

# **MikroTik Configuration and Linux Administration**

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This Internship Report presented in partial fulfillment the requirement of the degree of  
Bachelor of Science in Computer Science & Engineering.

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**DAFFODIL INTERNATIONAL UNIVERSITY**

**DHAKA, BANGLADESH**

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## **APPROVAL**

This Project/internship titled “**Mikrotik Configuration and Linux Administration**”, submitted by Md. Harun-Or-Rashid , ID No: 152-15-6292 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 2018.

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## DECLARATION

I prepared the internship report Md. Harun-Or-Rashid, ID No: 152-15-6292 to the department of Computer Science and Engineering, 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.

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## ACKNOWLEDGEMENT

I because of Allah who give me the chance to finish my temporary position and give me opportunity to set up my entry level position report

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I extremely glad for my course educator Mr. Narayan Ranjan Chakraborty Assistant Professor, Department of Computer Science and Engineering, Daffodil International University, Dhaka. Deep information and unmistakable fascination of my administrator in the field of "Linux server and ISP Server arrangement in MikroTik" to complete this entry level position.

I might want to state heartiest appreciation to Dr.Syed AkhterHossain, Professor and Head, Department of CSE, for his kind help to complete my temporary position and furthermore to other employee and the staff of CSE division of Daffodil International University. I might want to thank the majority of our whole course of Daffodil International University, who is a piece of this course while finishing the course work. I additionally thank my colleague who causes me to set up the report and help to work.

At last, I should regard my respect and regard for my folks to giving the chance, and support to me to come this spots.

## **ABSTRACT**

As a student of CSE, I have completed my internship report in DOL “on ISP Server configuration on linux and mikroTik platform. The report is a requirement of the internship program for my Bachelor of Science course degree. When two computers are connected and it can exchange data or information then creates a network. we can add more computers and return data or information when we need that time we require a special type of computer are called Server computer Such as- Proxy server, DNS server, Web server, Mail server, FTP server, Firewall. Each of the server computer act variously. Otherwise we can’t control any network. When a networks are appended with the internet and the network need to impervious the data, must install computer server using Linux OS. In that reason I optioned the subject of my internship on” Mikrotik Configuration and Linux Administration”.

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# CHAPTER 1

## Introduction

### 1.1 Introduction

ISP server configuration of Linux and MikroTik platform is Main objective of my internship program is to prepare my self as a skill person in the competitive job market. So Internship is very essential for skill development. I would like to achieve some special quality in order to prove my self as a skilled one. It covers advanced skills for the Linux professional that are common across all. This objective includes the ability to managing a running server and configuring. Linux file hierarchy with clear understanding of services to be used. It covers basic skills for the Linux professional that are common to major Objectives with higher weights will be covered

In the exam with more questions.

### 1.2 Motivation

My internship program seeks motivated undergraduate students pursuing degrees in Computer Science, Expert Systems, Hardware/Software, Networking, Programming, Systems Analysis to work in the CIA's Directorate of Science and Technology. In my intern time I am fully skilled expert of the Mikrotik Configuration and Linux Administration. As an internet service provider, I've found my point across very good, contacting others, feeling their necessity and giving them good service. My expertness lie in my ability comprehensively read and understand the situation and act quickly and yet smartly.

### 1.3 Internship Objectives

Today , most organization use Linux operation system. Linux operating system is one open source operating system. Actually Linux operating system used for server configuration. Conceptually, Linux is considered the world most powerful, flexible and robust server based operating system. I would like to collect some extraordinary quality to provide myself as skilled one. Ultimate objective of my internship program is to prepare myself as an eligible one in the competitive job market.

## **1.4 Introduction to the Company**

Daffodil Online Ltd. (DOL) is one of the pioneers and most seasoned ISP/ASPs in Bangladesh and giving one stop incorporated ICT administrations and arrangement since July 2002. DOL will lead the most difficult and requesting IT proficient courses and preparing in the day of globalization. Daffodil Online Limited (DOL) is one of the quickest ISP in Bangladesh to interface everybody, anyplace, all an opportunity to convey brilliant Information and Communication Technology (ICT) administrations at a sensible cost. DOL utilize the most recent innovations and overhauling the administrations wherever it is required. DOL has an exceptionally solid professional designing and administration group affirmed and connected with SUN, Cisco, Microsoft, Linux, and Oracle and effectively involved with world driving figuring affiliations including IEEE, ACM, ACS, BCS, and PMI. Our Corporate Social Responsibility ethos reinforces the feeling of our obligation on Community, Workstation, Location and Market put.

## **Report Layout**

Chapter 1- I have described introduction, Motivations, Objective, Introduction to the company.

Chapter 2- I have described the methodology of my internship. Information about. 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.

Chapter 3- I have described about daily task and activities, Events and Activities, Analysis, Centos Install, Challenges.

Chapter 4- I have described is Competencies Earned, Smart Plan, Reflections.

Chapter 5- I have described is Conclusion and future Scope. I discuss Future Scopes for Further Developments.

## **CHAPTER 2**

### **ORGANIZATION**

#### **2.1 About the Company**

Daffodil Online Ltd. (DOL) is glad to be one of the pioneers and most seasoned ISP/ASPs in Bangladesh and giving one step coordinated ICT administrations and arrangement since July 2002. It makes corporate, SME and individual customers server it's very own fiber optic and radio and radio connection in ambiguous foundation. The Institute works with numerous national tasks and all identified with high thank fullness world ide associations. It utilizes most recent innovation and administrations wherever it is expected to redesign. Focus can give best in class system and broadcast communications arrangements with a gathering of very talented specialized specialists in the Corporate Network Solutions division. DOL is an extremely solid expert building and administration group affirmed and will be related with Sun, Cisco, Microsoft, Linux and Oracle and is effectively required with the world's driving registering affiliation, including IEEE-ACM, ACS, BCS, and PMI. Its Corporate Social Responsibility reinforces the awareness of other's expectations on Community, noteworthy stages training, country building and condition, through its projects and administrations telecommunication solutions with a highly efficient technical expertise group.

#### **2.2 Product and Market Situation**

Finding another activity can be a mind-boggling prospect in pretty much any industry today, however for those with Linux abilities, the difficulties are somewhat less overwhelming. We can discover in excess of 11,000 Linux-related occupations on some random day on tech employments site Dice.com, for instance, and interest for Linux encounter there is developing at a rate of 32 percent year over year, contrasted and only 20 percent for employment posting by the large. A comparable circumstance can be found on the Linux foundation's jobs boards. then, where in excess of 30 Linux work advertisements were of late posted in a solitary week. Interest for Linux aptitudes far exceeds supply, at the end of the day , so it's no big surprise company.

## IT Service

- ISP Setup and Administration utilizing Linux
- Instructional class on Certified Ethical Hacking (CEH)
- ISP Setup and Administration utilizing Mikrotik
- Site Development with Joomla
- PHP and MYSQL for Website Development
- Web based business and Open source Joomla VirtueMart
- RHCSS specialist security
- RHCH security

### **2.3 Target Group**

Daffodil Online Ltd. Prides itself as one of the primary the country over Internet Service Supplier (ISP) in Bangladesh. They are the most experienced and most settled association in the ICT field where they are key business ethics is Long Term Relationship with the are customers. As they look at the advancement during the time since our introduction, they are to an incredible degree satisfied with what we have achieved, and significantly more amped up for our view point for an also promising future. Daffodil Online Lid moreover gives different IT Services and Professional Training organizations.

### **2.4 SWOT Analysis**

SWOT examination is a key orchestrating technique used to empower a man or affiliation recognize the Strengths, Weaknesses, Opportunities, and Threats related to business competition or undertaking organizing. It is intended to decide the objectives of the business experience or adventure and recognize within and external segments that are great and troublesome to achieving those goals.

- Strengths: properties of the business or assignment that give it ideal position over others.

- Weaknesses: characteristics of the business that put the business or undertaking zoned out in regard to other individuals.
- Opportunities: segments in the condition that the business or adventure could experience further reinforcing its favorable position.
- Threats: segments in the condition that could cause burden for the business or assignment.

## 2.5 Organizational Structure

Here show the Organizational structure of Daffodil Online Limited in fig 2.5:

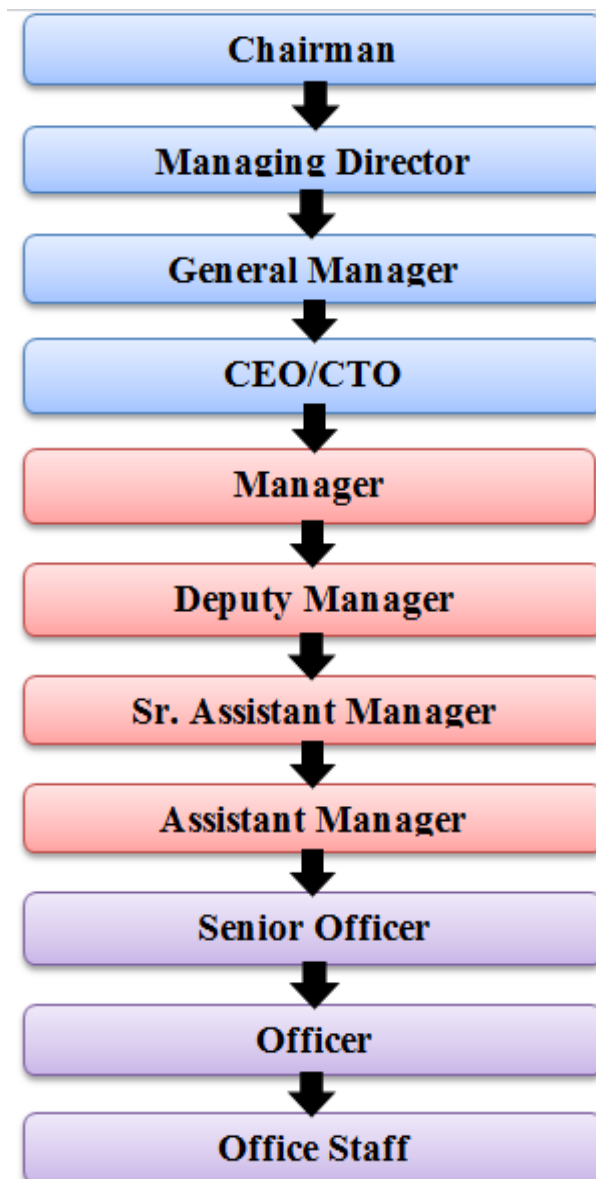


Figure 2.1: Show Organizational Structure of DOL

## CHAPTER 3

### Tasks, Events and Activities

#### 3.1 Daily Tasks and Activities

In Month- 1: In the main month of entry level position on daffodil online restricted I have learned and Exercise the accompanying themes:

- Learning and comprehension know Network Components of Network.
- Basic concept of router.
- Different kinds of router.
- Routing configuration
- How router works.
- Understanding Linux HDD Partitions
- Linux setup.

