

FINAL YEAR INTERNSHIP REPORT ON
ISP NETWORKING MANAGEMENT SYSTEM USING MIKROTIK
ROUTER

BY

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

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APPROVAL


This internship report titled “**ISP Networking Management System Using Mikrotik Router**” submitted by Md. Samsul parvez , ID No: 161-15-7164 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 9th December 2018.

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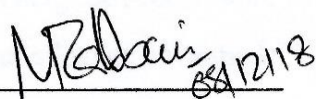
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DECLARATION

I hereby declare that, this internship report has been done by me under the supervision of **Mr. Masud Rabbani, Lecturer, Department of CSE, Daffodil International University.**

Here, I also declare that neither this internship report nor any part of this internship report has been submitted else where for award of any degree or diploma. I also declare that, I collect those information from Earth online limited, ISP based corporation, internet and books.

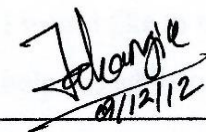
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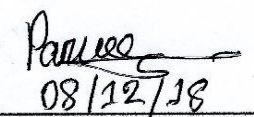
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ABSTRACT

The aim of this internship to learn the ISP networking management system using Mikrotik router. For this I had an internship over “networking management system using Mikrotik router” at Earth Online limited. MikroTik is now one of the most popular routers. This Router has a lot of networking services that help to build a stable and smooth network so easily. It is said that any ISP (Internet service provider) Company can’t go a single day without MikroTik Router. MikroTik Router is also favorite to any system administrator because of having graphical user interface (GUI) software named Winbox which helps to manage MikroTik Router so easily. Through this router there is different kind of work in the system that is the reason likewise unique sorts of server have. For Example-FTP Server, DNS, DHCP, NAT, ARP, Firewall, Interfaces, Router, and Bridge. During my internship as a technical support I had to face most of the problems for data connectivity, internet service and fiber optics network. By using ‘WINBOX’ software tool it was possible to see the details about that client and to solve that problem. This internship has given me the opportunity to work and learn about some software and hardware architecture almost and acquire a clear knowledge about understanding network system based problems and to find some reliable solutions.

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CHAPTER 1

Introduction

1.1 Introduction

We live in Information and Technology (IT) century. In this century information and technologies is a main part of our modern life. We will not move forward without Information and Technology. IT has different types of categories, among them Computer Networking is the major part of IT infrastructure. Now each and every organization is highly depending on Computer Networking. Many of other organizations are servicing computer networking technologies. And they are earning a lot of revenue from these services. An Internet Service Provider (ISP) is able to provide you with access to the Internet, typically from a computer. If we hear someone talking about the Internet and they mention their "provider," they're usually talking about their ISP. ISP makes the Internet a possibility. You can have computer with a built-in network card or wlan card and could have a router for networking, but without a subscription with an ISP, you won't have a connection to the Internet.

1.2 Motivation

An internship is one of the way to give a taste of working environment to students. Here are the concerns that motivates me to what I am doing and going to do:

- Provides a variety of benefits for young workers.
- Give a taste of what a profession is like.
- This makes plan a more fulfilling and productive career.

1.3 Internship Objectives

Computer network technologies are being an explosive in this modern era. The main reason of internship is to make use of my theoretical knowledge in working fields. More objects are given bellow :-

- To get hand-on/real life experience
- To get an opportunity to apply the principles and techniques theoretically learnt into real life problem solving situation.
- To develop understanding works ethics, employment demands , responsibilities and opportunities.
- An ability to use current techniques, skills, and tools necessary for networking practice.

1.4 Introduction to the Company

EarthOnline is the successor Broadband Internet Company of Demra Area started its operation in February 2011 with the responsibility to provide Broadband Internet Service. Earthonline which is a wellknown IT enabled company. All operations, from administration to product development, take place at this corporate office location. The company plans to maneuver to an even bigger facility because it expands and its employees grows on the far side its current regular staff. In the context of economic process and advanced data and communication technology, the concept of development is inevitably associated with the application of the built-in capabilities of computer as a whole. Bangladesh, being a developing country is gaining its momentum during this regard.

Earth online limited is a company driven to provide customers with a complete solution to their entire current and future internet and private network needs. The company customer based includes all consumers and all small- to medium-sized businesses, including start-ups.



Head Office

Table-1: Company Details

Name	Earthonline limited
Address	West Shanarper,1361 Demra,Dhaka, Bangladesh
Mobile number	01687559338
Email	earthonline.ltd@gmail.com
Type of Organization	Internet service provider(ISP)

1.5 Report Layout

Chapter 1, In this chapter I have defined the motive of my internship, concept of internship and Introduction to the company in which I complete my internship.

Chapter 2, In this chapter I have described my internship Enterprise. It also includes their providing services..

Chapter 3, In this chapter I have described about daily task and activities during my internship.

Chapter 4, In this chapter I have described is Competencies Earned, Smart Plan, Reflections.

Chapter 5, In this chapter I have described is Conclusion and Future Scope.

CHAPTER 2

Organization

2.1 Introduction

Earth Online Ltd. is one of the most importance company for internship and providing Broadband and IT relative services and solution since February 2011. Earth Online offers high-speed data services through the Internet. Mostly, it offers high speed Internet services to residential and corporate customers.

2.2 Services

Earth online ltd. Provides different types of services such as;

- Corporate Internet (High speed Internet).
- Home Internet (Fiber/STP cable to the Home).
- High speed Internet access – Fiber local area network services, WiFi Services and Solutions.
- Network & Servicing solutions
- Point ot point connectivity
- Web and Ftp server Service.

2.3 Transmission Services

- Fiber Optic.
- STP cable.
- Radio link connectivity.
- Wireless connectivity.
- Router ,MC , Switch etc.

2.3 SWOT Analysis

SWOT that approach strength, weakness, opportunities , and threats. The main purpose of SWOT assessment is to capture the important key internal and external additives for a aim.

➤ **Strengths**

Describe the positive attributes, palpable and incorporeal, internal to this organization.

- Point to point frequency
- High quality services
- Healthy internal environment
- People oriented Organization

➤ **Weakness**

- New applicants underestimate levels of expertise needed to survive the market
- Weak NOC.
- High fares.
- Over staffing.

➤ **Opportunities**

Opportunities are external attractive factors that represent reasons our business is likely to prosper.

- Traffic.
- Better Policy.
- Big market available that are unserved.
- Have an opportunity to grow and expand through country.
- Low cost carriers.
- Better training programs

➤ **Threats**

- Many competitors.
- The Economic Crisis ,Normal Householders less like to increase their Broadband subscriptions.

2.5 Summary

In this chapter I have discussed about Earth online ltd which provides broadband internet at Derma. In where I have completed my internship is the networking and Internet Service Provider (ISP) in Bangladesh. There are many service provide by Earth Online ltd.. I have got a great opportunity to work some of the regions and offices as an intern and gain lot of experiences.

CHAPTER 3

Tasks, Projects and Activities

3.1 Daily Tasks and Activities

Month 1: During the first month of my internship on Earth online limited I have learned and Exercise the following topics:

1. Learning & understanding fundamental of Network Components of Network.
2. Learning & understanding Basics concept of router.
3. Understanding different type router.
4. How router works.
5. Understanding Different types of Media
6. Concept of IP addressing.
7. Mikrotik OS Installation.

Month 2: During the second month of my internship on Earth online limited I have learned and performed the following topics:

1. Learning about how to operate Mikrotik router using Winbox.
2. Learning about router installation.
3. Learning about Static routing configuration.
4. Learning about Dynamic routing configuration
5. Maintenance MikroTik router
6. Maintenance routing protocols

Month 3: During the third month of my internship on Earth online limited I have learned and performed the following tasks:

1. Configuring IP Address in Mikrotik.
2. Interface configure.
3. Static Server configure.
4. DHCP Server configure.
5. PPPOE Server configure.

Month 4: The last month of my internship on Earth online limited I have learned and performed the following tasks:

1. Learning, understanding and configuring FTP Server.
2. Learning, understanding and configuring DNS Server.

3.2 Basic Networking components

In this modern age, Computer communication and information are the most important and beneficial parts for networking as well as on economic sector. For the interconnection of people, to communicate with each other and to meet the daily requirements of daily life, Internet network are becoming more important. In Figure 3.1 Devices are normally used in backbone of network are shown.



Figure 3.1 : Network devices

3.2.1 Router

The router is a 3 layer device, that is, it can work with the OSI Layer's physical, data link and network layer. For this reason, the router can work with the IP address in the network layer. Routers usually help to create a WAN (Wide Area Network) by connecting LAN (Local Area Network). There are two types of router wired and wireless that we found in market. Routing table replaces the MAC address with the IP address and all the records related to the networks associated with it, which means that it can easily indicate which way a data is going to go with or by a penalty. The router also fixes not just the connected networks, but also the way to send data to any network on the distant network. Each router updates itself after a few seconds and sends the update message to its adjacent router, which also makes updates to other routers. For example, if a network or LAN was disconnected from the router for some reason, the router will first update its own routing table and send the message to the surrounding router to inform that the lane is disconnected. There are several routing protocols for running this complete process: RIPv2, EIGRP, OSPF etc [1]. In Figure 3.2 shown a Mikrotik cloud router.

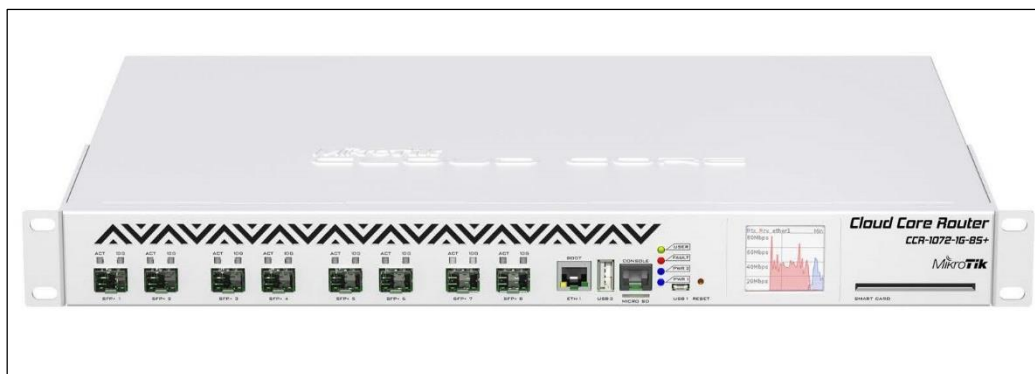


Figure 3.2 : Mikrotik Router

3.2.2 Switch

Switch is a type of hardware device that enables cable to be installed on multiple computers through a cable. Switch and Hub do the same, but Switch is better than Hub. The difference between Switch and Hub is the switch's own routing table on this table,

it records all the networks connected to it and connected computers connected to the network. Switch As he uses the MAC address of the LAN card when he comes to a data switch then the recipients of that data match the MAC address of the computer with its routing table. If the match is received, the sender will send the data with the penalty attached to the computer that is connected to the search. As a result, any data reaches only to the particular recipient computer. Normal quality switches can always work on a network. However, the managerial switch is done by working with VLAN (Virtual LAN) and working on multiple networks. There are currently some advanced technology and layer switches that can work directly with the IP address and it works on the physical and data link layer, the address of the computer connected to it network layer [2]. In Figure 3.3 shown Cisco 24 ports manageable switch.

