

MIKROTIK ROUTER CONFIGURATION IN ISP

BY

ABUJAFAR
ID: 172-15-10029

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

Supervised By

Mst. Eshita Khatun
Lecturer
Department of CSE
Daffodil International University



DAFFODIL INTERNATIONAL UNIVERSITY

DHAKA, BANGLADESH

OCTOBER 2020

APPROVAL

This Internship report titled “MIKROTIK ROUTER CONFIGURATION IN ISP” submitted by “ABUJAFAR” ID: “172-15-10029” 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 08-10-2020.

BOARD OF EXAMINERS



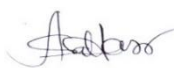
Dr. Syed Akhter Hossain
Professor and Head
Department of Computer Science and Engineering
Faculty of Science & Information Technology
Daffodil International University

Chairman



Dr. Fizar Ahmed
Assistant Professor
Department of Computer Science and Engineering
Faculty of Science & Information Technology
Daffodil International University

Internal Examiner



Abdus Sattar
Assistant Professor
Department of Computer Science and Engineering
Faculty of Science & Information Technology

Internal Examiner



Dr. Mohammad Shorif Uddin
Professor
Department of Computer Science and Engineering
Jahangirnagar University

External Examiner

DECLARATION

I hereby declare that, this Internship report paper has been done by me **ABUJAFAR, Id: 172-15-10029** the department of Computer Science and Engineering, Daffodil International University under the supervision of **Mst. Eshita Khatun, 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.

I collect information from the **Fareast Islami Life Insurance Company Limited**, Books & Internet.

Supervised by:



Mst. Eshita Khatun
Lecturer
Department of CSE
Daffodil International University

Submitted by:

Abujafar

Abujafar
ID: 172-15-10029
Department of CSE
Daffodil International University

ACKNOWLEDGEMENT

First, I express our heartiest thanks and gratefulness to almighty Allah for his divine blessing makes us possible to complete the final year Internship successfully.

I am also grateful to **Mahmud Hasan Sajeeb**, Network and System Admin of **Fareast Islami Life Insurance Company Limited**. Without their continuous support I can't continue my Internship in this company.

I am really grateful and wish profound indebtedness to **Mst. Eshita Khatun, Lecturer**, Department of CSE, Daffodil International University, Dhaka. Deep Knowledge & keen interest of supervisor in the field of *MIKROTIK ROUTER CONFIGURATION IN ISP* to carry out this Internship. Her endless patience, scholarly guidance, continual encouragement, constant and energetic supervision, constructive criticism, valuable advice, reading many inferior drafts and correcting them at all stage have made it possible to complete my 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

This internship is on MIKROTIK ROUTER CONFIGURATION IN ISP. I am performed here with Mikrotik OS based. Mikrotik started his journey from 1996. Mikrotik Router using for faster working. This route is helpful for the administrator. This report can be used as a good guide for interested professionals for all time. This report is a TCP / IP protocol network for professionals This report of mine is not for any other work for both academic and a professional audience. We understand the network department, topology Network and Basic Concepts Internet. The section on Protocols and Standards provides the first overview of organizations that set standards for data communication and networking. Two and more PCs are interconnected and ready to trade data then we call Network. These functions include IP distribution and addressing process, Domain Name System, Dynamic Host Configuration Protocol, File Transfer Protocol, Firewall, networking, NAT, Routing, Bandwidth control, Point to Point Tunneling Protocol (PPTP), Point to Point Protocol Over Ethernet (PPPoE), VLAN. OLT, Server room maintain of ISP.

The report for the particular server utilizing on ISP, equipment for the server, picking programming, establishment procedure of the product, well ordered server setup process and straightforward investigating of the server.

TABLE OF CONTENTS

CONTENTS	Page No
Approval	i
Declaration	ii
Acknowledgement	iii
Abstract	iv
Table of Contents	v-vii
List of Figures	viii-ix
CHAPTER 1: INTRODUCTION	1-2
1.1 Introduction	1
1.2 Motivation	1
1.3 Objectives	1
1.4 Introduction to the Company	2
1.5 Report Layout	2
CHAPTER 2: ORGANIZATION	3-5
2.1 Introduction	3
2.2 Product and Marketing Situation	3
2.3 SWOT Analysis	4
2.4 Organizational Structure	5

CHAPTER 3: TASK, PROJECT AND ACTIVITIES	6-29
3.1 Daily Task and Activities	6
3.1.1 Basic Router Configurations	7
3.1.2 Assign IP address to Hosts and test Intra-VLAN communication	7
3.1.3 Configure Inter-VLAN Routing VLAN, Voice VLAN, VTPs	8
3.1.4 Configuring Syslog	9
3.1.5 Configuring SNMP	10
3.2 Events and Activities	11
3.2.1 SSH Configuring	11
3.2.2 Fareast Router Information	12
3.2.3 About ISAKMP	13
3.3 Project Task and Activities	13
3.3.1 PC based Installing process used VMware	13
3.3.2 Bind MAC Address	23
3.3.3 Hotspot Configuration	26
3.4 Challenges	29
CHAPTER 4: COMPETENCIES AND SMART PLAN	31
4.1 Competencies Earned	31
4.2 Smart Plan	31
4.3 Reflections	31

CHAPTER 5: CONCLUSION & FUTURE CAREER	32
5.1 Discussion and Conclusion	32
5.2 Scope for Further Career	32
REFERENCES	33
APPENDICES	34

LIST OF FIGURES

FIGURES	PAGE NO
Figure: 2.1 Organizational Structure of Fareast Islami Life Insurance Company Limited	5
Figure 3.1: Syslog Server	10
Figure 3.2: Security Level	10
Figure 3.3: DLCI Mapping	12
Figure 3.4: ISAKMP Working System.	13
Figure 3.5: Virtual Machine Installing process	14-15
Figure 3.9: Guest OS selection	16
Figure 3.10: Virtual Machine Name	16
Figure 3.11: Number of Processor	17
Figure 3.12: Memory Size	17
Figure 3.13: Disk Size	18
Figure 3.14: Disk File Name	18
Figure 3.15: Virtual Machine Interface	19
Figure 3.16: Virtual Machine Interface overview	19
Figure 3.17: VM HW	20
Figure 3.18: Finish	20
Figure 3.19: MikroTik Install	21
Figure 3.20: ARP List	21
Figure 3.21: Network Connection Details	22
Figure 3.22: Topology of Parent Concept	22

Figure 3.23: Simple Queues of Parent	23
Figure 3.24: Interface to General Setting	23
Figure 3.25: T.C.P/I.Pv4 Configuration with IP	24
Figure 3.26: IP Scan	24
Figure 3.27: Add Media Access Control (MAC) Address	25
Figure 3.28: A.R.P Dynamic Configure	25
Figure 3.29: I.P Pool Config.	26
Figure 3.30: Hot Spot Setting	26
Figure 3.31: Hot Spot Setting Masquerade Network	26
Figure 3.32: Hot Spot Setting Add. Pool	27
Figure 3.33: Hot Spot Setting SSL certificate	27
Figure 3.34: Hot Spot Setting SMTP	27
Figure 3.35: Hot Spot Setting D.N.S	27
Figure 3.36: Hotspot Profile	28
Figure 3.37: Login Page	28
Figure 3.38: Log in confirmation	28
Figure 3.39: Network Address Translation (NAT)	29
Figure 3.40: Wireless Router	30

CHAPTER 1

INTRODUCTION

1.1 Introduction

The Internet is now the first place to search for anything in the world. Uses Internet and servers to accomplish tasks. Servers are where information is stored and we get it through the internet. DHCP and DNS servers play a very important role in the Internet. Our country is moving towards development and our country is now Digital Bangladesh. At present, internet connection has been established everywhere from small or big organizations to educational institutions. Everyone now uses the internet for communication. The biggest contributor to this country is e-commerce, online shopping business. Network security works handled is very sensitive work. I work Mikrotik Router PC based, Firewall, Bandwidth Control the Bandwidth, WAP, Hotspot Gateway.

1.2 Motivation

There are many jobs in the networking sector in our country including around the world. The system is easy for the mikrotik handler to use. It can simply control the bandwidth. Now we communicate properly everywhere. I think with the help of Fareast Islami Life Insurance Company Limited I will be able to successfully prove my experience.

1.3 Objectives

The Internship gives me eight to ten hours of work experience and it will benefit me a lot in my job sector. The internship is a kind of job experience. My four-month internship will benefit me a lot experiences of my future. The internship taught me to be a skilled employer and skilled leader.

- ✓ Association the skills found there for writing each unique resume purpose.
Find the skills to resume an interesting training internship in the list below:
- ✓ To create skilled employers
- ✓ Learn how to work and lead a team
- ✓ Develops the strength and attitude to work consistently.

- ✓ All about IT and networking systems
- ✓ Get a better idea of how networking works in all areas.
- ✓ Know all router configurations.
- ✓ Know the responsibilities of an IT officer.
- ✓ Professional skills will be good.

1.4 Introduction to the company

Fareast Islami Life Insurance Company Limited is the largest business corporation in Dhaka, Bangladesh. A leading 3rd generation company for insurance area, The Company created on 29/05/2000 and gained Certificate on May 29/05/2000 as a Public Limited Company under the Companies Act, 1994 and succeeding registered with the DSE and CSE Stock company Ltd in the year 2005.

1.5 Report Layout

In the chapter (1) I shown chapter 1 introduction, motivation of internship, internship object and introduction to the company.

In the chapter (2) I shown in chapter 2 the company introduction, bank organization and banking weakness, strangeness and threats.

In the chapter (3) I shown in chapter 3 how to exercises, Events and work of internship.

In the chapter (4) I shown in chapter 4 Competencies Earned, Smart Plan, and Reflections.

In the chapter (5) I shown in chapter 5 Conclusion and Future Scope.

CHAPTER 2

ORGANIZATION

2.1 Introduction

Fareast Islami Life Insurance Company Limited is the largest company in Dhaka, Bangladesh. A leading 3rd generation company for insurance area, The Company created on 29/05/2000 and gained Certificate on May 29/05/2000 as a Public Limited Company under the Companies Act, 1994 and succeeding registered with the DSE and CSE Stock company Ltd in the year 2005. The rules and procedures are based on digital process. My Internship branch is (Head Office) Paltan in Dhaka, Bangladesh. At present the official assets of the organization is taka 1 billion and payable assets is taka 747 million and 420 thousand. In the year 2018 total numbers of stockholders were 8066. The company are dealt both in DSE and CSE Stock Ltd in A category. The whole market price of the companies' stocks is tk 723 million 740 thousand in 2018.

2.2 Product and Marketing Situation

The various operations are being functioned and the major functions of the organizations can be described briefly-

- ✓ Deposit System,
- ✓ Payment function,
- ✓ Online Statement,
- ✓ Mobile Activities,
- ✓ Online payment,
- ✓ Business Analysis,
- ✓ Collection function,
- ✓ Fund Transfer,
- ✓ Investment functions,
- ✓ Issuing Letter of Credit (LC),
- ✓ Issuing Bank Guarantee,
- ✓ Foreign trade services e.g. export, import, remittance etc.

2.3 SWOT Analysis

Strength:

Strong Board of Director: The Board of Director of that Fareast Islami Life Insurance Company Limited is stronger of than other insurance company.

Top Management: The top management of the Fareast Islami Life Insurance Company Limited Bangladesh. They contributed yearly towards the growth and development of the company.