In Month- 2: In the second month of temporary position on restricted I have learned and played out the accompanying points:

- Configuration Routing.
- Know About router installation.
- Know About Dynamic routing configuration
- Know About Static routing configuration.
- Maintenance MikroTik router
- Maintenance routing protocols

In Month- 3: In the third month of entry level position on daffodil online constrained I have learned and played out the accompanying subjects

- IP Addressing
- Configuring IP Address in Centos.
- Network cabling systems
- Routing protocols

## 3.2 Events and Activities

- Network maintains and control by linux.
- Setting up user accounts, permissions and passwords.
- Problems servers and routers.
- Troubleshooting local area network and switches.
- Fixing network faults.
- Technical support for people using the network.
- Day to day admin and monitoring of network use.
- Suggesting IT solution to business problems.
- Client support via telephone or Physical move to customer Ends.
- Checking Fiber Option Media Convertor and Fiber Optic Transmission devices.

## 3.3 Project Task and Activities

### Linux Overview:

Linux is a group of free and open-source programming working frameworks worked around the Linux bit. Ordinarily, Linux is bundled in a frame known as a Linux dispersion for both work area and server utilize. The characterizing part of the Linux conveyance is the Linux portion, a working framework bit initially discharged on September 17, 1991, by Linux Torvalds.

Linux is prominent for his some trademark. Its open source working framework. Distinction working framework gives diverse office. Microsoft Windows and Mac OS working framework gathering in working framework is the product that work your PC.

Windows has remains for which is ramming applications if our program they used to oversee documents like photographs and music in web program to get to web and its authoritatively known as an Operating System. Linux has possess work area record program and countless diverse programming applications. So here the unavoidable issue if does everything the Windows 10 then for what reason would I utilize Linux is My Computer working framework. There are few contrasts between when it's another working framework. Windows and Mac OS Linux is open source programming which fundamentally anybody can change the working framework on the off chance that

somebody doesn't make a difference waves appropriation In the all organs with this implies is the you have the opportunity of decision to discover a variant of the Linux the works best for you and trust me this dispersion of there for everybody every single working framework like Windows on Mac OS miss you require fine and dandy if there's something about the route shouldn't something be said about's you know whether you simply almost no champs with English. It's have parcel of office to other. 1<sup>st</sup> security, space administration, driver plate, hard, circle server offices is more given by other. The greater part of the think to this Linux server is get low spending plan and looks after cost. Generally that reason Bangladesh ISP and other association dreadful like Linux server. So I think each PC design must be known Linux working framework and server.

### **3.4 Centos Install**

- Step 1- Download ISO File
- Step 2- Make a bootable Drive
- Step 3- Installation
- Step 4- Select Language
- Step 5- Change the Installation Destination
- Step 6- Select The Partitioning Scheme
- Step 7- Create a Swap Space
- Step 8- Installation
- Step 9- Add Root Password
- Step 10- Create a User Account
- Step 11- Complete Installation

#### **3.4.1 Making Linux Partition**

For Establishment of Linux we need to make at least 3 partition root (/), boot, and swap.

#### **Root Partition**

The root file system is represented by a forward slash (/) and It is a top of the directory tree and contains Linux and everything that you install with Linux in the computer. A Root Partition there is the place “/” The root catalog is found all records (aside from in



boot ) are on the root segment. Least 5GB HDD Space Required. The size of root partition will vary depending on what install or plan to installing.

### **Boot Partition : /boot**

The segment boot (200 MB) the parcel mounted on/boot/contains the working structure bit, alongside documents used in the midst of the bootstrap method. Because of confinements, making a local ext3 parcel to hold these documents is required. For most clients, a 200 MB boot segment is adequate.

### **Swap Partition: Swap**

The segments swap is utilized to help virtual memory. As such, information is composed to a swap segment when there isn't sufficient RAM to store the information your framework is preparing. Parcel Swap should parallel 2x physical RAM for up to 2 GB of physical RAM, and afterward an extra 1x physical RAM for any sum over 2 GB, however it can't under 32 MB. A swap partition of 2 GB to 4 GB and a root partition that is a minimum of 10 GB. Root partition should of about 20-30 GB, swap partition of about 8 GB and home partition of about 20-30 GB.

### **Disk Partition**

The Disk partition past is mainly depends on two types. Partitions a disk drive into one or more logical disks. Each partition is treated as a separate disk with it's own file system. Partition information is stored in a partition table.

- Primary partition
- Extended partition

The original partitioning scheme for PC hard disks allowed only four partitions, called primary partitions. To create more then four allotments, one of these four parcels can be separate into numerous littler segments, called legitimate segments. At the point when an

essential parcel is subdivided along these lines, it is known as an all-encompassing segment. The F-disk utility is a common partition table manipulator for Linux.

### 4.3.2 Linux Set up in VMware

We virtualized our project by using 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. At first open create the New VM Virtual box window. The setup wizard will install VM Virtual box and press next to continue shown in Figure 3.1



Fig 3.1 Complete the VM virtual box installation

Here we take two types of installation. We can take any other but I take custom, because it's advanced and I can create many machines as I prefer. Then next,

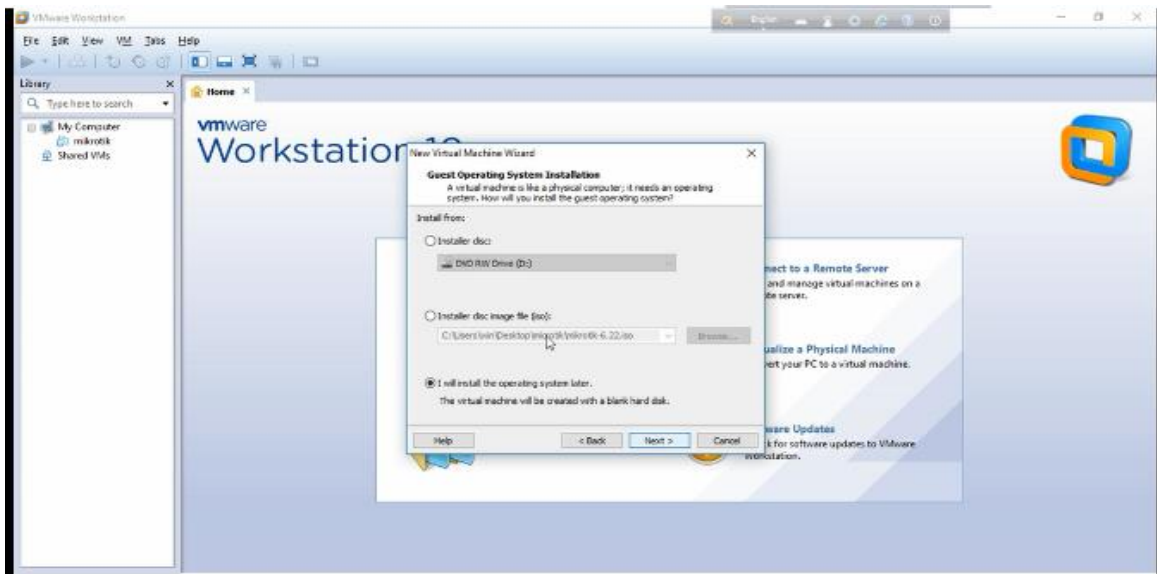


Fig 3.2 Create a virtual machine

Then select operating system and version, that is very important to choose. Because it's depend on pc configuration an storage os. Selecting then next steps, Manually configure