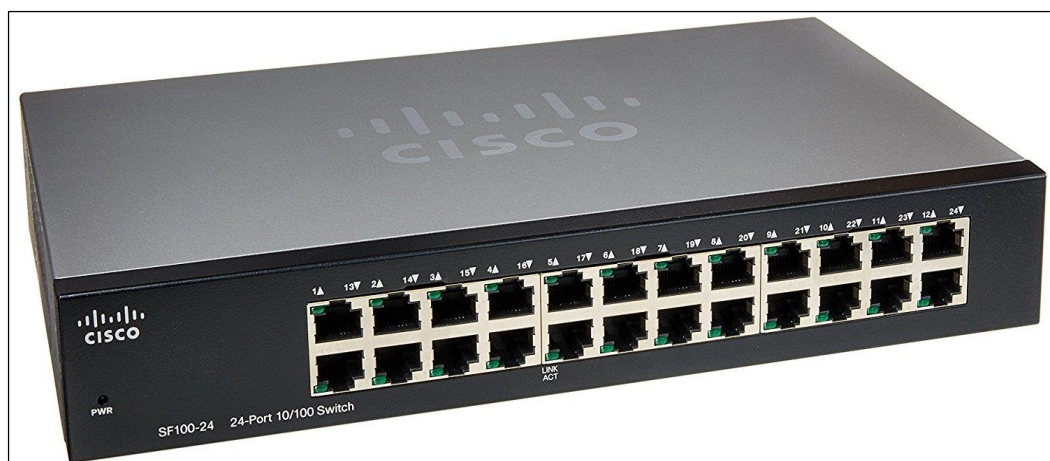


Figure 3.3: Networking Switch

3.2.3 Media Converter (MC)

A Media converter (known as MC) is a simple networking device that makes it possible to connect two different media types such as twisted pair with fiber optic cabling. They were offered to the industry in the 1990s, and are vital in connecting fiber optic cabling-based systems with existing copper-based, structured cabling systems.

They are also used in metropolitan area network known as MAN access and data transport services to enterprise customers. In Figure 3.4 shown A part of Micronet MC



Figure 3.4: media converter

3.2.4 Fiber Optic

This cable is used as a glass media not use copper wire. So as a result, electromagnetic interference is not available. Fiber optic cable's data transmission speed is much higher. There are two types of fiber optic cable. Single mode fiber and multimode fiber. The main disadvantage is that the price is too high and it is difficult to install.

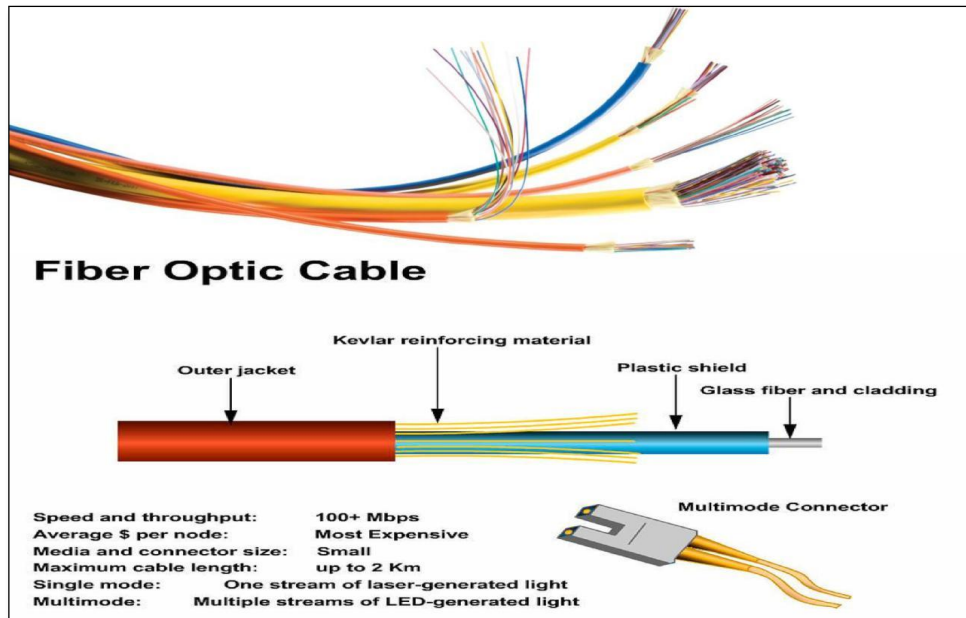


Figure 3.5: Fiber Optics

Advantages of optical fiber:

- Higher bandwidth than existing cables, larger data transmission capacity.
- Less signal attenuation .
- Less susceptibility than metal cable to interference.
- Much thinner and lighter than metal wire.
- Data can be transmitted digitally.
- Fiber optics cable cost much less to maintain

3.3 IP Address & Subnetting

An Internet Protocol address (IP address) is a logical address and assigned to each device connected to a computer network that uses the Internet Protocol for communication. An Internet protocol (IP) address serves two principal functions that are host or network interface identification and location addressing [4].

The IP version 4 (IPv4) defines an IP address as a 32-bit number. Because of the growth of the Internet and the lessening of available IPv4 addresses, a new version of Internet protocol are offered IPv6, using 128 bits for the IP address.

Table-2: IP addresses classification

Class	First Octet Decimal Range	Network/Host ID (N=Network, H=Host)	Default Subnet Mask of IP address	Number Of Network	Host Per Network (Usable Address)
A	1-126	N.H.H.H	255.0.0.0	126 ($2^7 - 2$)	16,777,214 ($2^{24} - 2$)
B	128 - 191	N.H.H.H	255.255.0.0	16,382 ($2^{14} - 2$)	65,534 ($2^{16} - 2$)
C	192 - 223	N.H.H.H	255.255.255.0	2,097,150 ($2^{21} - 2$)	254 ($2^8 - 2$)
D	224 - 239	Reserved for Multicasting			
E	240 - 254	Experimental; used for research			

Class A IP addresses 127.0.0.0 to 127.255.255.255 can't be used because is reserved for loopback and diagnostic functions.

3.3.1 Public IP Addresses :

A public internet protocol (IP) address is the address that is assigned to a computing/networking device to allow direct access over the Internet. It is only for possible to directly accessible web server, email server ftp server, and any server device from the Internet are candidate for a public IP address. A public IP address is universally unique, and can only be assigned to a single device.

Table-3: Public IPv4 Network ranges

Class	Public IP address	Subnet Mask	IP Address Range
A	1.0.0.0	255.0.0.0	9.0.0.0-10.255.255.255 11.0.0.0-126.255.255.255
B	128.0.0.0	255.255.0.0	128.0.0.0-172.15.255.255 172.32.0.0- 191.255.255.255
C	192.0.0.0	255.255.255.0	192.0.0.0-192.167.255.255 192.169.0.0- 223.255.255.255

3.3.2 Private IP Addresses :

A private IP (Internet protocol) address is the address space allocated by InterNIC to allow organizations to create their own private network. There are three IP blocks (1 in class A, 1 in class B and 1 in class C) reserved for a private use. The computers, tablets and smartphones ,and the personal computers within an organizations are usually assigned private IP addresses. I have network printer which residing in my home is need to assigned a private address so that only me and my family members can print to my local printer. When a PC is allocated by a non public IP address, the local devices see this computer via it's private IP address. But the devices exist in outside of my local network can't directly communicate via the private IP address, but uses my router's public IP address to communicate.

Table-4: Private IPv4 Network ranges

Class	Private IP address	Subnet Mask	IP Address Range
A	10.0.0.0	255.0.0.0	10.0.0.0- 10.255.255.255
B	172.16.0.0	255.240.0.0	172.16.0.0- 172.31.255.255
C	192.168.0.0	255.255.255.0	192.168.0.0- 192.168.255.255

3.4. MikroTik OS Configuration:

Mikrotik OS is an operating system to make your computer as a Mikrotik router. Mikrotik is a Latin enterprise in the beginning created to build big router and wi-fi ISP structures in 1995. Experience in the use of industry well known PC hardware and the entire routing framework turned into created in 1997 to create our Router's software program software. Software device which offers massive stability, manage and adaptability for all types of records interface and routing. In 2002, Mikrotik had been set to build their very own non-public hardware and the Router board brand turned into born. They are principally reseller of sectors and probably every USS subscriber On the planet [3].

3.4.1 Create virtual machine

1. Download Mikrotik Os from <https://mikrotik.com/download>
2. Create bootable Flash Drive or CD/DVD with the ISO file.
3. Use the installation media to boot up the PC and install MikroTik RouterOS.
4. Open Oracle VM VirtualBox . In Figure 3.6 open view of virtual machine shown