Positioning of , Fareast Islamic Life Insurance Company Limited: Strong positioning of the Bangladesh. in the insurance company of Bangladesh.

Financial stability: The employers of Fareast Islami Life Insurance Company Limited Bangladesh. are very stable business persons in Market such on Nassa Group, Bexine group of industries etc.

Weakness:

Important weakness for Fareast Islami Life Insurance Company Limited. this weakness pushes the insurance for behind from the other competitor.

Advertised are –

Billboard: There are few Billboard of Fareast Islami Life Insurance Company Limited. It is not sufficient marketing Activities.

Incorporate Image: Save the environment by young plant seedling.

Opportunity:

There are framework for business success of Fareast Islamic Life Insurance Company Limited Bangladesh.

Threats:

Does it stay to remain apparent how remote purchasers can prove to grip the Cyberspace. The Monetary Disaster - Homeowners more averse to develop their Broadband associations stock marketplaces lack of faith in the on-screen interchanges advertise.

2.4 Organizational Structure

Fareast Islami Life Insurance Company Limited is type of business is organized according to location. It has 552 branches. **Fareast Islami Life Insurance Company Limited's** Organizational Structure below:

Chairman
Vice Chairman
Director
Independent Director
Chief Executive Officer
Chief Consultant
Director
Deputy Managing Director & Chief Financial Officer
Assistant Managing Director
Senior Executive Vice President
Executive Vice President
Joint Executive Vice President
Senior Vice President
Joint Senior Vice President
Vice President
Joint Vice President
Assistant Vice President
First Assistant Vice President
Senior Executive Officer
Executive Officer
Senior Officer
Front Desk Officer
Officer

Figure: 2.1 Organizational Structure of Fareast Islami Life Insurance Company Limited

CHAPTER 3

INTERNSHIP TASK, PROJECT AND ACTIVITIES

3.1 Daily Task and Activities

Month=> 1: In the first month of internship I learning.

- ✓ Networking Equipments.
- ✓ Routers.
- ✓ Media Converter.
- ✓ Fiber.
- ✓ Switching
- ✓ Knowledge of PoE.

Month=> 2 and 3: In the second and third month of internship I learning.

- ✓ Designing of the network.
- ✓ Concept of the networking connectivity.
- ✓ Lan connectivity
- ✓ ISP NOC support system.
- ✓ Radius Sever Maintained
- ✓ MikroTik Router.

Month=> 4: In the this month of internship on my company I have learning. performed the following tasks:

- ✓ Knowledge of Mikrotik Router.
- ✓ Knowledge of IP addressing.
- ✓ Knowledge of DNS server.
- ✓ Knowledge of Route.
- ✓ Knowledge of Bandwidth Manage.

3.1.1 Basic Router Configurations:

Set router clock to the current date and time

```
Router#clock set 03:35:00 13 mar 2020
Router#show clock
*3:35:3.965 UTC Wed mar 13 2020
```

```
Configuring the router hostname to
Fareast1
Router(config)#hostname Fareast1
```

Set Banner Message of the Day to *Unauthorized Access Prohibited!*

```
Fareast1(config)#banner motd #Unauthorized Access Prohibited! #
```

Newly-entered passwords must have a minimum length of 6 characters.

```
Fareast1(config)#security passwords min-length 6
```

Protect device configurations from unauthorized access with the encrypted password. Set the password to *Ars@123*.

```
Fareast1(config)#enable secret Ars@123
```

Secure all the ways to access the router. Set the passwords to *Ars@123*.

Prevent all passwords from being viewed in clear text in device configuration files.

```
Fareast1(config)#service password-encryption
```

Prevent device position messages from interrupt command line entrances at the device console.

-

3.1.2 Assign IP address to Hosts and test Intra-VLAN communication

Assign IP address to Sales PC1, MKT PC1, Printer, Sales PC2, and MKT PC2 from their corresponding subnet. At this point you should be able to reach the hosts of the same VLAN. But you are not able to reach hosts of other VLAN. In order for you to reach hosts of different VLANs, you now need to configure Inter-VLAN routing.

Try to ping Sales PC1 (172.16.1.66) to Sales PC2 (172.16.1.67) and you should be successful.

```
PC>ping 172.16.1.67
Pinging 172.16.1.67 with 32 bytes of data:

Reply from 172.16.1.67: bytes=32
time=0ms TTL=128 Reply from
172.16.1.67: bytes=32 time=3ms
TTL=128 Reply from 172.16.1.67:
bytes=32 time=0ms TTL=128 Reply
from 172.16.1.67: bytes=32 time=1ms
TTL=128

Ping statistics for 172.16.1.67:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 3ms, Average = 1ms
```

Now try to ping Sales PC1 (172.16.1.66) to MKT PC1 (172.16.1.98). It will not be successful.

3.1.3 Configure Inter-VLAN Routing VLAN, Voice VLAN, VTPs

Configure Trunk on SB1DLSW, SB1ALSW1 and SB1ALSW2 Trunk ports for SB1DLSW, SB1ALSW1 & SB1ALSW2 are altogether ports attached to alternative switch or router. Setup all the Trunk ports to trunk mode, and assign VLAN 6 as the native VLAN. On SB1DLSW, configure port Fa0/1-4 and Gig1/1 as trunk port. The series command critically decreases the quantity of repetitive command essential enter when configure the same command on various ports.

```

SB1DLSW (config)#int range g1/1, f0/1-4
SB1DLSW(config-if-range)#switchport
mode trunk SB1DLSW(config-if-
range)#switchport trunk native vlan 6
SB1DLSW(config-if-range)#exit
On SB1ALSW1, configure port Fa0/1-4 as trunk
port. SB1ALSW1(config)#int range f0/1-4
SB1ALSW1(config-if-range) #switchport
mode trunk SB1ALSW1(config-if-range)
#switchport trunk native vlan 6
SB1ALSW1(config-if-range) #exit
On SB1ALSW2, configure port Fa0/1-4 as trunk
port. SB1ALSW2(config)#int range f0/1-4
SB1ALSW2(config-if-range) #switchport
mode trunk SB1ALSW2(config-if-range)
#switchport trunk native vlan 6
SB1ALSW2(config-if-range) #exit

```

To view trunk ports, use the following command:

```
SB1ALSW2#show interfaces trunk
```

3.1.4 Configuring Syslog:

Network admin has a various of opportunity for stored, interpreted & displayed this message. And alerting to individuals message that possibly will has the extreme impression on the network structure. The greatest common technique of editing system message that network policies deliver to use a protocol called system log.

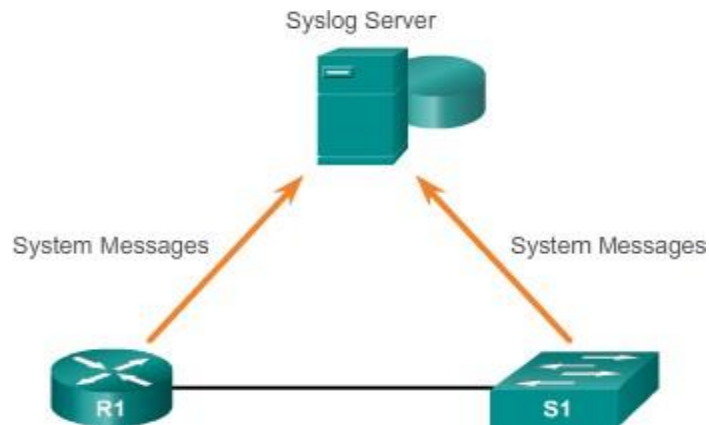


Figure 3.1: Syslog Server

- Every syslog message contains a severity level and a facility.

Severity Name	Severity Level	Explanation
Emergency	Level 0	System Unusable
Alert	Level 1	Immediate Action Needed
Critical	Level 2	Critical Condition
Error	Level 3	Error Condition
Warning	Level 4	Warning Condition
Notification	Level 5	Normal, but Significant Condition
Informational	Level 6	Informational Message
Debugging	Level 7	Debugging Message

Figure 3.2: Security Level

3.1.5 Configuring SNMP:

S.N.M.P is an application layer protocol that offers a message setup for communication among managers & agents. The S.N.M.P system entails of 3 basics:

- ✓ SNMP manager
- ✓ SNMP agents (managed node)
- ✓ Management Information Base (MIB)

Resides for SNMP agents and MIB networking device clients. Network devices such as switches, routers, servers, firewalls, and workstations must be managed, equipped with an SMNP Agent software module. MIBs are meant to store information about device operation and be made available to authenticated remote users. The SNMP agent is responsible for providing local MIB access to objects that reflect resources and activity. Uses UDP, port number 162, to send SNMP recovery and management information. To run SNMP, you must have NMS MIB access. To confirm that the access request is not valid, some form of authentication must be in place. The community string MIB using SNMPv1 and SNMPv2c controls access to them. No community string plain password. For the SNMP community string authentication access object in MIB.

3.2 Activities and Events

3.2.1 SSH Configuring:

Use SSH version to 2. Use the value 1024 for encryption key strength. Set time out to 60 seconds and limit authentication retries to 5.

```
fareast1(config)#ip domain-name smaviation.com Fareast1(config)#crypto key generate  
rsa
```

The name for the keys will be: Fareast1.smaviation.com

Choose the size of the key modulus in the range of 360 to 2048 for your General-Purpose Keys. Choosing a key modulus greater than 512 may take a few minutes. How many bits in the modulus [512]: 1024

% Generating 1024-bit RSA keys, keys will be non-exportable... [OK]

```
Fareast1(config)#ip ssh version 2 Fareast1(config)#ip ssh time-out 60
```

```
Fareast1(config)#ip ssh authentication-retries 5
```

Create a user having username: admin and password: admin123. Configure user authentication for in-band management connections.

```
Fareast1(config)#username admin secret admin123
```

```
Fareast1(config)#line vty 0 4
```

```
Fareast1(config-line) #transport input ssh Fareast1(config-line) #login local
```

```
Fareast1(config- line) #exit
```

3.2.2 Fareast Router Information:

Basic Router Configuration

- ✓ Set router clock to the current date and time
- ✓ Configure the router hostname: Fareast1
- ✓ Set Banner Message of the Day to *Unauthorized Access Prohibited!*
- ✓ A new enter passwords must be minimum length of 6 numbers.
- ✓ Secure device configure from illegal access with the encrypt password, Set the password to ars@123.
- ✓ Secure all the ways to access the router. Set the passwords to ars@123.
- ✓ All the password view in clear text in device.
- ✓ Prevent device status messages from disturbing command line at console.
- ✓ The router from trying to solve the command line entries to IP addressing.

Frame Relay DLCI Mapping:

Data link connection identifier (DLCI) for a 10-bit wide frame relay link-local virtual circuit identifier to a particular PVC or information to be used in the frame. Frame Relay Network DLCIs to use statistical multiplex frame. DLCIs act as load and travel frame road signs in each switch.

