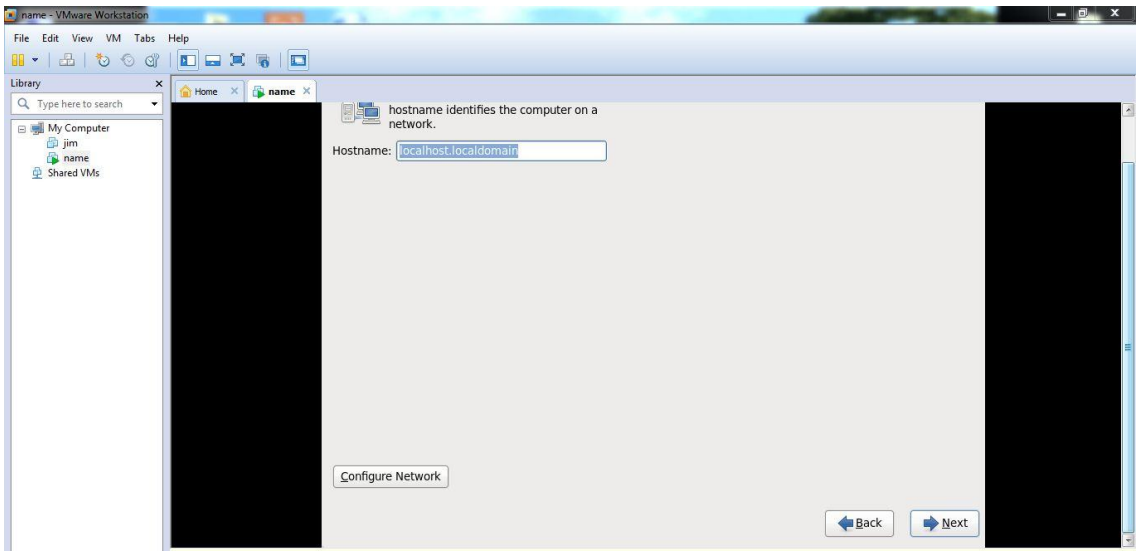

Fig3.13: Hostname selection

➢ **STEP: 13**

Select the nearest city in your time zone. Then next button select and keyboard key press enter.

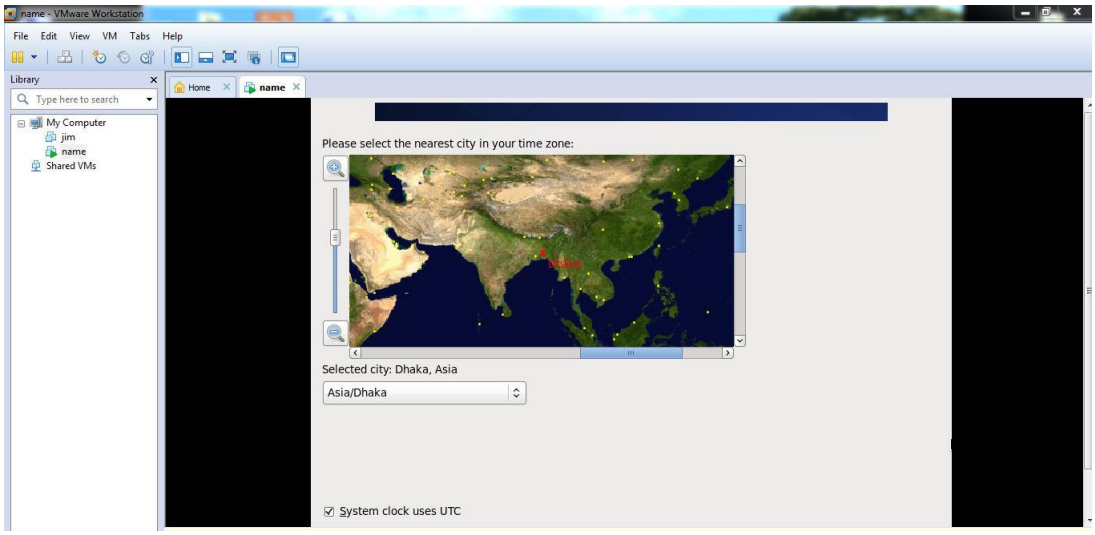

Fig3.14: Time zone selection

➢ **STEP: 14**

Create custom layout circle fill-up. Then next button select and keyboard key press enter.

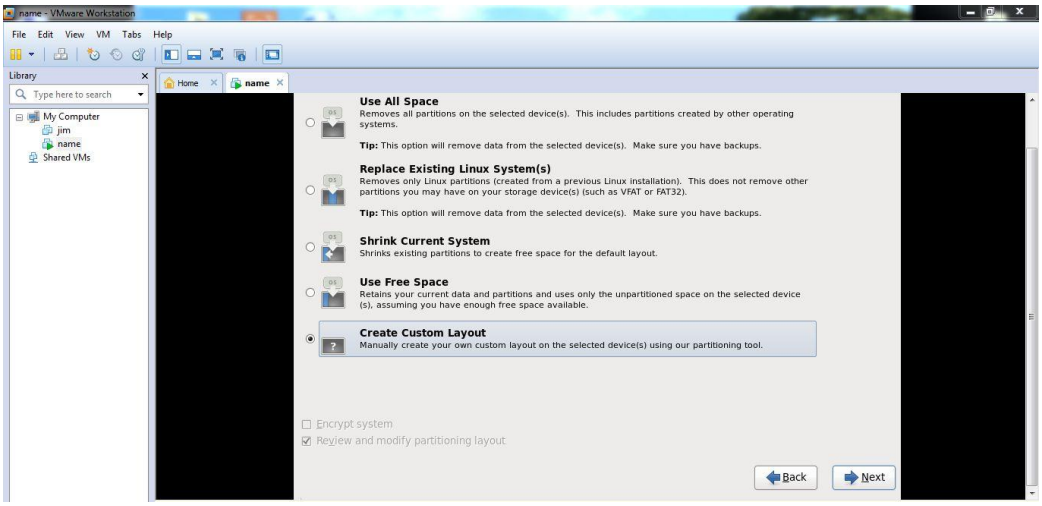

Fig3.15: Create custom layout selection

➢ **STEP: 15**

Free space divide the other partition. Select the free space and next button selection and keyboard key press enter.

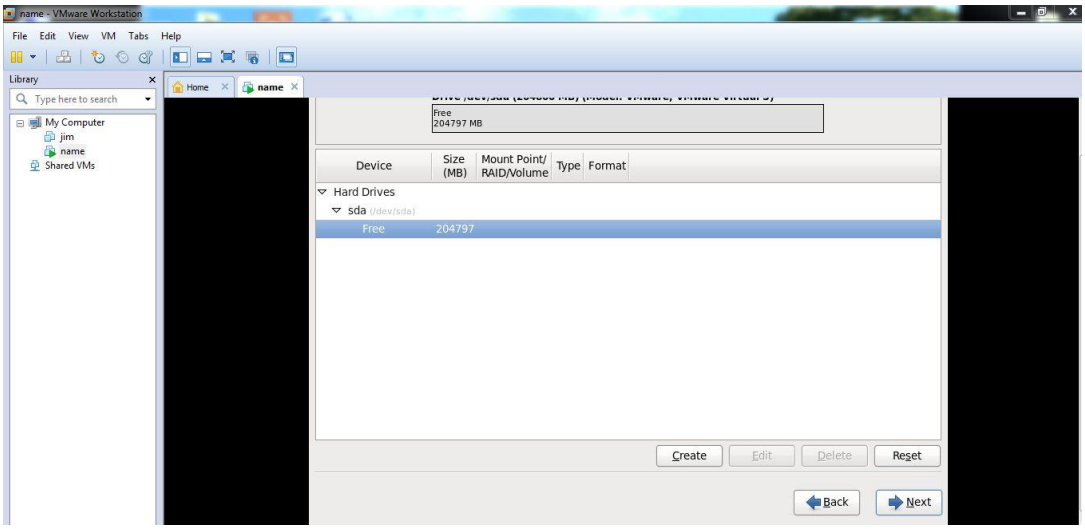

Fig3.16: Free space divide

➢ **STEP: 16**

Standard partition circle fill-up and create button selection and keyboard key press enter.

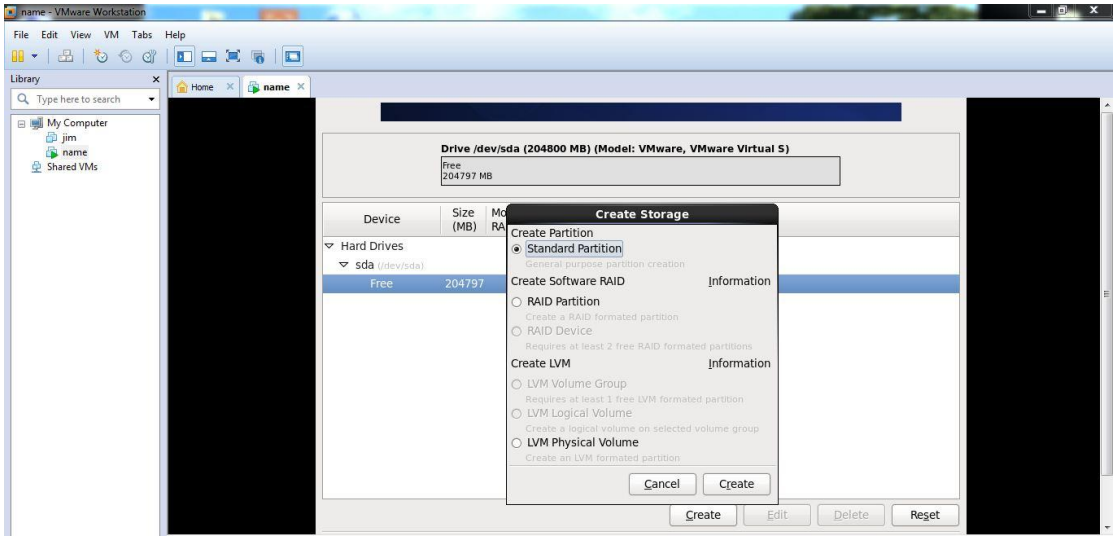

Fig3.17: Standard partition selection

➢ **STEP: 17**

Mount point fill-up /boot and file system type ext4 and size 500mb.and ok button select and keyboard key press enter.

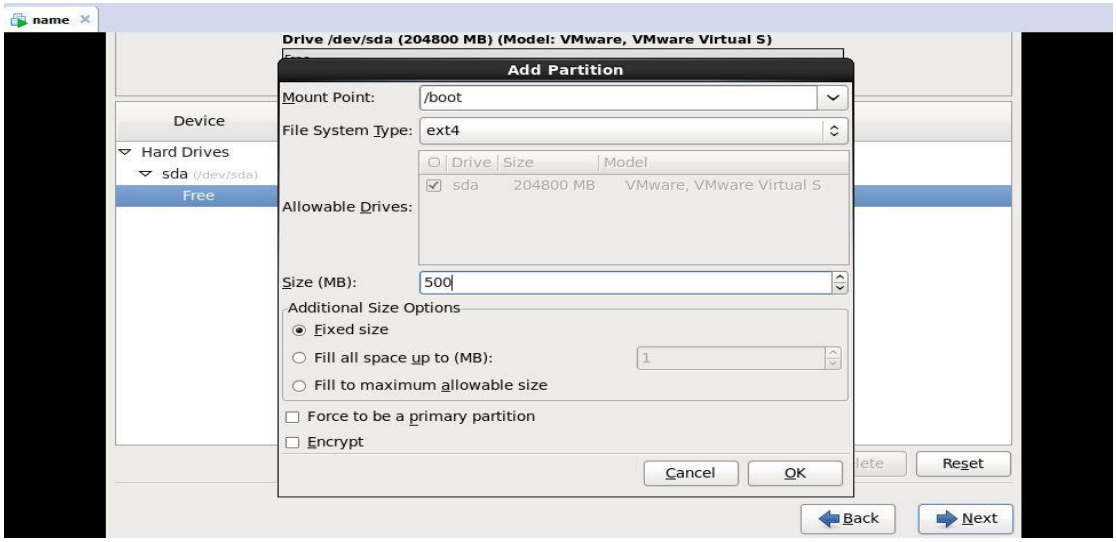

Fig3.18: /boot memory size define part

✓ **STEP: 18**

LVM Volume Group fill-up and create select and keyboard key press enter.

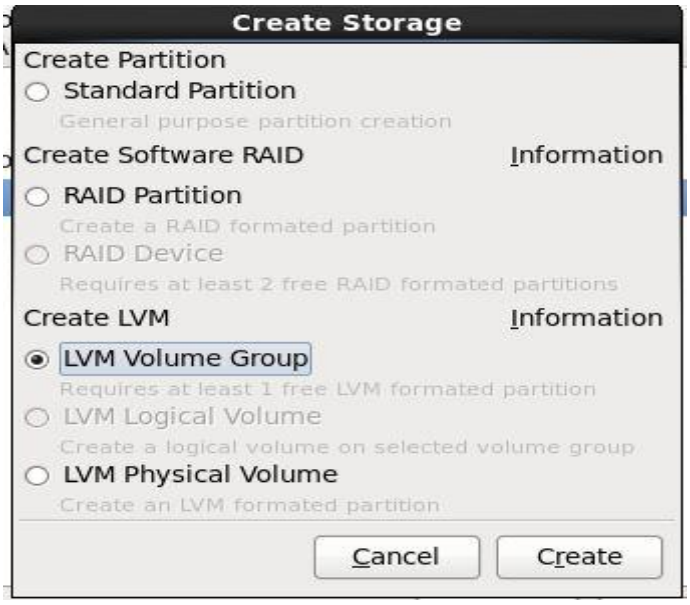

Fig3.19: LVM Volume Group selection part

➢ **STEP: 19**

File system type select swap and memory size select 5000mb.Then ok button select and keyboard key press enter.

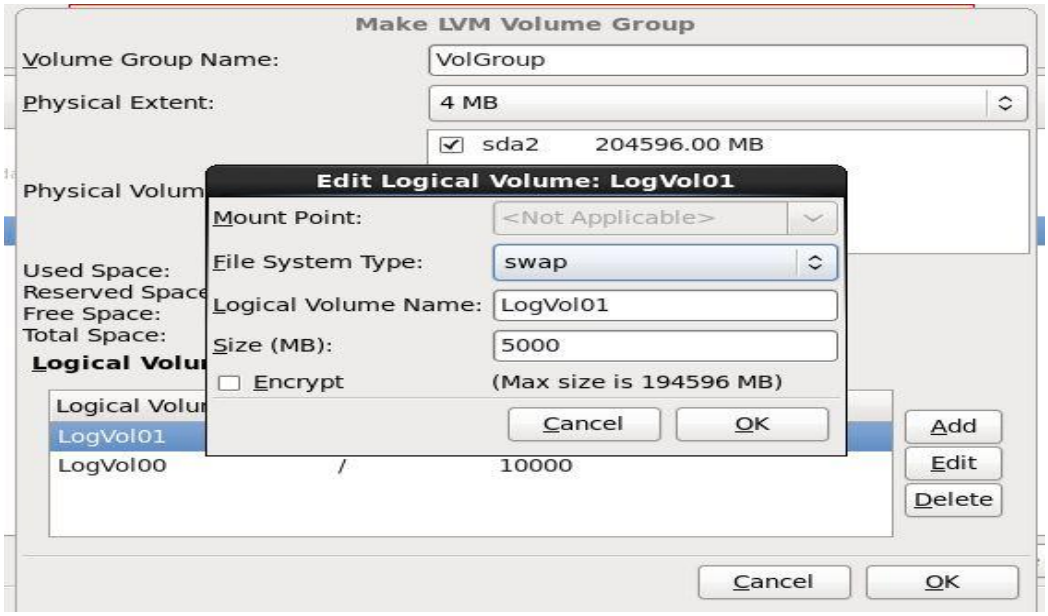

Fig3.20: Swap part memory selection

✓ **STEP: 20**

Mount point fill-up / and file system type ext4 and memory size define 100000 then ok button select and keyboard key press enter.

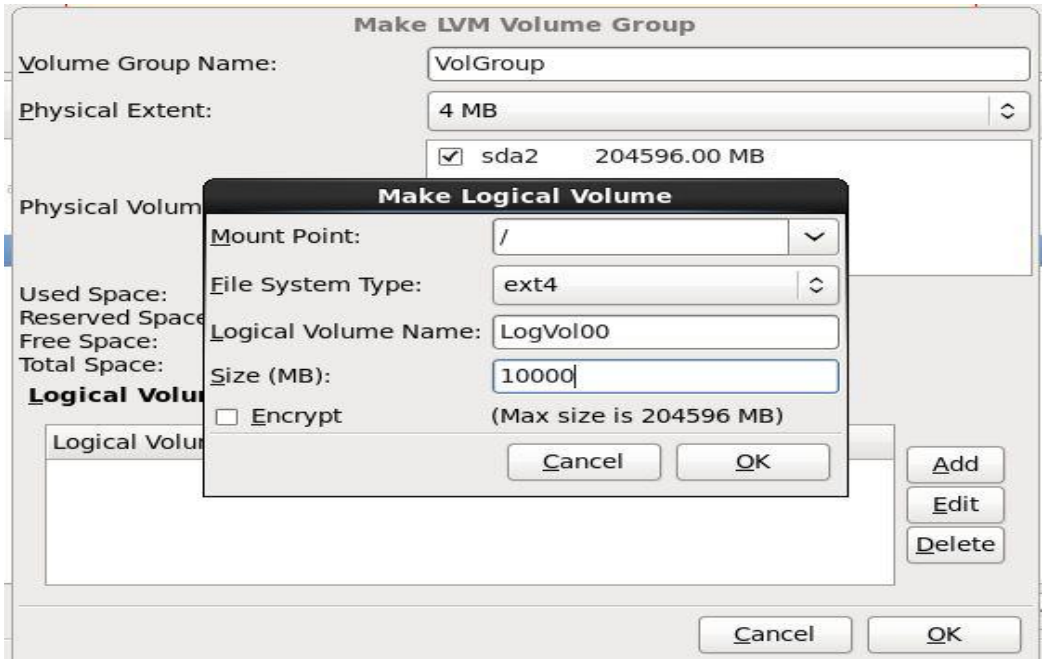

Fig3.21: / memory size define part

✓ **STEP: 21**

Mount point fill-up the /home and file system type ext4 memory size define189596 .Then ok button select and keyboard key press enter.

