# SYSTEM & NETWORK ADMINISTRATION

# BY

# KISHORE CHANDRA DEBNATH ID: 162-15-8020

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 DHAKA, BANGLADESH September- 2019

# DECLARATION

I hereby declare that, this project has been done by us under the supervision of **Most. Hasna Hena, Senior Lecturer, Department of CSE** Daffodil International University. I also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

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Finally, I thank **Most. Hasna Hena, Senior Lecturer** Daffodil International University for comments my internship and greatly improved the manuscript.

# ABSTRACT

Intern to gain practical experience in Computer Engineering. It is important to make our theoretical knowledge with the practical field. The price of Mikrotik router is much lower so it can be used easily. Being available in the market can be easily done at low cost. It is used for control. The bandwidth is able to be shared by all customers with the overall network administration. As everyone gets bandwidth and is convenient to work, the use of Mikrotik router is increasing day by day. Some of which use the protocol. Mikrotik routers come in many types, such as bridges, backup files and file recovery, interfaces, routes, add IP addresses, DHCP, plain queues, DNS. After the IP is installed on the PC, it gets the intranet. Again working in DHCP mode is available on the Internet PC.

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# **CHAPTER 01**

# Introduction

### 1.1 Introduction

Globalization and advancement of science and technology, it is impossible to even think without information technology. Information plays a huge role in every aspect of life whether in communication, studies, business and everyday life. This Internship Report is named as "SYSTEM & NETWORK ADMINISTRATION of Daffodil Online IT LIMITED."In my Internship Report, I have used Networking Device and there to operate of Daffodil Online IT LIMITED.

### **1.2 Motivation**

Experience in Computer Engineering is very important to choose internship for experience. Professional experience in engineering field is required in the market. Experience is important for sharing our knowledge of the practical field. Follow the rules and regulations when working on internship. Hopefully my internship skills will help me meet the challenges in the current market.

# **1.2 Objectives of Internship Program**

The primary cause of training is to accumulate know-how. I desired a brand new venture and could learn, enhance and increase new sets of talents. Responsibility of obligations and sports as a community aid engineer and their analysis from different perspectives. I present my actual expertise as nicely:

- Knowledge of the Mikrotik
- About networking components
- Mikrotik configuration
- How to contact the clients
- How to offer desirable services to customers.

# **1.4 Introduction to the Company**

**Daffodil Online IT LIMITED** is one of the TOP ISP service provider in Bangladesh since 2000. The most experienced ICT field our basic business ethics is Long Tern Relationship with our customers.

Customer Service by the strongest integration among distinct departments. Providing absolute satisfaction to the customers in terms of ISP solution to achieve long term relation with them and adapt with new technologies growth in market share. [1]

# **Head Office**

Name	Daffodil online limited
Address	102,sukrabad(3 <sup>rd</sup> floor), Mirpur road,Dhanmondi, Dhaka- 1207,Bangladesh
Telephone	02-9143258-60
Fax	880-2-8116103
Email	info@daffodilnet.com
Type of Organization	Nationwide internet service provider(ISP)
Employees	14

#### Table-1: Company address Details

# **1.5 Report Layout**

1, The concept of the internship and introduction of the organization is defined.

2, Internship method and this chapter offers statistics about in which the internship is attached to launch this software. about the organisation, DoL's IT carrier offerings .

3, Described about events, activities and activities.

4, Smart Plan, Competencies Earned.

5, Future Scope and Conclusion.

# CHAPTER 02 Organization Overview

### **2.1 Introduction**

The Internship and ICT Service (DOL) began in July 2002. A company that is important for delivering solutions. Own fiber optic and radio link WAN has its own clients, corporate, SME services to provide to individual clients. Working with high esteem, many established national projects and international organizations. Services are being upgraded using the latest technology [1].

### 2.2 Product and Market Situation

Daffodil online confined in imparting meet patron call for. Actually Daffodil on line limited corporation linkage of many different corporation. I am make sure Daffodil on line constrained is the maximum crucial of IT zone for market scenario.

### 2.3 Target Group

Daffodil on line confined well-known for IT answer, software program & hardware all over the United States.

The company is planning to focus on clients. This will require the biggest growth for the company with new quality speed offers. The company's customers and consumers are all within the business, including small to medium start-ups. Working with Web Solutions across departments is key and requires more dedicated, reliable customer service [1].

# 2.5 Organizational Structure

Daffodil Online Ltd (Doll) is one of the most critical institution for internet delivery and it's answers and provides ICT services on account that July 2002. It has its own radio link WAN infrastructure and fiber optic to serve corporate, SMEs and individual customers. Institute Works with many countrywide initiatives, excessive regards all stakeholders worried.

with global institution. It wishes the contemporary generation and desires offerings where it wishes to be upgraded. Daffodil Online Limited (Doll) is very critical organizations because of the good work achieved within the job sector. Many devices have many uses. Such as Mikrotik router, optical fiber cable, and plenty of different PCs. Easy to apply for each device business enterprise for internship [1].