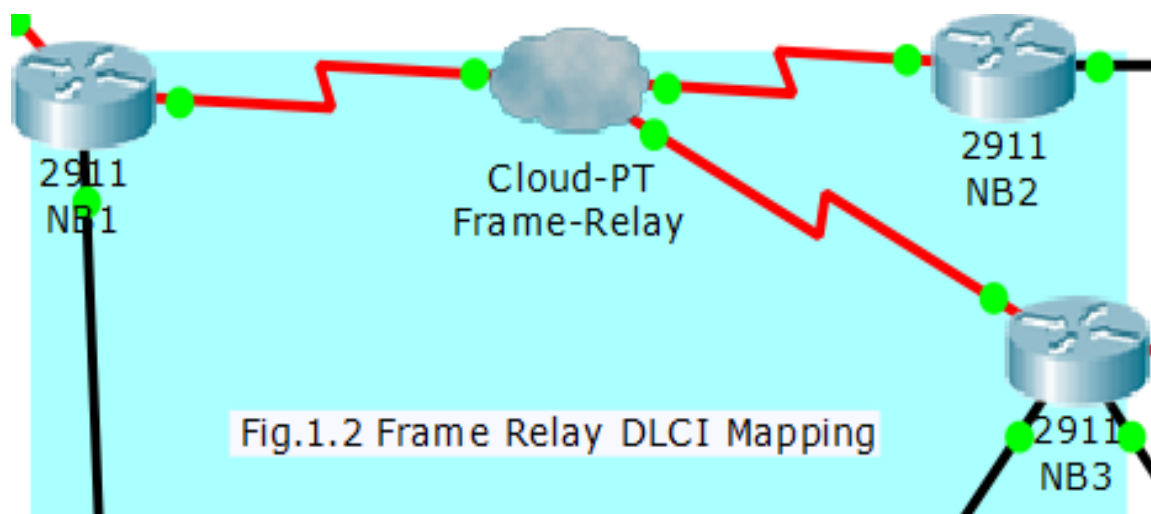


Figure 3.3: DLCI Mapping

3.2.3 About ISAKMP:

ISAKMP simply provides a framework for authentication and key exchange and is designed to be independent of key exchanges; Protocols such as Internet Key Exchange and Key Carburized Internet discussion refer to establishing Security Association SA and cryptographic keys using an Internet environment with a protocol providing key elements authorized for Internet Security Association and Key Management Protocols as defined by RFC 2408.

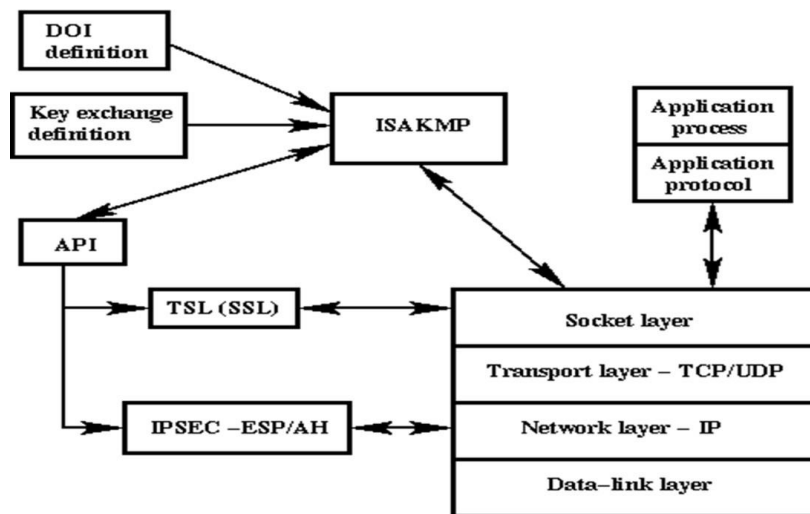


Figure 3.4: ISAKMP Working System.

3.3 Project Task and Activities

3.3.1 PC based Installing process used VMware

- ✓ VMware software
- ✓ MikroTik Router x86 file
- ✓ Winbox software

The process of installation is shown below.

#Step1:



Figure 3.5: Virtual Machine Installing process

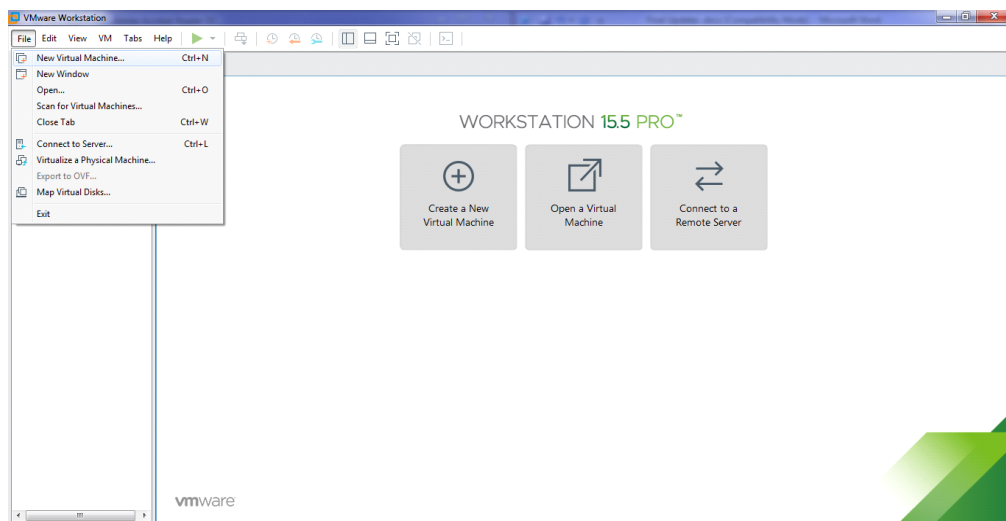


Figure 3.6: Virtual Machine Installing process

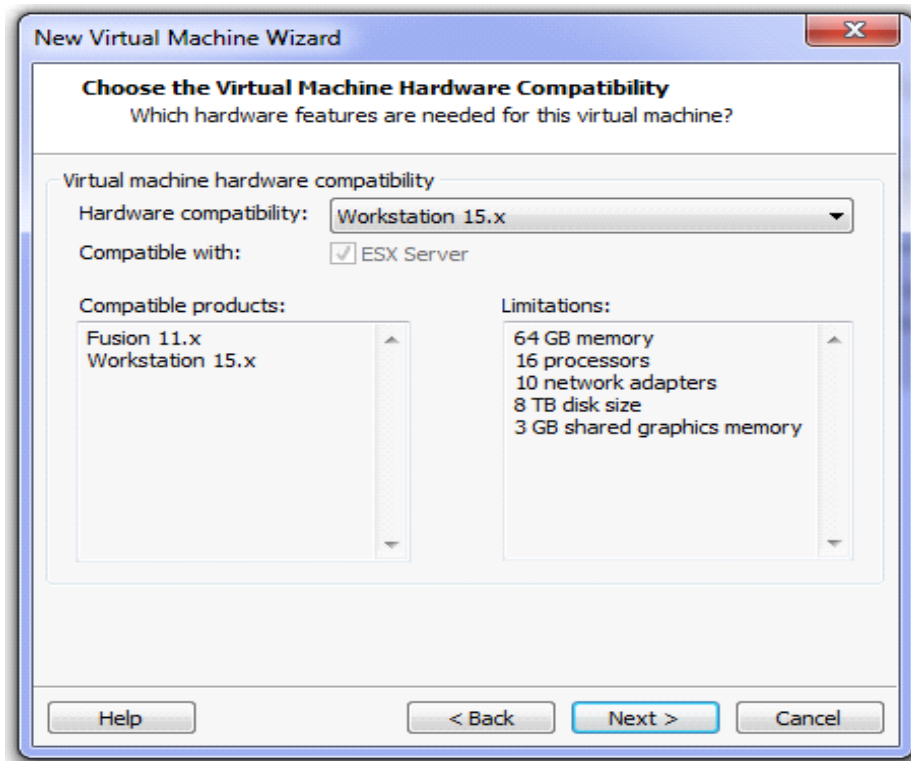


Figure 3.7: Virtual Machine Installing process

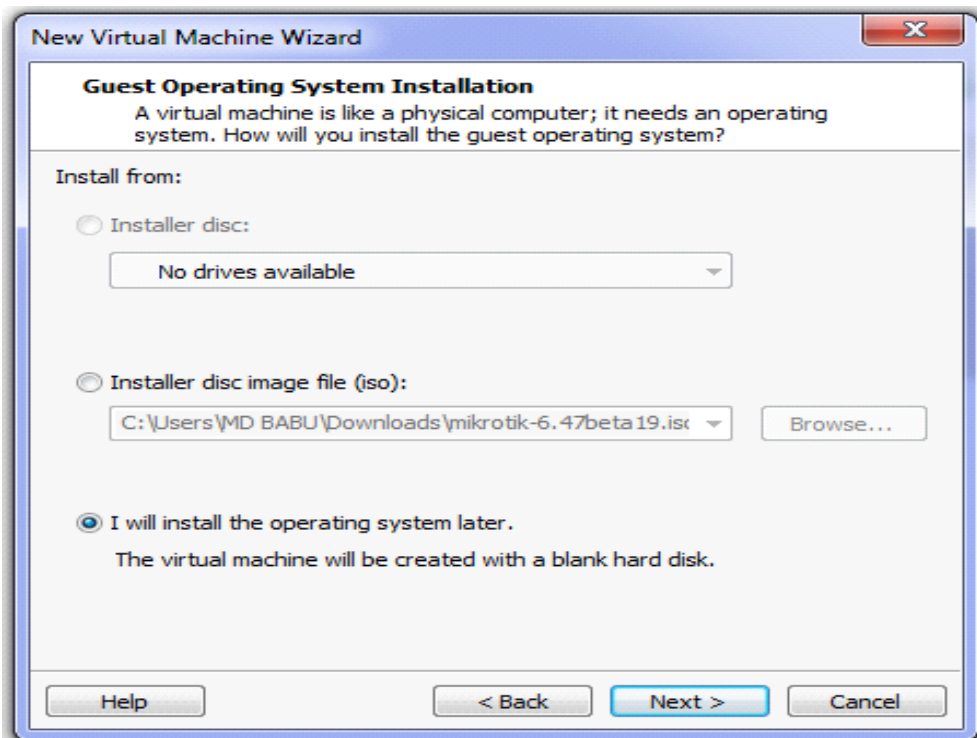


Figure 3.8: Virtual Machine Installing process

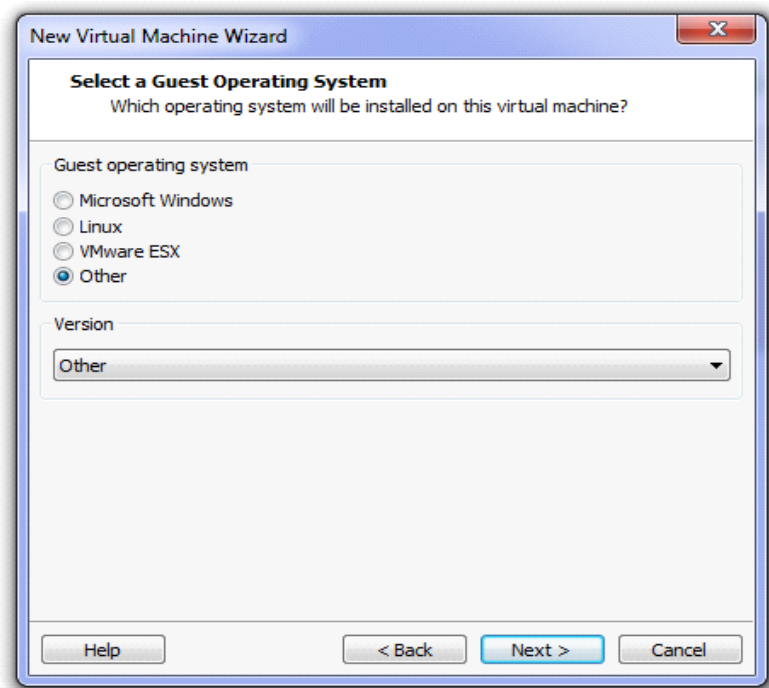


Figure 3.9: Guest OS selection

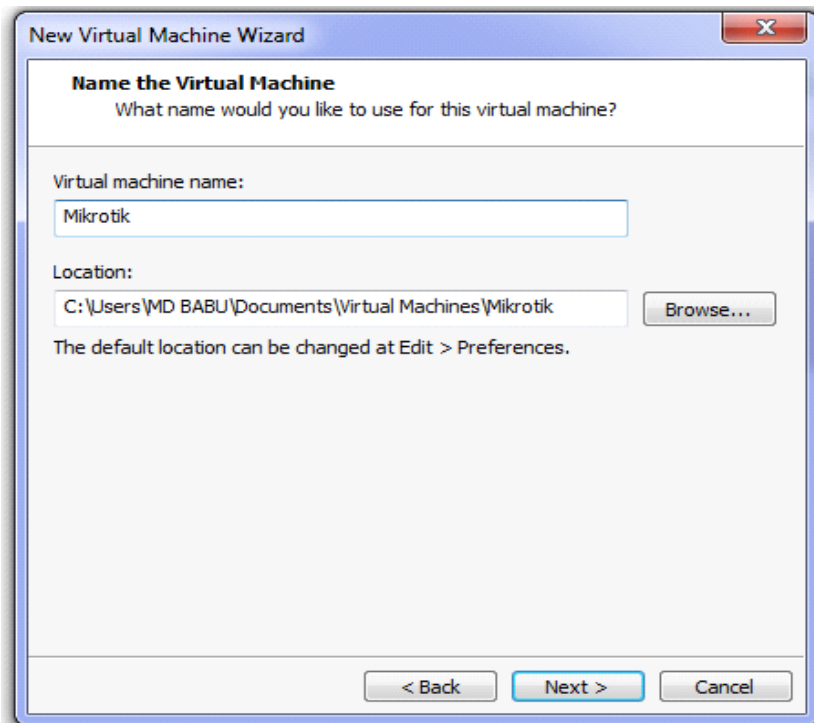


Figure 3.10: Virtual Machine Name

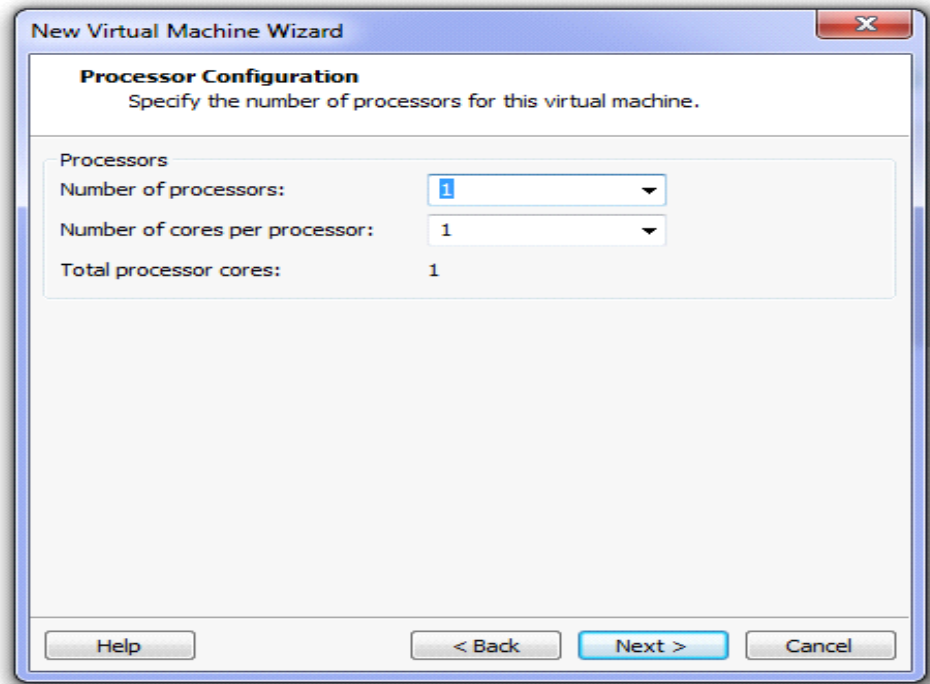


Figure 3.11: Number of Processor

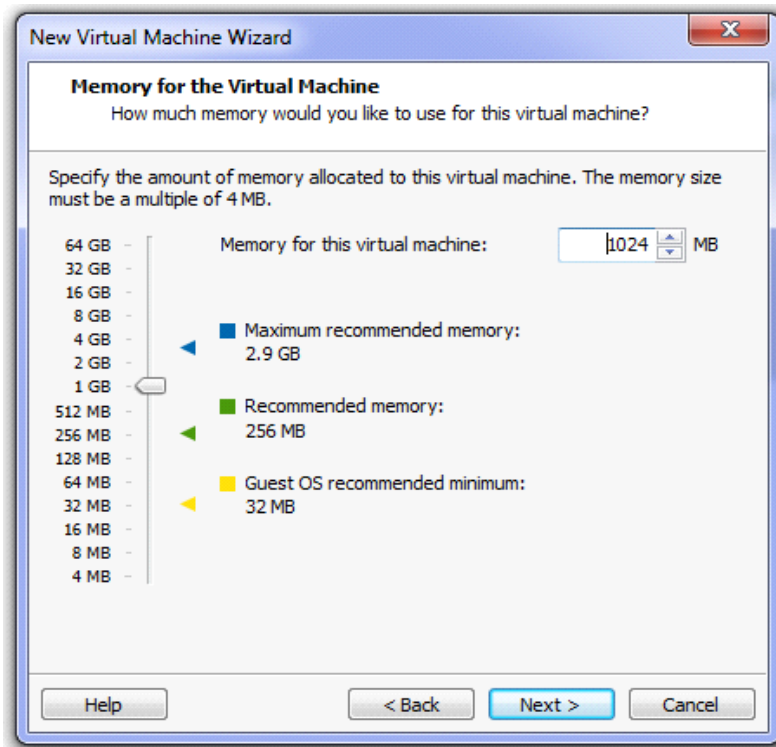


Figure 3.12: Memory Size

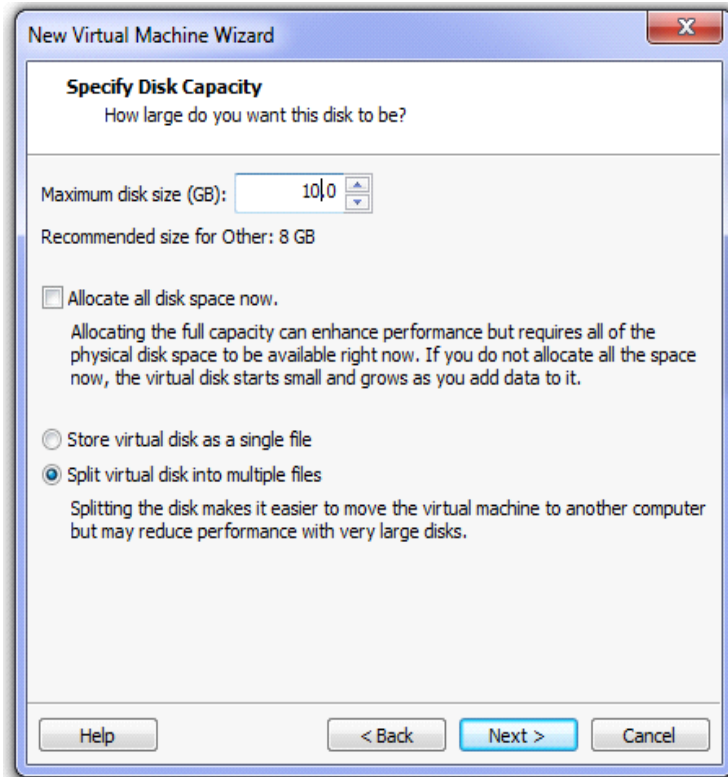


Figure 3.13: Disk Size