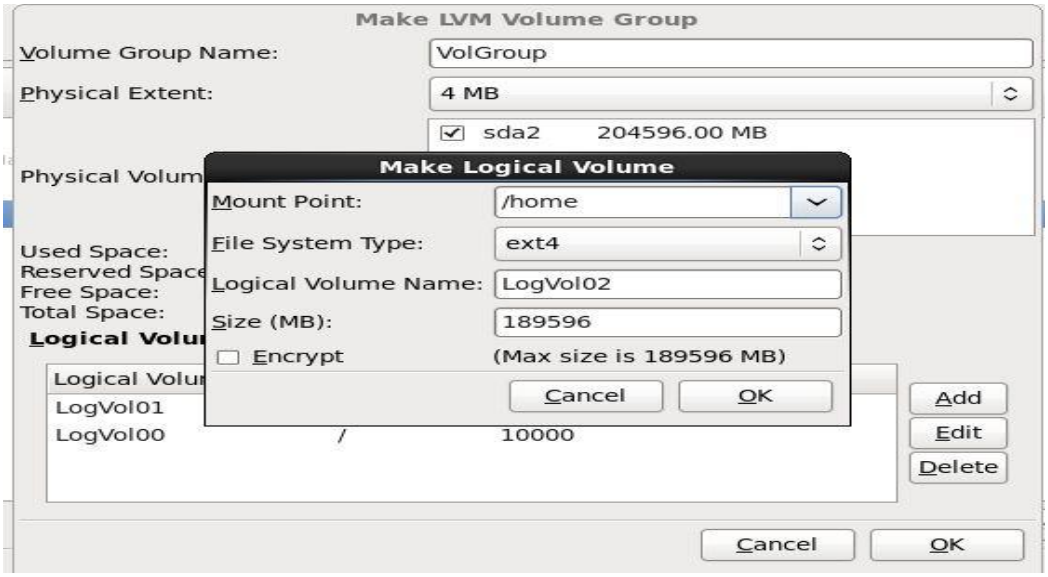

Fig3.22: /home memory size define part

✓ **STEP: 22**

Select A device and format button select and keyboard key press enter.

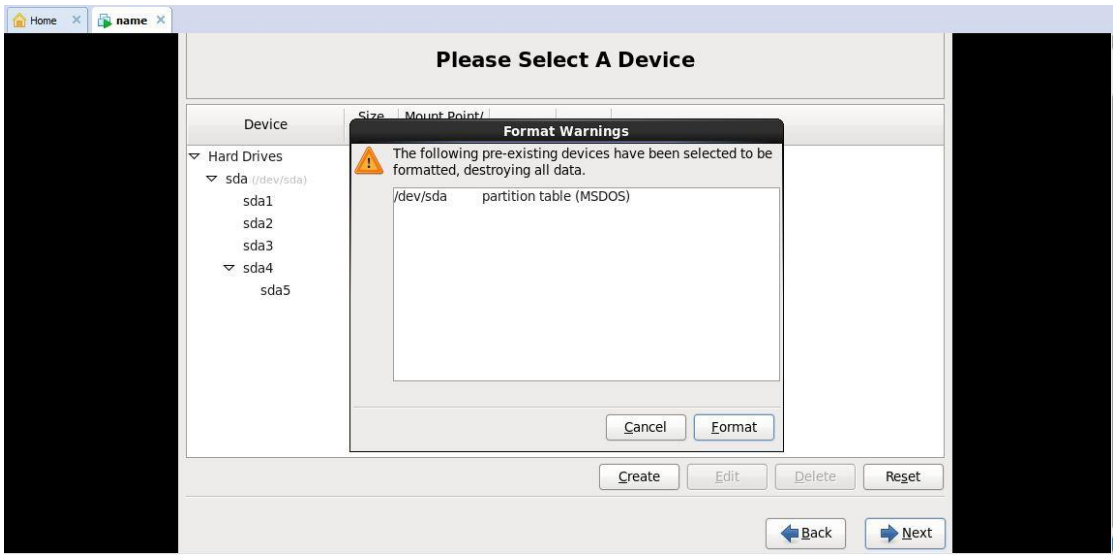

Fig3.23: partition table(MSDOS) format part

✓ **STEP: 23**

Write changes to disk select and ok button press.

Fig:3.24: Write change to disk selection part

✓ **STEP: 24**

Desktop circle fillup and next button select and keyboard key press enter.

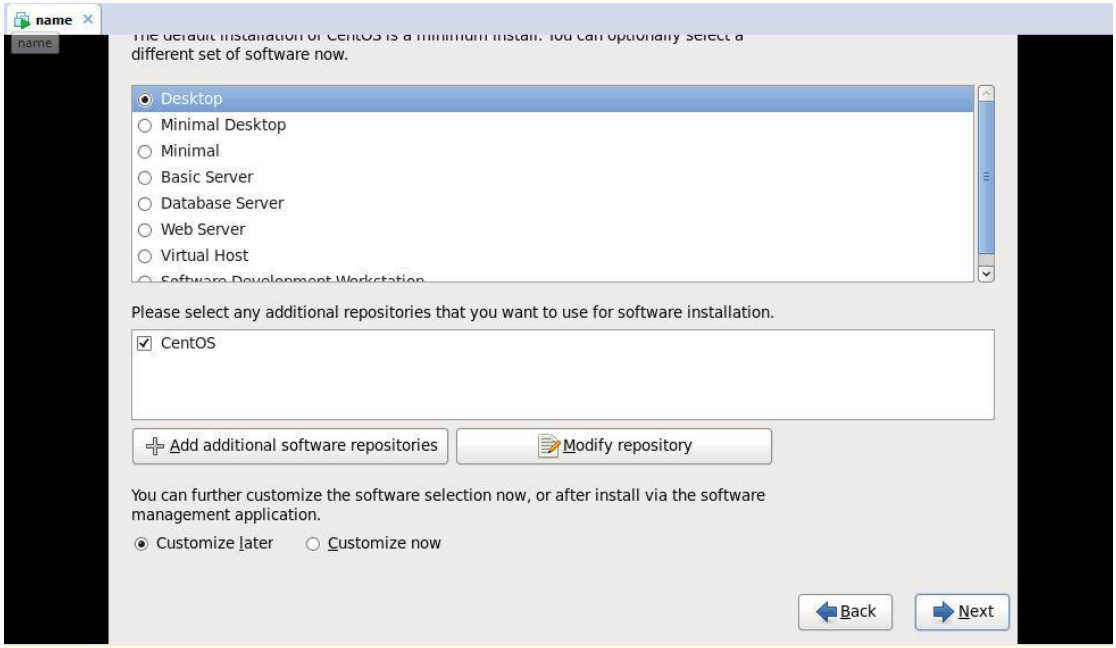

Fig3.25: Desktop mode selection

✓ **STEP: 25**

Installing glibc-common-2.12.1.107.e16*86_64(107).and total package 1089 installation.

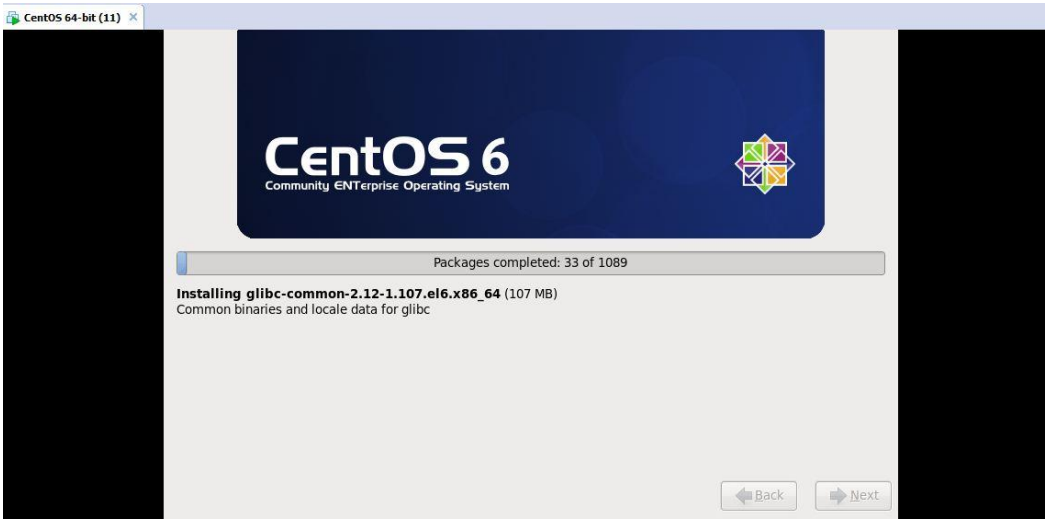

Fig3.26: Installation process

✓ **STEP: 26**

Finally Centos installation complete part and next part of reboot select and keyboard key press enter.

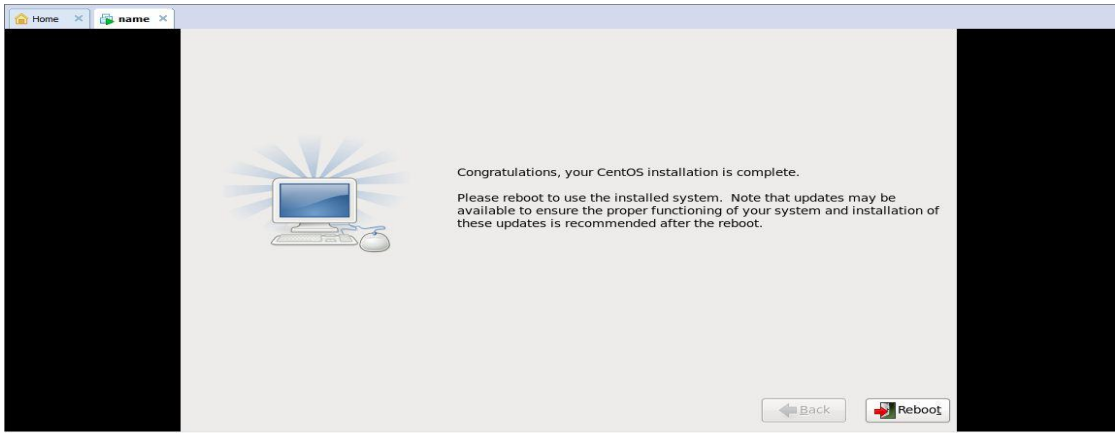

Fig3.27: Machine reboot part

✓ **STEP: 27**

Login the system. Put the Username.

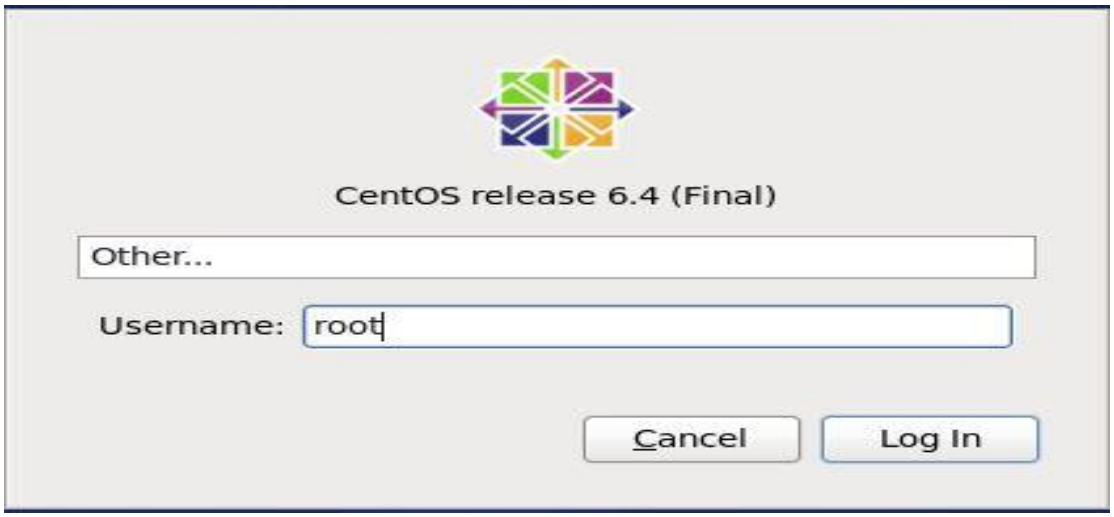

Fig3.28: Put the Username system.

✓ **STEP: 28**

First time put the username and second time put the password then login.

Fig3.29: Put the password system and log in

✓ **STEP: 29**

Finally show the desktop mode.

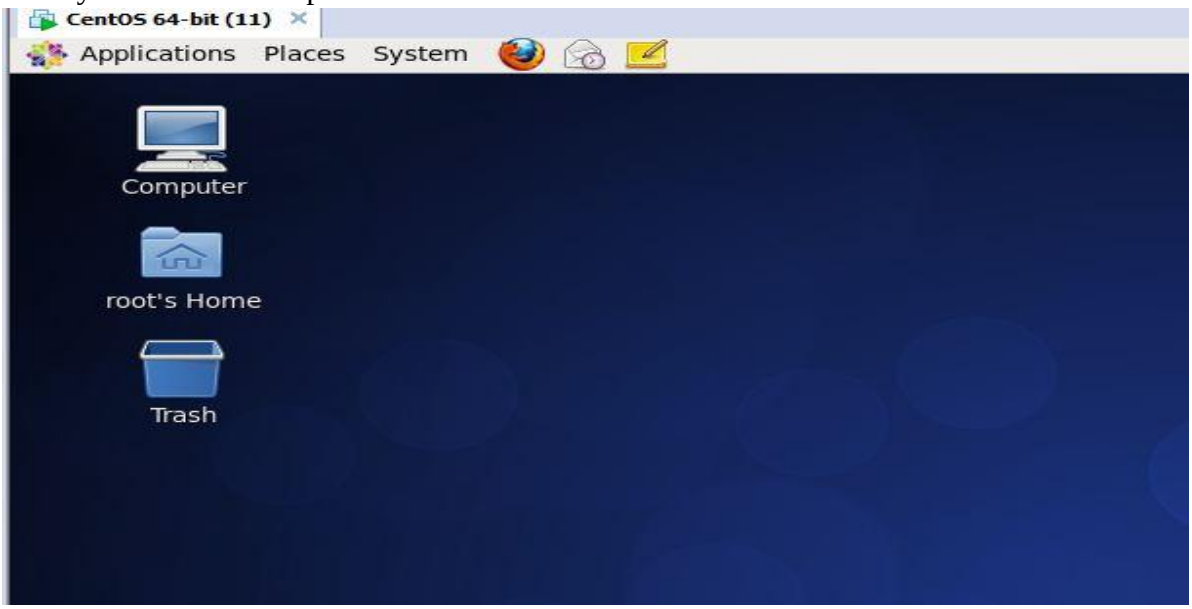

Fig3.30: Show the desktop mode of linux

Basic Command of Linux[1].

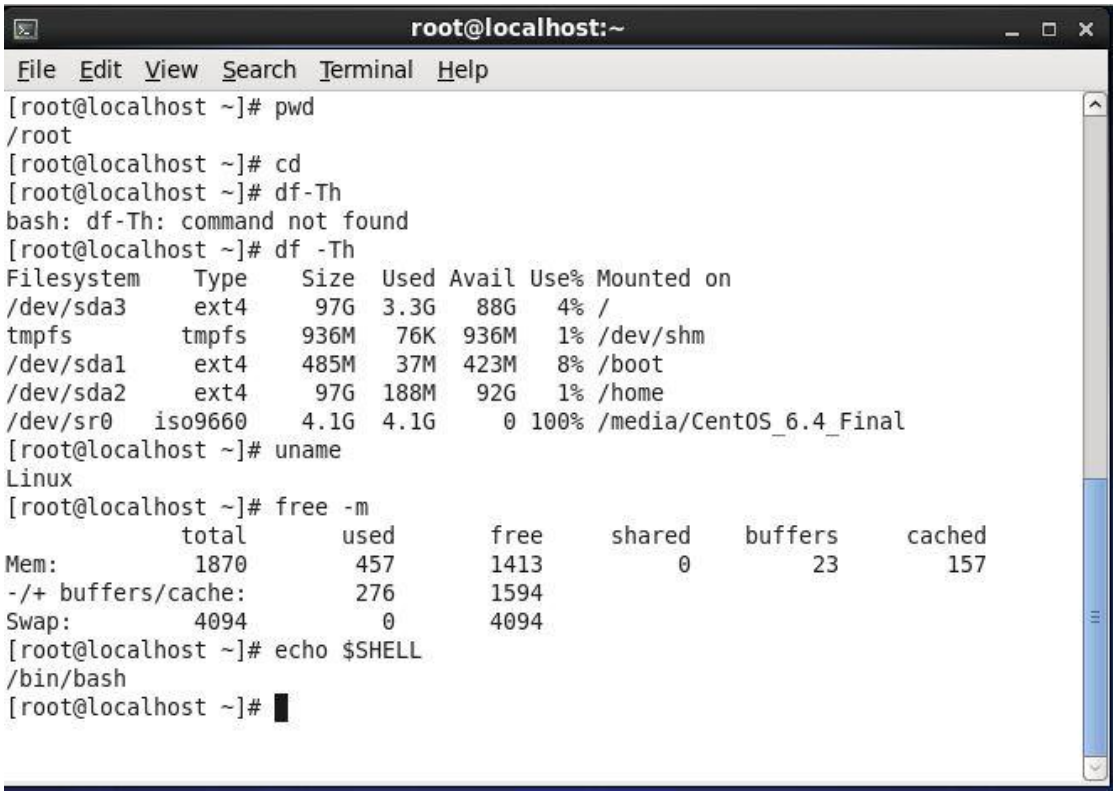

Fig3.31: pwd,cd,df-Th,uname,free –m, echo $SHELL command using part

Second step of basic command linux.