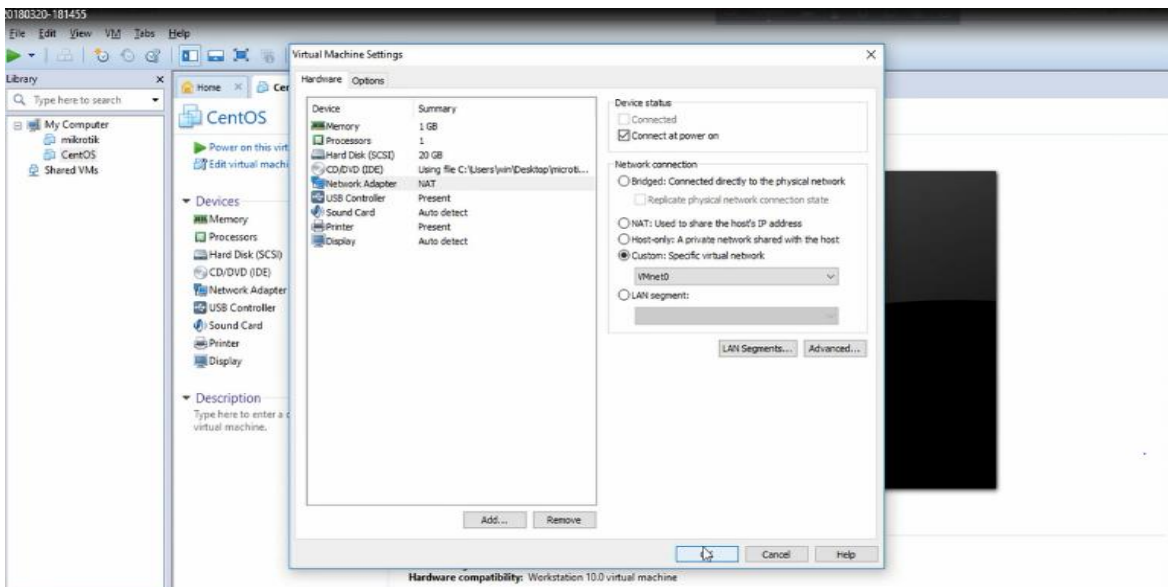


Fig 3.3 Select Linux then click next

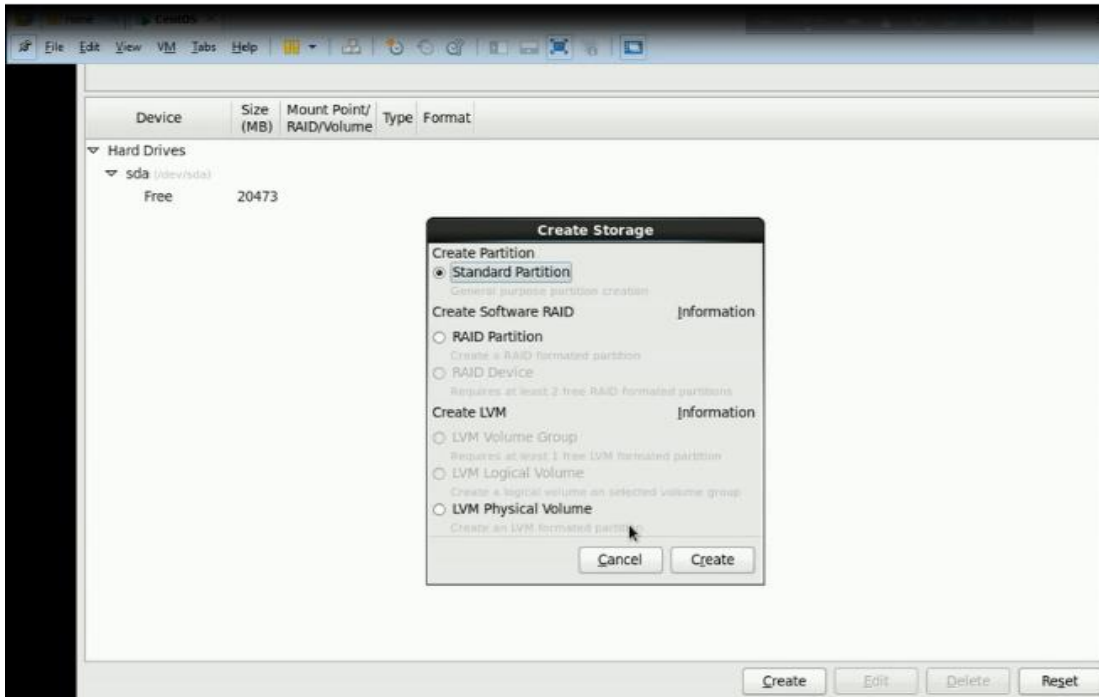
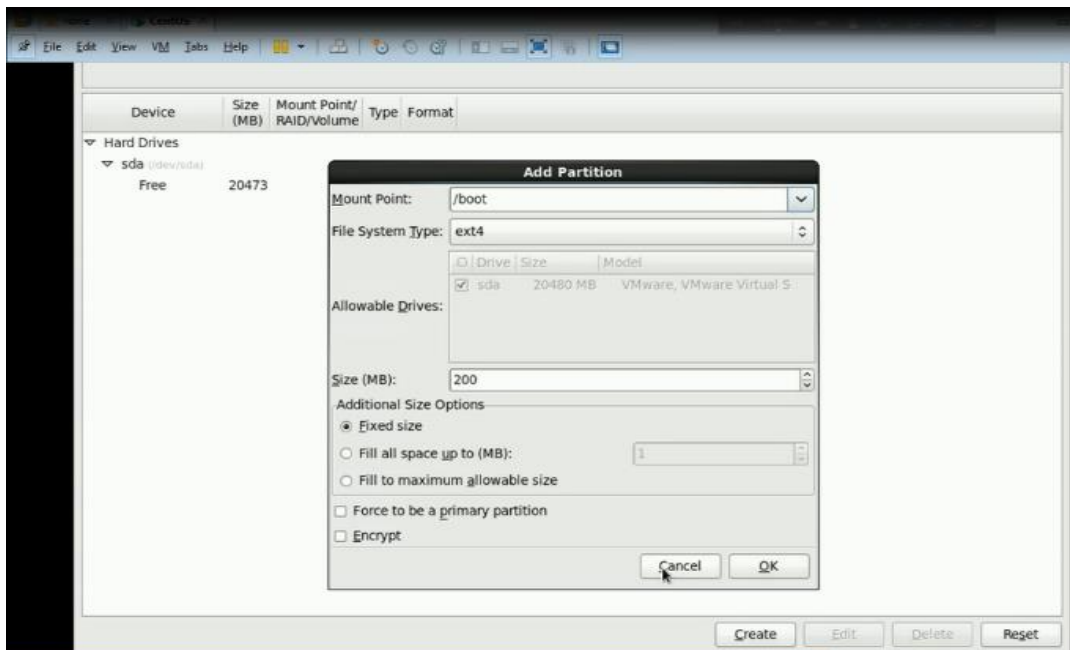


Figure 3.4 shown in below.

Figure 3.4 Create partition Configure of boot partition file type ext4 Configuration of root partition Fig. 3.5 shown in below.



Fig

3.5: Configure partiion of/boot

Figure 3.6 Configure of swap partition just work procedure like a RAM. Create process shown in

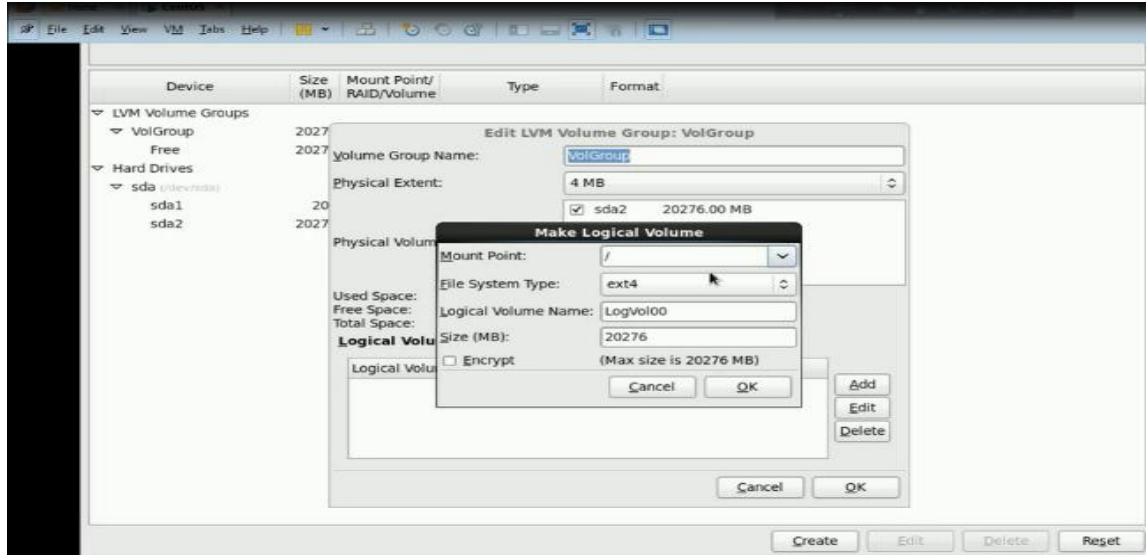


Fig 3.6 : Partition of / (root)

Configure of swap partition just work procedure like a RAM. Create process shown in Figure 3.7