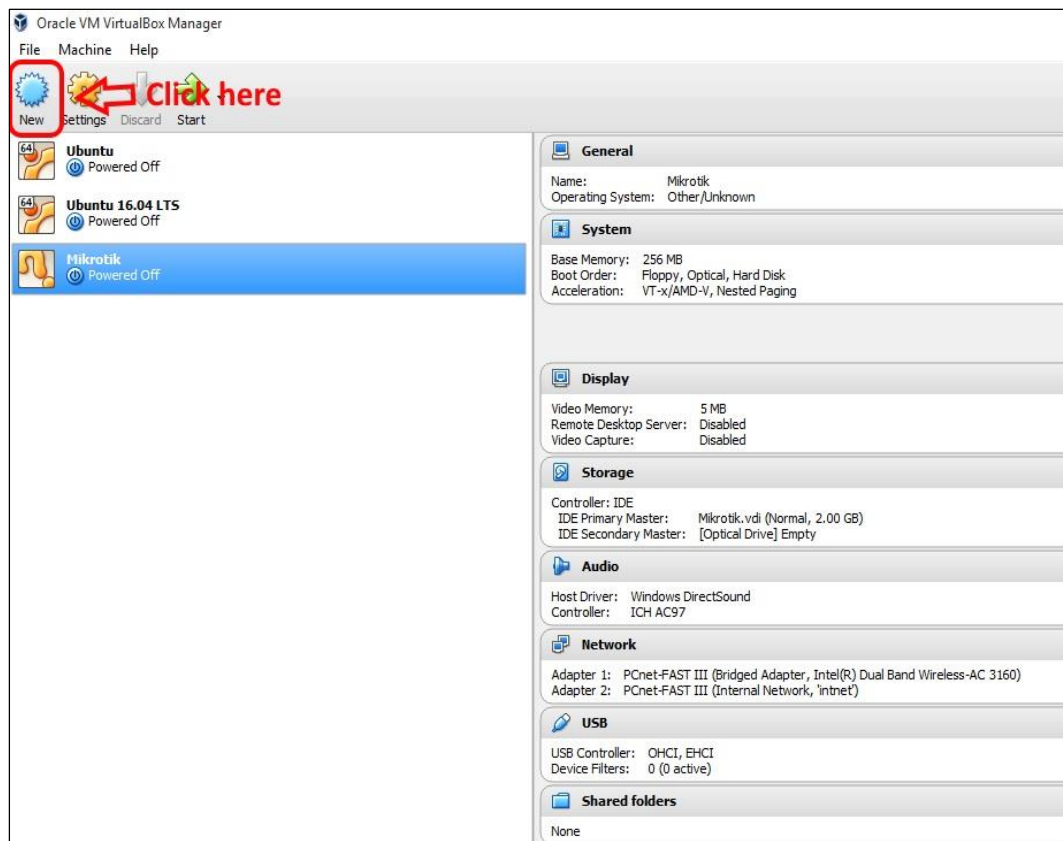


Figure: 3.6: Oracle virtual box start view

5. Give Virtual Machine Name “Mikrotik”.
6. Select type and version “Other”.
7. Set memory size 256MB
8. Check on “Create a virtual hard disk now”.
9. Click “Create” button.

In Figure 3.7 shown virtual machine storage allocation process.

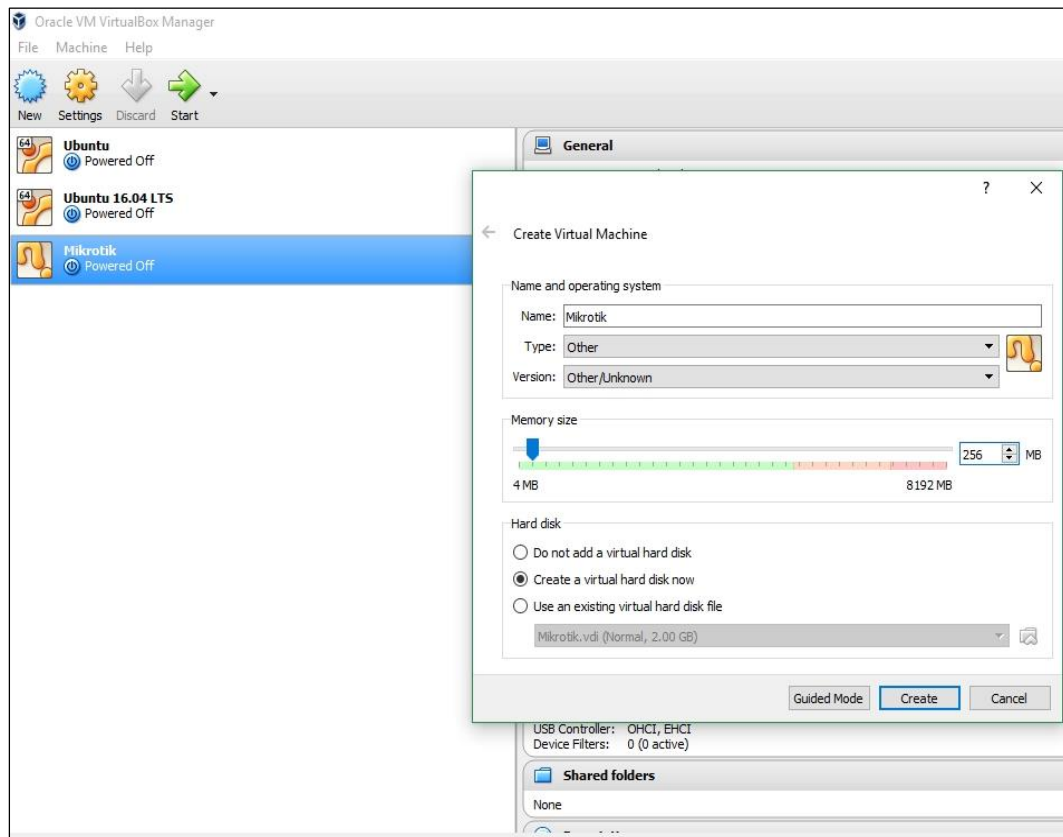


Figure 3.7: Create virtual machine.

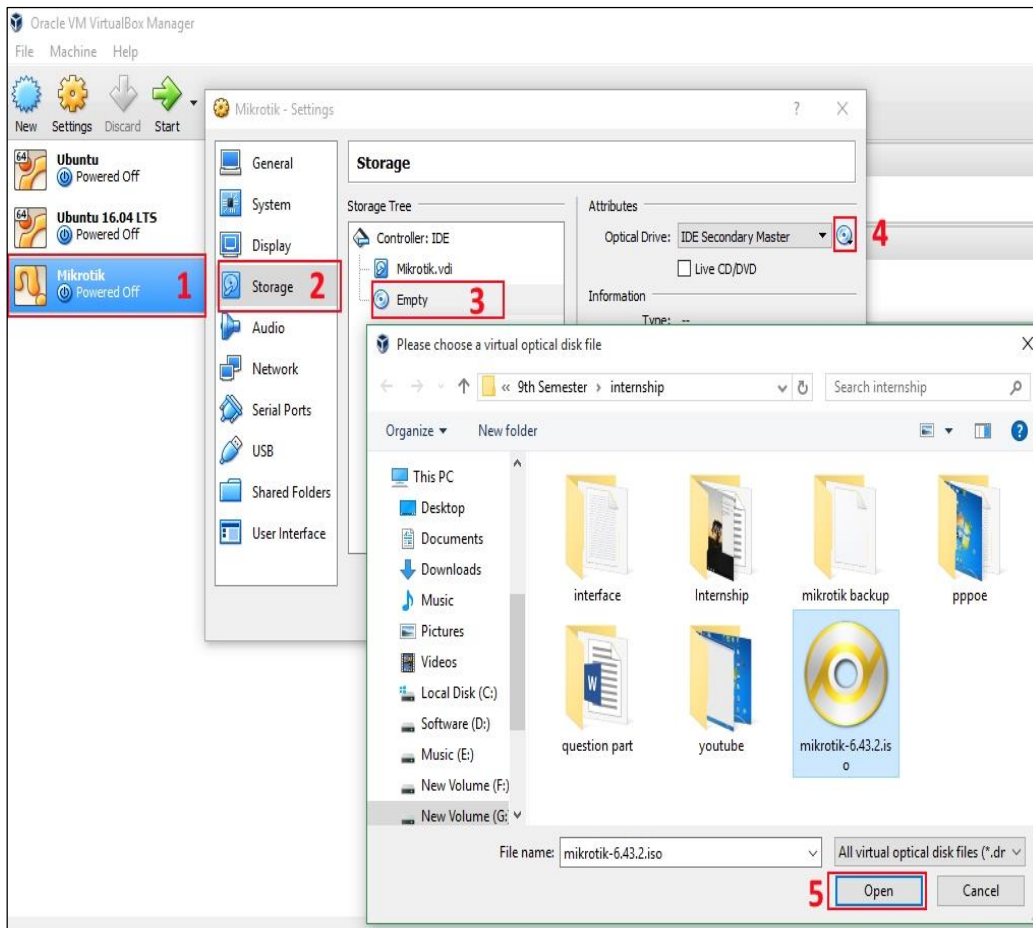


Figure 3.8: Virtual machine Creating process

10. Now right click on created “Mikrotik” virtual machine.
11. Click on “Setting” then click “Storage” click on empty disk and locate mikrotik iso file location. All this process are shown in figure 3.8

12. Click on “Network” select adapter 1 and set attach to “Bridge adapter”.
13. Again select adapter 2 and set attach to “Internal Network” then ok. In Figure 3.9 there are shown selecting process of Network adapter as Bridge adapter.