# **CHAPTER-3**

# **Tasks, Projects and Activities**

# 3.1 IP Address Sub-netting

Provides the necessary information to configure the router, such as how addresses are broken and how subnets work. Assigns an IP address with a unique subnet to each interface of the router.

- Address To use the unique number ID assigned to the host or interface.
- Subnet Shares the specified subnet address
- Subnet mask The subnet of the address is meant for.
- Interface Network connection.

Table-2: IP address

Class	Range	No of Networks	No of address per
			network
А	0-127	27=128	224=16777216
В	128-191	214-=16384	216=65536
С	192-223	221=2097152	28=256

# 3.1.1 Private & Public IP Addresses :

Each device takes an Internet connection and receives the connection from each router through the DHCP protocol and receives a private IP address. You can also use private IP on your home PC. Your pivot IP can be used in public IP for every purpose. The private IP address can be accessed directly on the computer within your personal space. This is the global IP address assigned to the computing device.[3]

#### Table-3: Private IPv4 Network ranges

Class	Private IP	Subnet Mask	Address Range
A	10.0.0.0	255.0.0.0	10.0.0.0-10.255.255.255
В	172.16.0.0-172.31.0.0	255.240.0.0	172.16.0.0-172.31.255.255
С	192.168.0.0	255.255.0.0	192.168.0.0-192.168.255.255

### Table-4: Public IPv4 Network ranges

Class	Public IP	Subnet Mask	Address Range
A	203.190.10.0/26	255.255.255.129	203.190.10.0-203.190.10.128

# 3.2 History of MikroTik :

MikroTik This company markets wireless network routers and their connected devices, operating systems, network switches, auxiliary software, access points. They also provide MikroTik network equipment. The first device market in the market started in 1996. Electric Utility was the second largest exporter of Latvian exports in 2015 by revenue. [4]

# **Daily Task and Activities**

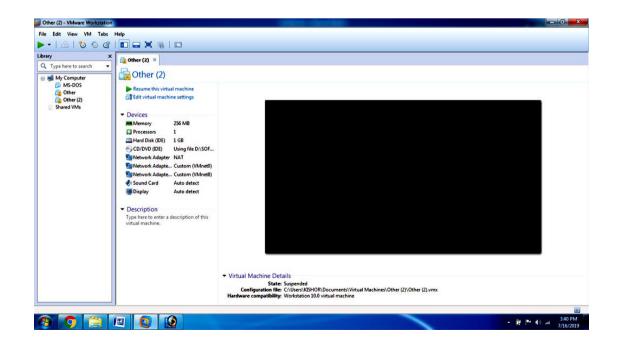
1. Open VMware click on "Create New Virtual Machine".

# VMware start View



# Fig: 3.1 VMware start View

2. Create bootable Flash Drive or CD/DVD with the ISO file.



# Installation processes:

Fig: 3.2 Installation processes:

3. Click 'Next' -> 'Next'-> Select "I will install operating system later".

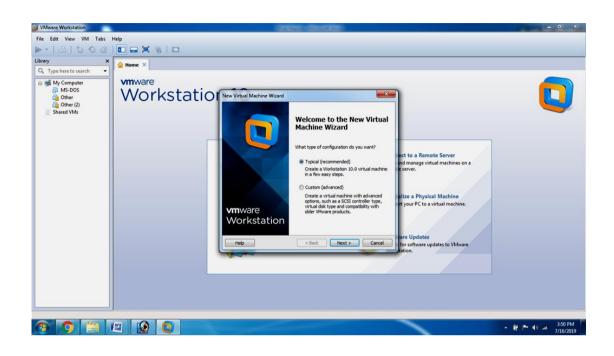


Fig: 3.3 Installation processes:

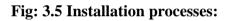
4. Select Guest Operating System Other and Version Other Click Next

VMware Workstation		Constant - Constants		- 0 X
File Edit View VM Tabs	Help			
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▶     •     •     •     •       Ubray     ★     •     ★       Q. Type here to search     •       ■     My Computer       ●     Shared VMs	Norkstation	New Virtual Machine Wicard       Select a Guest Operating System       Wich operating system       Operating system       Unax       Morsoft Wodos       Unax       Novel NetWore       Solaria       Other       Version       Other       Version	ect to a Remote Server nd manage virtual machines on a server. Nize a Physical Machine re vour PC to a virtual machine.	
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Fig: 3.4 Installation processes:

5. Give Virtual Machine Name "Other(2)" and show installation location.

File Edit View VM Tabs					
Library → X Q. Type here to search → D MS-DOS D	wmware Workstatio	New Virtual Machine Wizard Rame the Virtual Machine What name would you like to use for this virtual machine: Virtual machine name: Scottori: Cr(User)/KISHOR/Documents(Virtual Machines/Other (3) The default location can be changed at Edit > Preferences. Read: Next >	Browse	ect to a Remote Server nd manage virtual machines on a server. Lize a Physical Machine rt your PC to a virtual machine. Pre Updates for software updates to VMware vision.	