Fig3.32: Shell details, change directory remove and recursive force and new directory create the system

Permission Change command details

Table 3.1: Permission Change command details

Command	Default	New permission	Numerical permission
Chmod u+x a1	rw-|r--|r--	rwx|r-- |r--	Chmod 744 a1
Chmod g-r a2	rw-|r--|r--	rw-|---|r--	Chmod 604 a2
Chmod 0=x a3	rw-|r--|r--	rw-|r--| x--	Chmod 641 a3
Chmod u=x, g=w, 0= wx b1	rw-|r--|r--	--x|-w-|-wx	Chmod 123 b1
Chmod ugo= xb2	rw-|r--|r--	--x|-x-| x--	Chmod 111 b2
Chmod a= b2	rw-|r--|r--	---|---|---	Chmod 000 b2
Chmod a= rwx b3	rw-|r--|--r	rwx|r-- |r--	Chmod 777 b3

Process Execution task properties

top	Display Linux tasks.
us	User cpu time.
sy	System cpu time.
ni	user nice cpu time.
id	Idle cpu time.
wa	io wait cpu time.

q or ctrl + C to stop this process.

Show process command: ps -aux

Specific show process: ps -qux ! grep yum

Kill process command: kill [process Id]

File Editor:

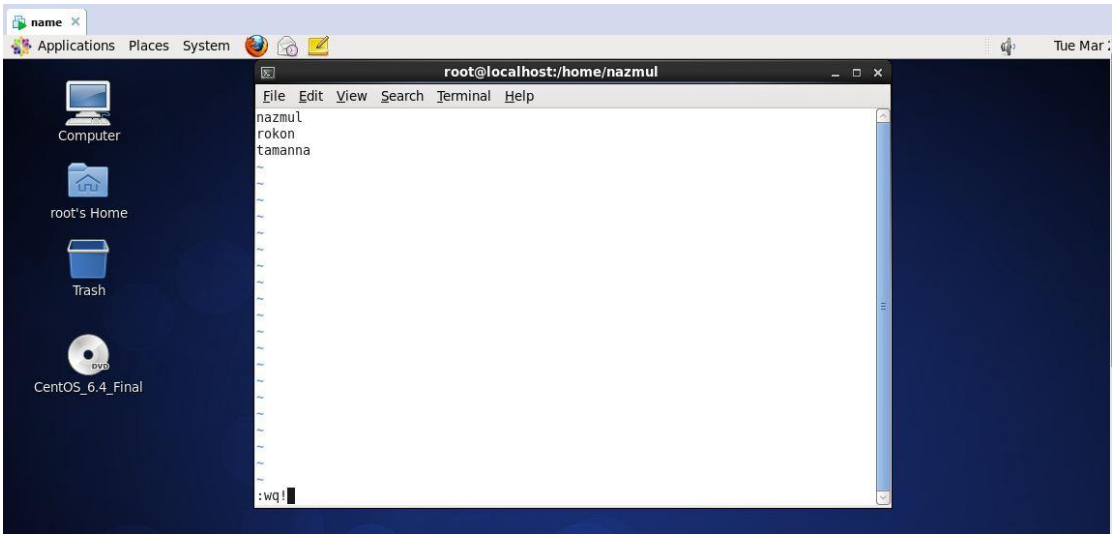

Fig3.33: Vim command using the system

Total 7 run level.

0=Poweroff
1=Single User Mode
2=Multiuser
3=Full Multiuser
4=unused
5=XII
6=Reboot

Folder and file copy the system.cp –r 2 /root/majik command using[1].

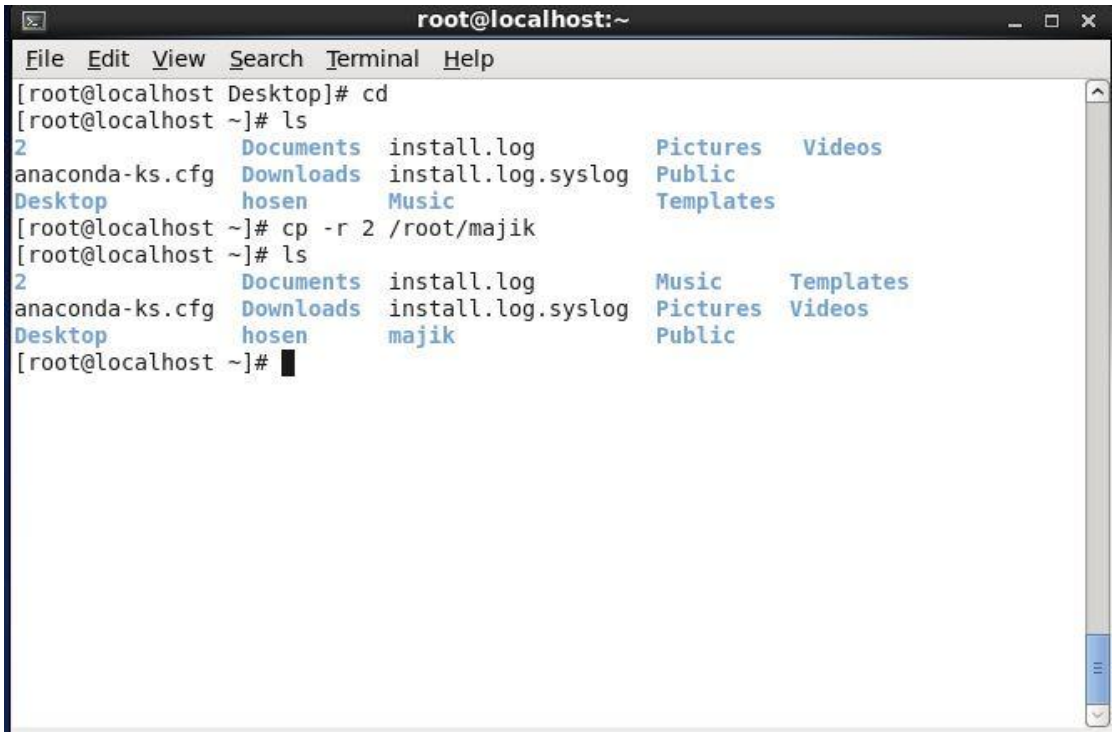

Fig3.34: File and folder copy process

- **STEP: 1**

Network set the machine first time type ifconfig and ip write the note.

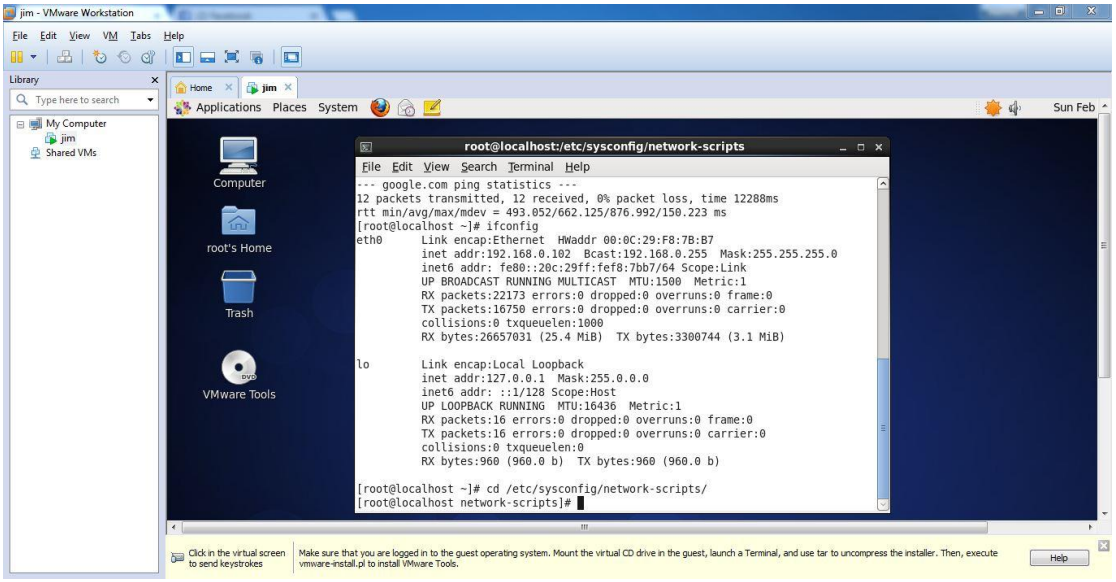

Fig3.35: Ip read part

- **STEP: 2**

vim /etc/sysconfig/network-scripts/ifcfg-eth0 command written and IPADDR,NETMASK,GATEWAY set and ONBOOT=yes, BOOT PROTO=static

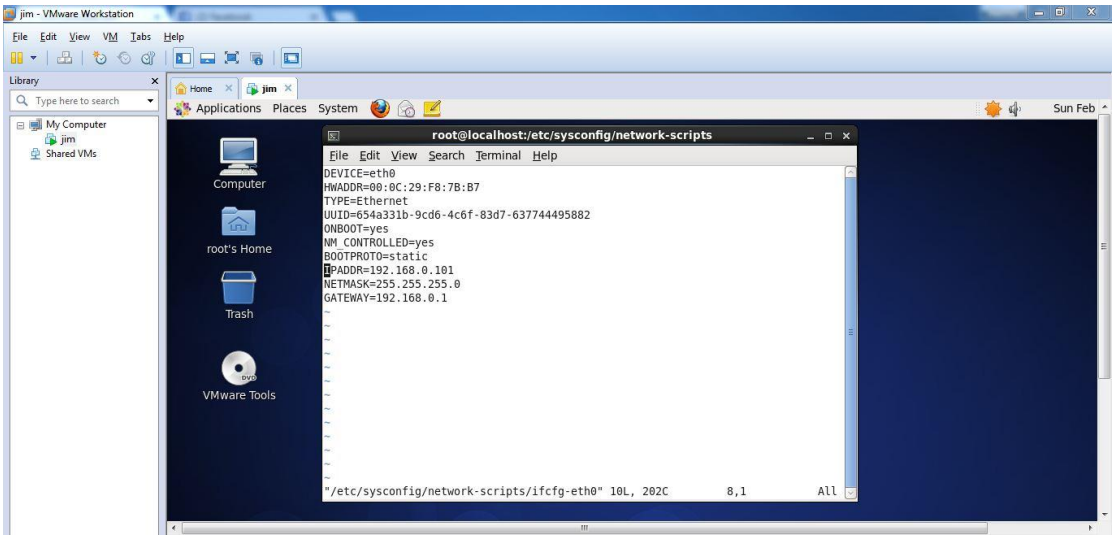

Fig3.36: Set the IPADDR,NETMASK,GATEWAY

- **STEP: 3**

service network restart part and service Network Manager stop part permanent of command chkconfig NetworkManager off then enter.

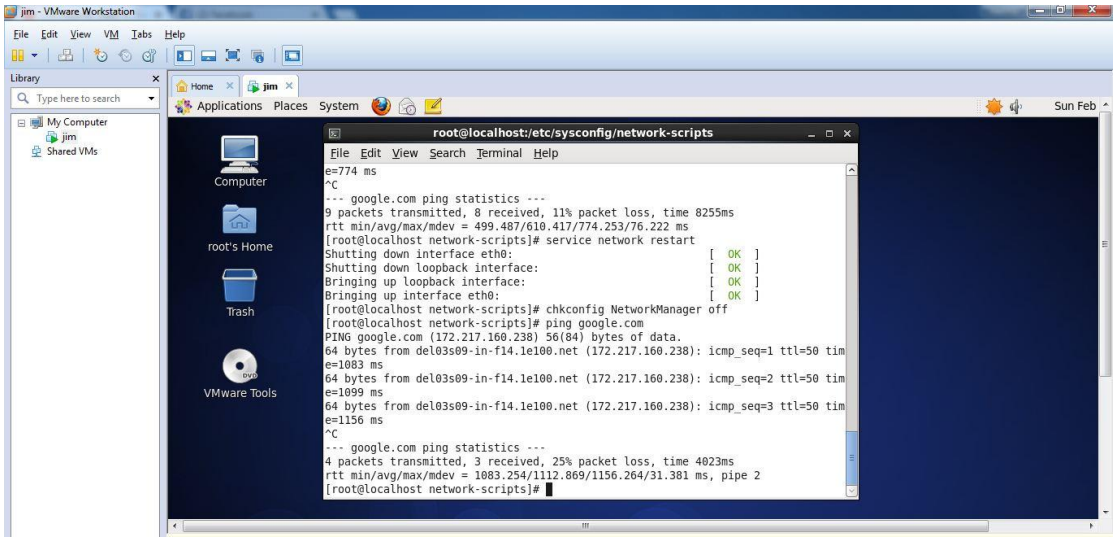

Fig3.37: Service network restart part

- **STEP: 3**

Vim /etc/resolve.conf command written the terminal and nameserver 8.8.8.8 and nameserver 4.2.2.1.

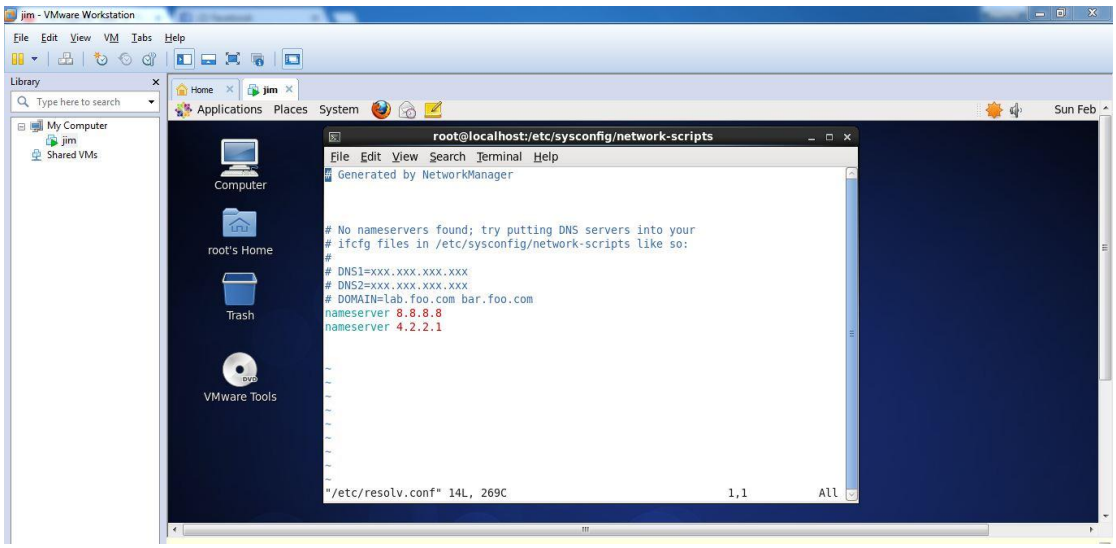

Fig3.38: nameserver set part

- **STEP: 4**

Finally ping google.com check the ping google and virtual box Mozilla browser open and new tab open and any site written and show the page.

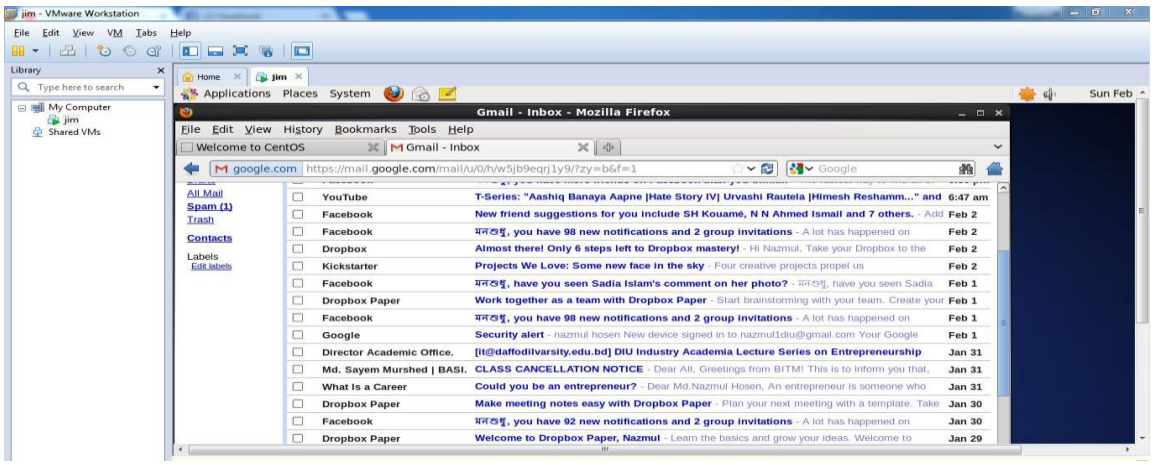

Fig3.39:Finally access the internet

Break the root password in centos 6:

- **STEP: 1**

First time restart the machine and limited time any key press and next time keyboard key press e.