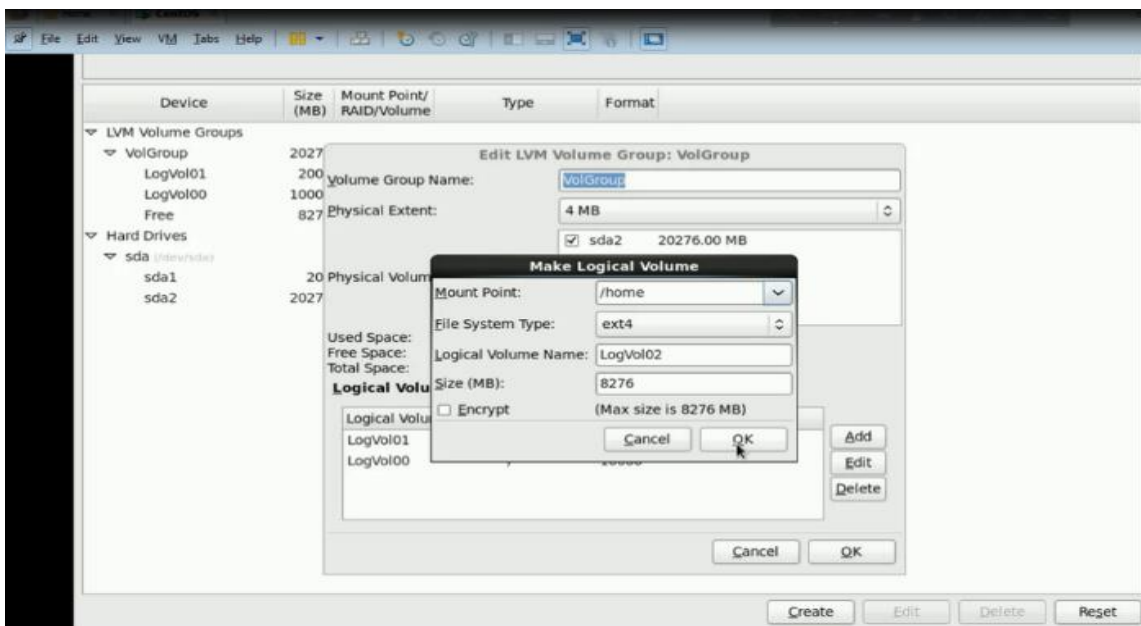


Figure 3.7 : Partition of / home

Review partitioning layout, modify if needed, I have chosen default setup

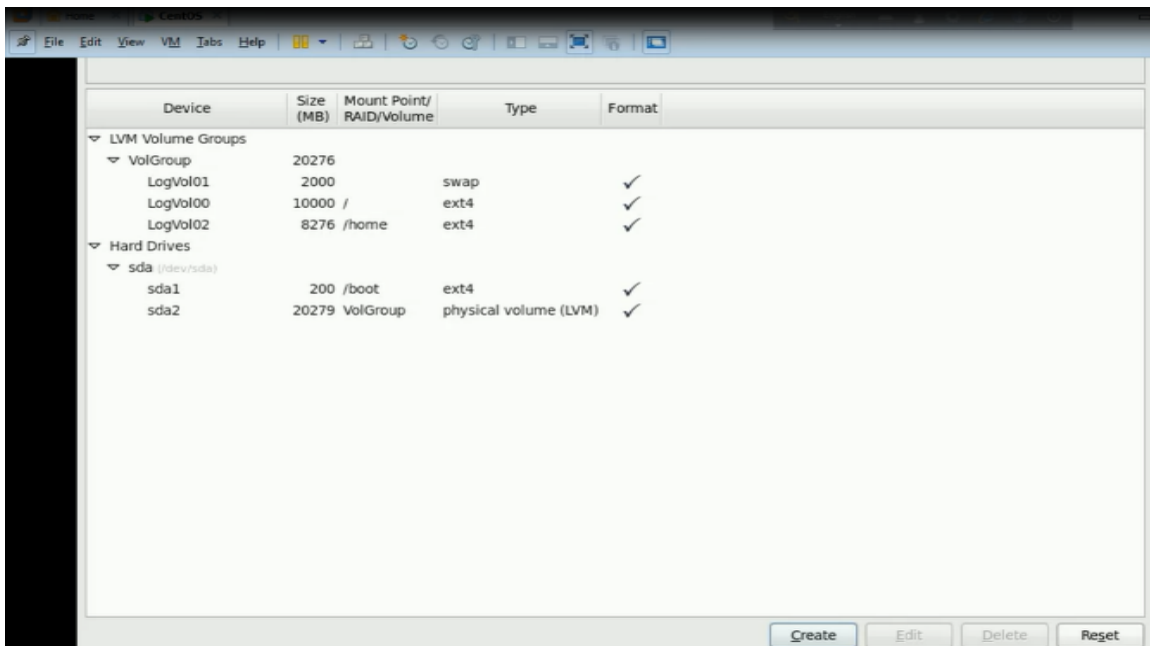


Figure 3.8 : Choose RHEL 6 File system type.

Now ready to use red hat operating system shown Fig 3.4

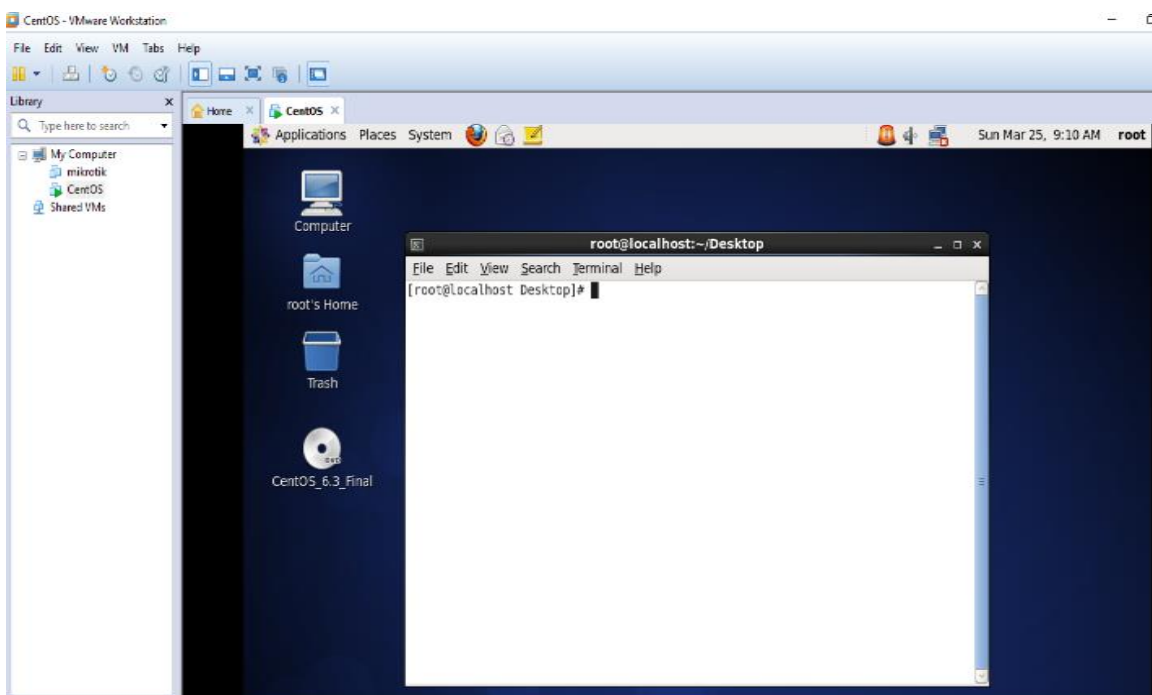


Figure 3.9 : Complete installation.

## OPERATIONAL CODE OF LINUX

Details of user account and password and run level

Now describe to user create, user password change, root password break clear Concept for Run Level and tar/untar and their effects.

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

### See the Run Level use commend

Shutdown # poweroff

Reboot # reboot or init 6

Present working directory # pwd

Create a blank file # touch mehedi (File name).

Check manual # man mkdir

Create a directory # mkdir mehedi (directory name).

List information about file # ls.

The Basic Command of Linux Centos shown Figure 3.9

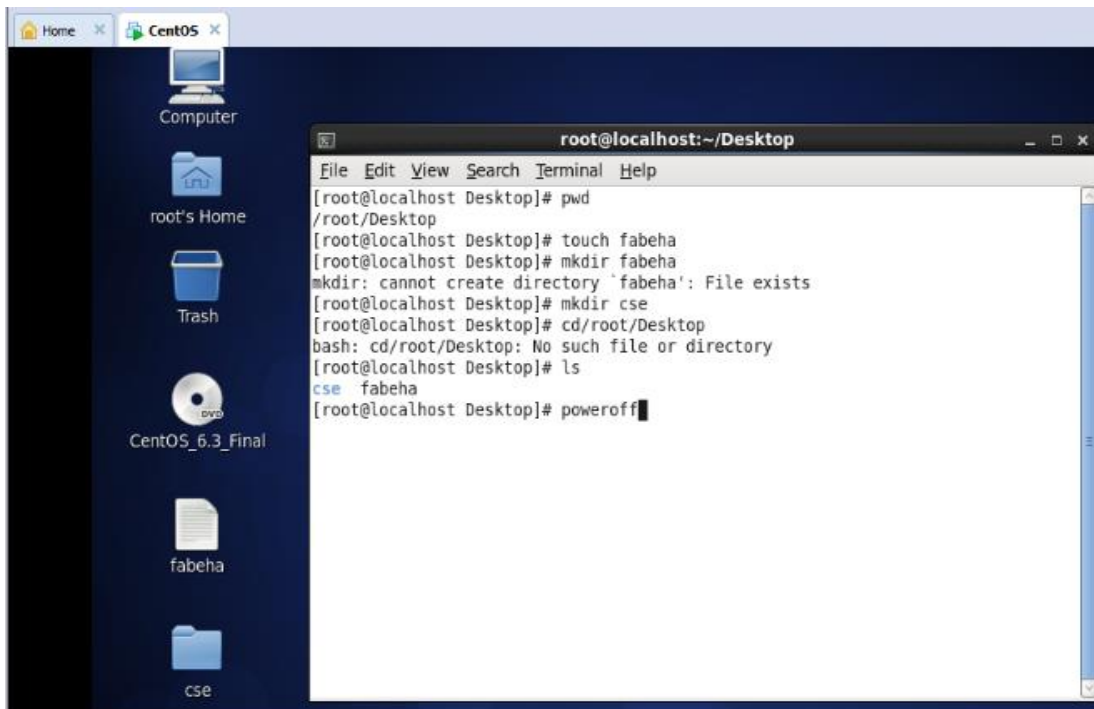


Figure 3.10 : Command of Linux Centos

### 3.4.3 : To Copy or Move a File

Copy =cp file name destination example: cp file1 /home/mehedi/hasan

Move =mv file name destination example: mv file1 /home/mehedi/hasan

### 3.4.4 Vi Editor

To Edit A File = vi mehedi (file name)

To insert text = press a or i

To delete the character = press x or dd

To set line number = : set sa

To delete line number = set

Search something = /abc for search abc

For go top of the lines = :0

For go botton of the lines = :\$

### 3.4.5 File Permission



R = Read permission

W = Write permission

X = Execute

Show the hidden file = `ls -la`

Check permission = `ls -l`

Change the permission file = `chmod`

File permission create shown Figure 3.11

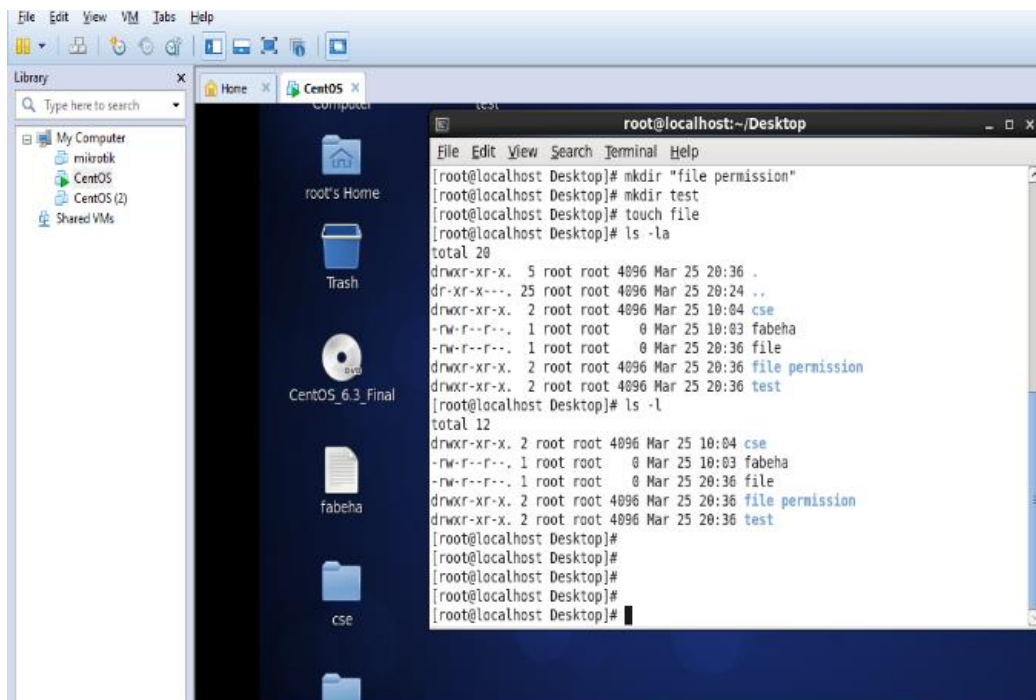


Figure 3.11 : File Permission create.