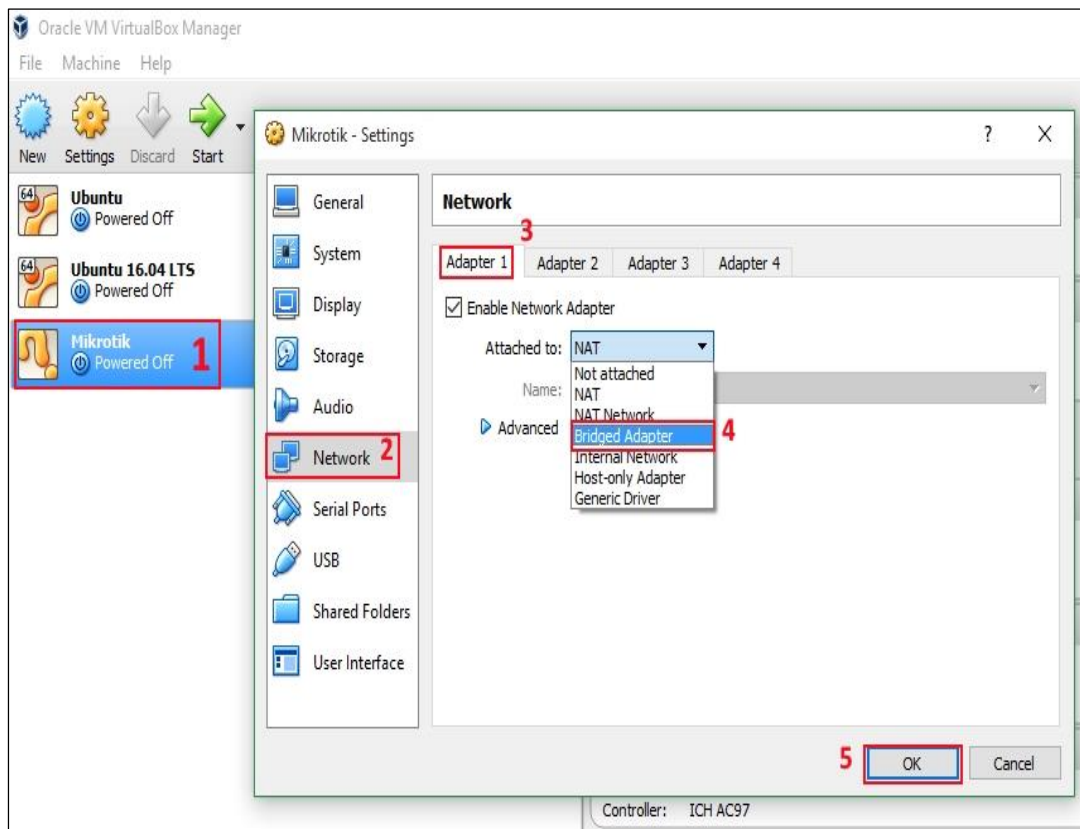


Figure 3.9 : Configure network adapter

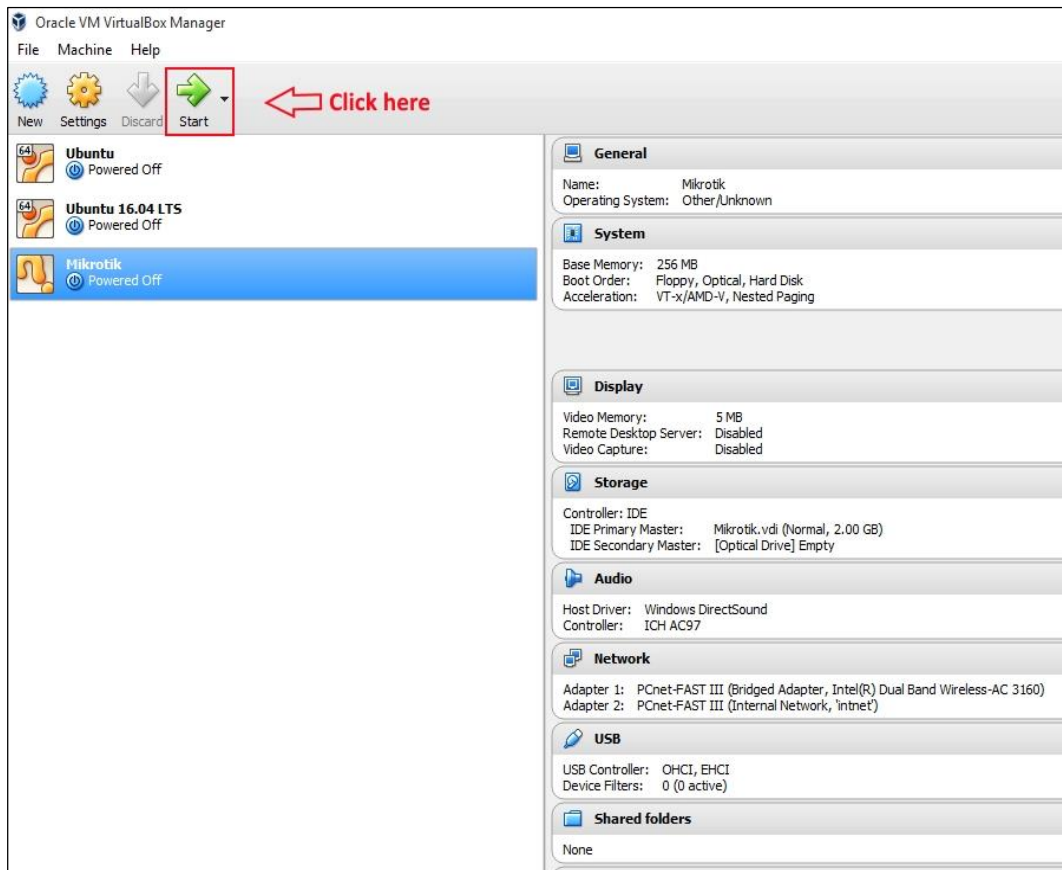


Figure 3.10 : New virtual machine start view

14. Click on “Start” icon to power up the recently created virtual machine. Shown in Figure 3.10
15. When file load will complete selects all the option by pressing 'a' and click on 'i' to
16. start Router OS installation.
17. Press 'y' to process disk format.
18. Then machine will take restart and will come a login interface.

3.4.2 Mikrotik OS Installation Procedure:

The boot process will display a instruction menu of software options that are shown in Figure 3.11 Move around menu using 'p' and 'n' or arrow key, select with 'spacebar'. Select all with 'a', minimum with 'm'. Press 'i' to install locally or 'q' to cancel and reboot.

Do you want to keep old configuration ? [y/n] type N

Step 1: Press 'a' to select all then press 'i' to continue to process then press 'n' and then press 'y'.

Step 2: Let's start the installation manner, begin the installation disc at the disk after set up on the give up of the installation procedure. Then press 'enter' to open the microcontroller

login window after rebooting the laptop, you must log in consumer: admin and any password .

Do you want to keep old configuration ?

Continue ? [y/n] type N

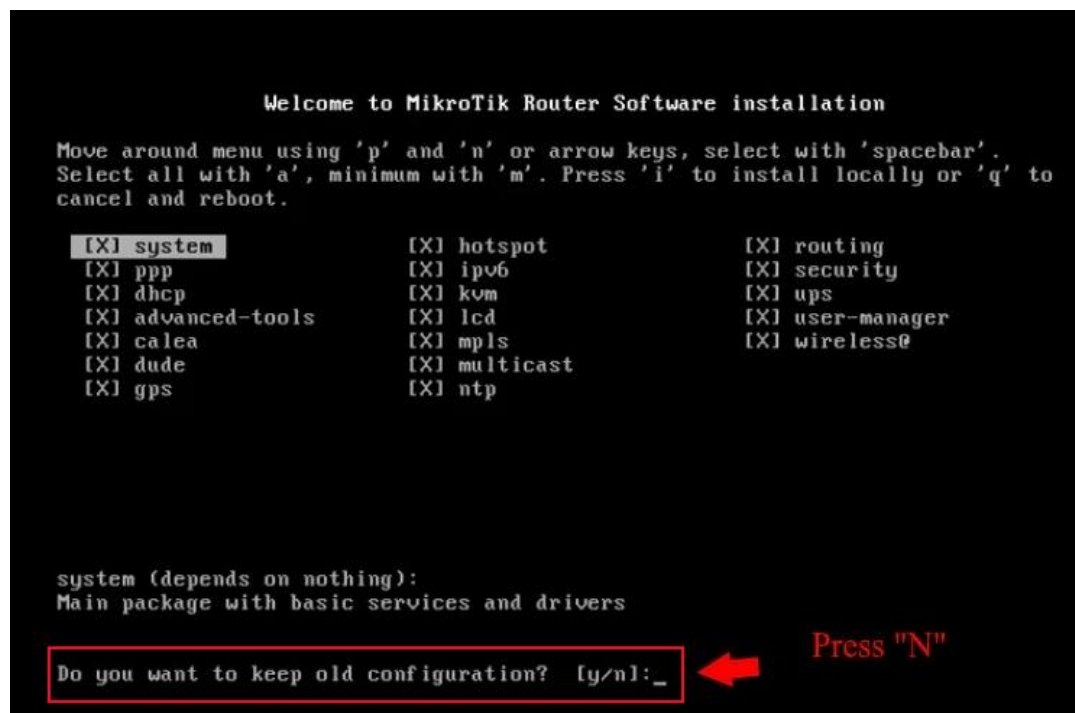


Figure 3.11 : Mikrotik installation process i

In Figure 3.12 you are asked to confirm following process
All data on the disk will be erased ?

Continue ? [y/n] press Y

```
[X] dhcp                [X] kvm                 [X] ups
[X] advanced-tools     [X] lcd                [X] user-manager
[X] calea               [X] mpls               [X] wireless@
[X] dude               [X] multicast
[X] gps                 [X] ntp

system (depends on nothing):
Main package with basic services and drivers

Do you want to keep old configuration? [y/n]:n
Warning: all data on the disk will be erased!

Continue? [y/n]:y ← Press "Y"

WARNING: couldn't keep config - current license does not allow that
Creating partition...
Formatting data partition 58%_
```

Figure 3.12 : Mikrotik installation process ii

Creating partition and formatting disk process

After the system installation process will begin. And in the Mikrotik do not need to create a disk partition because it will be formed automatically.

After completion of all installation process you are asked to reboot by pressing Enter. Then after reboot Mikrotik is started and by providing Login details like user type and password that are shown in Figure 3.13. And you are asked to Do you want to see the software license. If you don't want to see just press N.

```
MikroTik 6.37.5 (bugfix)
MikroTik Login: admin
Password:

MMM      MMM      KKK      TTTTTTTTTT      KKK
MMMM     MMMM     KKK      TTTTTTTTTT      KKK
MMM MMMM MMM III KKK KKK RRRRRR 000000 TTT III KKK KKK
MMM MM  MMM III KKKKK RRR RRR 000 000 TTT III KKKKK
MMM     MMM III KKK KKK RRRRRR 000 000 TTT III KKK KKK
MMM     MMM III KKK KKK RRR RRR 000000 TTT III KKK KKK

MikroTik RouterOS 6.37.5 (c) 1999-2017      http://www.mikrotik.com/

Do you want to see the software license? [Y/n]: _
```

← Press "N"

Figure 3.13: Mikrotik installation process iv


```
these things:

Sections 1 and 2 above); and, if the work is an executable linked
with the Library, with the complete machine-readable "work that
uses the Library", as object code and/or source code, so that the

ROUTER HAS NO SOFTWARE KEY
-----
You have 23h49m to configure the router to be remotely accessible,
and to enter the key by pasting it in a Telnet window or in Winbox.
Turn off the device to stop the timer.
See www.mikrotik.com/key for more details.

Current installation "software ID": WSSX-S1Q9
Please press "Enter" to continue!
may/27/2017 06:13:32 system,error,critical router was rebooted without proper sh
u
tdown

[admin@MikroTik] > _
```

Figure 3.14: Mikrotik Start view

Step 3 : Enter "admin" in Mikrotik login and password keep blank. After successful login mikrotik will started that are shown in Figure 3.14

3.5 Winbox

There are many tools to configure MikroTik RouterOS remotely, using Telnet, SSH, WinBox Console or Webbox. In this Section we will discuss how to use winbox

Winbox is a graphical software tools to configure Mikrotik router. In Figure 3.15 shown access mikrotik router using winbox.