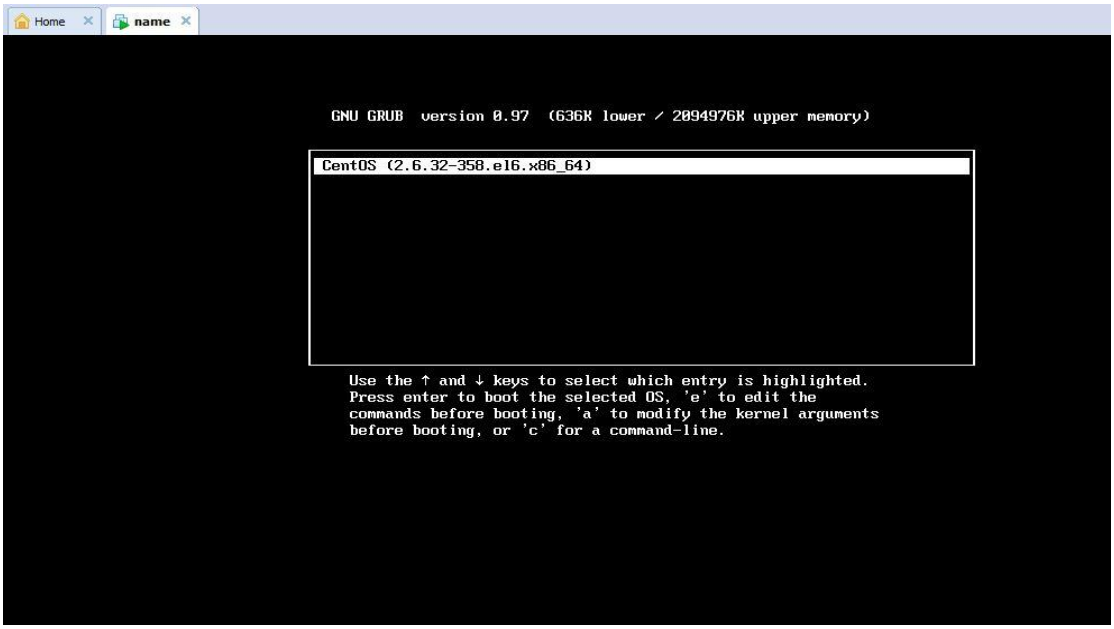

Fig3.40: Edit the commands before booting

- **STEP: 2**

Kernel/vmlinuz-2.6.32-358.e16.x86_64 ro root=UUID=bbbb50ab-3631-4ee0 mode select then keyboard key press e.

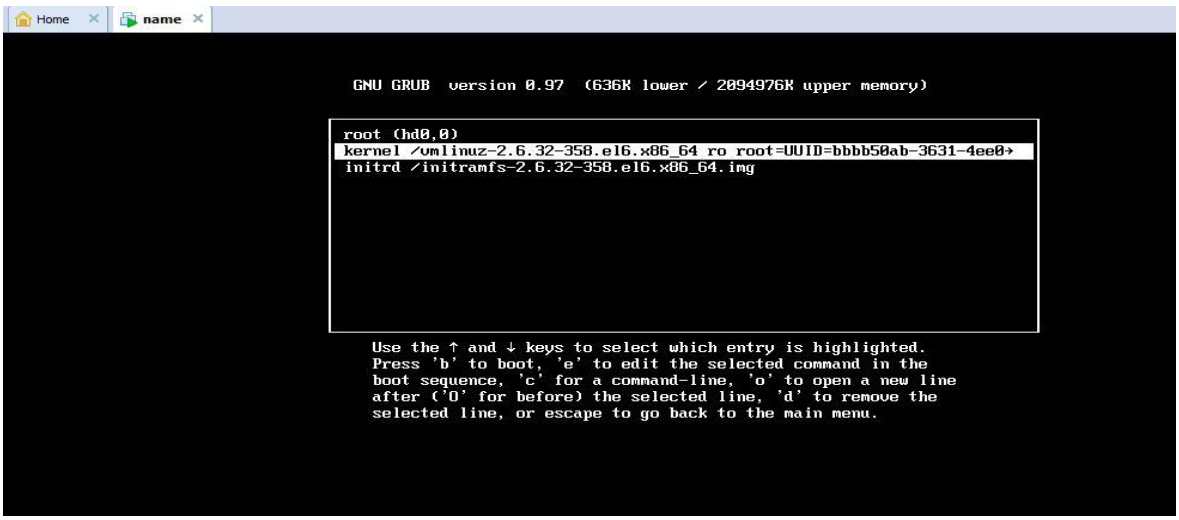

Fig3.41: Kernel mode selection

- **STEP: 3**

<=pc KEYTABLE=us rd_NO_DM rhgb quiet **1** press and keyboard key press enter

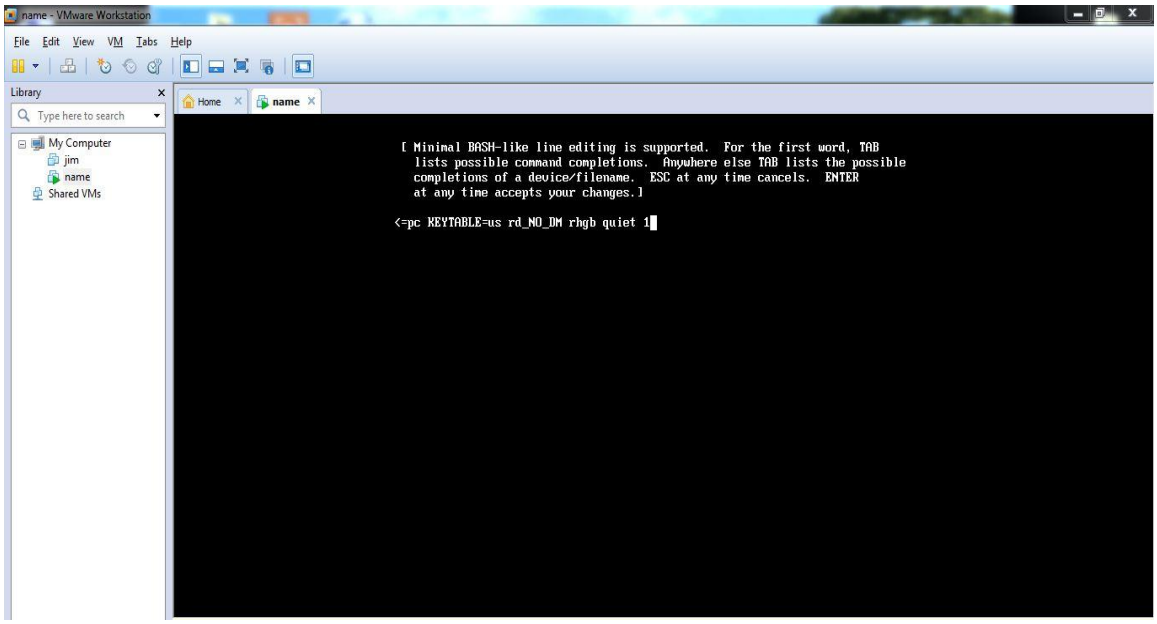

Fig3.42: Root password break using key space 1

➢ **STEP: 4**

Finally new password fill-up and Retype password fill-up then keyboard key press enter and show the message all authentication tokens updates successfully.

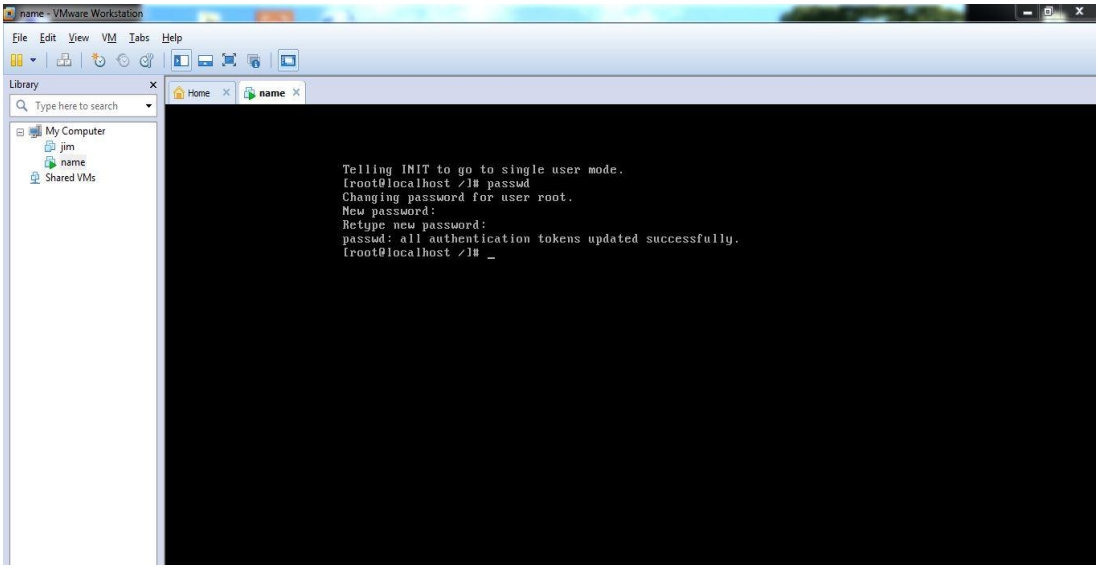

Fig3.43: Finally set the new password.

Nfs Server create.

Nfs:Network file system.

➢ **STEP: 1**

First time check the SELINUX enable or disabled. If you have enabled then u have to disabled it.

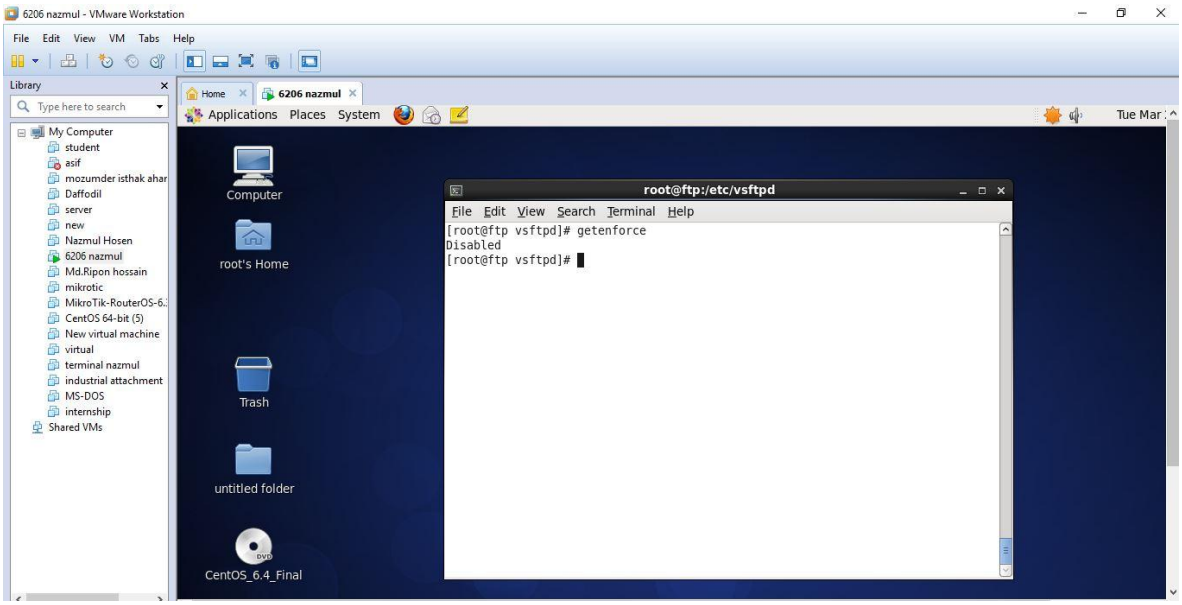

Fig3.44: getenforce using system

➢ **STEP: 2**

Second time yum install nfs* -y.nfs package install.

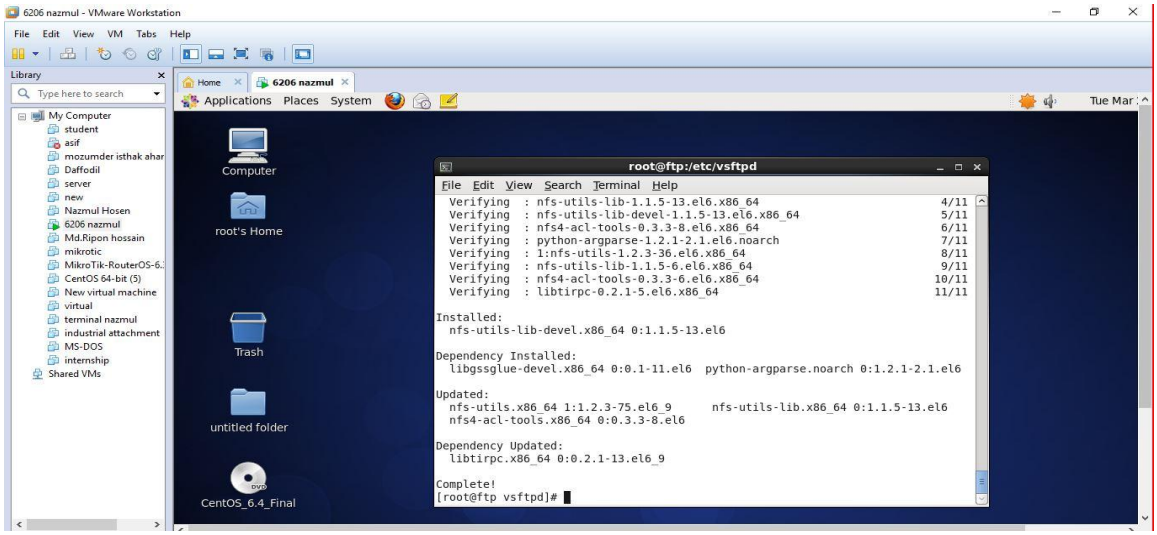

Fig3.45: nfs package install

➢ **STEP: 3**

Service nfs start, ckconfig nfs status, service rpcbing status,ls –ldZ /nfsshare,exportfs –ar,showmount –e, exportfs –v.

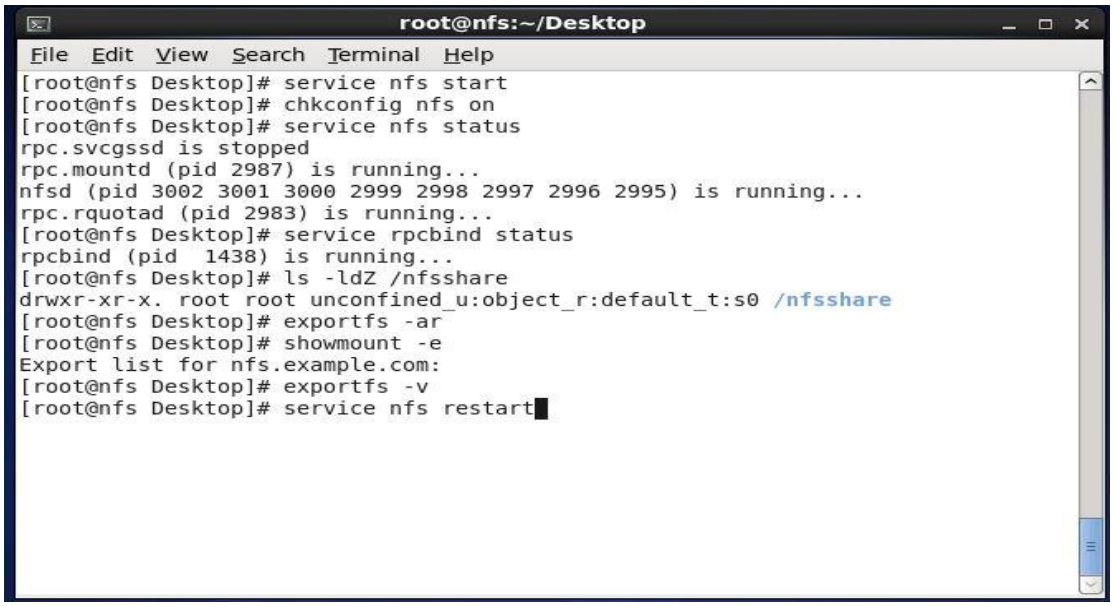

Fig3.46: Parmanent nfs on, nfs start,and running check etc

➢ **STEP: 4**

Third time service nfs restart, service iptables stop command using the system.