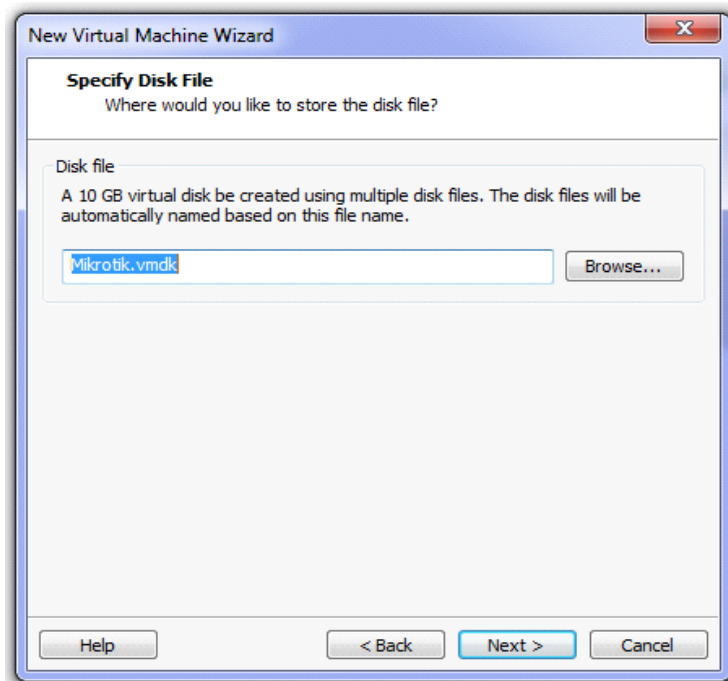


Figure 3.14: Disk File Name

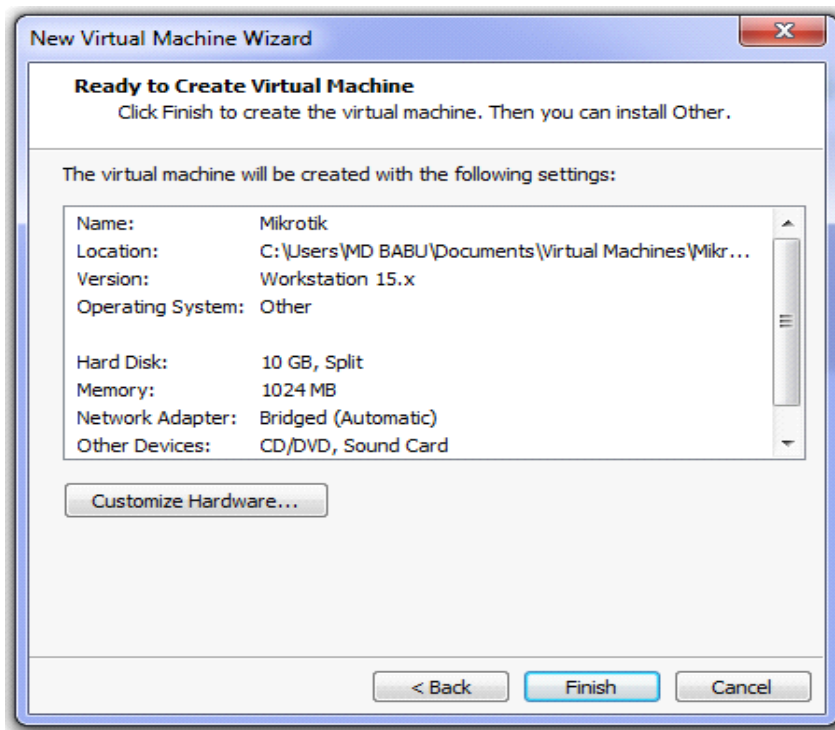


Figure 3.15: Virtual Machine Interface

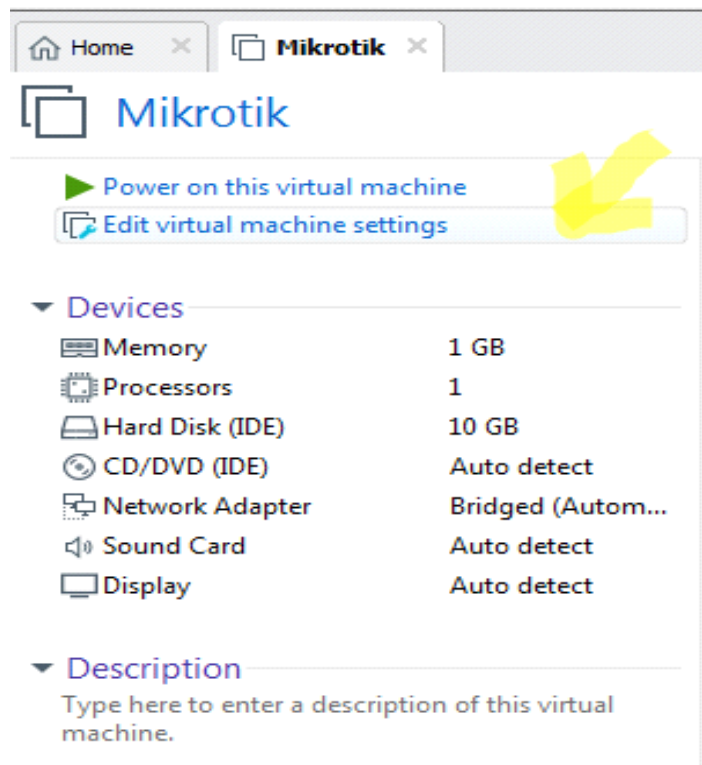


Figure 3.16: Virtual Machine Interface overview

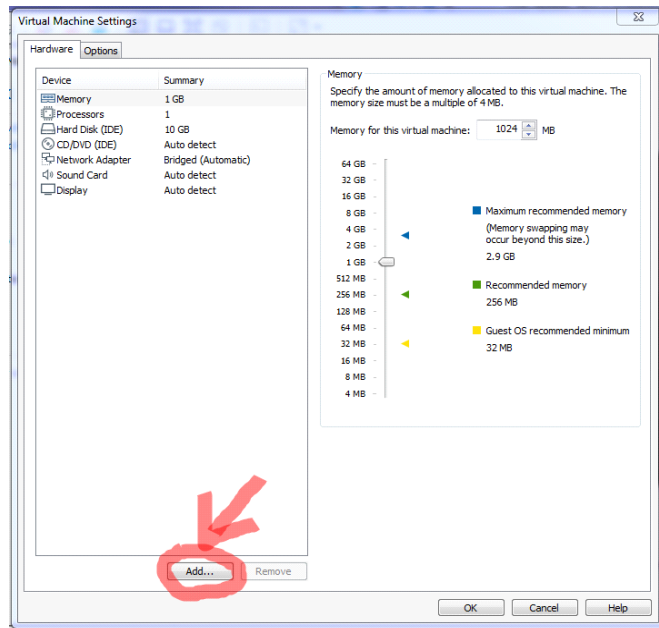


Figure 3.17: VM HW

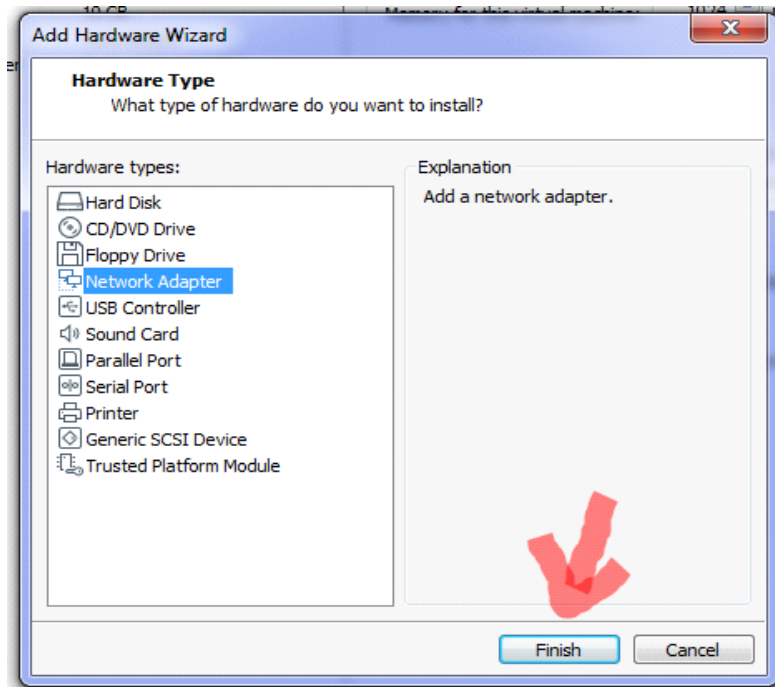


Figure 3.18: Finish

#Step2:

Select all the option-

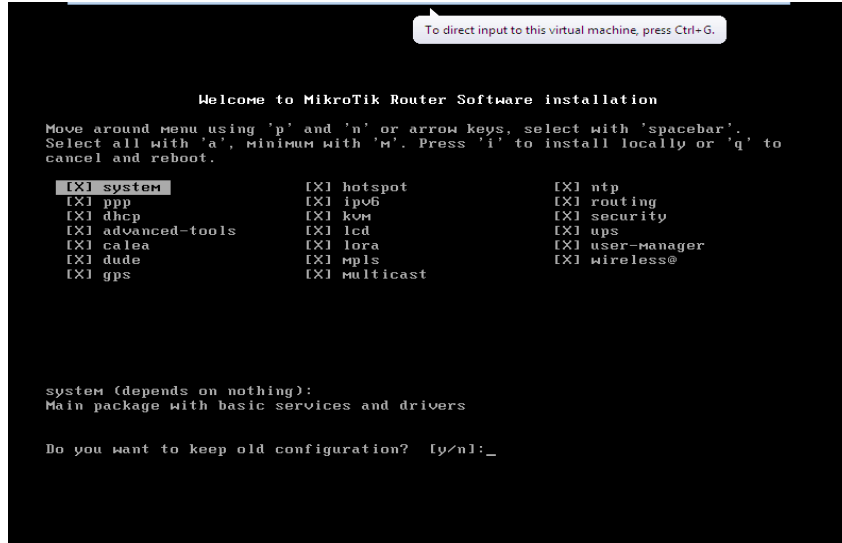


Figure 3.19: MikroTik Install

Let's see the MAC address "User1"

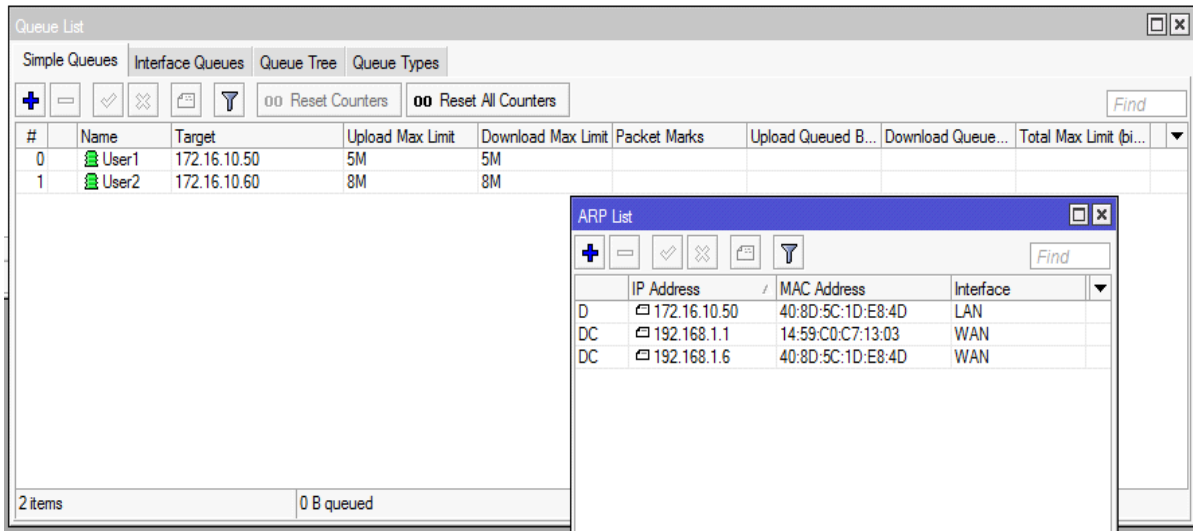


Figure 3.20: ARP List

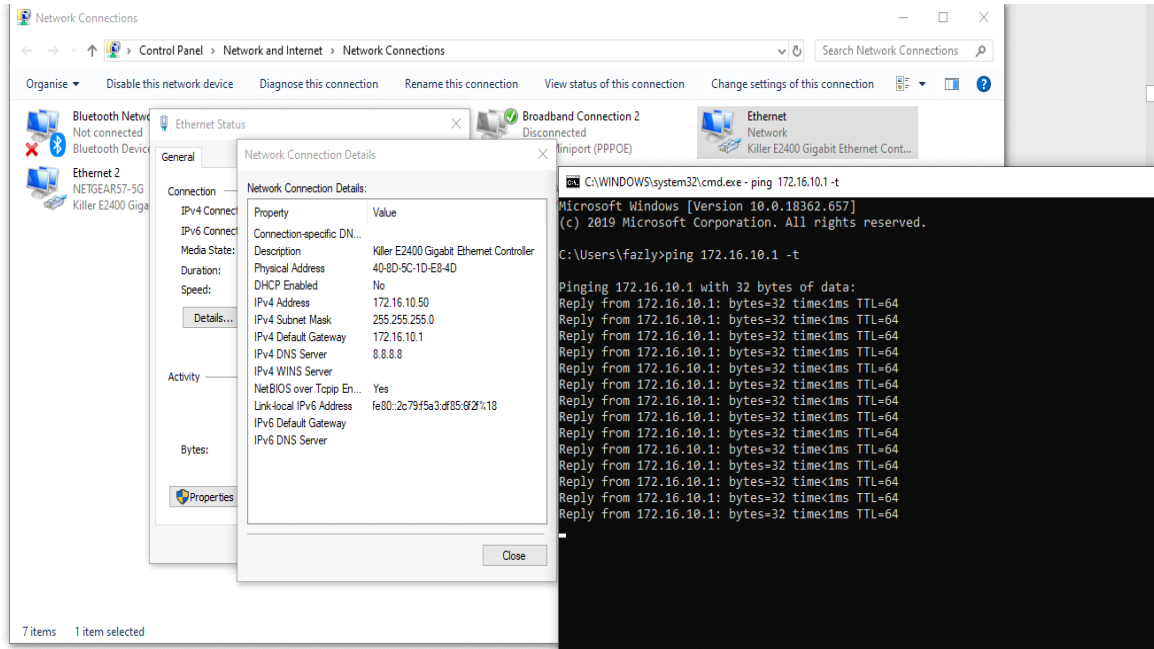


Figure 3.21: Network Connection Details

Queues of Parent Concept:

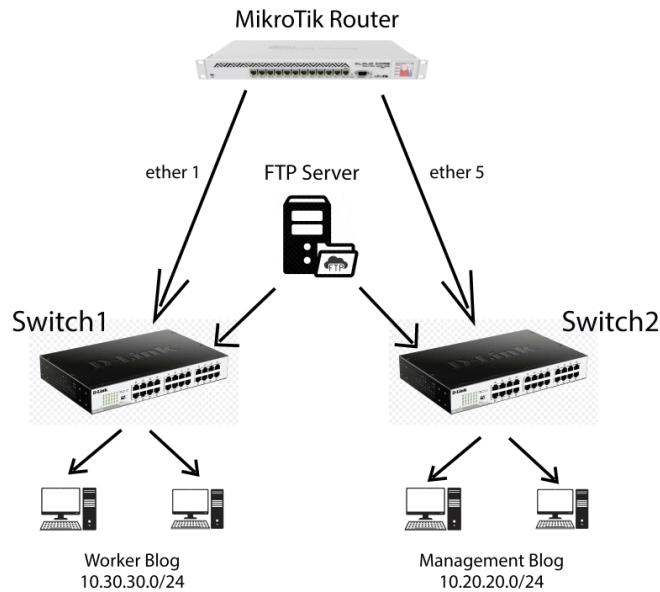


Figure 3.22: Topology of Parent Concept

Click Queues from Simple Queues from General from Name & OK

In the same way, we create the next blog and create a user of management blog.

Next Click on “Queues>Simple Queues>General>Name:(example: User1)>Target:(example:10.20.20.2)> Advanced >Parent: select management blog >Apply>OK”

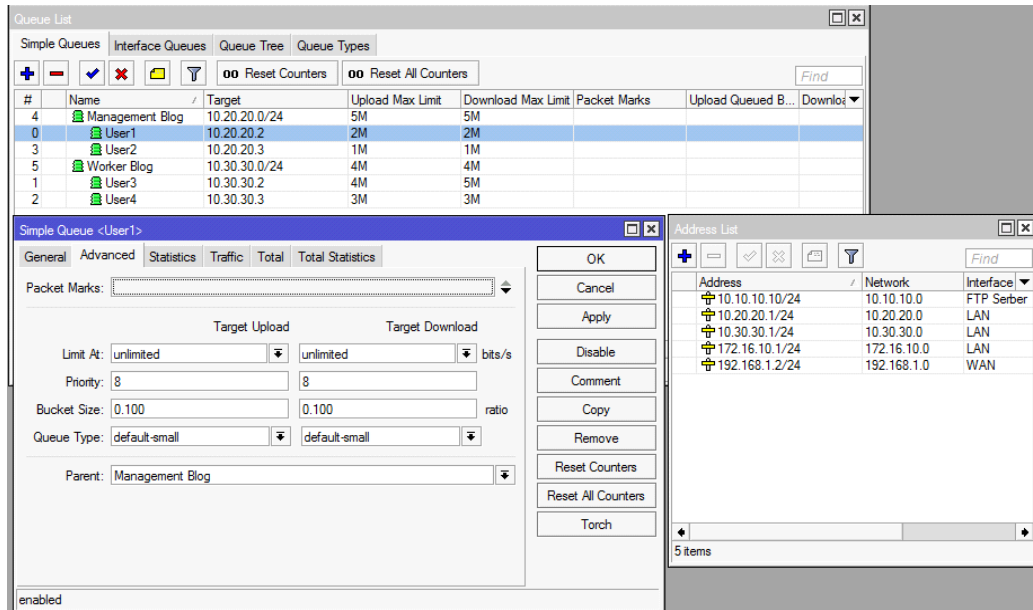


Figure 3.23: Simple Queues of Parent

3.3.2 Bind MAC Address:

Step 1: Click on, "Interfaces>Select ether2(LAN) and (Double click>General>ARP:reply-only>Apply>Ok".

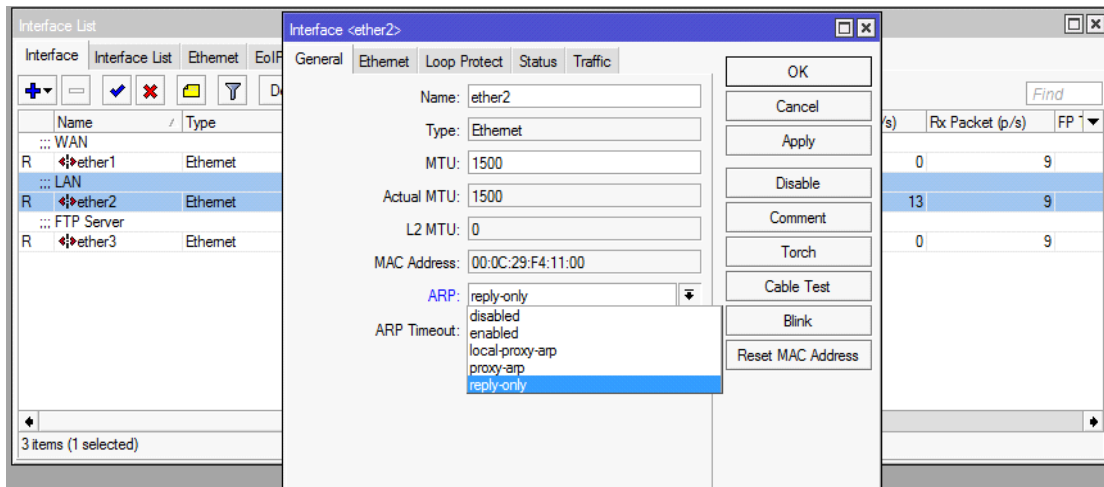


Figure 3.24: Interface to General Setting

Step 2:

PC Setting>Network>Local Area Connection>view under settings & OK”.

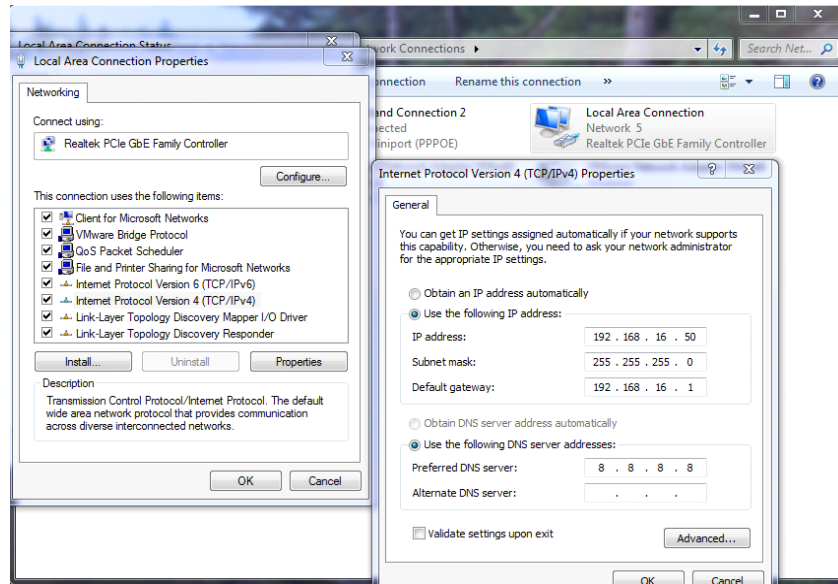


Figure 3.25: T.C.P/I.Pv4 Configuration with IP

Step 3:

Click on, "Tools>IP Scan> Interface: Select LAN Example: ether2>Address Range:192.168.16.50>Start".

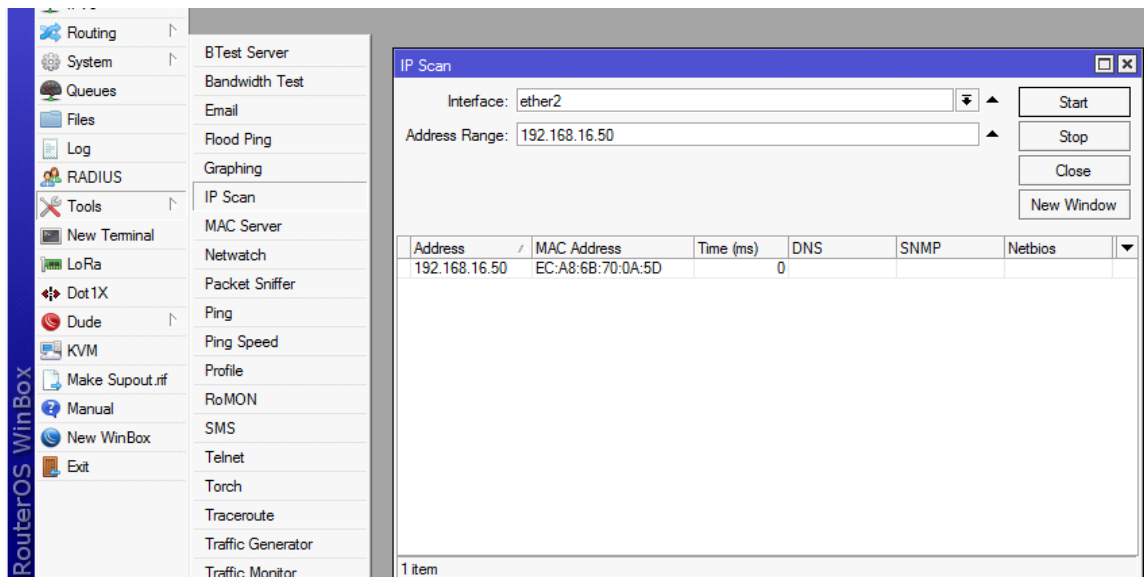


Figure 3.26: IP Scan

Step 4:

Click on, "IP>ARP>Add>IP Address:192.168.16.50> MAC Address: EC-A8-6B-70-0A-5D>Interface: LAN Example: ether2>Apply>Ok".