### **3.5 MikroTik Route**

MikroTik Ltd. Alluded to all inclusive as MikroTik is a Latvian creator of PC sorting out equipment. It offers remote things and switches. The association was set up in 1995, with the mean to offer in the rising remote advancement promote. Beginning at 2014, the association has more than 100 delegates. The association's things are known for being low-assessed alternatives as opposed to exorbitant switches and Ethernet radio hand-off lines.

#### **3.5.1 Usable Routers**

A lots of router, switch, routing protocol in the network world. Difference Company and ISP are uses different router and routing protocol. That's are use as there preferred. In Daffodil Online they are use normally Mikrotik Router Rb2011UI, Mikrotik Router RB450, CRC1016 and uses switches is Cisco switches, as like cisco 2800 series. In server station use Juniper EX-Series. And for the Wi-Fi networks here mainly used Cambium. In Daffodil Online network diagram is very simple use a main router to take connection for them and convert that to different department, then each department has LAN and Wi-Fi for the user.

#### **3.5.2 Mikrotik Router Rb2011UiAS**

Mikrotik Router Rb2011UiAS has most features and interfaces from all our Wireless Router, It's have 600MHz 70K MIPS network processor. 128Mb RAM, SFP cage, %GB LAN ports and Ethernet ports. It has powerful dual chain 2.4Ghz 802.11Bgn Wireless. RJ45 serial port and micro USB port. It is also desktop enclosure, two indoor antennas for wireless power sully and touch screen LCD panel.



Figure 3.12 Shows Screen Print to Mikrotik Router

### 3.6 OS Router

The essential consequence of MikroTik is a working structure subject to the Linux part, known as the MikroTik Router OS. Presented on the association's prohibitive gear (Router board course of action), or on standard x86-based PCs, it changes a PC into a framework switch and executes distinctive additional features, for instance, Firewalling, virtual private framework (VPN) organization and client, information transmission trim and nature of organization, remote entry limits and other regularly used features while interconnecting frameworks. The structure is in like manner prepared to fill in as a prisoner entrance based hotspot system.

### 3.7 Features

Router OS bolsters numerous applications utilized by Internet specialist organization.

For instance

- It can be utilized as a router
- It give OSPF BGP, Multiprotocol Label Switching (VPL/MPLS), Open Flow and so on.
- It can be utilized as a switch or extension
- Provides PPPoE Client-Server

- Provides VPN-Virtual Private Network.
- Provides Firewall rules
- Provides DHCP Server service
- Provides Wi-Fi and captive portal based Hotspot System
- Bandwidth management is very easy
- Easy GUI interface
- Easy administration
- Support both IPv4 and IPv6

The product is supported by MikroTik through a forum and a wiki, providing assorted and thematic examples of configurations. Router OS supports Internet Protocol Version 4 (IPv4) as well as Internet Protocol Version (IPv6).

The software provides support for virtually all network interface that the Linux kernel “6.16 supports, except wireless, where the Atheros and prism chipsets are the only supported hardware, as of 3.x version.

### 3.8 Release history

MikroTik has released different version of Router OS at different times. Some of them are given below.

- Router OS version 6: May 2013
- Router OS version 5: May 2010
- Router OS version 4: Oct 2009
- Router OS version 3: Jan 2008

### 3.9 Router Board

The association makes a movement of fused circuit sheets, promoted under the name Router board, and what's more ornament parts which execute an aggregate gear working stage for Router OS.

The Router board line, joined with Router OS, is promoted at little to medium-sized remote Internet pro associations 3.18, regularly giving broadband remote access in remote zones. Things join pre-gathered little office/home office (SOHO) switches, remote 802.11nMIMO and TDMA contraptions for indoor and outdoors use, and moreover

revealed switches in sort of printed circuit sheets (PCBs) for blend into custom plans. Moreover, the Router board line joins a movement of Mini PCI and Mini PCI Express remote connectors, supporting an extent of IEEE 802.11 traditions, and proposed to be used together with the switch sheets lineup.



Figure 3.13 : Shows MikroTik Router 750G Series

### **3.10 : Cloud Core Router**

In November 2012 MikroTik discharged the cloud focus Router 3.14 figure merged unit which depends upon the Tilere CPU supporting 16 to 36 CPU centers, 12 1000 Base-T Ethernet interfaces, and up to four SEP (Mini GBIC) interfaces, and 'energetic path' separate between interfaces (with guaranteed 24 million gatherings for each second sending rate). This unit revolves around the medium-sized structure suppliers and besides endeavor to be an all around assessed elective as opposed to the accompanying also surprising brands.

MikroTik Cloud Core Router 1036 Series



Figure 3.14 : MikroTik Cloud Core Router 1036 Series

### 3.11 Propose Network Diagram (MikroTik Configuration)

#### Network Diagram

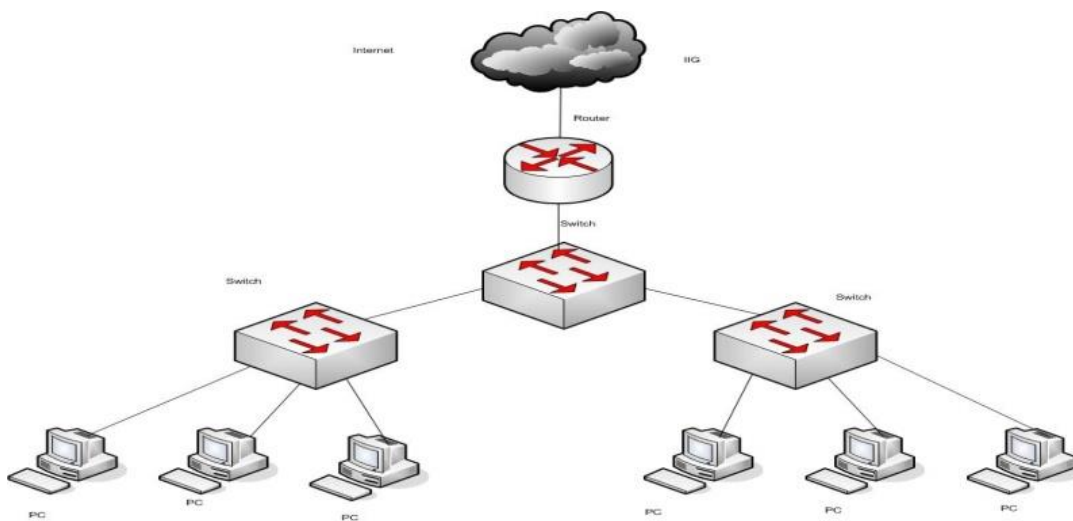


Figure 3.15 : Shows Network Diagram.

Winbox is the graphical configuration utility for MikroTik switch OS. At first we ought to download winbox. After download the winbox it tends to be fled as no establishment is required 3.16 network diagram.

### 3.12 : Initial Step



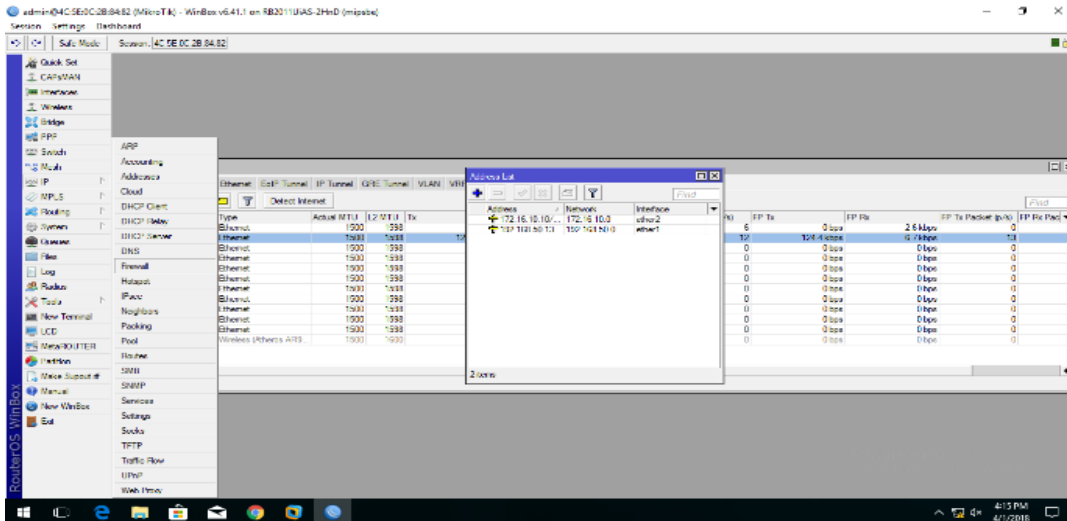


Figure 3.17 : Shows Adding IP Address

Step 3

Process:

IP > Firewall > NAT > “ + ”

General:

Chain: srcnat

Src.Address: local block/IP with subnet mask of the network.

Action:

Masquerade > Apply > Ok.

Local Area network IP Address NAT rule in fig 3.18 shows.