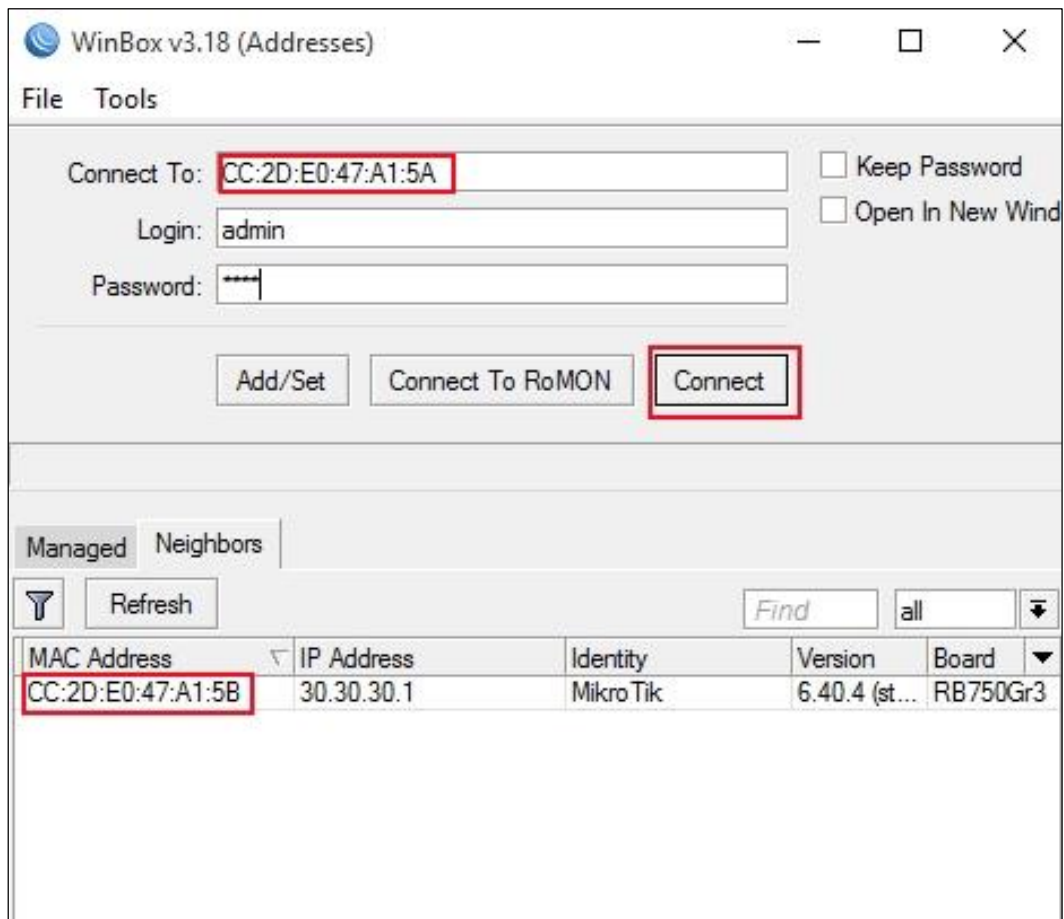


Figure 3.15: Winbox view

3.6 Initial Configuration of MikroTik

- Insure Power to the Mikrotik router.
- Plug in an UTP cable in LAN port of Mikrotik and the other port to the Computer
- Open winbox.
- Write “admin” in the Login box and keep password box blank.
- Click to Refresh icon and then show a IP address and MAC address. Click to Mac address then mikrotik interface are appears that are shown In Figure 3.16

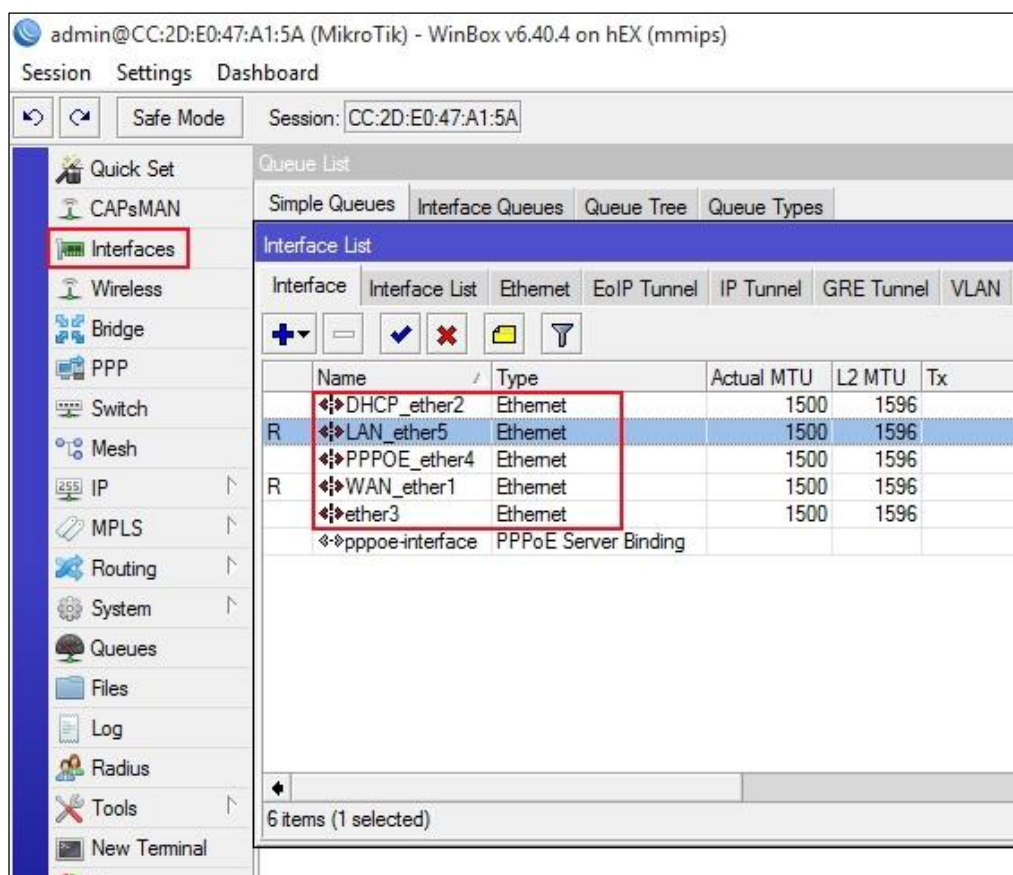


Figure 3.16: Mikrotik interface view

- First reset your Router use command (system reset-configuration).

Step Configuration of Mikrotik ports

- Click on “interfaces” for show the interface list .
- Then rename ether 1 to WAN_ether1
- Rename ether2 to DHCP_ether2
- Rename ether4 to PPPOE_ether4
- Rename ether5 to LAN_ether5 that are shown in Figure 3.17

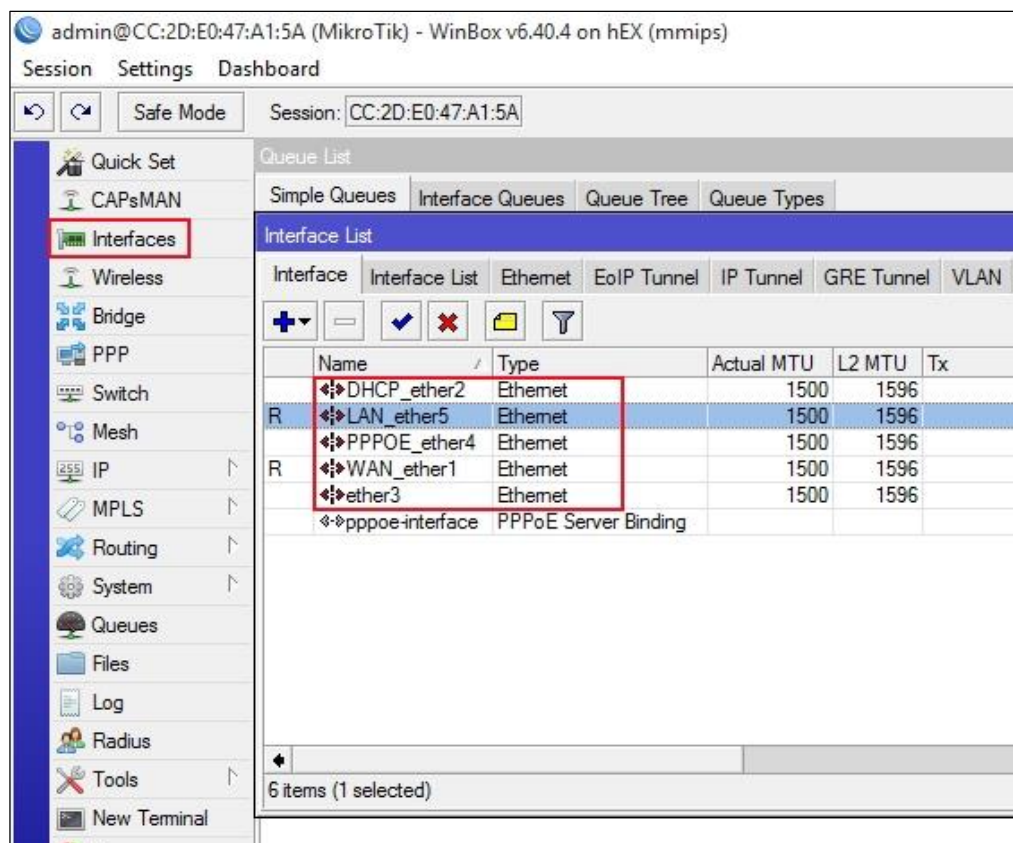


Figure 3.17: Interface Renamed view

Now click IP then address then click on “+” Set IP Address then apply then ok to save [5]. In Figure 3.18 shown IP addresses assign process in Mikrotik router.