6. Maximum disk Size (GB): One GB

VMware Workstation		and the second		- 0 X
File Edit View VM Tabs				
Library x Q. Type here to search ↓ C. Typ	None X Workstation	New Virtual Machine Wizard     Secify Disk Capacity       How large do you want this disk to be?     The virtual machine's head disk is stored as one or more files on the host incomparies hypera disk. These file() start small and become larger as you add applications, files, and data to your virtual machine.       Maximum disk izes (RB);     Image: Imag	ect to a Remote Server ad manage vitual machines on a * server. Nize a Physical Machine rt your PC to a vitual machine. are Updates for software updates to VMware tation.	

Fig: 3.6 Installation processes:

7. Power on virtual machine.

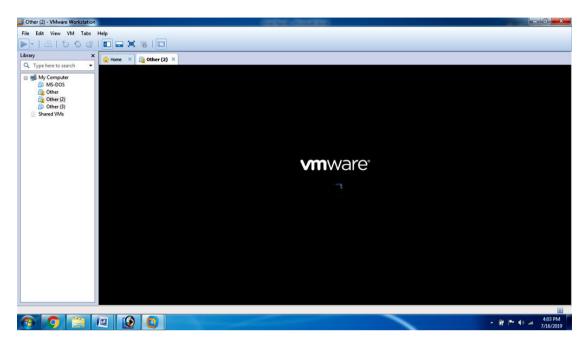


Fig: 3.7 Installation processes:

# 3.2.1 Installation of Mikrotik Router OS

Download the installation Archive Mikro Tik Support

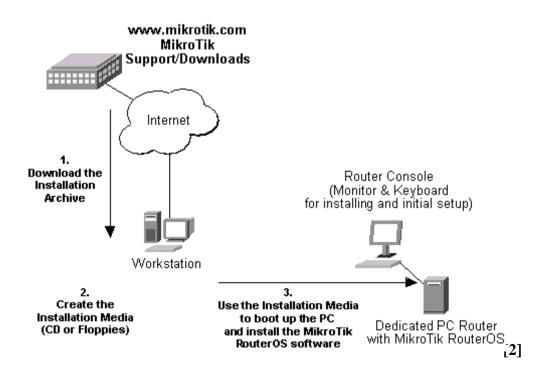


Fig: 3.8 Mikrotik Router OS

### 3.2.1 installation of Mikrotik

Move around Menu Using 'P' and 'n' or arrow keys. Select with 'spacebar' Select all with 'a'. Minimum with 'M'. Press 'i' to install locally or 'q' to cancel and reboot.

- 1. Download Mikrotik, ISO file.
- 2. Then burn the CD, burn the photo ISO file
- 3. Then insert the CD / DVD ROM CD and set the primary boot inside the BIOS.
- Press 'a' (pick all) then press 'i' (to put in) to install locally or 'q'and then press 'y' and then press 'y'.

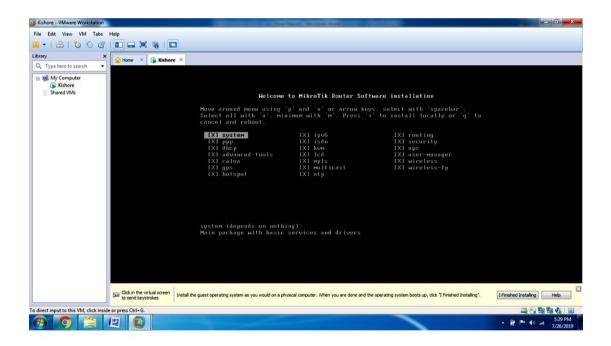


Fig: 3.9 Mikrotik Installation processes

- 5. Do you want to keep old configuration? [y/n]: y
- 6. Continue? [y/n]: y

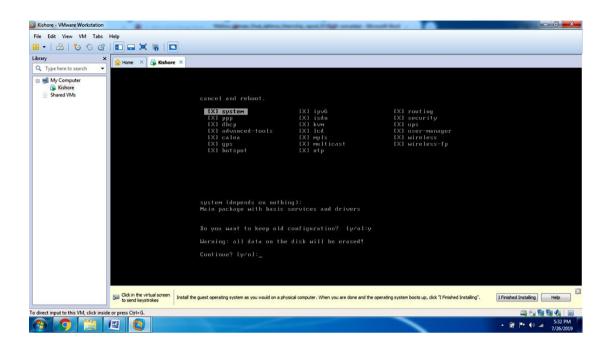
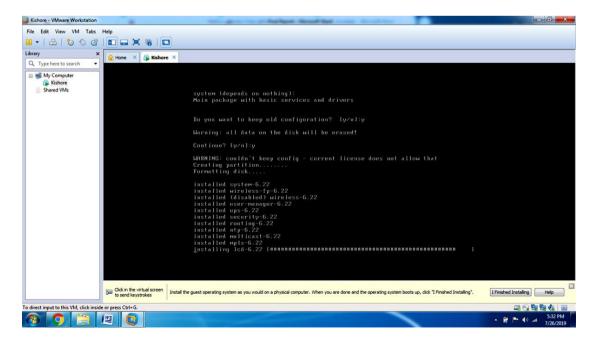