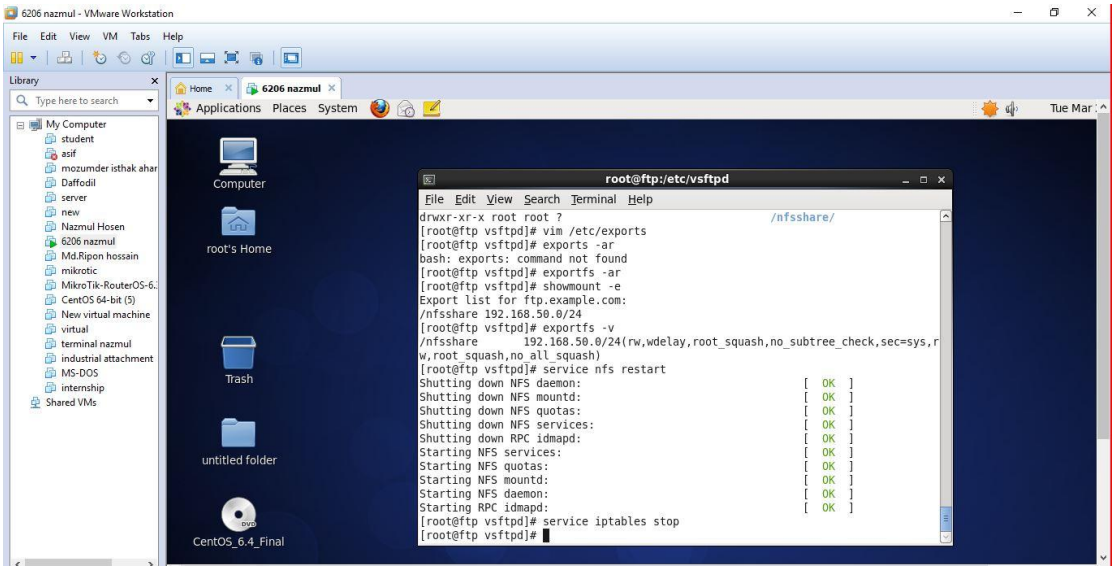

Fig3.47: nfs restart and iptables stop using method

➢ **STEP: 5**

Mkdir /sir ,Vim /etc/fstab and client ip set 192.168.50.50:/nfsshare/sir nfs defaults 0 0

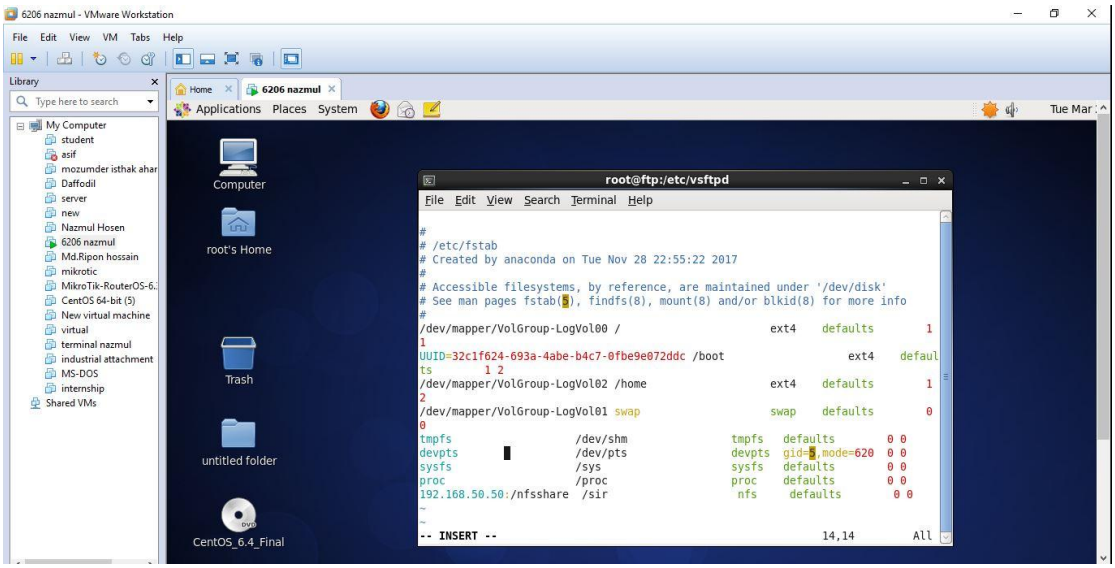

Fig3.48: Fstb use and client ip set

➢ **STEP: 6**

Other server create new touch file cd/sir then touch test.

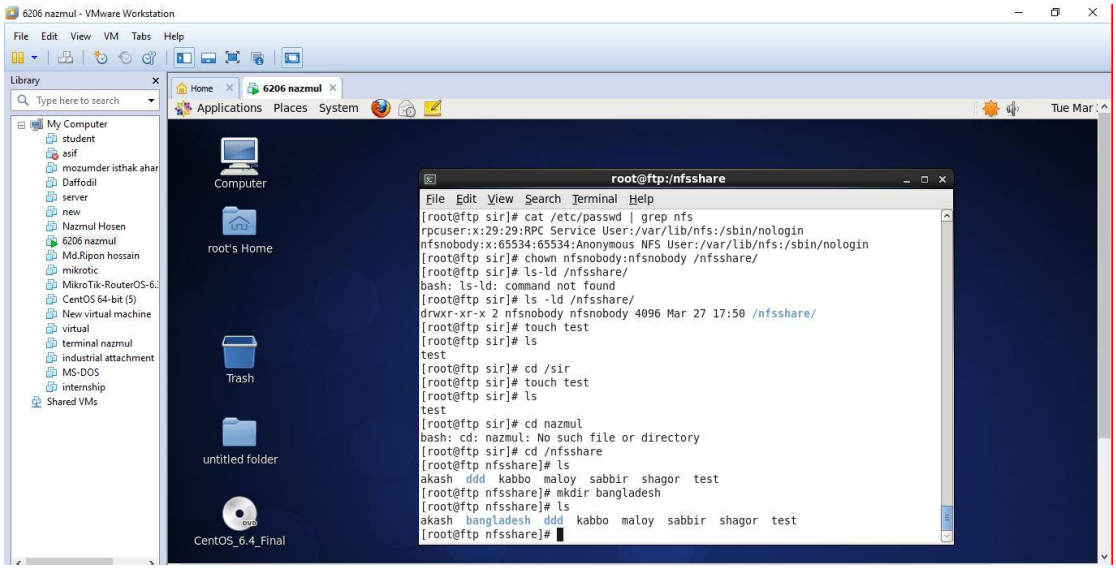

Fig3.49: Create new touch file other server

File Transfer Protocol.

➢ **STEP: 1**

Host name set hostname ftp.example.com. Permanent host se vim /etc/hosts then 192.168.50.26 ftp.example.com ftp

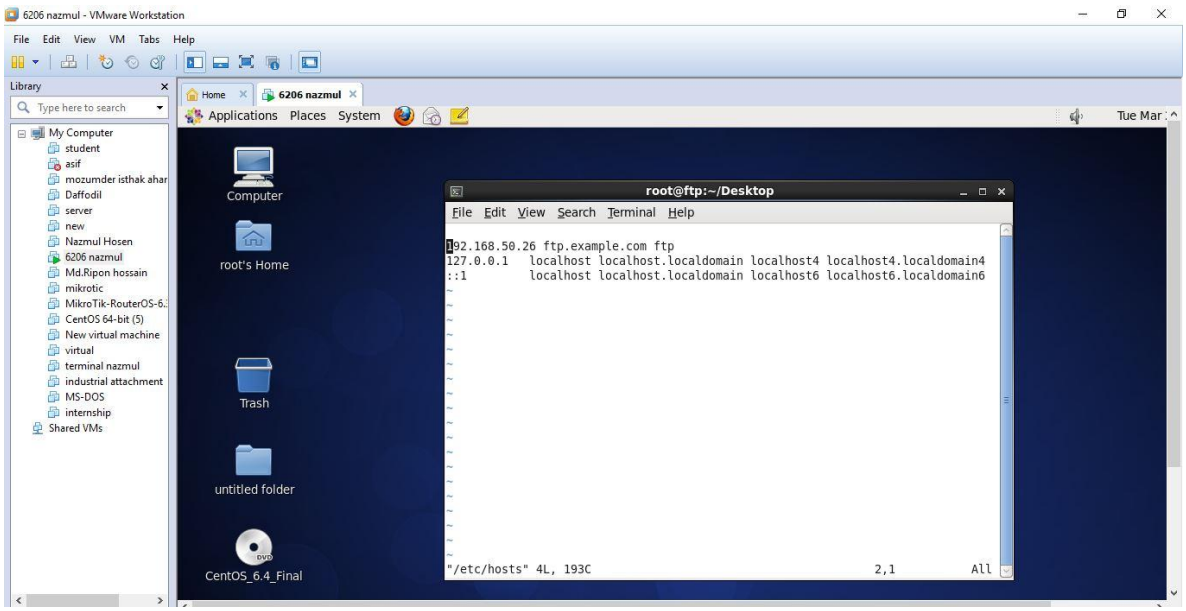

Fig3.50: Hostname set and permanent host set

- **STEP: 2**

Ftp server package vsftpd install. yum install vsftpd* -y command using[3].

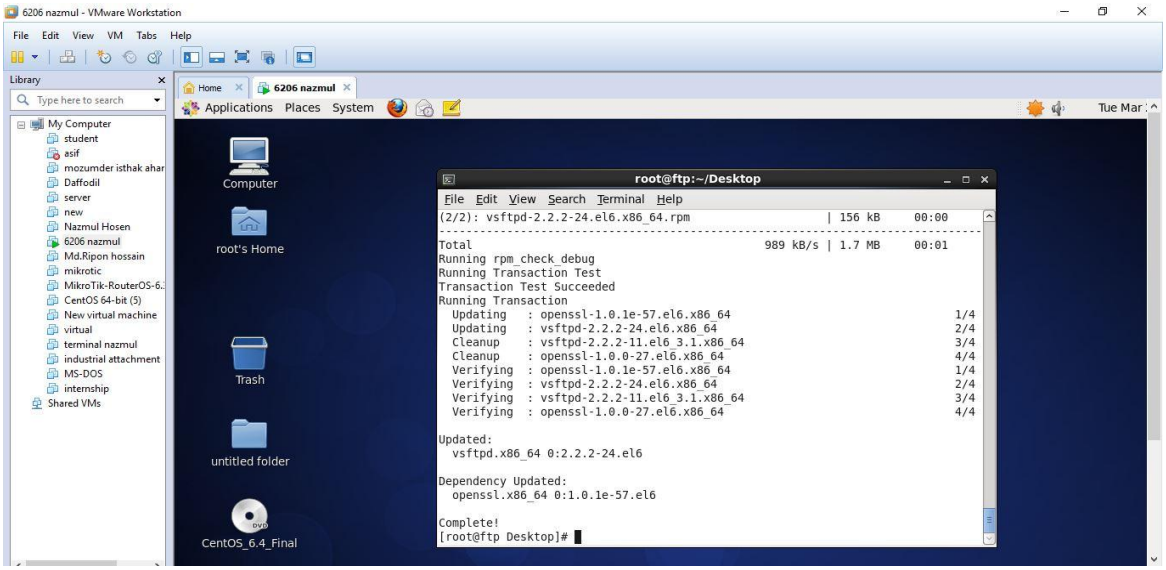

Fig3.51: Ftp server package vsftpd install

- **STEP: 3**

vsftpd in package. then ls . cp vsftpd.conf copy the vstpd.conf

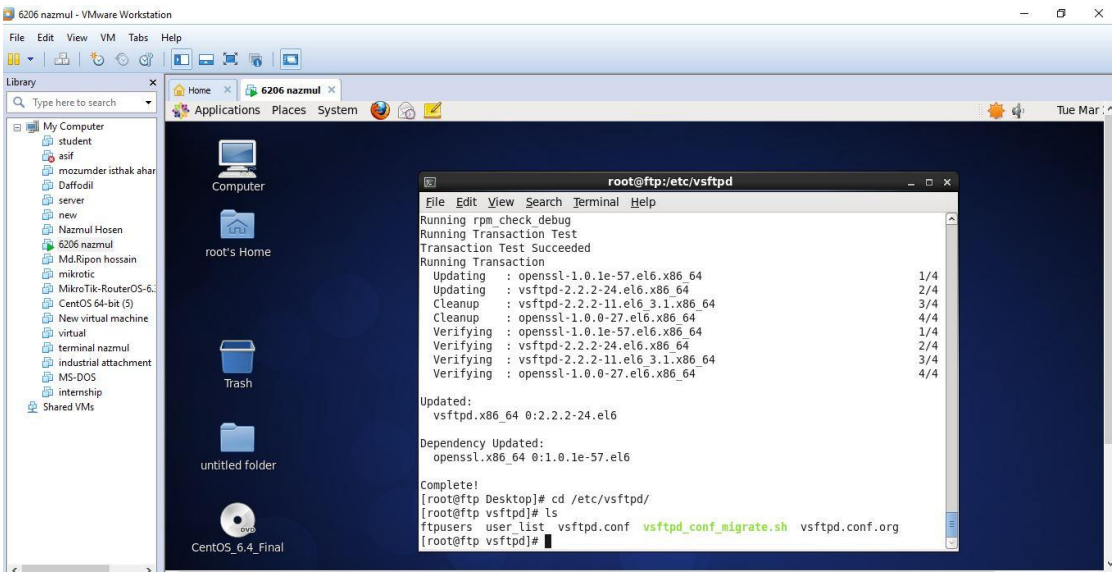

Fig3.52: Copy the vsftpd.conf and paste the system

➢ **STEP: 4**

Vsftpd configure sytem using command vim vsftpd.conf out the # just line ftpd_banner=welcome to blah FTP service

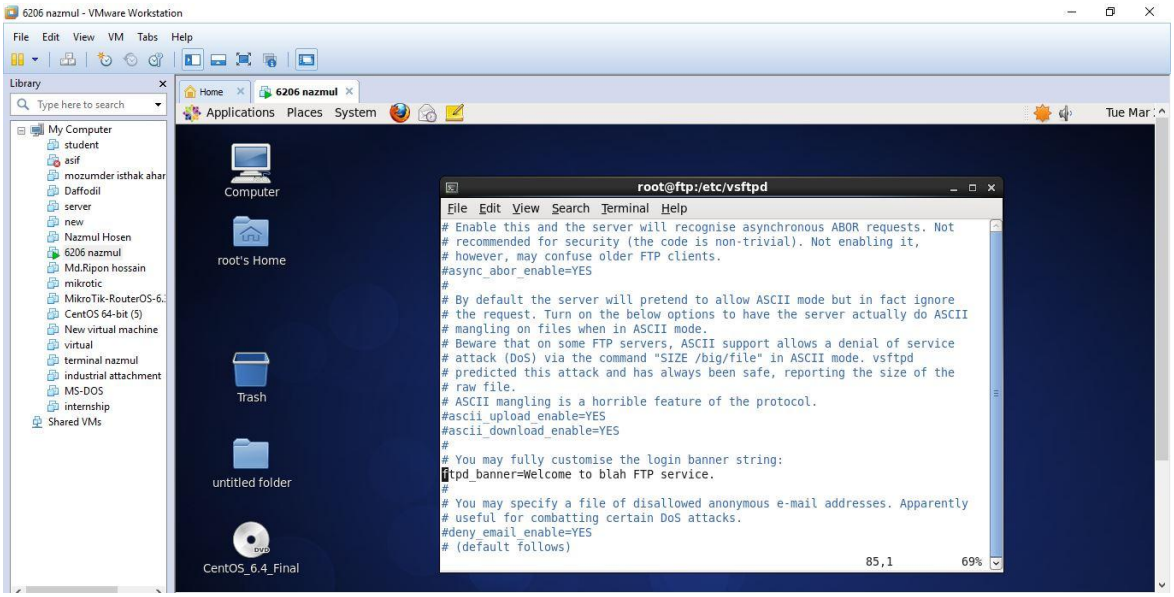

Fig3.53: Configure the vsftpd step 1

➢ **STEP: 5**

Configure the step 2 and out the #(hash)chroot_local_user=YES

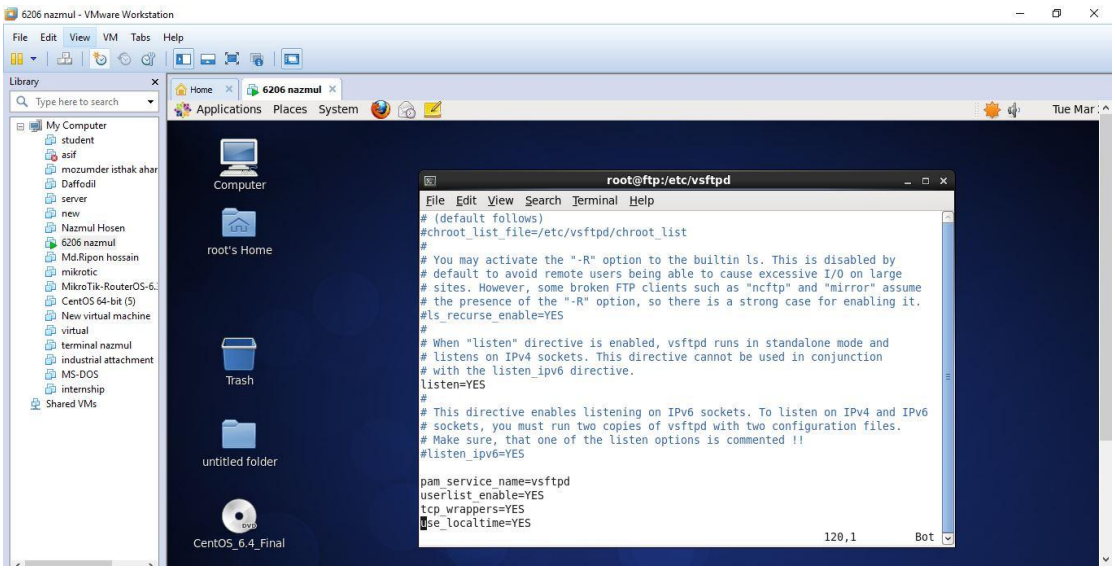

Fig3.54: vsftpd configure step 2

➢ **STEP: 6**

Sevice vsftpd start and check the running step then service vsftpd restart.