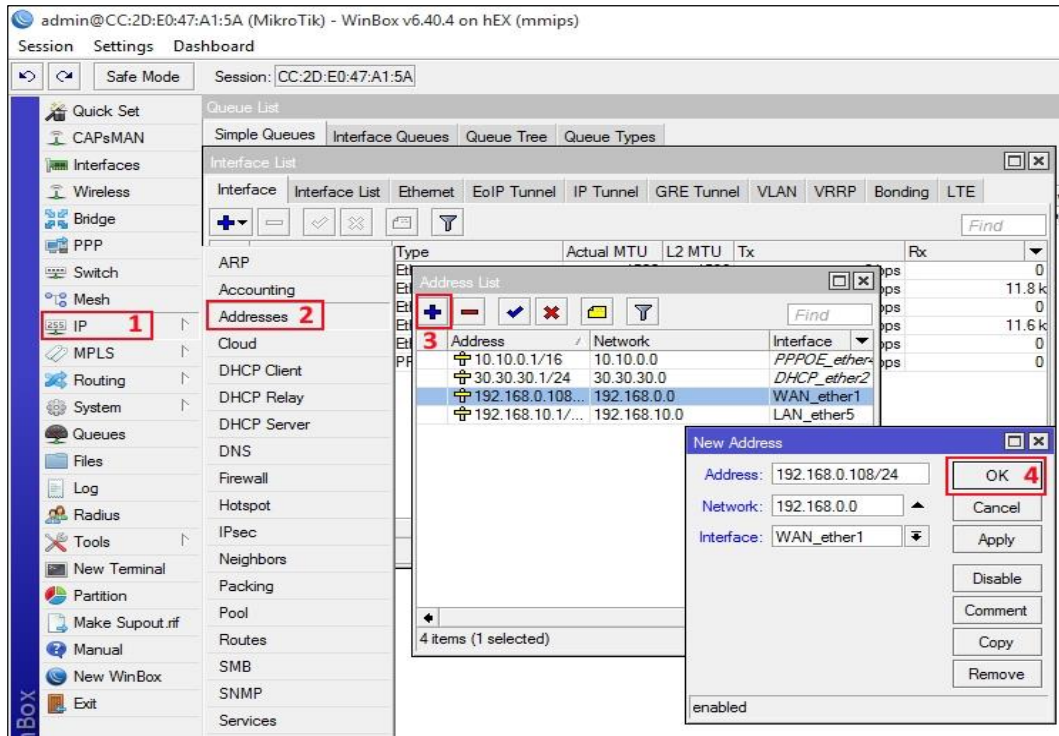


Figure 3.18: Set Interface IP address

To Configure DNS Goto IP then DNS then Set DNS Servers. This process shown in Figure 3.19

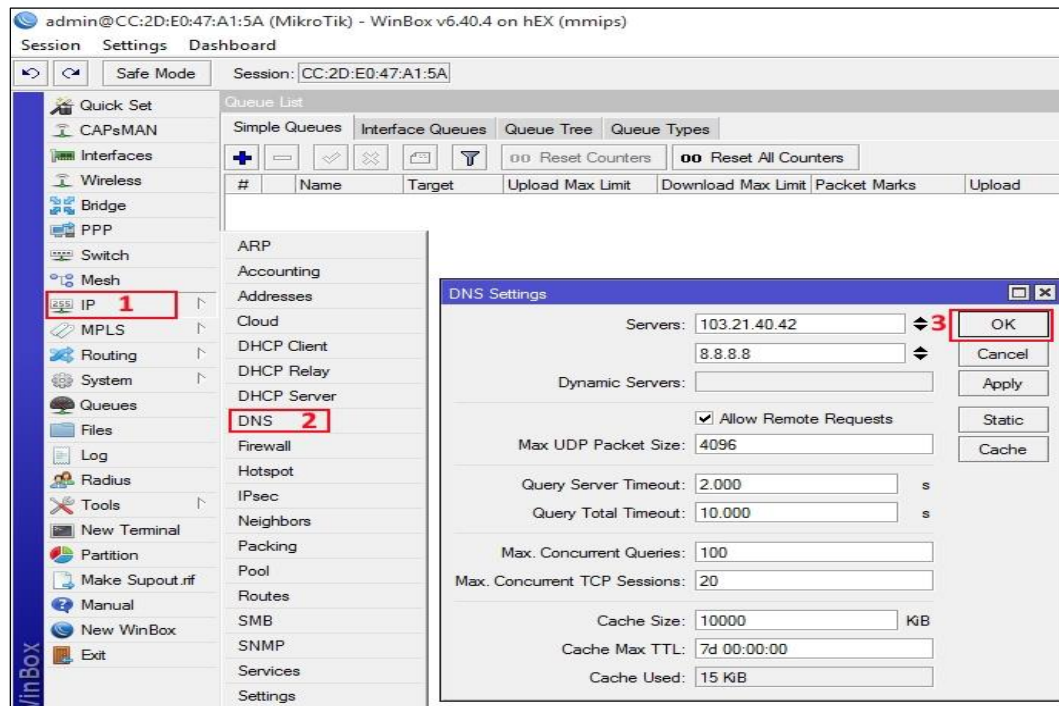


Figure 3.19: Set DNS

To set Gateway goto IP then click on Route then click on “+” then provide Gateway address, Set Gateway . Get way assign process shown in Figure 3.20

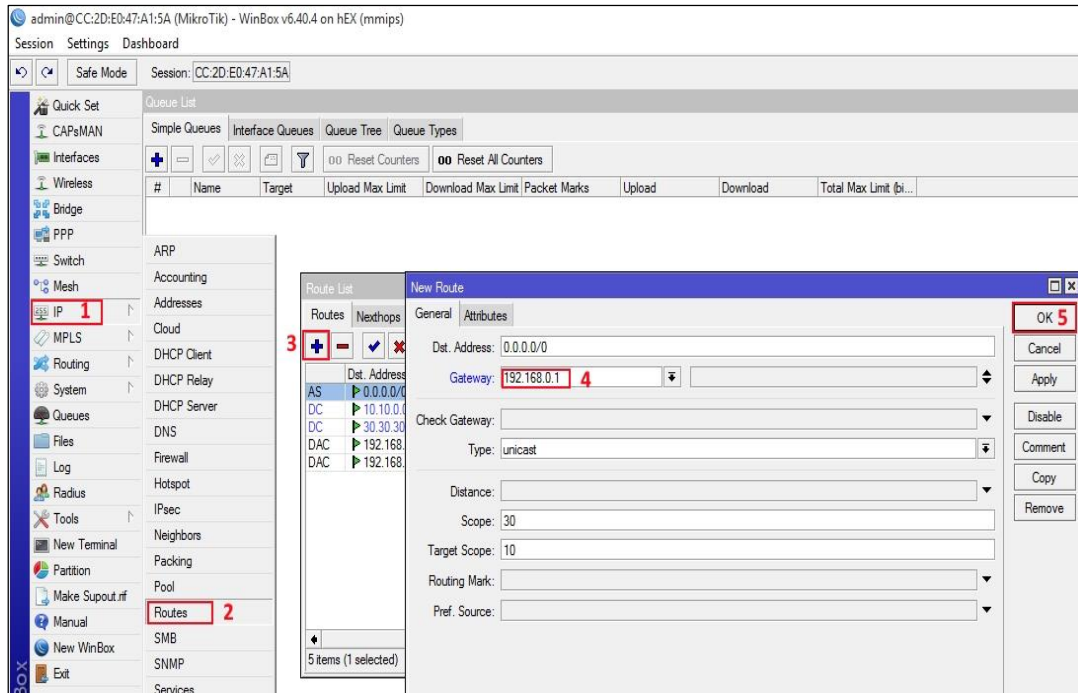


Figure 3.20: Set Gateway

Goto IP then Firewall click on NAT click on “+” click on general to click “srenat”, Action to click “Masquerade” save [6]. This process shown in Figure 3.21

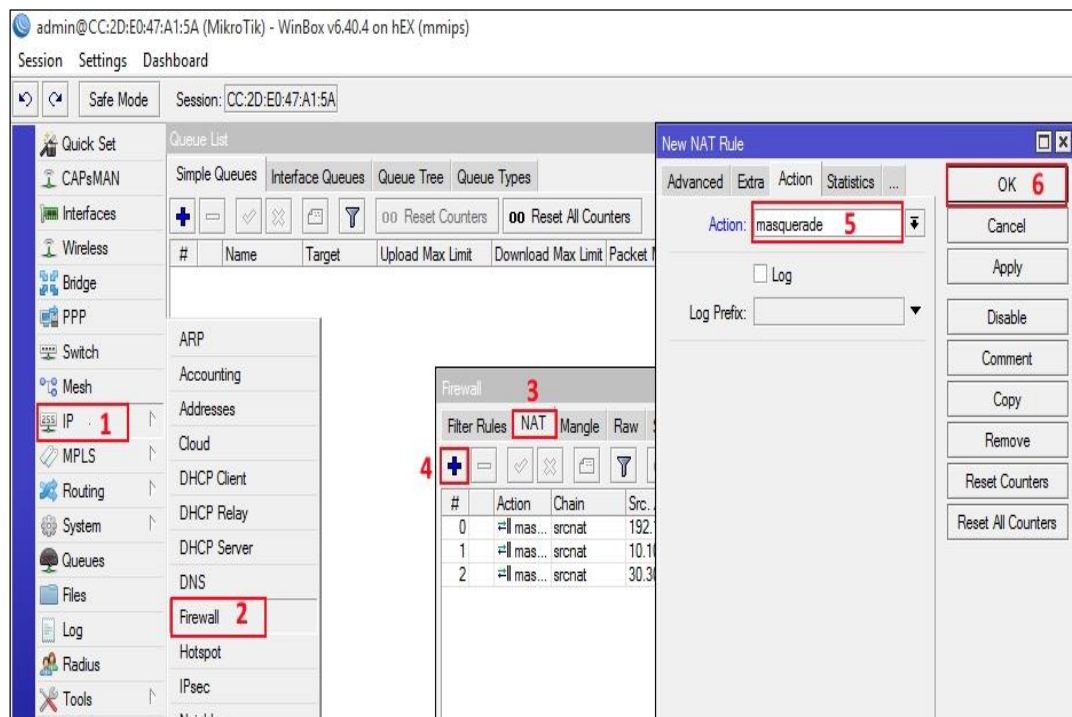


Figure 3.21: Set NAT Rule

3.7 DHCP Server Configuration

Goto IP then Pool then click on pool then click on “+” then provides address then apply[7].