Fig: 3.10 Mikrotik Installation processes

- 7. Formatting disk.....
- 8. Installed system 6.22





- 8. Mikrotik 6.22
- 9. Mikrotik Login : admin
- 10. Password : admin

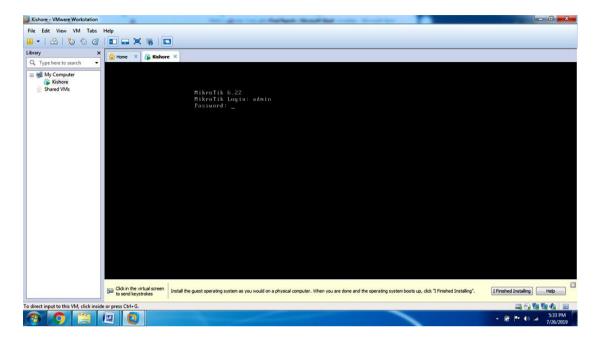


Fig: 3.12 Mikrotik Installation processes

11. Please Press "Enter" to Continue

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			g it in a Telnet win			
	See www.nikrot	ik.com/key for no	ore details.			
		lation "software				
	Please press "	Enter" to continu	ie!			
Click in the virtua to send keystroka	i screen Install the guest operating system as y	ou would on a physical comput	ter. When you are done and the ope	erating system boots up, dick "I Fi	nished Installing". I Finished I	nstalling Help
o direct input to this VM, click inside or press Ctrl+G.						
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Fig: 3.13 Mikrotik Installation processes

# 12. [admin@Mikrotik]>

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Click in the to send to	e virtual screen Install the guest operating system a systrokes	as you would on a physical computer. When you are done and th	e operating system boots up, click "I Finished Installing".	I Finished Installing Help
irect input to this VM, click inside or press Ctrl+	G.			
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Fig: 3.14 Mikrotik Installation processes

# **3.2.2 Bandwdith Management procedure:**

- 1. Click on Winbox.
- 2. Connect to our Router IP 192.168.88.1
- 3. Select the Login Name "admin"
- 4. Type the password "admin"
- 5. Select the option "Connect"

### **Starting with Winbox**

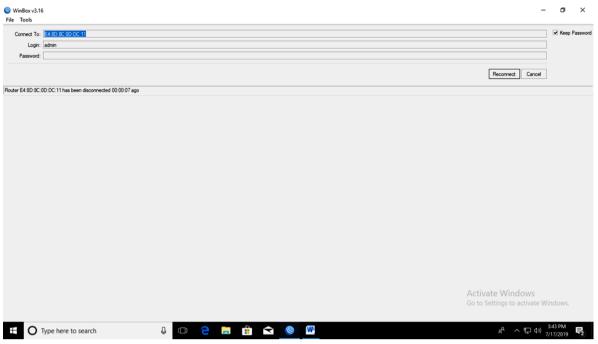


Fig: 3.15 Starting with Winbox

- 6. New Terminal system reset-configuration
- 7. system reset-configuration for Yes /Y

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2 Switch		Teminal	Find
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MPLS P			
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🚯 System 🗈		MOM MOM KKK TIITITITIT KKK	
Queues		MAN MANN MAN III KKK KKK RRRRRR 000000 TTT III KKK KKK	
📑 Files		MMM MMM III KKK KKK RRRRR 000 000 TTT III KKK KKK	
💽 Log		MMM MMM III KKK KKK RRR RRR 000000 TTT III KKK KKK	
ARADIUS		MikroTik RouterOS 6.43.16 (c) 1999-2018 http://www.mikrotik.com/	
🗶 Tools 🛛 🏱		[?] Gives the list of available commands	
New Terminal		command [?] Gives help on the command and list of arguments	
ncd 📑		[Tab] Completes the command/word. If the input is ambiguous,	
MetaROUTER		a second [Tab] gives possible options	
😓 Partition		/ Move up to base level	
Make Supout of		Move up one level	
😯 Manual		/command Use command at the base level [admin@Beg 01] > system reset-configuration	
New WinBox		Inmended <sup>®</sup> orl > slages reach outriderson	
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	Item out of 14		Activate Windows
			Guito Suttinge to activate Windows