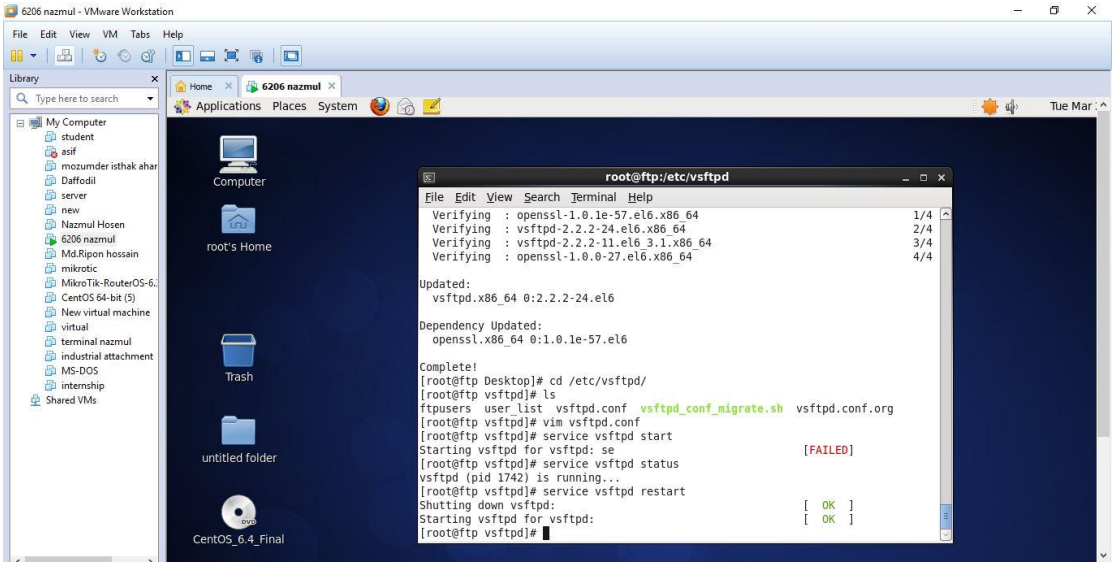

Fig3.55: vsftpd start and running and restart part

➢ **STEP: 7**

service iptables stop, service iptables restart.

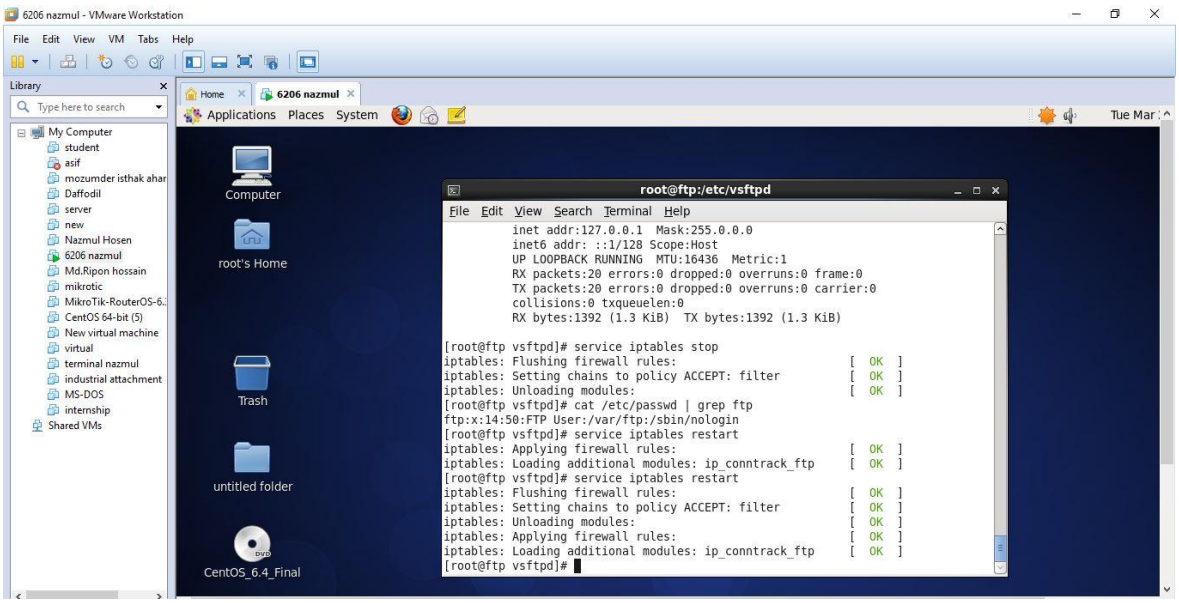

Fig3.56: iptables stop iptables restart using command

➢ **STEP: 8**

vi /etc/sysconfig/iptables command using and 22 line –A INPUT –m state –state ESTABLISHED,RELATED –j ACCEPT copy the line and using Esc and yy single line copy and paste the line using p and set the ip s 192.168.50.11/32 then save command Esc tab shift: and wq!

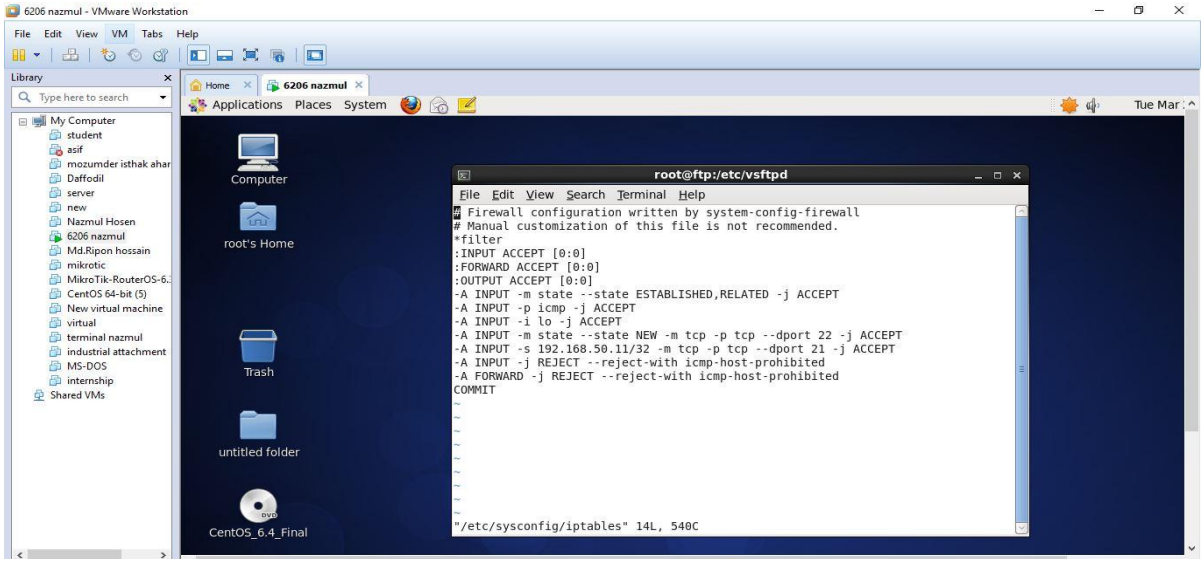

Fig3.57: Single line copy and ip set

➢ **STEP: 9**

Vim/etc/sysconfig/iptables-config IPTABLES_MODULES=IP_CONTRACK_ftp

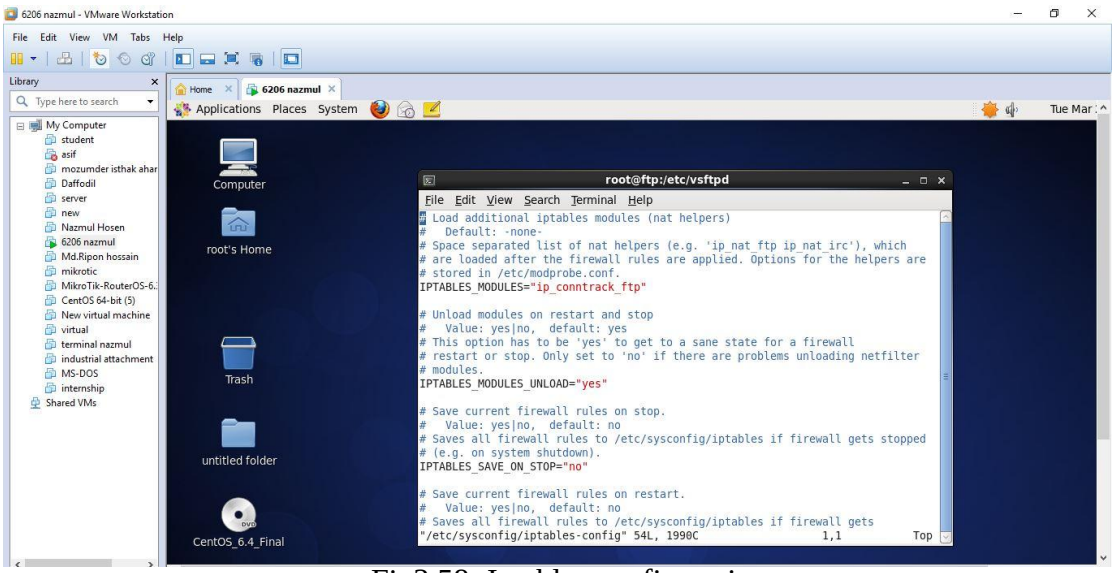

Fig3.58: Iptables configuration

➢ **STEP: 10**

Any browser using and ip hit ftp://192.168.50.26 and put the username and password then login the system.

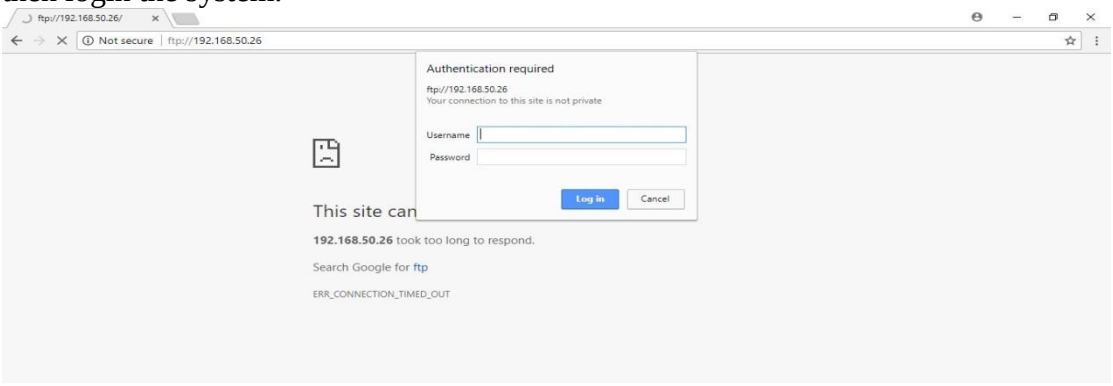

Fig3.59: Any browser ip hit and show the page

➢ **STEP: 11**

Vm box browser useing and ip hit ftp://192.168.50.26 and show the page and put user name and passwd.

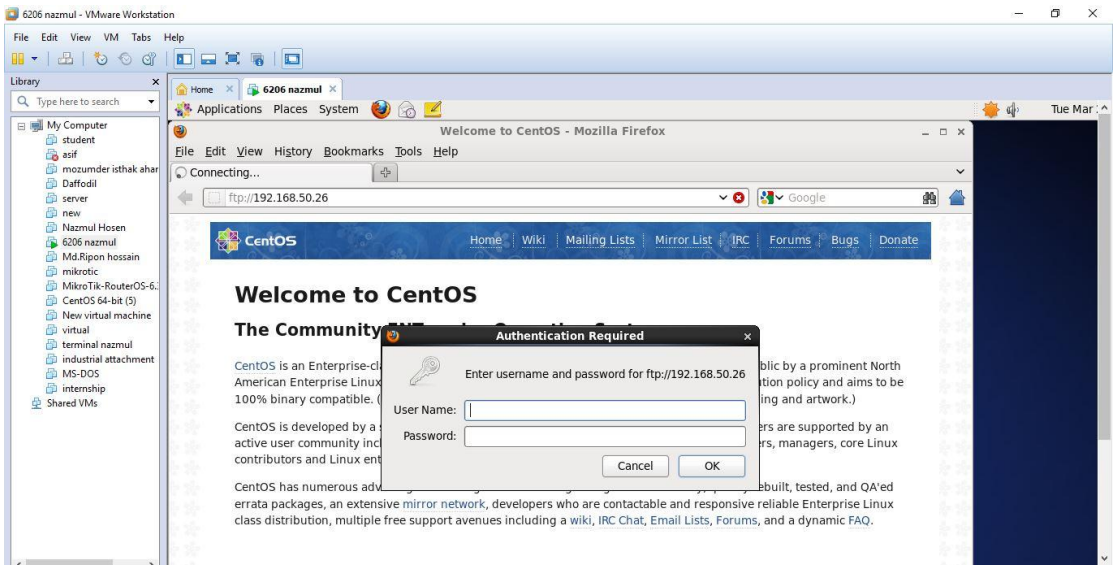

Fig3.60: Vm box browser using and show the page

- **STEP: 12**

Finally show the ftp server and browser hit the ip ftp://192.168.50.26

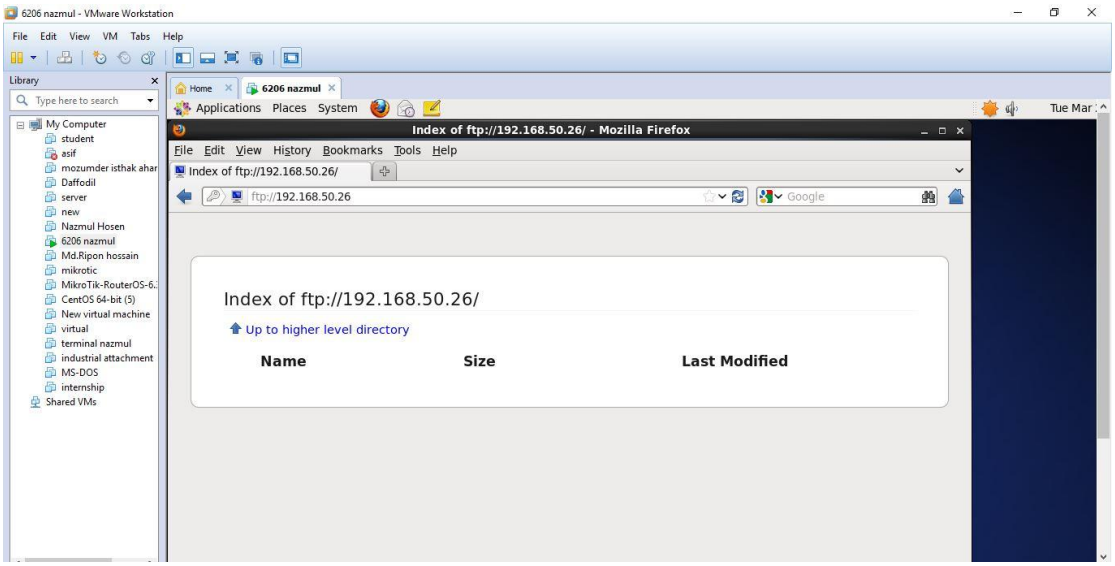

Fig3.61: Finally ftp server show the browser

Samba server create.

- **STEP: 1**

Getenforce command using and check the selinux Enabled or disabled and vi /etc/sysconfig/selinux command using and SELINUX=enforcing system on.

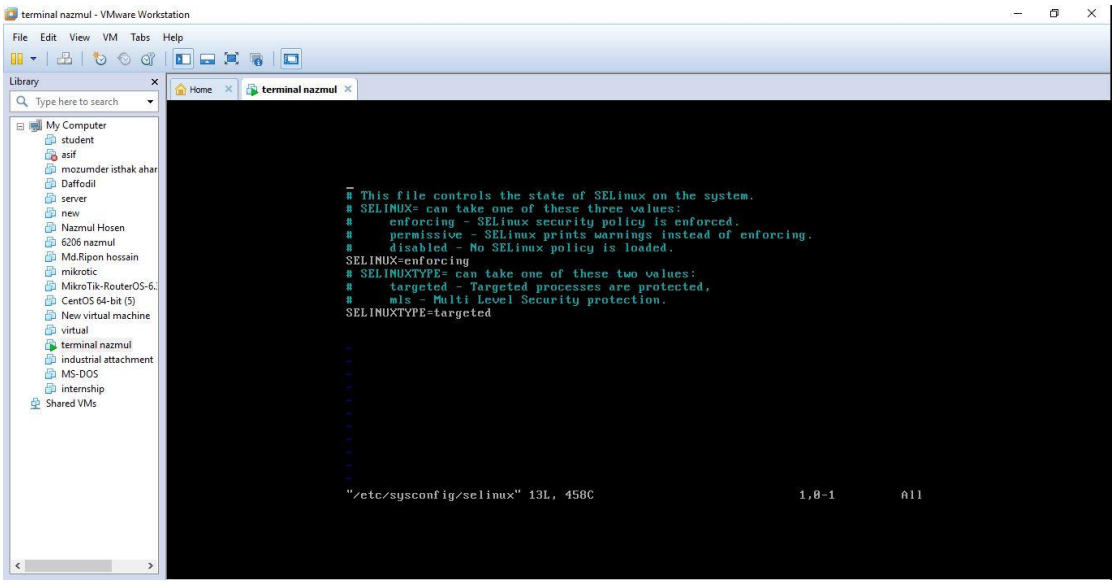

Fig3.62: SELINUX enabled process

- **STEP: 2**

Host name set first time ip then samba.example.com samba then save command Esc tab shift: and wq!