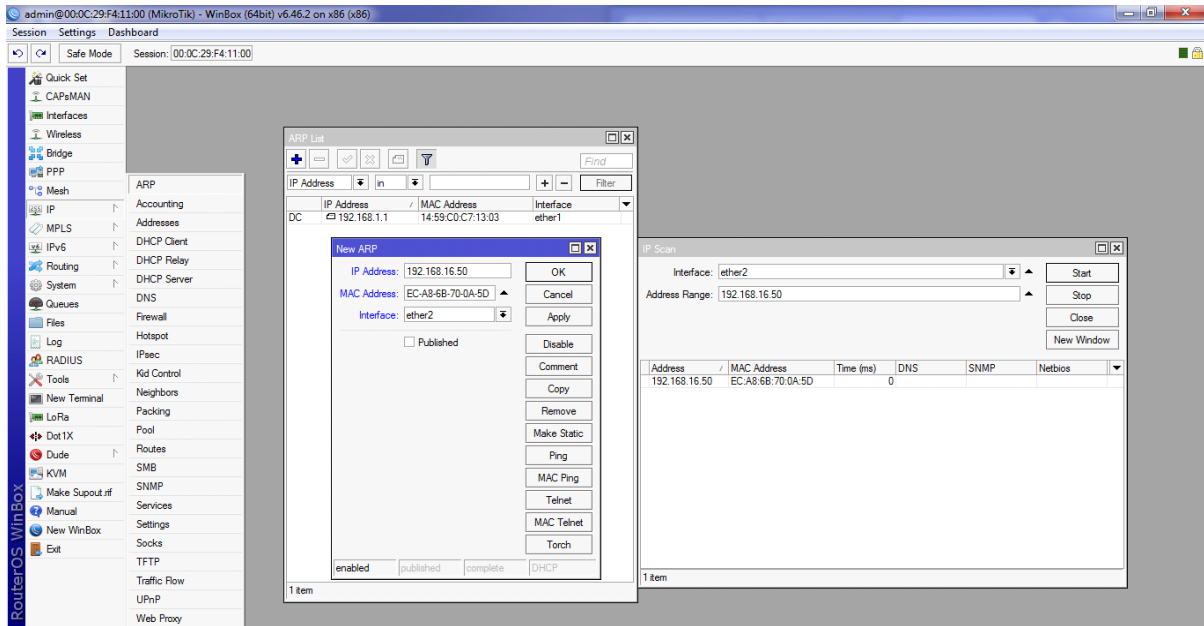


Figure 3.27: Add Media Access Control (MAC) Address

DHCP

Now Restart WinBox and reconnect Ethernet port IPv4 into automatic from pc then click from WinBox "IP>ARP= where show ARP list".

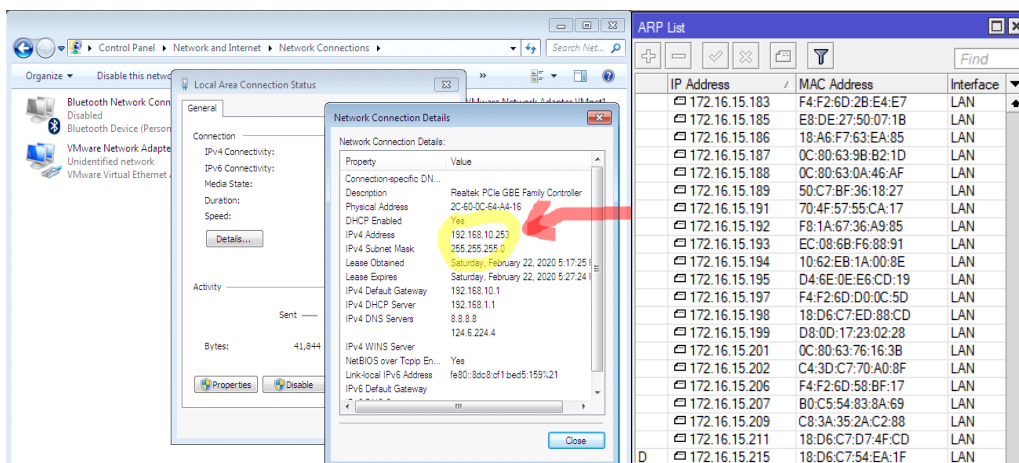


Figure 3.28: A.R.P Dynamic Configure

3.3.3 Hotspot Configuration:

IP from Pool from Name from Hotspot Pool & OK

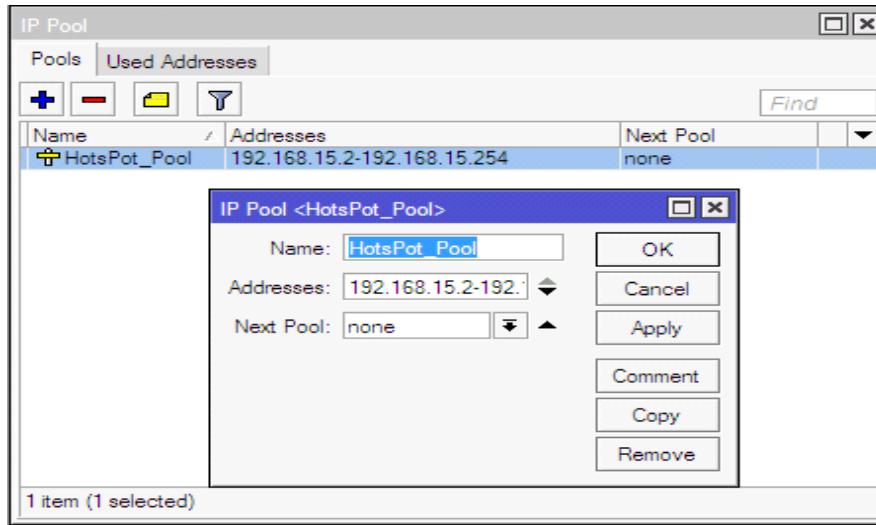


Figure 3.29: I.P Pool Config.