Example:

Name:dhcp_pool9

Addresses : 30.30.30.2-30.30.30.254

Apply then Ok

In Figure 3.22 shown DHCP Pool Configuration

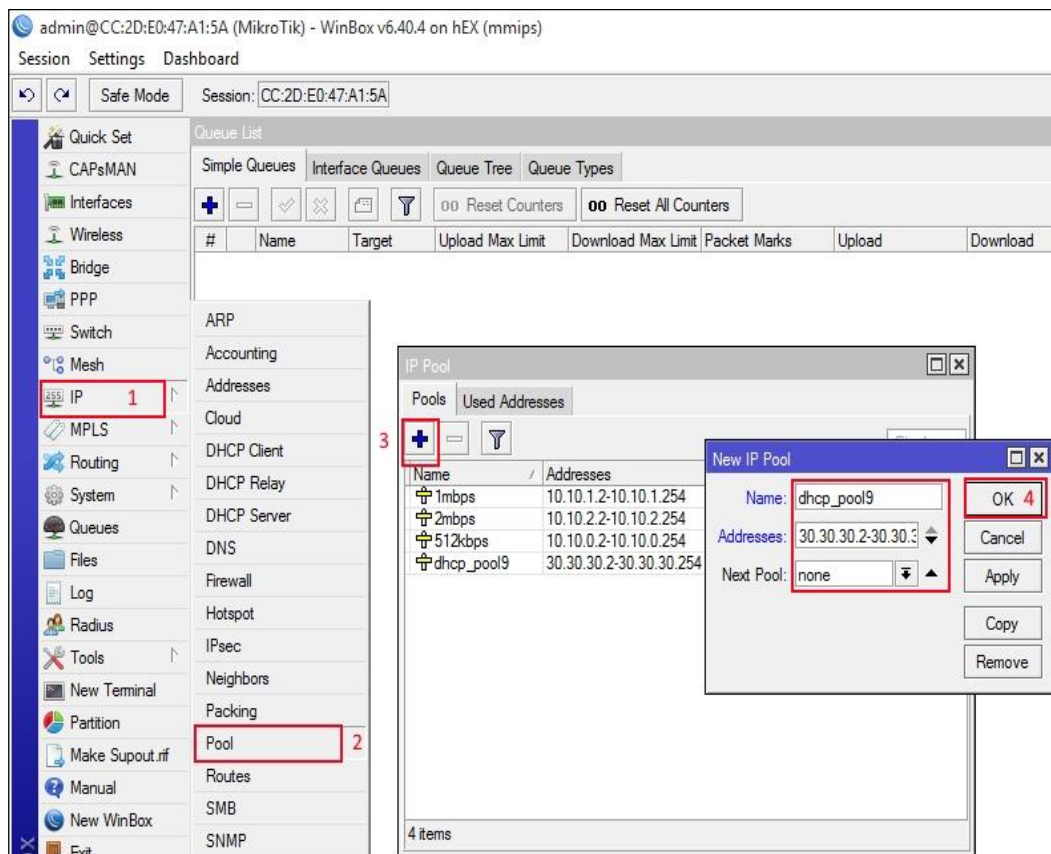


Figure 3.22: DHCP Pool Configuration

To Set DHCP in interface “DHCP_ether2” goto IP then DHCP Server then DHCP then click on”+” select interface then select address pool.

That process are shown in Figure 3.23

Example:

Name: dhcp1

Interface: DHCP_ether2

Address pool: dhcp_pool9

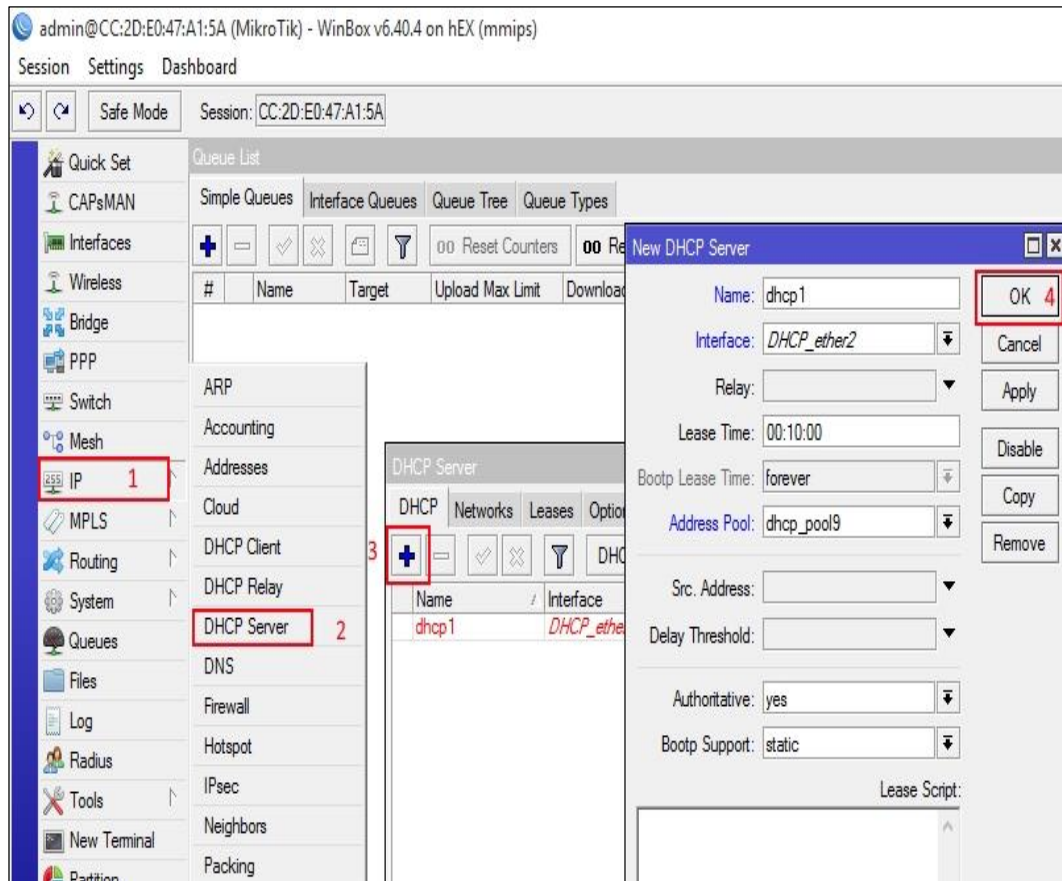


Figure 3.23: Configure DHCP Server

3.8 PPPOE Server Configuration

Goto IP then Pool then click on pool then click on “+” then provides address then apply[8]. Shown in Figure 3.24

Example:

Name:PPPOE_Pool

Addresses : 10.10.10.2-10.10.10.254

Apply then Ok

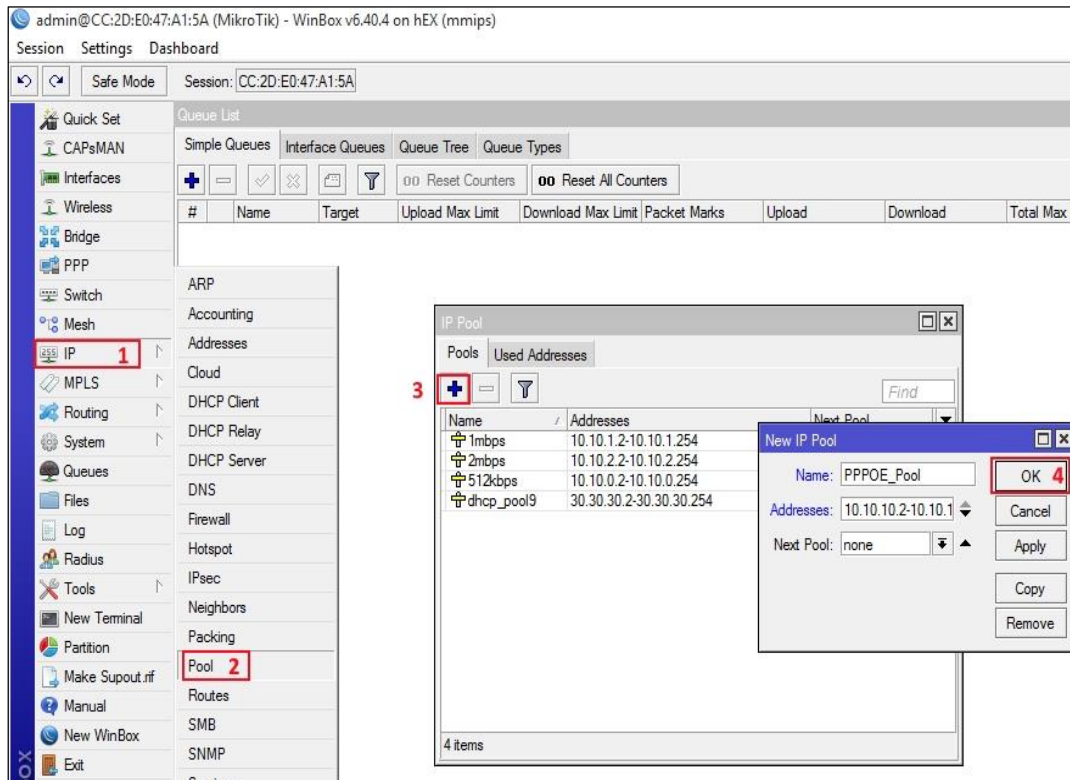


Figure 3.24: Configure PPPOE Pool

Goto PPP then PPPOE Servers then click on “+” provides services name and select Interface. Shown in Figure 3.25

Example:

Service name: Parvez’s_PPPOE

Interface: PPPOE_ether4

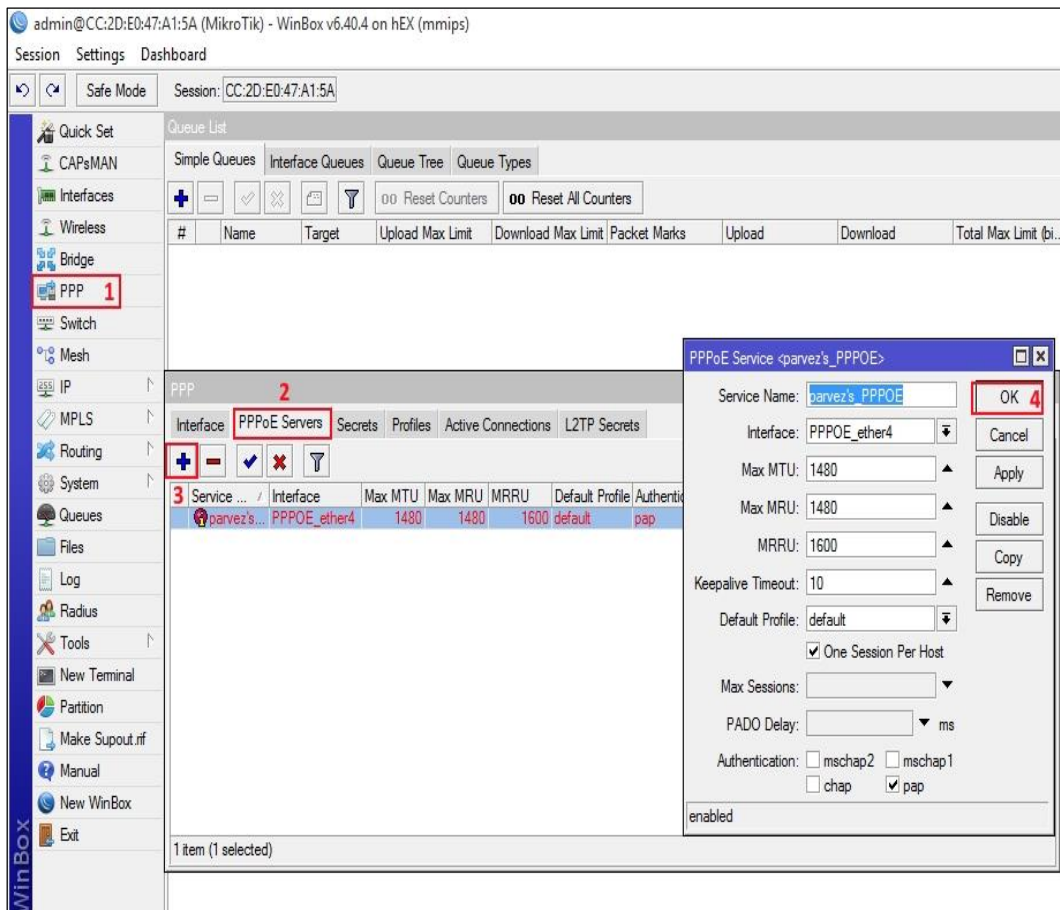


Figure 3.25: Configure PPPOE Server

To Create profile Goto PPP then Profiles then click on “+” Provides information. then click on Limits then set Limits. Shown in Figure 3.26

Example:

Name : 1Mbps

Local Address: 10.10.1.1

Limits:1000000/1000000

Similarly we can create many profile that we need.