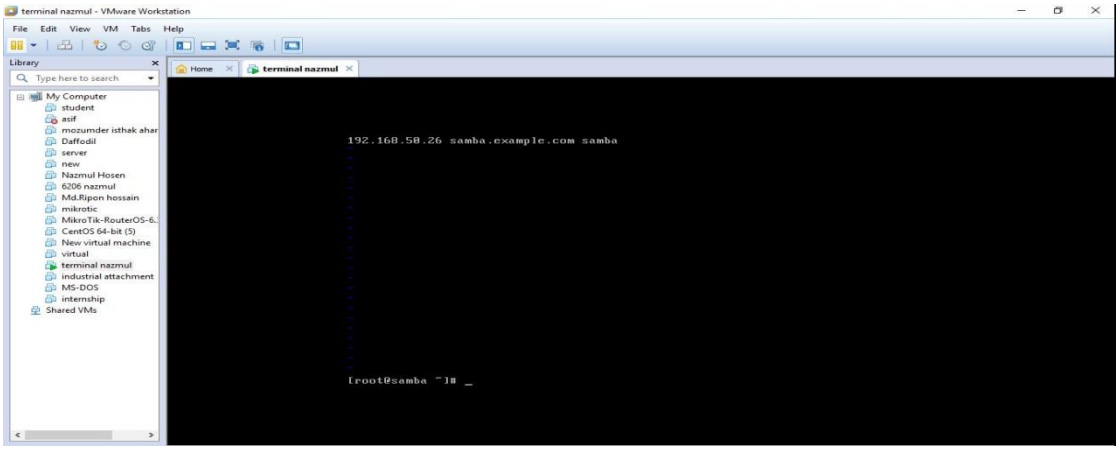

Fig3.63: Hostname set process

- **STEP: 3**

To see if Samba server is live ping google.com

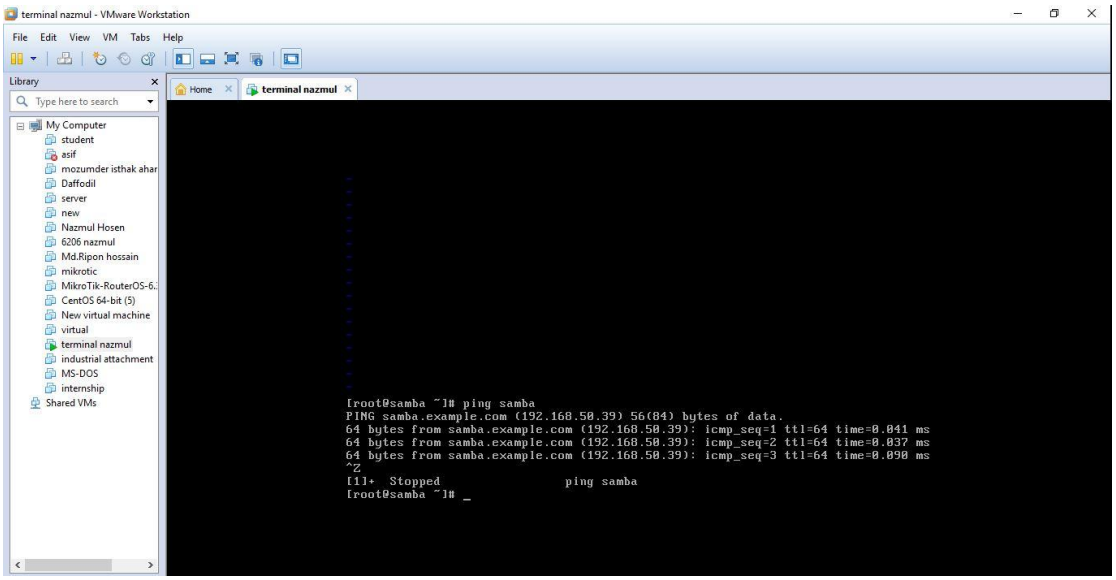

Fig3.64: Samba server live check

➢ **STEP: 4**

rpm -qa | grep samba command is type virtual machine and show the list .then yum install samba samba –client –y command type and two package install.

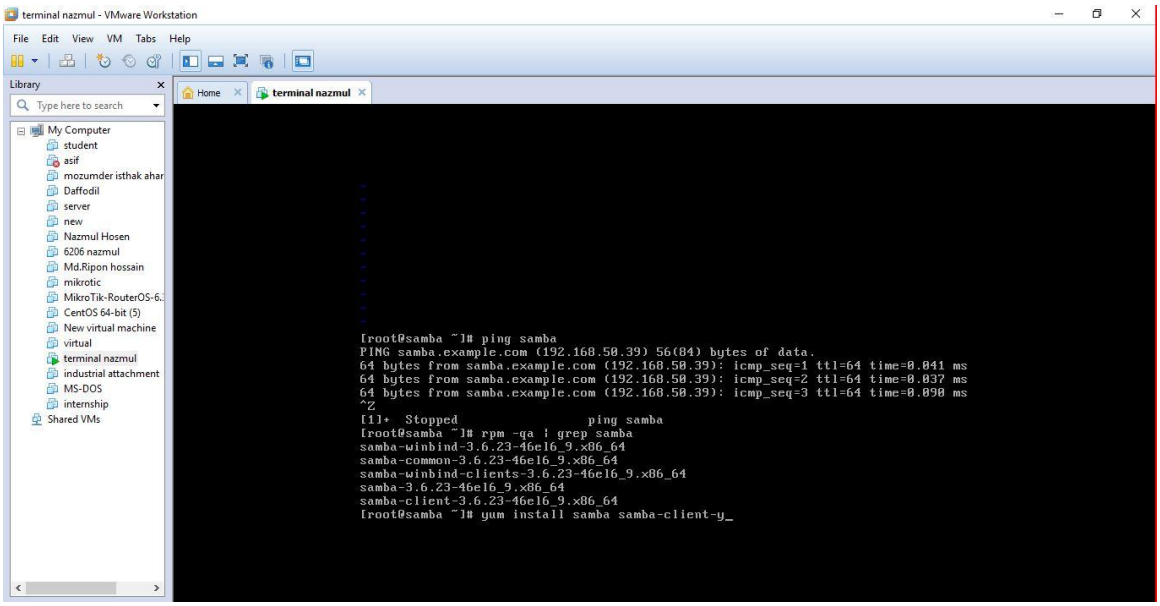

Fig3.65: Samba and samba-client package install

➢ **STEP: 5**

service smb start,service nmb start,chkconfig smb on service smb status command using basically samba service start and nmb start and permanent samba package on samba running check.then new user create

useradd -s /sbin/nologin harry and lsblk drive space check.

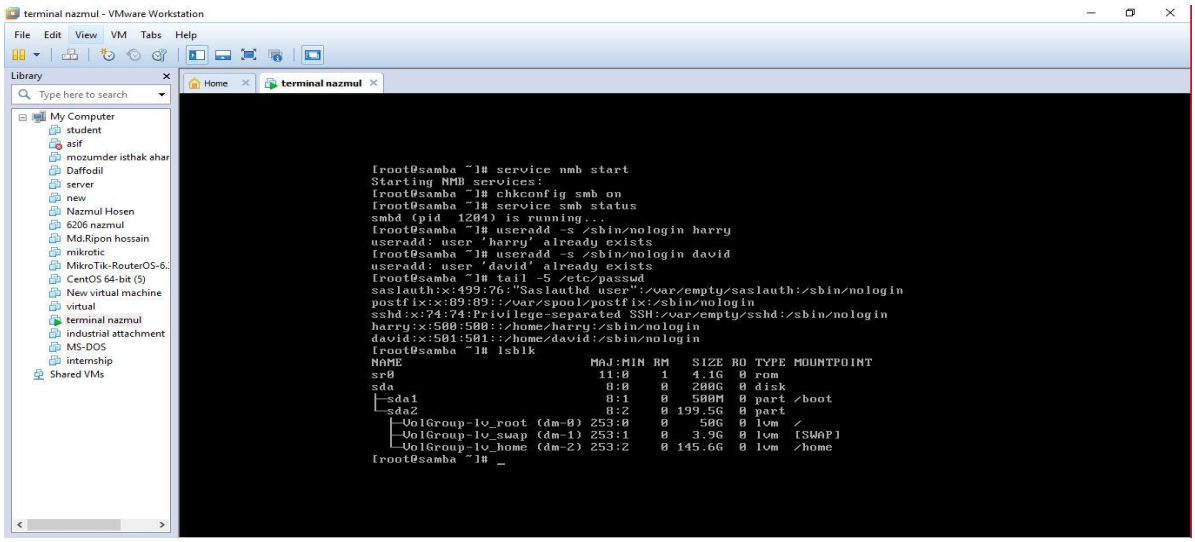

Fig3.66: Drive space check and samba package permanent on and running check

✓ **STEP: 6**

tail -5 /etc/passwd command using this is the check user last five.ls –ldZ /sharedir/ this is command check the polici

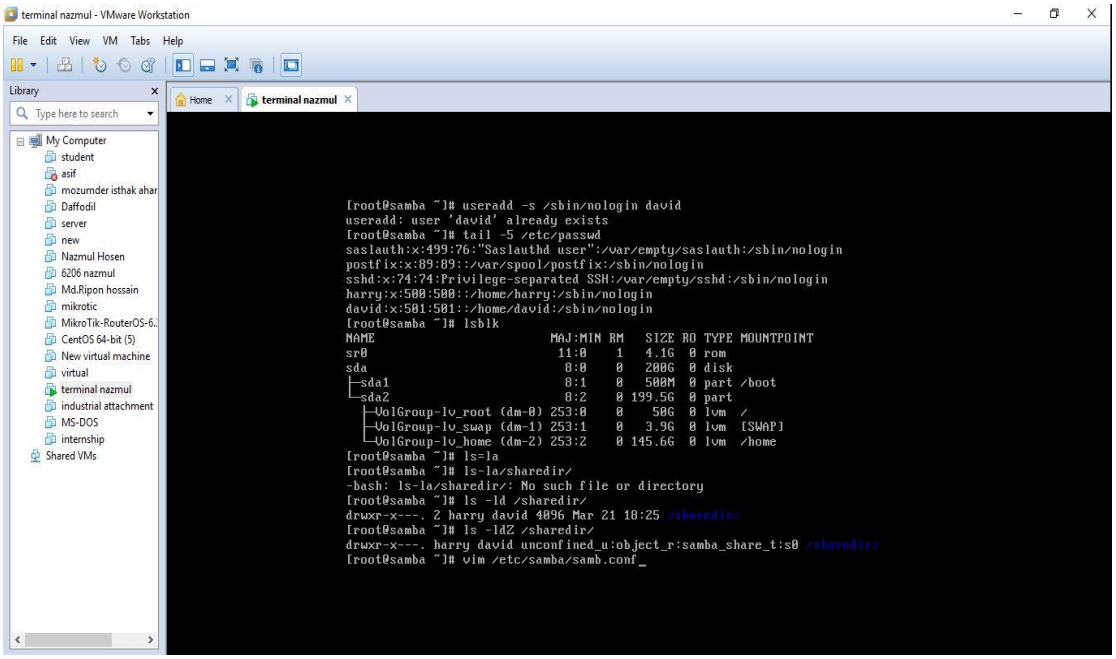

Fig3.67: User and policy check

✓ **STEP: 7**

Chcon –t samba –share –t /sharedive this is the command using policy check.cd /etc/samba.get in samba.then ls.cp smb.conf smb.conf.bak.just backup.

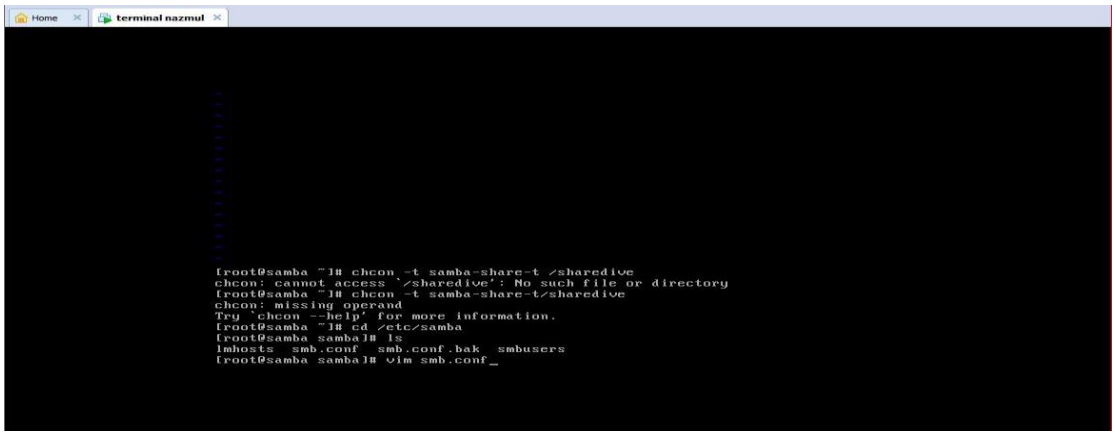

Fig3.68: Policy set and copy and backup the process

➢ **STEP: 8**

Vim smb.conf command using and Esc shiftG press and some line include[usershare] Comment=samb share,path=/sharedir,valid user=harry.david,read only=yes,write list=harry,browseable=yes.

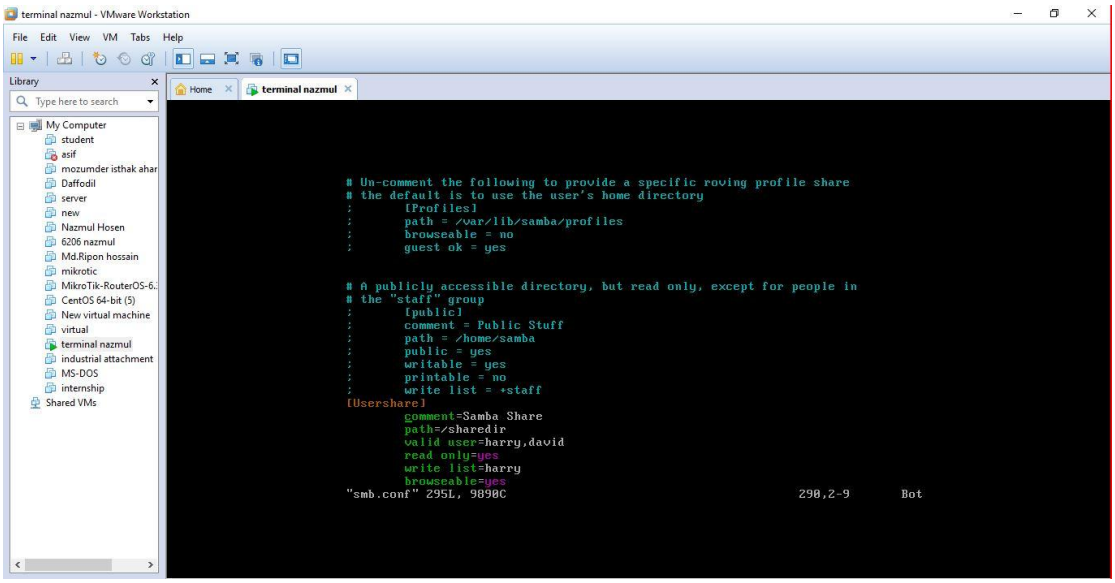

Fig3.69: Some condition apply

➢ **STEP: 9**

Set the workgroup=WORKGROUP

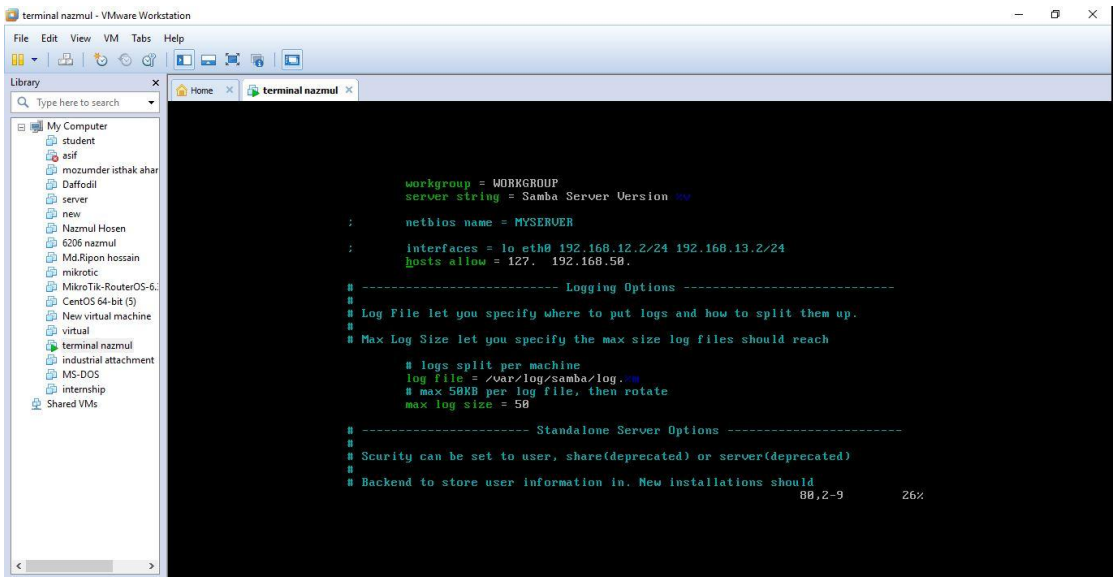

Fig3.70: Set WORKGROUP

➢ **STEP: 10**

harry user first time go to pc option and run command using and put the ip\\192.168.50.39 then enter.

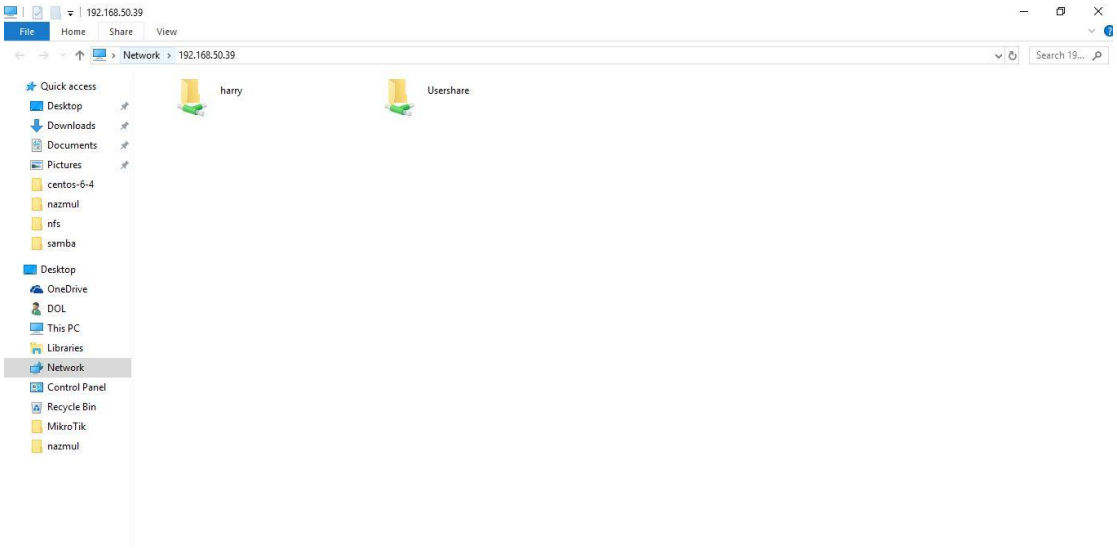

Fig3.71: Harry ip hit and show the page

➢ **STEP: 11**

Usershare folder put the document.