Fig: 3.16 Winbox new Terminal

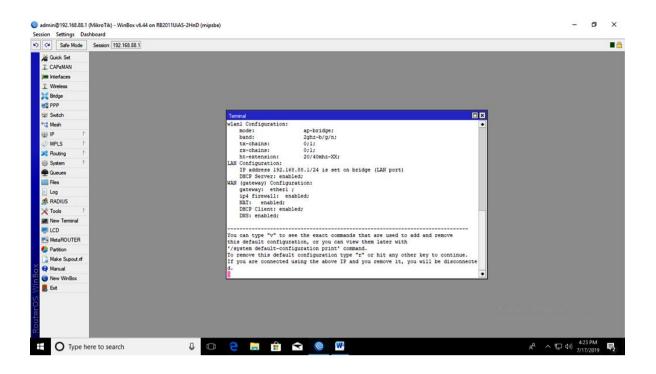


Fig: 3.17 Winbox new Terminal

- 8. Lan IP 192.168.50.220/24 Address, Network 192.168.1.0, Interface ether1.
- 9. Wan IP 172.16.1.1/24 Address, Network 172.16.1.0, Interface ether2.

C Safe Mode Session: 4C:5E:0C:28:84:82			1
Cuick Set			
L CAP5MAN			
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E Switch			
8 Mesh			
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System	+ 172.16.1.1/24 172.16.1.0 + 192.168.50.22 192.168.50.0	ether2 ether1	
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New Terminal			
ECD			
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Manual			
New WinBox			
Ext			

Fig: 3.18 Winbox Address List

# 10. DNS Servers IP 203.190.10.252 /8.8.8.8

C* Safe Mode	Session: 4C:5E:0C:2B:84:82				
Guick Set					
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Interfaces					
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🗧 Bridge					
😭 PPP					
ge Switch					
📽 Mesh	DNS Settings				
9 IP 1	Sen	ers: 203.190.10.252 🔷	ок		
MPLS N		8.8.8	Cancel		
Routing ▷ Bystem ▷	Dynamic Sen	ers:	Apply		
Gueues		Allow Remote Requests	Static		
Files	Max UDP Packet 5				
Log	max our racks.	4030	Cache		
& RADIUS	Query Server Time	out: 2.000 s			
Tools	Query Total Time	out: 10.000 s			
New Terminal	Max. Concurrent Que	in: 100			
LCD					
MetaROUTER	Max. Concurrent TCP Sessi	ons: [20			
Partition	Cache :	kze: 2048 KB			
🕽 Make Supout nf	Cache Max	TL: 7d 00:00:00			
🔁 Manual	Cache U	ed: 17 KB			
New WinBox					
Ext					

Fig: 3.19 DNS Settings

11. IP-> Routes-> +(Add) Gatway 192.168.50.1

C* Safe Mode	Session: 4C:5E:0C:2B:84:82								
Guick Set									
CAP\$MAN									
Interfaces									
👔 Wireless									
Bridge									
🚅 PPP									
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18 Mesh	Routes Nexthops Rules VRF								
IP N									
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8) System ►	DAC 172.16.1.0/24 ether2 reachable		0	172.16.1.1	1				
Queues	DAC 192.168.50.0/ ether1 reachable	-	0	192.168.50.220					
📄 Files		Route <0.0.0.0/0>							
E Log		General Attributes					ОК		
ARADIUS		Dst. Address:	0.0.0/0				Cancel		
🗶 Tools 🗈 🗈		Gateway:	2.168.50.1	¥ reachable ether1		¢	Apply		
New Terminal									
🖶 LCD		Check Gateway:				•	Disable		
MetaROUTER		Type:	icast			₹	Comment		
Partition	-						Сору		
] Make Supout rf	3 items (1 selected)	Distance:					Remove		
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S New WinBox		Target Scope:	)						
🛃 Ext		Routing Mark:				•			
		Pref. Source:				•			
							Activ		
							Go to		
							50 10		

Fig: 3.20 Route List

12. IP -> Firewall -> NAT -> Add(+) Src Address 172.16.1.0/24 13. IP -> Firewall -> NAT -> Action -> masquerade.

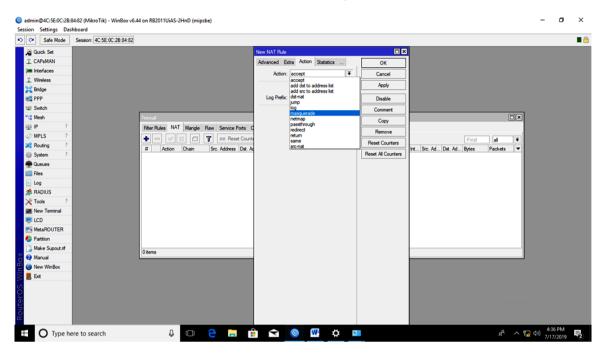


Fig: 3.21 New NAT Rule

14. The Internet Protocol Version 4 (TCP/IPv4).

Home	Status	
etwork Connections		- · × a question?
🤿 🔹 个 😰 > Control Panel > All C	Control Panel Items > Network Connections	✓ Ŏ Search Network Connections 𝒫 help
anize Disable this network device Broadband Connection Disconnected WAN Minipot (PPPOE)	Diagnose this connection Rename Broadband Connection 2 Disconnected WAN Miniport (PPPOE)	• Install       Uninstall       Properties         • Monosoft Libbork       • Install       OK
ns 1 item selected		Agtive te Windows