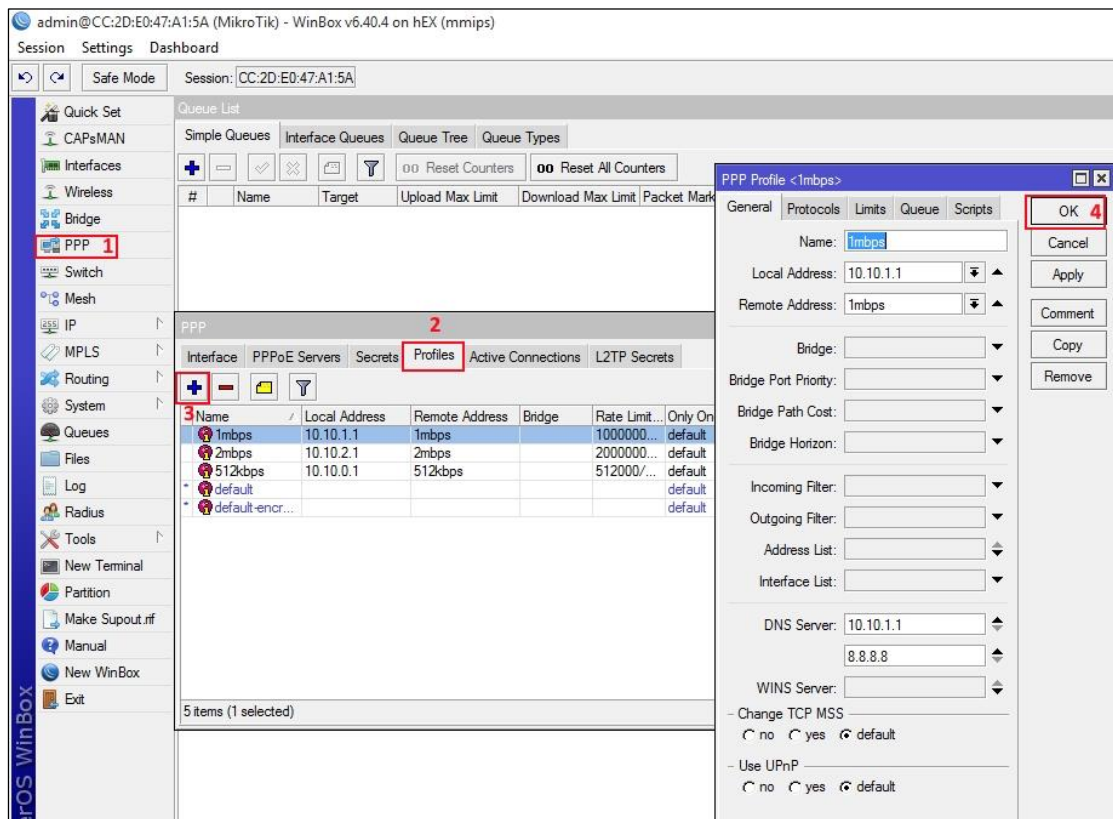


Figure 3.26: PPPOE Profile Create

To Create user profile Goto PPP then Secrets click on “+” provides information. Shown in Figure 3.27

Example:

Name: R_parvez

Password:****

Service: pppoe

Profile :2mbps

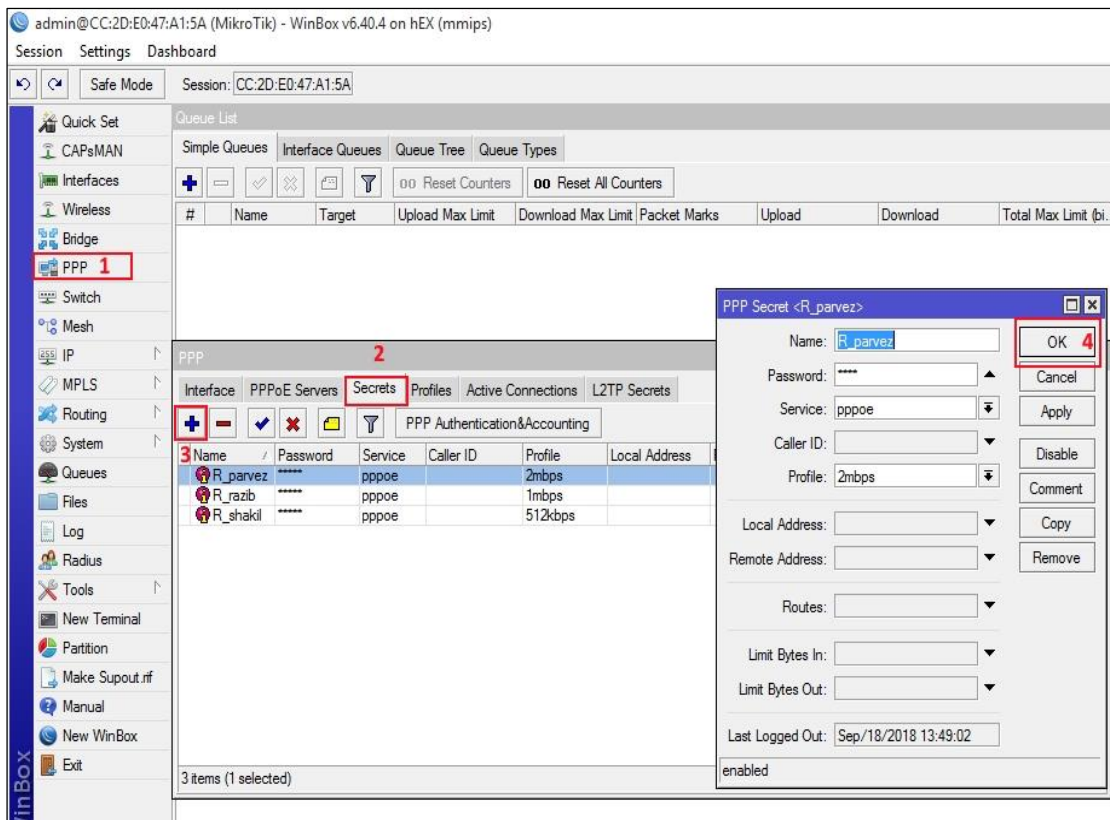


Figure 3.27: PPPOE User Create

CHAPTER 4

Competencies and Smart Plan

4.1 COMPETENCIES EARNED

My main goal of internship is to gain knowledge and competence in hardware and networking related problem and finding the solutions. I have practiced and learned about both in hardware and network related works.

4.2 Smart Plan

Network Failure

Here and there arrange disappointment happens. At that point issues are found through investigating and take care of the issue.

Cable Damage

Sometimes cables damages or doesn't work or disconnected somehow. Checking the cable connections properly or changing the cable are the only way to solve the problem.

IP Mismatch

Somehow IP mismatches and cannot connect with the router or switch. Then regenerate the IP into the device and solve the problem.

Operating System Upgradation

Because of dishonorable treatment of gadgets (Router and Switch) OS defiles. Gadgets are checked and OS redesigned. On the off chance that it's not upgradeable sent to the sellers.

4.3 Reflections

Prior to my entry level position, I had just hypothetical learning of systems administration gadgets, different conventions and equipment. In any case, amid my temporary job I have learned and had a few hands on routine with regards to PC equipment and networking gadgets. Presently I can without much of a stretch outline a system framework and furthermore can actualize the entire system. Amid my temporary position I have learnt to plan a system utilizing Open most brief Path Fast steering convention. Beforehand the entire system was composed in static directing.

CHAPTER 5

Conclusion And Future Scope

5.1 Discussion and Conclusion

Practicing in real life fulfils any kind of education. The objective of this temporary job is to pick up the information and aptitudes need to create ISP Setup. Me joined at Earth Online Limited and worked in there as a team as per our company's vision to enrich my knowledge about networking. I must say I learned many important things including small points during my internship period. It was a great experience for me in a job with real life experience. I learned a lot about networking that will me in future.

5.2 Future Scopes

Computer networking is the backbone of the Internet. IT-infrastructure and IT-Software go hand in hand. Both are equally vital for creating our lives simple. Networking is evergreen, it's solely attending to get larger and a lot of complicated. But it is not very easy to enter as a fresher, but if I am passionate about it then I have to study and practice hard. Unlike software programming, where the job is more confined to simply coding this area demands hands-on or practical knowledge on multiple networking hardware, platforms, network protocols and more importantly problem solving skills. So, as a successful internship, my future will be the scope.

- Configuration and maintenance FTP and DNS server for our real life.
- Configuration and maintenance Mikrotik router in real life
- Able to work in ISP platform.
- To be a network administrator into the job field.
- To be able to work in IT company.
- To be a computer network expert.
- To be a network engineer.

- To be a server administrator.
- To be a security engineer.
- To be an information technology (IT) manager.
- To be able provide technical support

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Appendix A: Internship Reflection

The purpose of this appendix is about My Internship reflection. From Fall 2018 semester I started my journey to make this Internship. The main reason of my internship is practical solution to real world problems in professional way by apply the knowledge which I obtain in my classroom and also learn how an ISP manage their network using MikroTik Router. Also using my Internship people can easily communicate with user that will help them to find out their daily Network and MikroTik problems. Firstly I build a model for my project then it implement our Internship step by step. After many hard work and spending a lot of time finally I were able to reach my goal. The Internship "ISP Networking Management System Using Mikrotik Router" will be very helpful for if some wants to become an ISP. So I believe that my Internship will being positive and effective results for me.

Appendix B: Company Detail

The Organization where I have taken my Training is Earth Online Limited. Earth Online limited is one of the leading ISP Service Provider at Demra. It is the most experienced and the most established relationship in the Broadband Internet communication field where its basic business policies have long-established relationships with clients. It can reveal to you that they began their activities in 2011. In the course of recent years, they have expanded their tasks and administration portfolio as indicated by client's suggestions and are thinking about time requests.



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Plagiarism