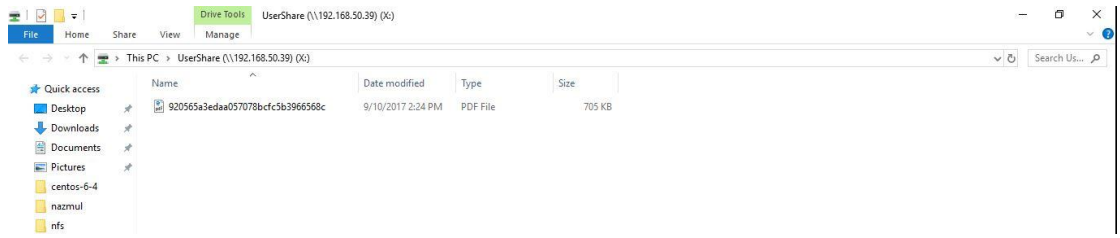

Fig3.72: Usershare folder put the document

➢ **STEP: 11**

Policy set chown –R harry:david / sharedir/

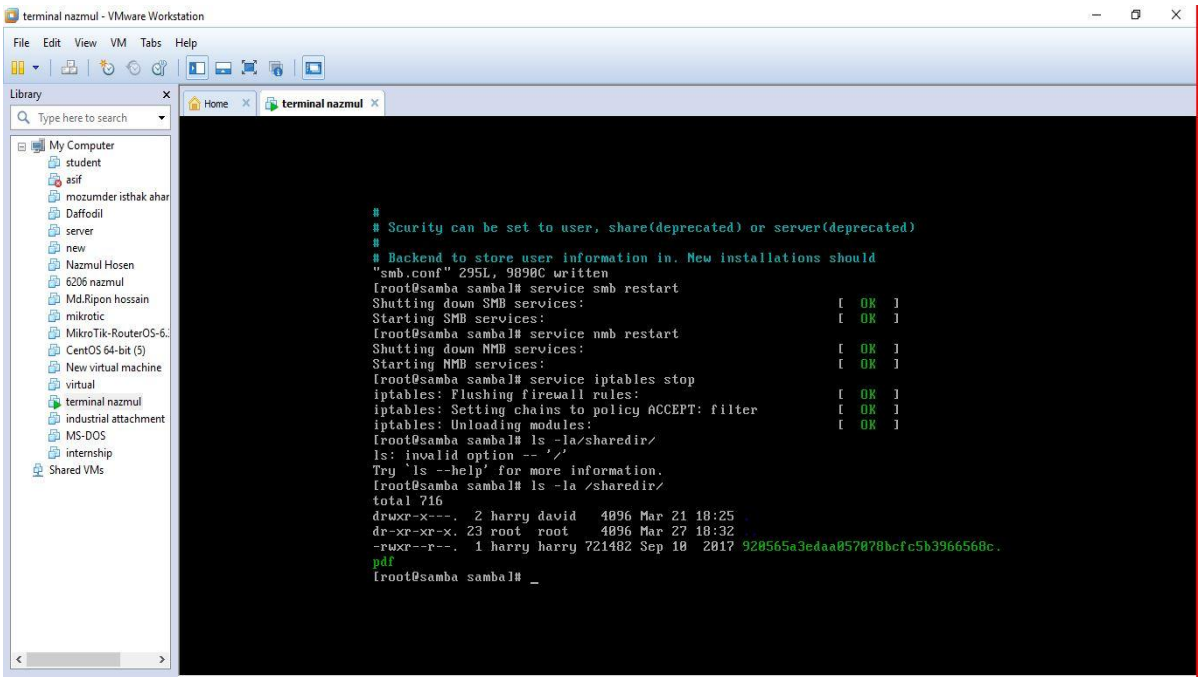

Fig3.73: Policy set the system

➢ **STEP: 12**

Now go to the map network drive and put the ip and folder name \\192.168.50.39\Usershare.

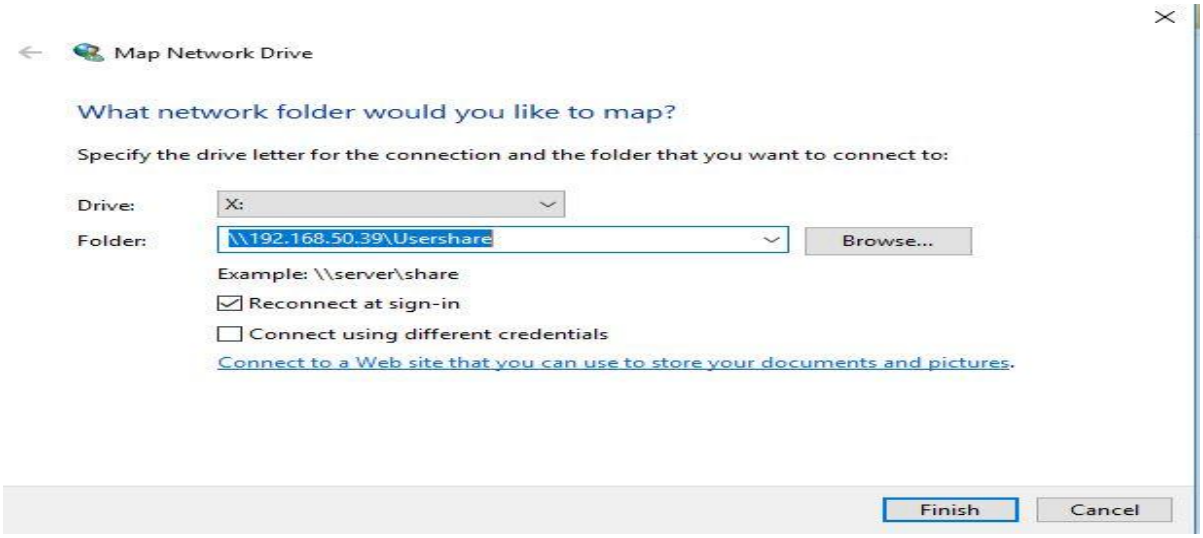

Fig3.74: Map network drive use and ip set

➢ **STEP: 13**

Fstab using and client ip set//192.168.50.105/UserShare /home /moloy cifs creds=/root/pass 0 0

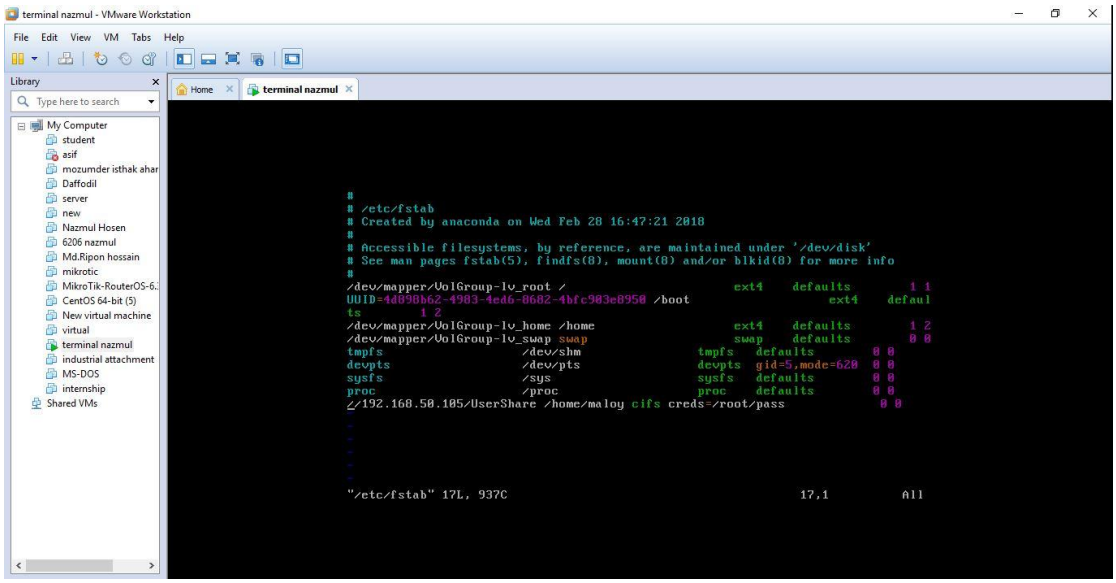

Fig3.75: Client ip input fstab

➢ **STEP: 14**

Mount -a command using and df –h command put and show the drive. And cd /home/moloy.

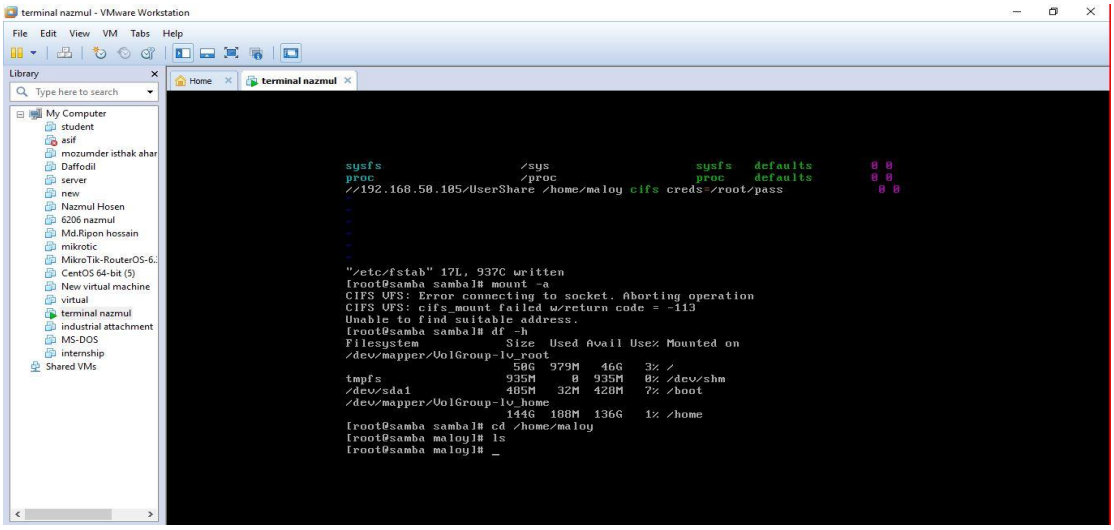

Fig3.76: Mount command using and go to the moloy user system

- **STEP: 15**

Finally create the drive and using client.

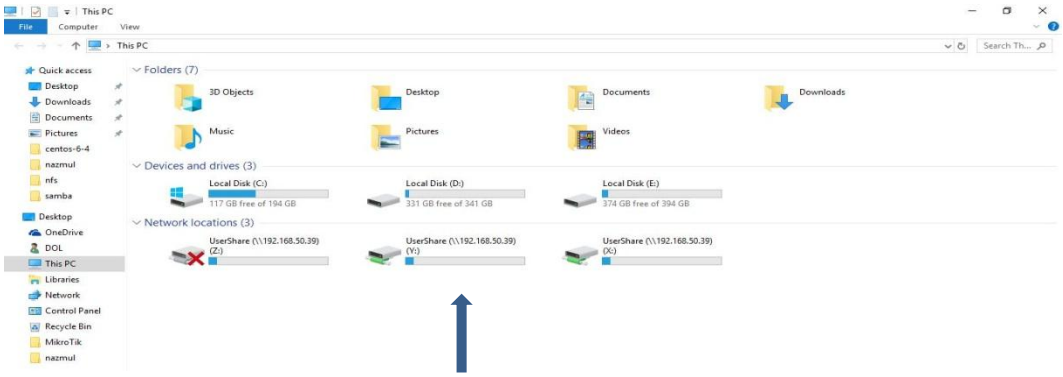

Fig3.77: Create the drive

CHAPTER 4

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.

CHAPTER-5
CONCLUSION

5.1 Conclusion

We gather a lot of experience and this is a great opportunity for us to complete this internship on Linux. During this internship we considered to implement and test the operating system by oracle virtual machine. Now we are able to create or maintain different types of servers which is very helpful for our future. It gives us the chance to meet the real life networking system which is very effective for us in future.

5.2 Problems

There are different types of problems have to be faces during the Installation and maintained the virtual machine. Most commonly

- The server computer has different types of problems during the server installation.
- The network does not work properly during the package installation.
- The electricity has gone several times during the installation and managing the server.
- In virtual machine different types of code does not work properly.
- We have to be so careful during work, because the commands are very case sensitive.

5.3 Future Scope

Any person can configure DNS and DHCP server easily and can do server monitoring with server backup which are explained in this book.

- Configuration and maintenance all the Linux server for our real life.
- To work in ISP platform
- Network administrator into the job environment

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. I am a professional in the field exposure with clients and professional etiquette and professional supervisors and other employees to learn from watching an understanding of the behavior, as well as to gain through interaction. 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	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)
Employees	12

REFERENCES

[1] Learn about Basic command, available https://maker.pro/linux/tutorial/basic-linux-commands-for-beginners. last accessed on 01 February 2018, 11.30pm.

2] Learn about Basic command, available http://www.informit.com/blogs/blog.aspx?uk=The-10-Most-Important-Linux-Commands . last accessed on 15 February 2018, 3.30pm.

[3] Learn about VM installation, available https://www.itzgeek.com/how-tos/linux/centos-how-tos/how-to-install-vmware-workstation-on-centos-6.html. last accessed on 27 February 2018, 8.30pm.

[4] Learn about VM installation, available https://www.thegeekstuff.com/2010/11/vsftpd-setup/l.last accessed on 05 March 2018, 10.30pm.

[5] Learn about VM installation, available https://www.howtoforge.com/tutorial/how-to-install-and-configure-vsftpd/ . last accessed on 20 March 2018, 9.30pm.

[6] Learn about vsftpd package, available http://www.tomsitpro.com/articles/linux-server-configuration-guide-book-excerpt,2-777-3.html . last accessed on 22March 2018, 4.30pm.

[7] Learn about vsftpd package, available https://www.digitalocean.com/community/tutorials/how-to-set-up-vsftpd-on-centos-6--2. last accessed on 25 March 2018, 4.30pm.

[8] Learn about Nfs server configuration, available https://www.unixmen.com/nfs-server-installation-and-configuration-in-centos-6-3-rhel-6-3-and-scientific-linux-6-3/. last accessed on 27March2018, 12.30pm.

[9] Learn about samba server configuration, available https://www.unixmen.com/samba-server-installation-and-configuration-in-centos-6-3-rhel-6-3/ .last accessed on 7 April 2018, 8.30pm.

Plagiarism checker check finally result show.

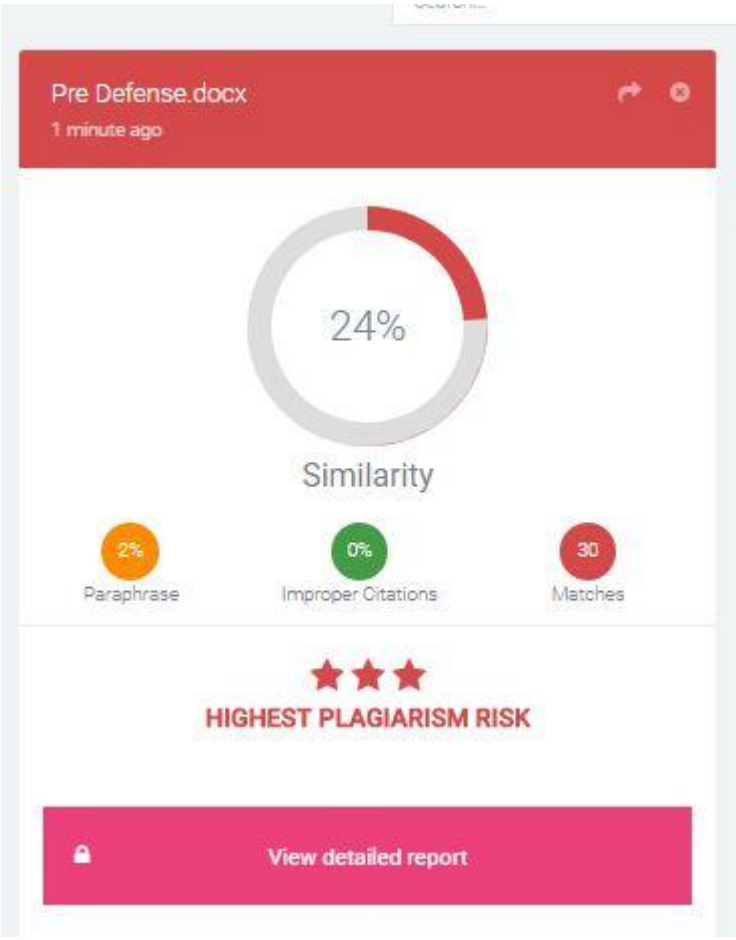

Fig 3.78: Plagiarism result show.