**Fig: 3.22 PC Ethernet Properties** 

15. IP Address: 172.16.1.2, Subnet Mask: 255.255.0.0, Default Gateway: 172.16.1.1, Preferred DNS Server: 203.190.10.252, Altemate DNS Server: 8.8.8.8

letwork Connections	Status	- □ × } a question?
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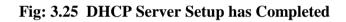
Fig: 3.23 Internet Protocol Version 4 (TCP/IPv4) Properties

16. DHCP Server IP -> DHCP Server Interface Select -> Next -> Lease Time.

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Guick Set				
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35 Bridge				
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💐 Routing 🗈	Name / Interface Relay Lease Time Address Pool Add AR			
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Fig: 3.24 DHCP Server

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*12 Switch	DHCP Server		
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	DHCP Networks Leases Options Option Sets Alerts		
Routing	DECP Config DECP Setup     Find		
System      P	Name / Interface Relay DHCP Setup no no		
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Files	Setup has completed successfully		
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17. Left Bottom -> Make Static.

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Active Hos Expires After Status		
9 DESKTOP 00:06:42 bound		
	R <sup>a</sup>	Activate Windows 4월 149 년 149 년 149 년 149 년 호 <sup>약</sup> 수 및 40 7/17/2019

Fig: 3.26 DHCP Server Make Static

18. Bridge -> Add -> Name (Kishor).

🔊 🖓 🛛 Safe Mode	Session: 4C:5E:0C:28:84:82								<b></b>
CAcha Set     CAPAMAN     In interfaces     CAPAMAN     In interfaces     CAPAMAN     Interfaces     CAPAMAN     Interfaces     Switch     PP     Switch     P     Switch     P     Switch     P     Switch     P     Switch     P     Switch     P     Convess     Ing     ReADUS     Not on     New Teminal     ELCO     Switch     P	Brópe Porta VLANa MSTIs Port MST Ovendes Piten NAT Hora M Porta VLANa MSTIs Port MST Ovendes Piten NAT Hora M Porta VLANa MSTIs Port MST Ovendes Piten NAT Hora M Porta VLANa MSTIs Port MST Ovendes Piten NAT Hora M Porta VLANa MSTIs Port MST Ovendes Piten NAT Hora M Porta VLANa MSTIs Port MST Ovendes Piten NAT Hora M Porta VLANa MSTIs Port MST Ovendes Piten NAT Hora M Porta VLANa MSTIs Port MST Ovendes Piten NAT Hora M Porta VLANa MSTIs Port MST Ovendes Piten NAT Hora M Porta VLANa MSTIs Port MST Ovendes Piten NAT Hora M Porta VLANa MSTIs Port MST Ovendes Piten NAT Hora M Porta VLANa MSTIs Port MST Ovendes Piten NAT Hora M Porta VLANa MSTIs Port MST Ovendes Piten NAT Hora M Porta VLANa MSTIs Port MST Ovendes Piten NAT Hora M Porta VLANa MSTIs Port MST Ovendes Piten NAT Hora M Porta VLANa MSTIs Port MST Ovendes Piten NAT Hora M Porta VLANa MSTIs Port MST Ovendes Piten NAT Hora M Porta VLANa MSTIs Port MST Ovendes Piten NAT Hora M Porta VLANa MSTIs Port MST Ovendes Piten NAT Hora M Porta VLANa MSTIs Porta VLANA MST Ovendes Piten NAT Hora M Porta V	Type: MTU: Actual MTU: L2 MTU: MAC Address:	Bidge           91500           55335           1500           15035           15035           15035           15036           1500           Image: state s	Cancel Apply Dasble Comment Copy Remove Torch	FP Pox Obes	PP Tx Pocket Obes	(p/s)  FP Rx Pa 0	Finite (p/s) 0	
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📕 Ext									
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Fig: 3.27 Bridge Interface

19. Bridge -> Ports -> Add Select Interface ether 2, Bridge Select Kishor(Bridge Name).

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Fig: 3.28 New Bridge Port

# 20. All Bridge ether 2..... ether 10 ports.

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Files	3 IH	11 ether5	Kishor		no	80	1	0 disabled port						
Log	4 IH	12 ether6	Kishor		no	80		0 disabled port						
A RADIUS	5 IH	12ether7	Kishor		no	80		0 disabled port						
	6 IH 7 IH	12 ether8 12 ether9	Kishor		no	80 80		0 disabled port 0 disabled port						
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Fig: 3.29 New Eight Bridge Port

21. Bandwidth Shear Queues List -> + ->Daud (Name) -> Target Pc Ip 192.168.43.1 -> Target Upload 5M, Target Download 10M.