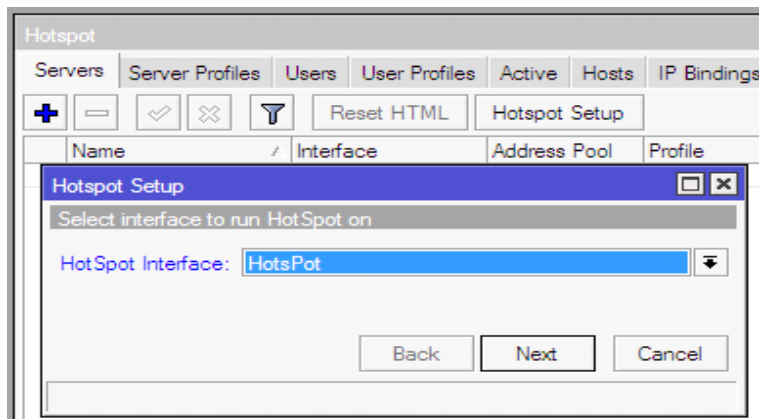


Figure 3.30: Hot Spot Setting

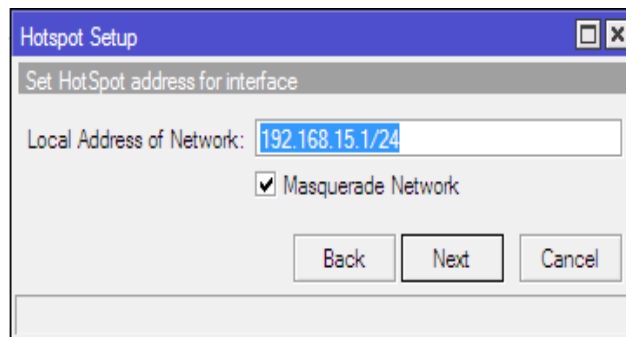


Figure 3.31: Hot Spot Setting Masquerade Network

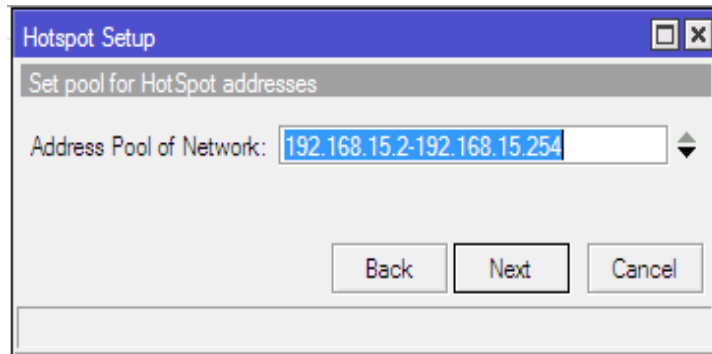


Figure 3.32: Hot Spot Setting Add. Pool

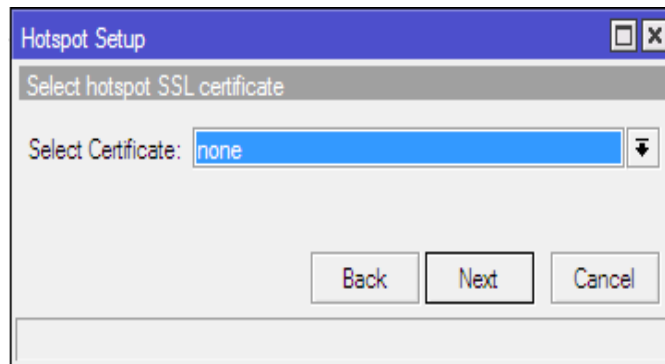


Figure 3.33: Hot Spot Setting SSL certificate

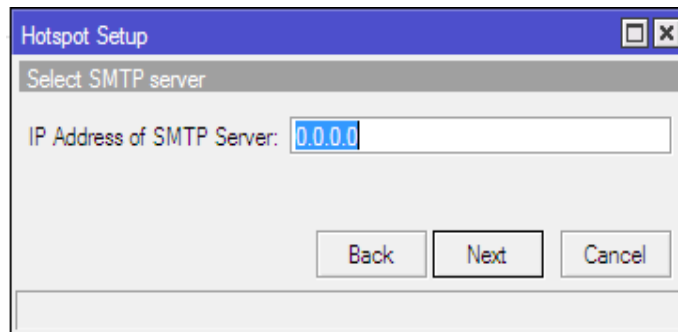


Figure 3.34: Hot Spot Setting SMTP

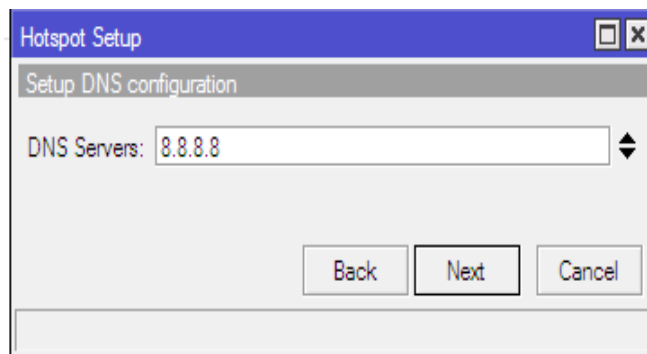


Figure 3.35: Hot Spot Setting D.N.S

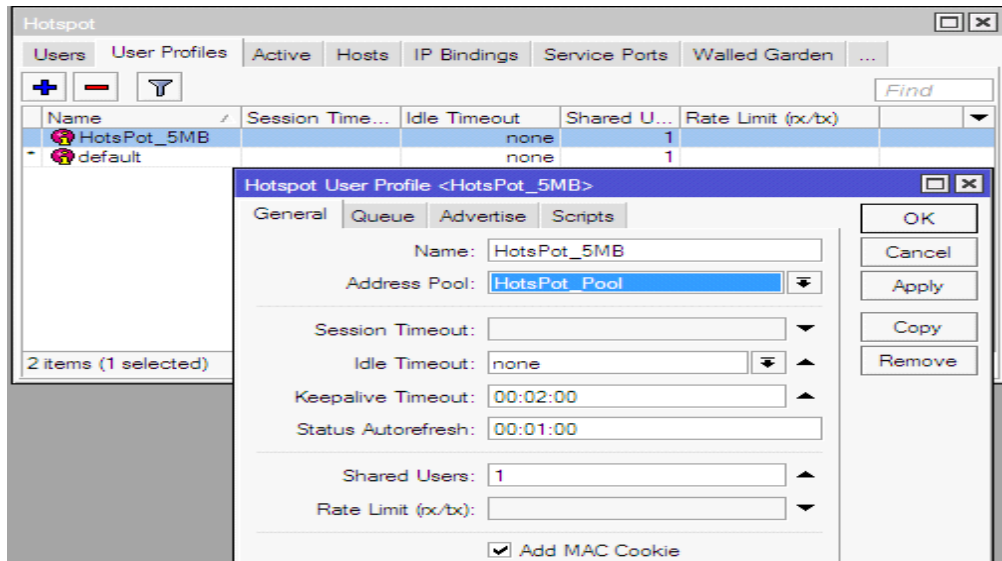


Figure 3.36: Hotspot Profile

User log-In System “Open browser and type www.mdbabu.com >Enter

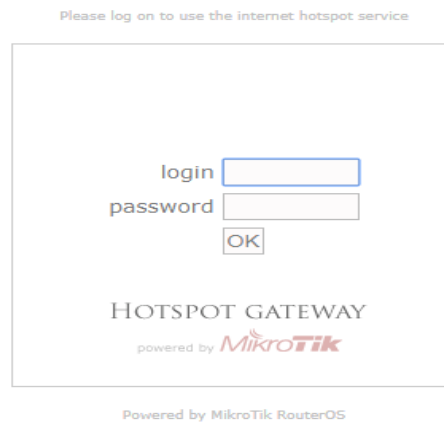


Figure 3.37: Login Page

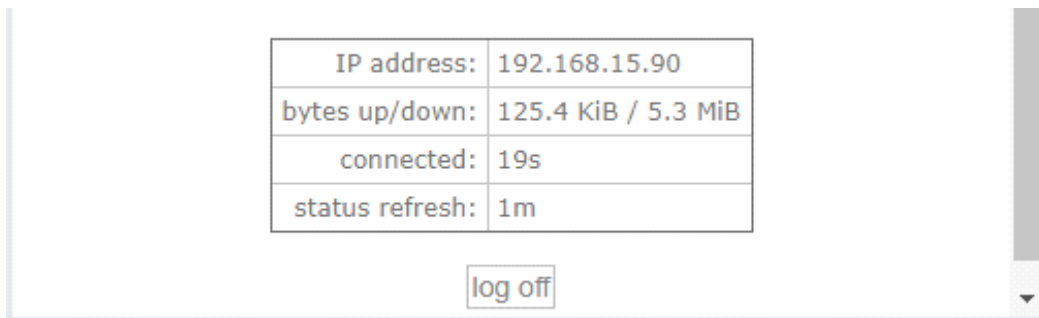


Figure 3.38: Log in confirmation

3.4 Challenges

Network Address Translation (NAT) is a broadly used explanation for IP address shortages. NAT introduces the idea that a "private" IP address is valid only in the local area network (LAN) and the "public" IP address being used on the Internet must be translated. With NAT, we share multiple private IP addresses into a single public IP address, thus delaying the need to establish long-term solutions to IP address shortages. Port Address Translation (PAT) is a slightly different concept related to NAT. PAT Incoming Sessions, that are initialized from an external host can map an exact internal host and port.

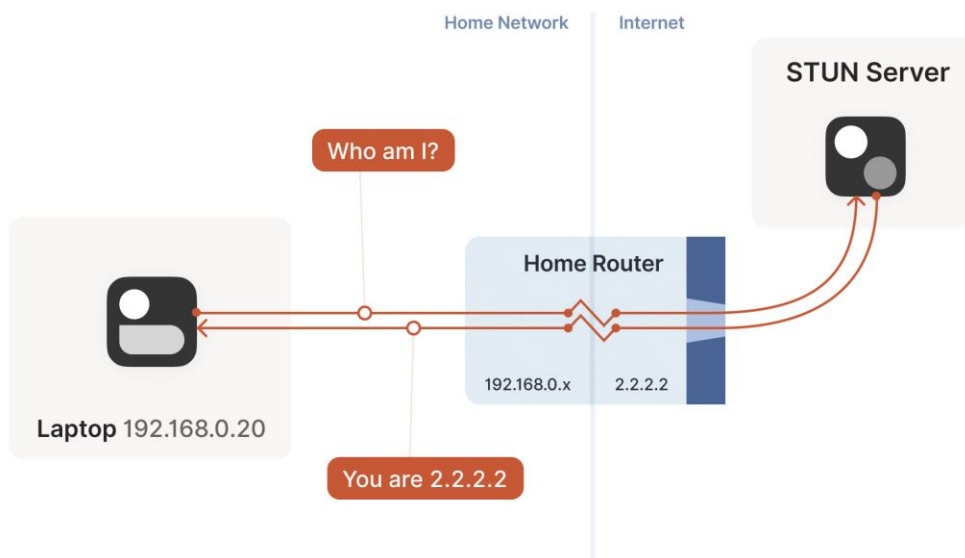


Figure 3.39: Network Address Translation.(NAT)

Wireless Router:

Wireless routers provide a suitable way to access the Internet as well as file sharing and printing and a small number of wired devices to connect any number of wireless devices to each other. In some small offices, but typically large companies, these 3 modules have dedicated part of access points, Ethernet switches, wired routers and routers.

Because the router is the only way to join to the Internet, the firewall works for all CPUs in the network, and the individual firewall of each machine may be turned off. Wireless LAN, Wi-Fi, Hotspot, Cellular Hotspot, Wi-Fi Extender, Router and WPAN.

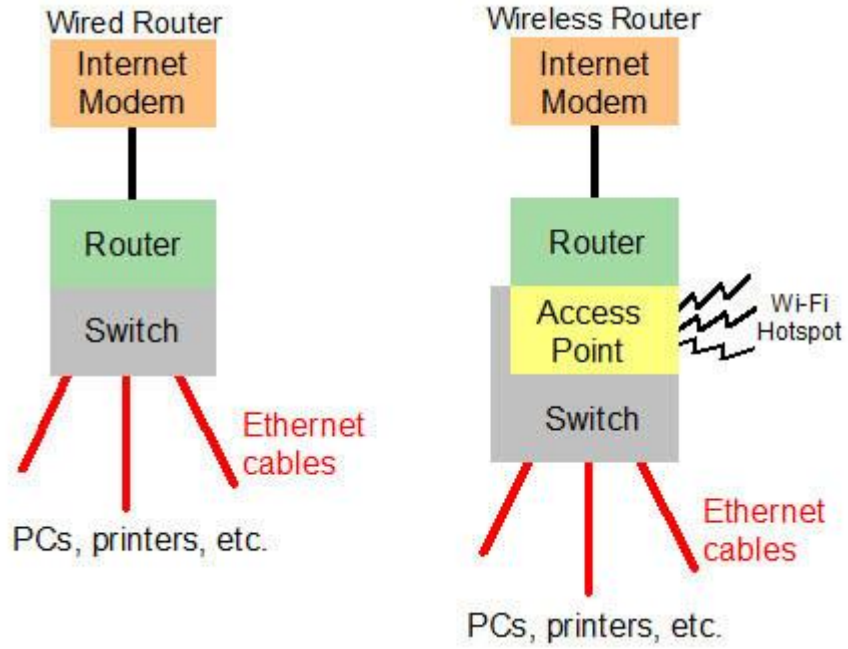


Figure 3.40: Wireless Router

CHAPTER 4

Conclusion and Future Career & Scope

4.1 Competencies Earned

How it works Configure the computer programming routers, router configuration, network configuration, and networking operating system under expertise about everything. Internship skills are acquired in the networking sector. IP configuration can learn all the gains through new networking.

4.2 Smart Plan

Networking internships are a must have for any Affiliate promoting any program. If all the organizations work well with the planning in a smart way, then the country has a bright future Will move forward. Smart planning is all experience and can be used efficiently further.

4.3 Reflections

They always work for good organization and national organization and for good reputation. They provide high technology for computer telecommunications and network solutions. They manage the entire networking system through the network

CHAPTER 5

CONCLUSION & FUTURE CAREER

5.1 Discussion and Conclusion

When I started working, I worked nine hours a day. The tasks are better on how to configure computer programming routers, how to gain more skills under router configuration, network configuration and networking operating system. Internship skills are acquired in the networking sector.

5.2 Scope for Further Career

Future prospects are acceptable in different zones under Networking. The beginnings of this Network profession are non-just at the Network level, the system protection parts of dissimilar regions desktop application growth.

References

- [1] Learn about Daffodil International University, available at <<<https://daffodilvarsity.edu.bd>>>, last accessed on 20-09-2020 at 10:00 PM.
- [2] Learn about Fareast Islami Life Insurance Company Limited, available at <<www.fareastislamilife.com>> last accessed on 22-09-2020 at 10:00 PM.
- [3] Learn about High-Level Data Link Control, available at <<https://en.wikipedia.org/wiki/High-Level_Data_Link_Control>> last accessed on 23-09-2020 01:23 PM.
- [4] Learn about Computer Hope, available at <<<https://www.computerhope.com/jargon/i/ip.html>>> last accessed on 25-09-2020 at 3:00 PM.
- [5] Learn about MikroTik: <<<https://mikrotik.com>>> last accessed on 27-09-2020 at 3:00 PM.
- [6] Learn about Wikipedia, available at <<https://en.wikipedia.org/wiki/IP_address>> last accessed on 30-09-2020 11:28 PM.

APPENDICES

Appendix: Company Information



ফারইষ্ট ইসলামী লাইফ ইন্স্যুরেন্স কোম্পানী লিমিটেড
فارايسٲ اسلامي لايف انشورنس كمباني ليميتد
Fareast Islami Life Insurance Company Limited
ইসলামী শরী'আহ মোতাবেক পরিচালিত

Head Office

Name	Fareast Islami Life Insurance Company Limited
Address	Fareast Tower, 35 Topkhana Road, Dhaka - 1000
Telephone	09613000123, +88-02-9573077
E-mail	info@fareastislamilife.com
Website	https://www.fareastislamilife.com
Employees	304

Plagiarism Report

Document Viewer

Turnitin Originality Report

Processed on: 07-Oct-2020 20:00 +06

ID: 1408001780

Word Count: 2658

Submitted: 1

MIKROTIK ROUTER CONFIGURATION IN ISP
By Abu Jafar

Similarity Index

19%

Similarity by Source

Internet Sources:	13%
Publications:	2%
Student Papers:	13%

[exclude quoted](#) [exclude bibliography](#) [exclude small matches](#)

mode:

[print](#) [refresh](#) [download](#)

5% match (student papers from 01-Apr-2019)

[Submitted to Daffodil International University on 2019-04-01](#)

2% match (student papers from 30-Jun-2020)

[Submitted to Daffodil International University on 2020-06-30](#)

2% match (Internet from 10-Jun-2017)

https://en.wikibooks.org/wiki/Communication_Networks/NAT_and_PAT_Protocols

2% match (Internet from 25-Jun-2017)

<http://www.pcmag.com>

1% match (publications)

["The CPU as a Turing Machine", Computing in the Web Age A Web-Interactive Introduction, 2002](#)

1% match (Internet from 17-Sep-2020)

https://en.wikipedia.org/wiki/Internet_Security_Association_and_Key_Management_Protocol