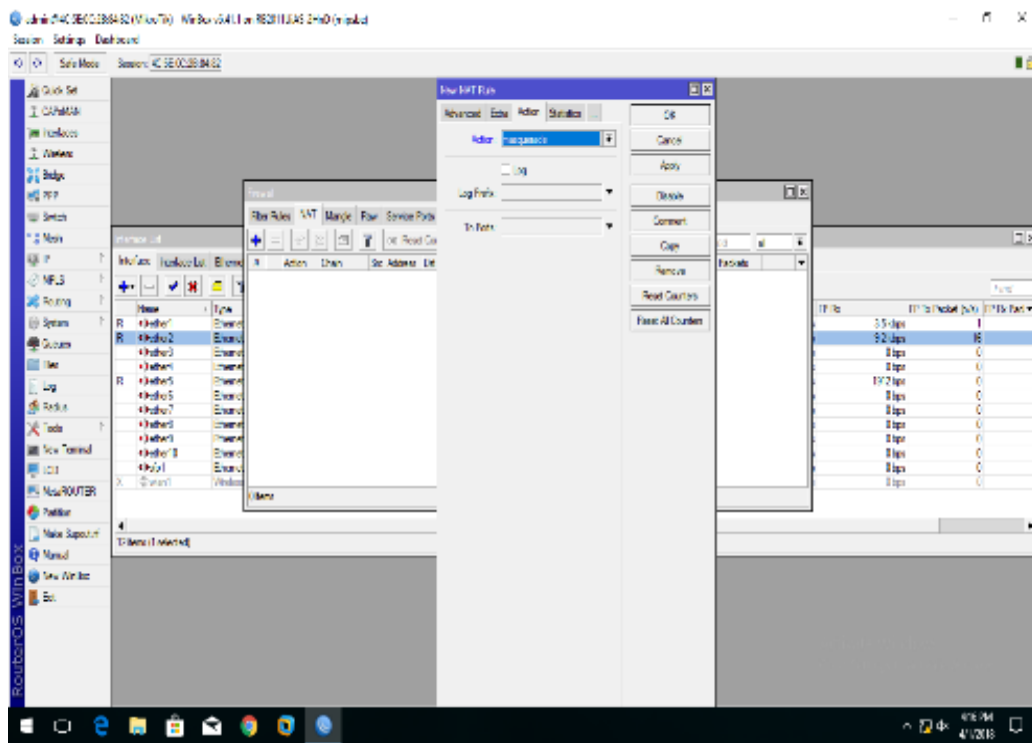


Figure 3.20 : Shows Action Portion

Step 4 :

Doing the task of bridge connection the related ports with each other 3.24 in figure

Process :

Bridge > Ports > “+”> (bridge n, here n=1,2,3....) > Apply > Ok

IP > DHCP Server > DHCP Setup > Bridge 1 > Following Next Option

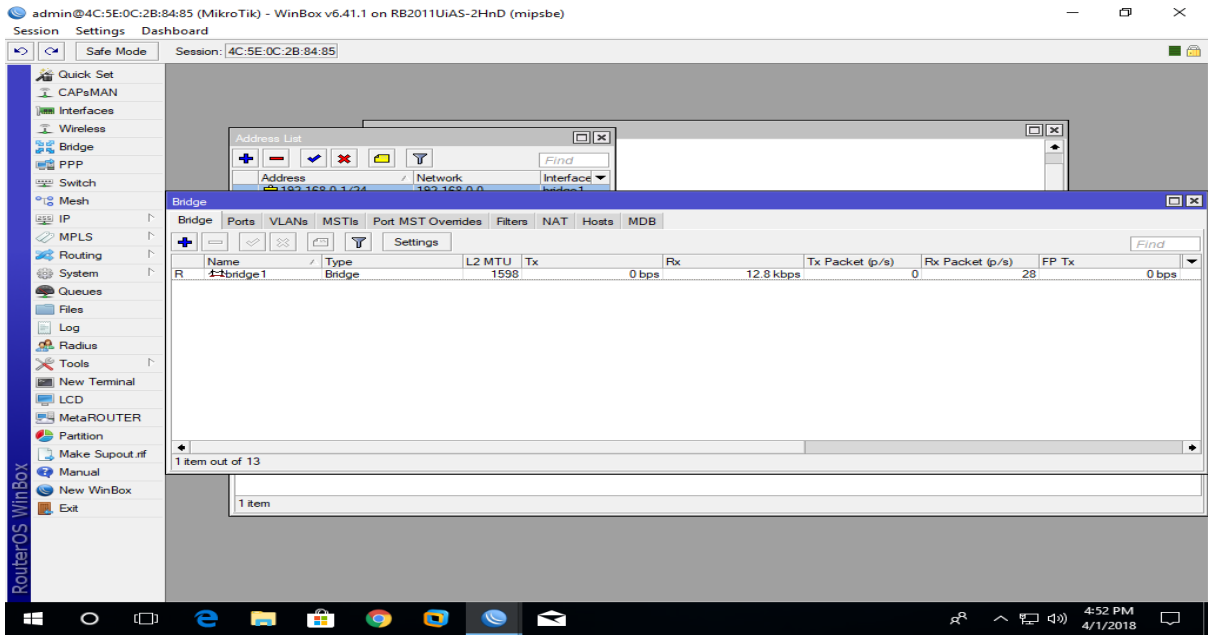


Figure 3.21 : Shows Bridge 1 Portion.

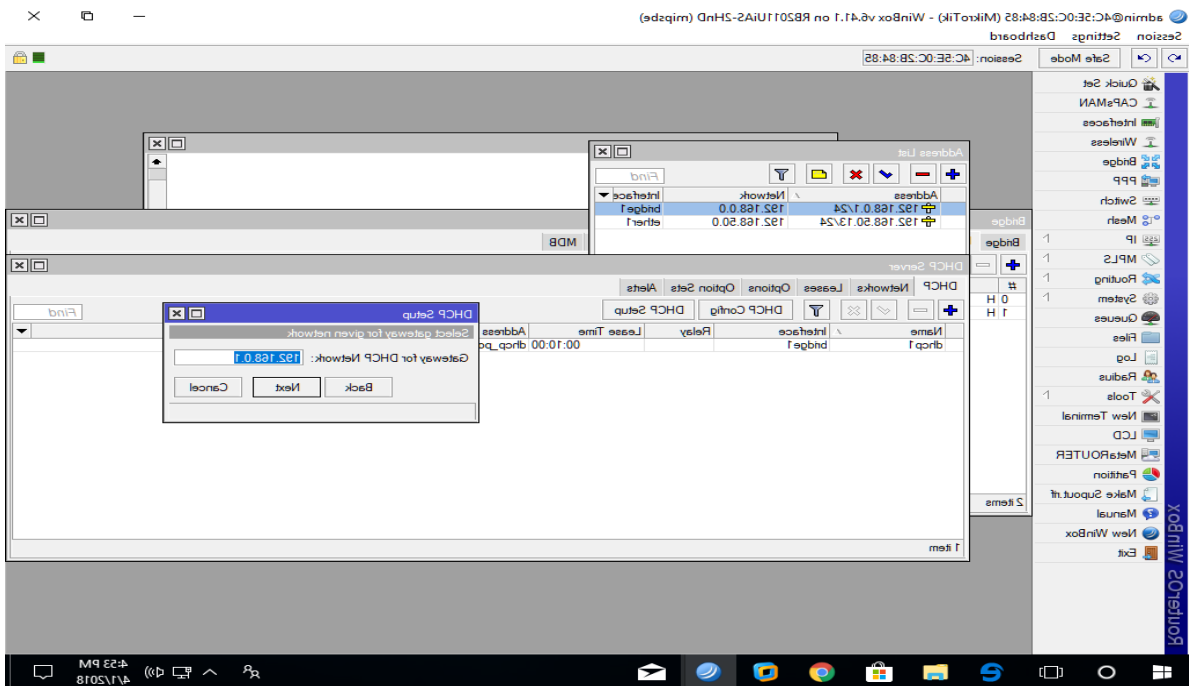


Figure 3.22 : Shows DHCP Server Setup Portion

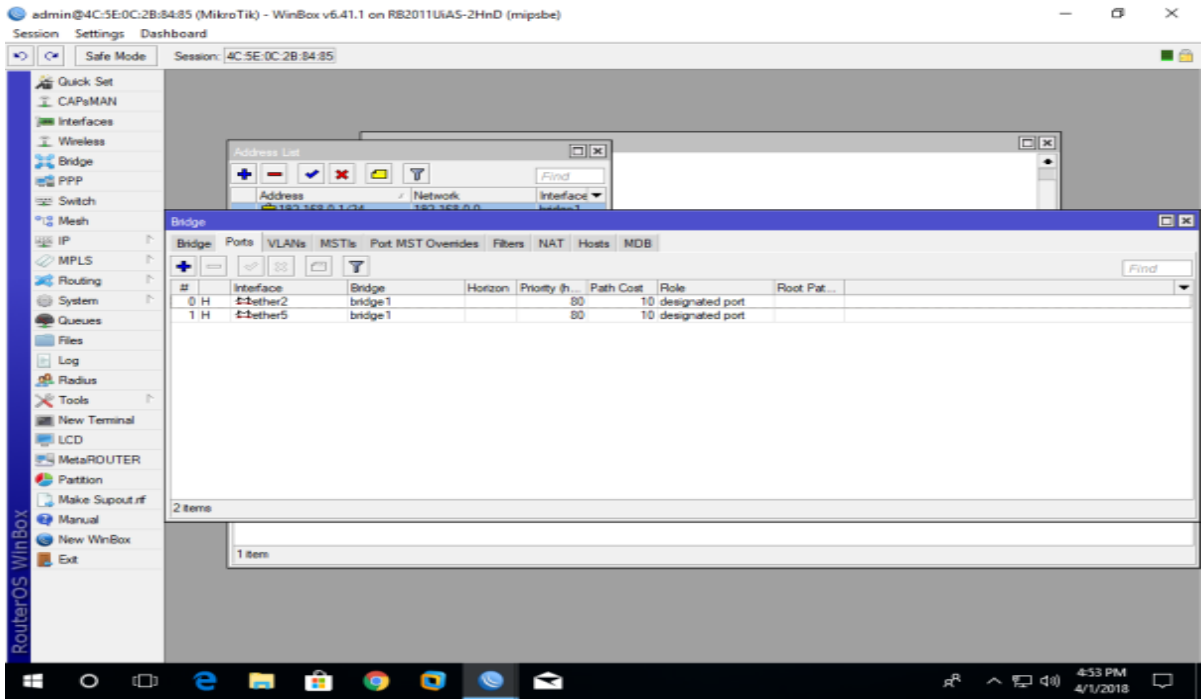


Figure 3.23 : Shows Creating Tow Bridge

### Step 5

Doing the of pairing IP Merge the related ports with each other 3.30 in figure Process:

IP > Firewall > Mangle > Files > Address.rsc > New Terminal > Import Address.rsc

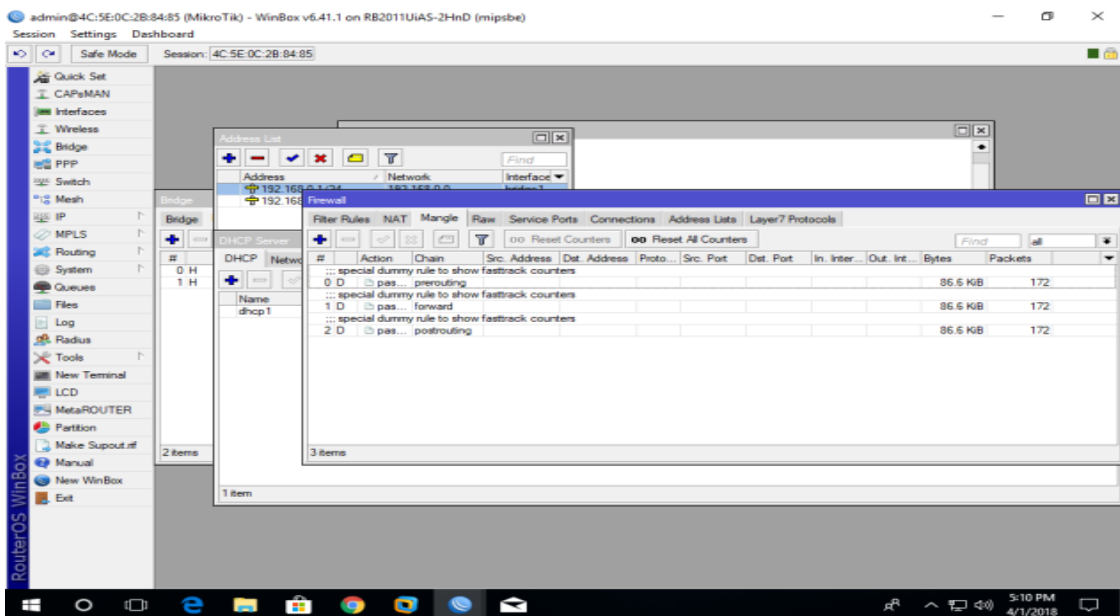


Figure 3.24 : Shows the mangle options

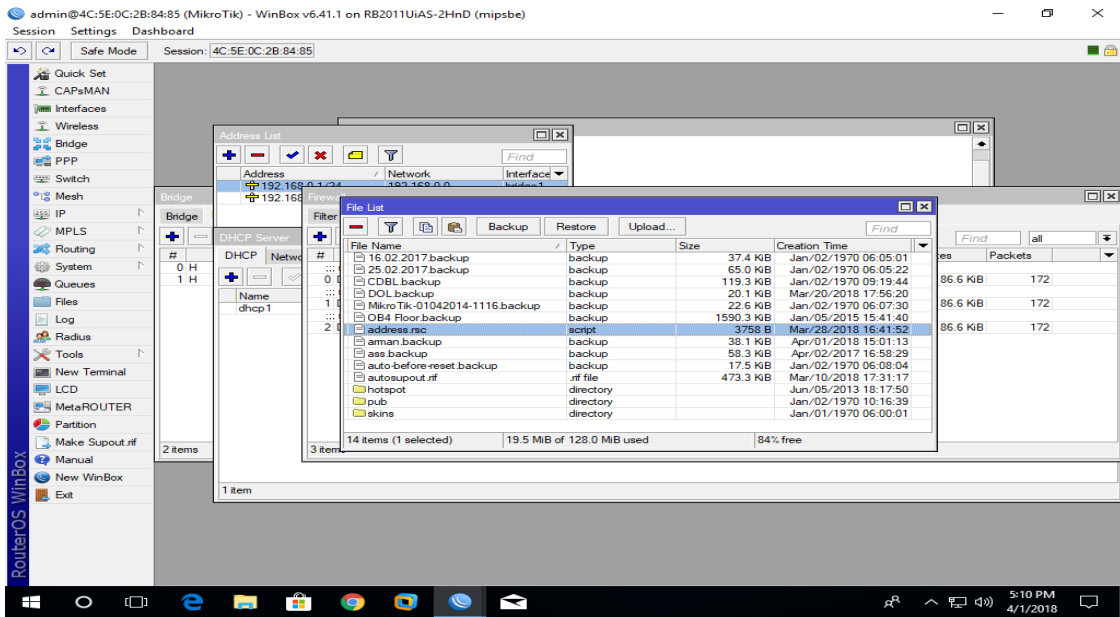


Figure 3.25 : shows the Address.rsc options

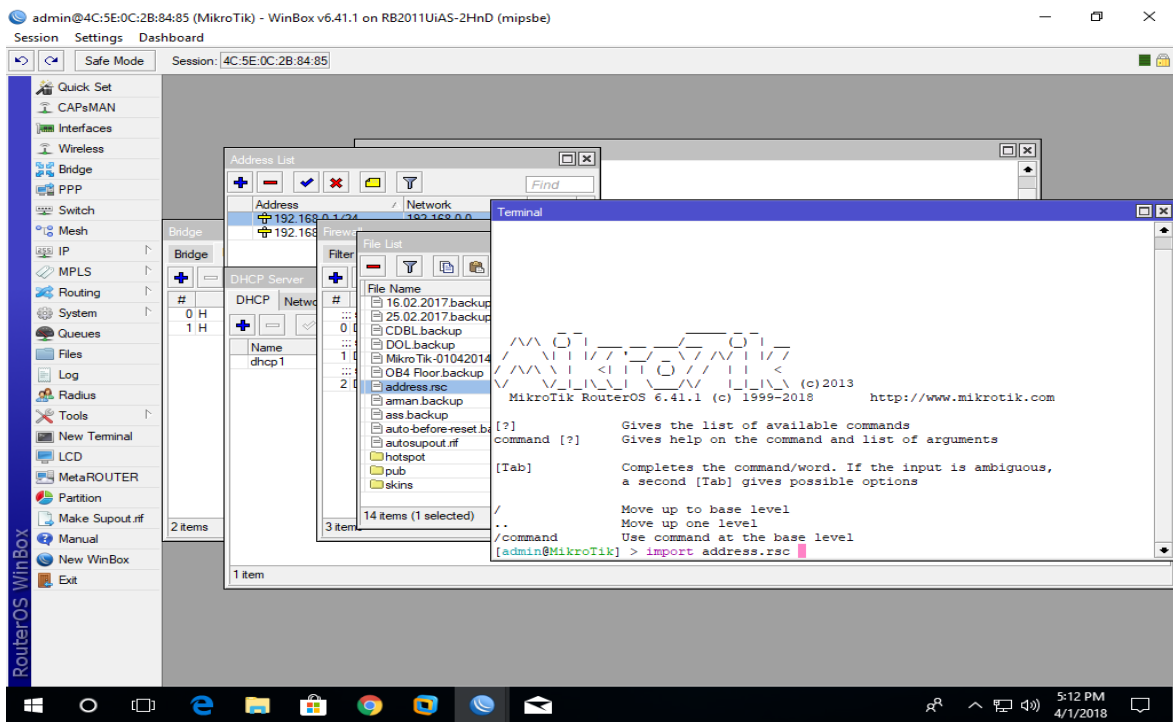


Figure 3.26 : Shows the fig to check the option

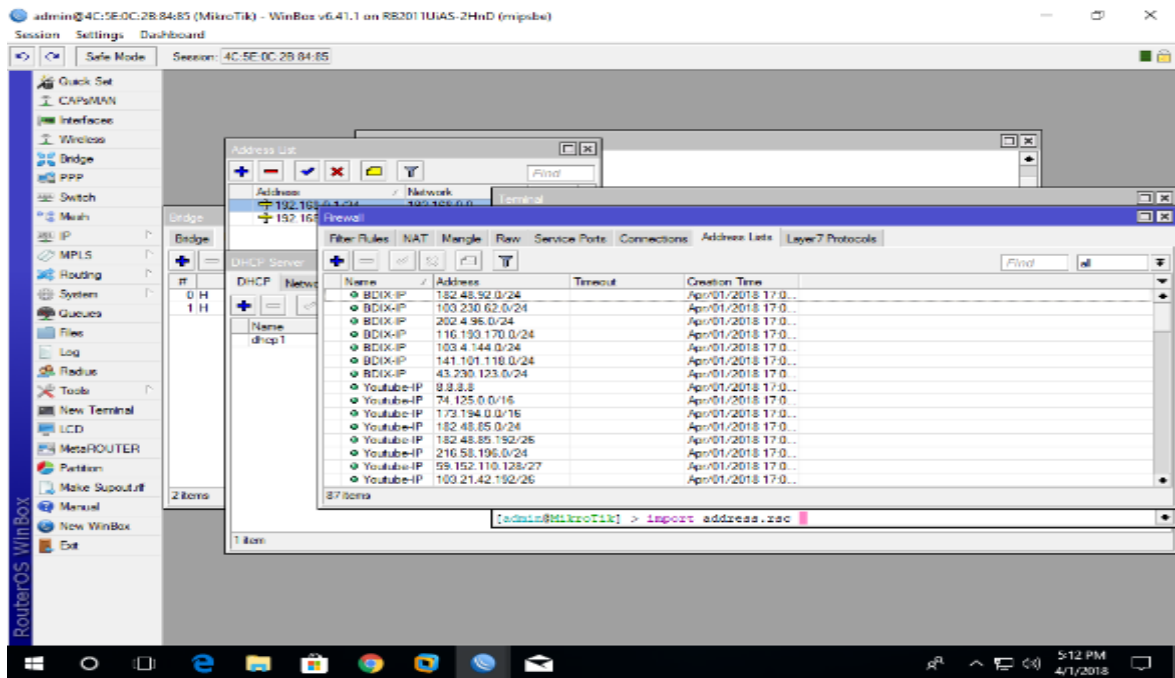


Figure 3.27 Show the fig to check the options

Step 6

Process:

IP > Firewall > Address list > Mangle > "+" > Action > Mask connection > New connection Mask Name ( Youyube ) > Advance > select the Youyube –IP > Apply > Ok

General > Connection mask > youtube > Apply > Ok

Action > Mask Packet > youtube > Apply > Ok

Queues > Queue Types > "+" > Type Name (Download ) > Kind > PCQ > Select rate > Apply > Ok

Queues > Queue Types > "+" > Type Name ( Upload ) > Kind > PCQ > Select rate > Select the Classifier rsc.Address > Apply > Ok

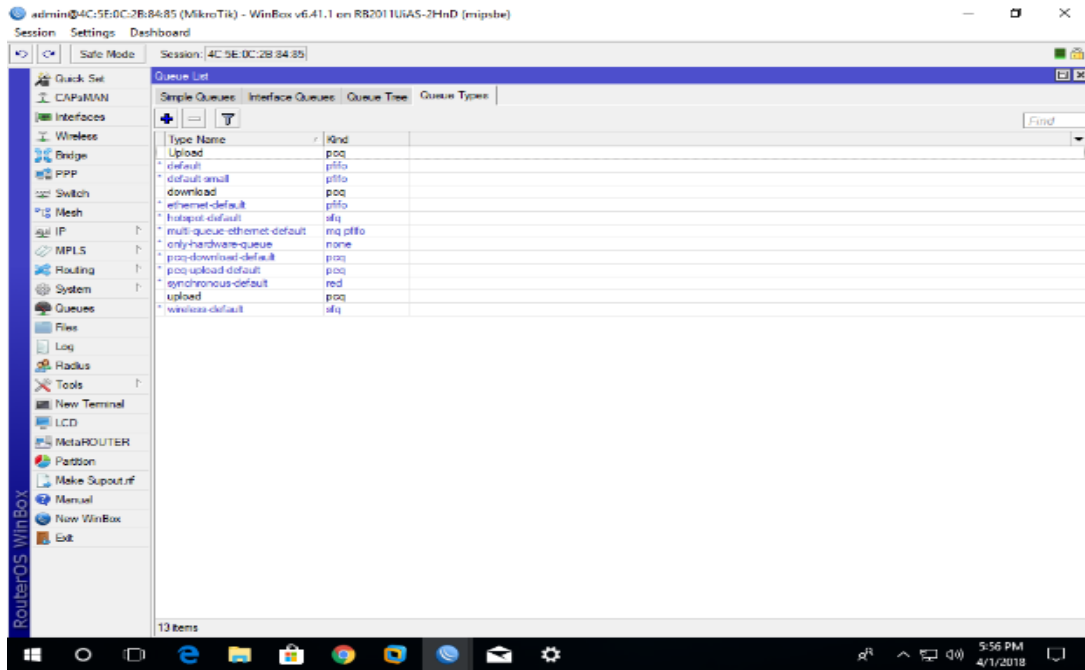


Figure 3.28 : Shows the fig Queues list

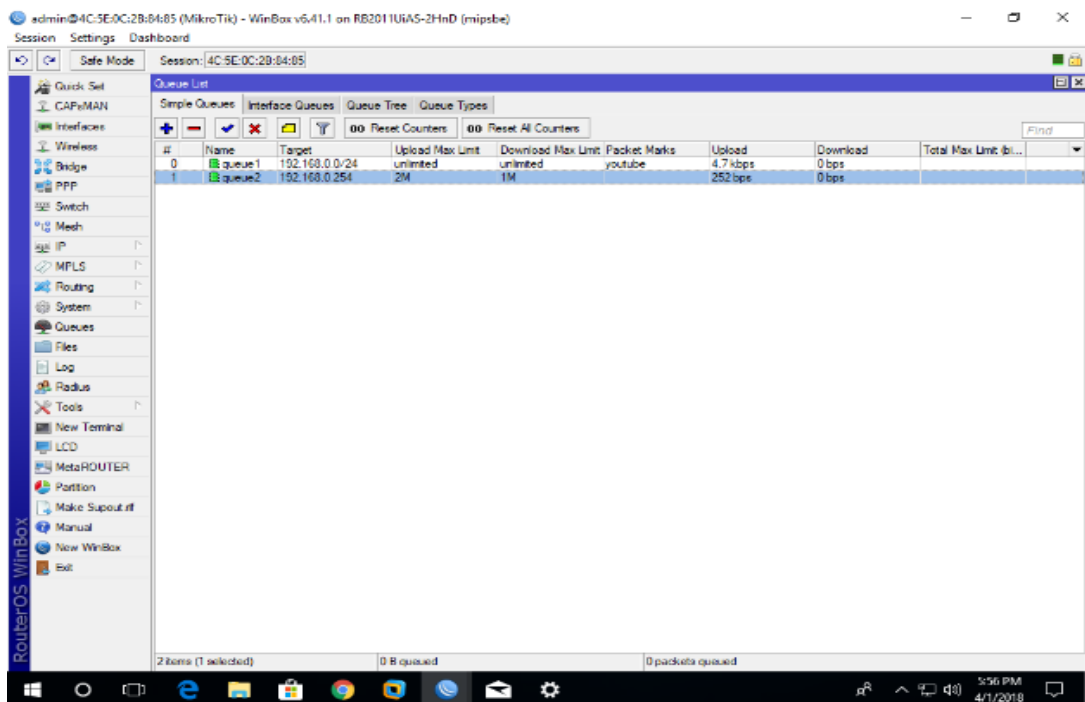


Figure 3.29 : Shows the fig Upload & Download Rate

### 3.13 Challenges

There are different types of challenges have to be faces during my Internship.

- In virtual machine execution different types of code does not work properly & I was find the problem and fix it.
- I have to be so careful during execution, because the commands are very case sensitive.
- Password management challenges faces during working Linux server.
- Find Network system problem and fix them.
- Find Network Software problem and solve it.
- The server execution has different types of challenges during the server installation.
- The network does not work properly during the package installation & I was fixed the problem.



# CHAPTER 4

## Competencies and Smart Plan

### 4.1 Competencies Earned

- Different types of network, their uses, identify & use basic Network components.
- Develop solutions for technical issue, networking & security problems.
- Install, configure, and troubleshoot client network operating systems.
- Install Linux based OS in server and system.
- Expert in command line based system in Linux.
- Clear concept about file system structure of Linux operating system.
- Configuration of various servers like Web Server, FTP Server and Mail Server.
- Configuration HTTPD access, NFS access, and Telnet access.
- Acquiring about computer network software, components of a network.
- Acquire to troubleshoot different server problems

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. 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.

### 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

My work environment is bright and open form of communication. Employees of Daffodil Online are always keeping desired communication between them.

- Work Life Balance

Daffodil Online Limited confers Work Life Balance. DOL confer me scale between personal life& work. It's having knowledge of balance will improve job conception.

➤ Open Communication & Transparent

My work environment is transparent and open form of communication. Employees of DOL are always keeping desired communication between them. Office work becomes significant because the employee knows what they really avail sense gives for DOL. Daffodil Online Limited confer me transparent & open communication between employee and me.

➤ Development& Training

Daffodil Online Limited confer me training & development expertness when change is more protrusive ever before, it's necessary for organizations keep along with changes and train employees.

➤ Strong Team Spirit

Team work is most important for organizations. Its help find out a problem discuss together. This is a work of identity and everybody working for them. Everybody working by to achieve a bigger goal and works as a team work. I am learning strong team spirit from Daffodil Online Limited (DOL).

# CHAPTER 5

## Conclusion and Future Career

### 5.1 Discussion and Conclusion

Linux is one of the most popular and productive operating systems in the world. Its acceptance is product of the high and potential capacity that Linux offers to many different fields of work. This final chapter will be a summary of my internship where I will discuss the importance of the internship program run through the Operating Systems: Microsoft Windows NT/2000, Linux and UNIX. Linux in Universities" for more about this on that project, read or search through their past discussions, ask new four-year universities for an Open Source programming internship. The actual discussion was relatively unstructured, involving numerous for all practical purposes, an internship program on a massive scale. A resume is a summary of our experience, education, and skills. Its main events attended editorial meetings and internship program development training sessions. Analysis, Management of Extreme Financial Events, Game Theory UNIX, Linux, MSDOS, Windows 95/98/NT, and Macintosh. As an operating system, Linux is completely customizable, from the kernel to the GUI and beyond, which is not something that can be said. The most obvious choice at this point is to use Linux as the operating system. Generally, when people talk about 'Linux. The most popular end-user operating system is now Linux. Linux is becoming increasingly popular as the operating system for servers, gradually eating away at the market share of Windows NT.

### 5.2 Scope for Further Career

My future scope is very exception. A successful internship can help my future scope and turn on an experience into a career opportunity. My future scope is desire.

- To be work a Network Administrator.
- To be work a Network Engineer.
- To be work a Linux Administrator.
- To be work Indemnity Engineer.
- To be work Industrial Engineer.

- To be work ISO stage.

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## **Appendix A:**

### **Internship Reflection**

The essential objective of my internship in an expert setting, down to earth answers for certifiable issues is to apply the learning picked up in the classroom. What's more, professionally pertinent capabilities and connections in an expert setting, figuring out how to manage new learning, aptitudes, and the capacity to decide how to hone and create plans. Add to connect with other expert's directors and expert connections. I am an expert in the field presentation with customers and expert manners and expert bosses and different representatives to gain from watching a comprehension of the conduct, and also to increase through connection. To satisfy the obligations of internship, I'm practicing legitimate business manners. I am an association's central goal/vision is actualized, how to contact partners, how control is shared, how it is organized, how choices are made, how to comprehend the way of life of an expert association, and what level of responsibility and input to the association. With an appraisal toward the finish of my internship administrator and internship encounter going through individual gatherings gives a chance to take an expert conclusion. Internship encounters to plan for life in a worldwide society, administration and administration, my blessing to have the capacity to put it to utilize.

## Appendix B: Company Detail



### Head office

Name	Daffodil Online Limited
Address	102, Shukrabad ( 3 <sup>rd</sup> floor ), Mirpur Road, Dahnmondi, Dhaka -1207, Bangladesh.
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E-mail	info@daffodilnet.com
Website	www.daffodilnet.com
Type of Organization	Nationwide Internet Service Provider (ISP)