	482 (MikroTik) - WinBox v6.44 on R82011UIAS-2HnD (mipsbe)	-	٥	×
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Ø MPLS 🗈	0 Daud 1921684 5M 10M			
🔀 Routing 🗈	Simple Queue <daud></daud>			
⊚ System ト	General Advanced Statistics Traffic Total Statistics OK			
P Queues	Name: Dasid			
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E Log				
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Fig: 3.30 Queue List

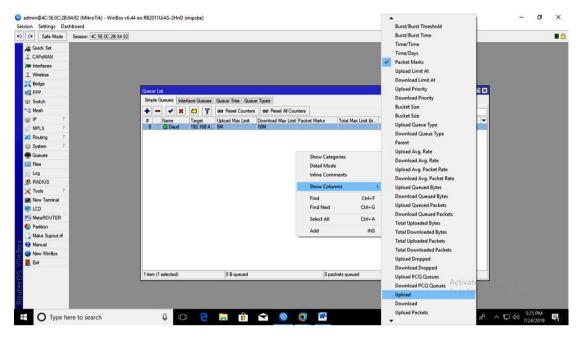


Fig: 3.31 Queue List

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°te Mesh	Find	
1 91 🕸	11 Name / Target Upload Max Limit Download Max Limit Packet Marks Upload Download / Total Max Limit (bl 💌	
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🔀 Routing 🗈	2 m 34mia 132,156,432 2M 2M 05ps 05ps 05ps	
() System ▷		
Queues	Simple Queue <1Apur>	
💼 Files	General Advanced Statistics Traffic Total Statistics OK	
💽 Log	Name: Name: Cancel	
A RADIUS	Target: 192.168.43.2 💌 🗘 Apply	
🔀 Tools 🗈		
Mail New Terminal	Disable	
ned a second	Target Upload Target Download Comment	
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Fig: 3.32 Queue List

-	84:82 (MikroTik) - WinBox v6.44 o	n RB2011UiAS-2HnD (mipsbe)						-	٥	×
Session Settings Dat	Session: 4C:5E:0C:2B:84:82									
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📄 Files		* pcq-download-default	poq	Queue size.	packets					
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Fig: 3.33 Queue Types

22. Web Page Blok: IP -> Firewall -> Filter Rules -> add -> General Src.Address 172.16.1.0/24

Safe Mode	Session: 4C:5E:0C:2B:84:82					<b>=</b> (
Auick Set		New Firewa	al Rule			
I CAPSMAN			Advanced Extra Action Statistics	ок		
H Interfaces			Chain: forward			
⊥ Wreless				Cancel		
🔰 Bridge			Src. Address: 172.16.1.0/24	Apply		
es PPP			Dst. Address:	Disable		
12 Switch	Frewal		Protocol:	Comment		
ଂଅ Mesh	Filter Rules NAT Mangle Raw Service Ports Connection			Сору		
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😹 Routing 🛛 🗈	::: special dummy rule to show fasttrack counters 0 D C pas forward		Any. Port: 📃 🔻	Reset Counters	1297.1 K/B 1 726	
System			In. Interface:	Reset All Counters		
Dueues		0	Out. Interface:			
🚞 Files						
🗈 Log		In.	Interface List:			
🧟 RADIUS		Out.	Interface List:			
🔀 Tools 🛛 🗅						
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Fig: 3.34 New Firewall Rules

Call Safe Mode Session:	4C:5E:0C:28:84:82					
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Type here to se	arch 🛛 🖟 🔁 🦲			Activate Window Constantiaction 於 へ 巽	(13 PM) 6:18 PM	Ę

23. IP -> Firewall -> Filter Rules -> add -> Action -> Drop.

Fig: 3.35 New Firewall Rules Drop

24. Domain is closed: IP -> Firewall -> Layer 7 Protocols -> add -> Name (Facebook) -> ^.+(Facebook.com).\*\$ .

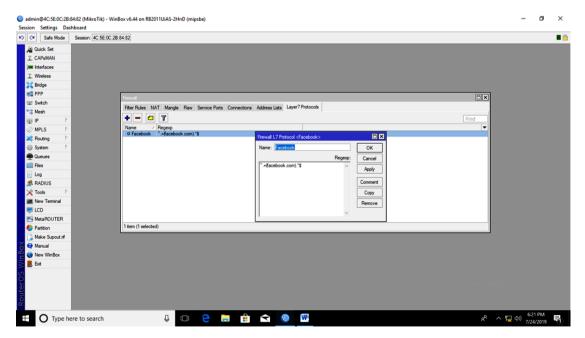


Fig: 3.36 Firewall L7 Protocol <Facebook>

#### 3.3 Linux

[root@localhost Desktop]#

Localhost - host Name

# :- Super User.

# pwd :- To know where it is.

# clear, Ctrl->L

# ls :- To view the list.

# cd/home/ :- To access the file.

Cd :- Command.

Home :- Arguments.

~ :- root

Ctrl+Shift(+) :- To make the terminal bigger.

Ctrl (-) :- For shortening the terminal.

Ctrl F2, Ctrl F3, Ctrl F4, Ctrl F5, Ctrl F6 :- For the new terminal.

Ctrl+Alt+F1 :- To get out of the terminal.

# Free –m :- To know how much RAM.

# df -- ht :- For hard disk viewing.

# reboot, init 6 :- For system reset.

# touch :- For creating files.

# mkdir :- For creating folders.

# cd :- For entering the folder.

# mkdir day {-03,-04,-05,-06} :- Many folders to create together.

# touch file  $\{1,2,3,4,5,6,7\}$  :- So many files to create together.

 $\# rm file^* Y/N := To remove the file.$ 

# rm -rf file\* :- Too many files to delete.

# poweroff, init 0, shutdown-h now :- To shut down the system.

# cp :- To copy.

# mv :- To cut.

# mv file :- To change the file name.

# vim :- For file distribution to work.

# : wq :- Save time to exit after working within the file.

# : q! :- If you do not want to save something by typing this command then this command.

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- # : w :- Just to save.
- # : set nu :- To set the line number.
- #:5:-To move a line to a specific number.
- # Shift G :- To go down all the lines.

# Shift h :- To go over all the lines.

#### **3.4 Events And Activities**

One of the main strides to unraveling a PC bother (or some other programmable gadget) is to decide if it is because of an equipment disappointment or defective programming program. Mistakes show up or show up, blunders before the whipping that demonstrate that a couple of styles of equipment have an equipment inconvenience. So far inside the activity of the instrument, the straightforward BIOS and essential framework equipment changed into alive. After the catastrophe happens, the apparatus' present day gadget does not become an integral factor yet again. I can in any case get the association wrong before that blare inside the exceptional preparing

Both design inconveniences and boot-up issues might be brought about by an equipment or operational disappointment. On the off chance that the design putting is precise, yet those signs and side effects are available, an equipment inconvenience is analyzed on the grounds that the rationale of the issue. Alternately, boot inconveniences are related with the framework

#### 3.5 Challenges

I created the internship report that I learned in real life. They are helping us create this report by writing a black board. And work hand-in-hand with their device. Demonstrated tasks with professional tuners. We learned a few things together and learned to work competitively. If there is a slight problem, I have all worked forward by showing him the work he was doing. Asking each other questions. There is a way I can do this. I am doing an internship to create job opportunities.

# **CHAPTER 4**

# **Competencies And Smart Plan**

#### 4.1 Competencies Earned

The customer can't reap an IP address if a DHCP sponsor does no longer have a configured IP agreement, it usually suggests that the consumer is able to touching a DHCP server can be a network disturbance, or due to the fact the DHCP server is unavailable. If the DHCP server starts and distinctive customers can acquire legitimate addresses, verify that the customer has legitimate connections and that everyone related patronized hardware devices (including cables and network adapters) are walking properly.

The DHCP server is unavailable if the DHCP server not provides a registered cope with for clients, but this is basically because the DHCP carrier is not in this example, the server community might not be allowed to work. If you had been capable of first of all start a DHCP service, but it become because of shutting down, use the occasion viewer to check the device log for an advert that could provide an explanation

#### 4.2 Smart Plan

My Smart plan is to offer each business venture undertaking from the Net Carrier Issues (ISP) appropriation data transfer capacity to all organizations. In truth, it utilizes mile-switch's quick data transmission for quick system get admission to speed. Shrewd data transfer capacity control with switch running framework The fine system of Mikrotik transmission capacity control. Since it is easy to design for LAN, WAN and DHCP servers. In truth, in the event that each organization wants to give ISP or DHCP server, at that point I use Mikrotik control utilizing data transmission in future way of life.

# CHAPTER 5 Conclusion And Future Career

#### **5.1 Discussion and Conclusion**

Currently the majority of multi-day companies are under the Internet for their executives and administration. Who has to deal with the correct structure system. The achievements of the Association are in the field of imagination. Accordingly, information about the system's structure is required. Mikrotik is a router that is reasonable for ease. Mikrotik can access another Winbox. Mikrotik Dara can be effectively monitored. Similarly the Rule 7 protocols provide bandwidth shaping, filter rules, to provide sufficient security to the system. Mikrotik Web Proxy Server provides powerful wireless access points. To know about the design, basic network and basically to use the Mikrotik router configuration to know the characteristics of Mikrotik routers. The internship taught us well during the workplace. The ability to design a network is a great experience for our internship. How to work and manage in reality.

#### 5.2 Further Career

The main purpose of the internship was to use my knowledge in the field. Through this, I have learned how to design a network and use the Mikrotik router to supply the model and network required. Configuring the Mikrotik router lowers the bandwidth limit so that we can use the intranet to suit our needs. With the Mikrotik router we can design the network and manage the network properly.

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[4] Learn about Wikipedia, available at << <u>http://www.wikipedia.org/</u>>>, last accessed on 18-07-2019 at 1:00pm.

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