

**FINAL YEAR INTERNSHIP ON LINUX BASIC AND NETWORKING USING
CISCO AND MIKROTIK**

SUBMITTED

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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 titled “**LINUX BASIC AND NETWORKING USING CISCO AND MIKROTIK**”, submitted by **Shahin Ahammad** 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 (BSc) and approved as to its style and contents. The presentation has been held on May 2018

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I am declare that, this Internship Report Made by **Shahin Ahammad ID:152-15-6197** department of computer science and engineering Daffodil International University under the supervision **Afsara Tasneem Misha, Lecturer, Department of CSE** Daffodil International University.

I also declare that neither this internship report nor any part of this internship report has been submitted elsewhere for award of any Degree or Diploma. I also declare that, I collect information from Daffodil Online Limited (DOL), Data Center and Internet Service Provider (ISP) Based Company, Books and Internet

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ABSTRACT

If two and more computers are interconnected and able to exchange data or information then we call network. We want to increase the number of PC's and exchange data or information from one to another that time we need some special PC's are called Server. So I work to basic of Linux and Networking because there are various type of work in network look like router configure basic networking IP addressing setup Switching MIKROTIK install configure firewall. If network is connected to the Internet and we want to secure your information using MIKROTIK. Step by step configuration process and simple troubleshooting of the network. Firewall Each of them works differently and without them it is impossible to maintain a network. So we should configure firewall here to protect our network And add user to know who browse internet at timely.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

This is the period of Information Technology. Presently a day's countless everywhere throughout the world utilize web innovation and systems administration is an integral part. Linux Cisco and Mikrotik is perhaps the most critical free programming accomplishment since the first Space War, or, all the more as of late. We can't do anything identifying with web correspondence without Networking. So Networking is critical for web innovation. Temporary position is an old practice to influence understudies to comprehend the genuine working, condition and difficulties of employments. Therapeutic Science, Engineering and Accounts all branches have their own significance of temporary position before degree grant.

1.2 Motivation

Networking is the development of relationships that can benefit my internship or career exploration. It is an opportunity to gather information about the skills necessary to succeed in the various types of jobs, careers, and industries of the people you meet. This can help me clarify my career interests and next steps. Day by day the whole world is becoming depend on computer system. Networking is a big part of faster communication nowadays worldwide market place Build because of networking. For best Networking routing & switching are so important for exchange information .in this report clear about this how routing & switching configure & how it work fast & securely .its so important for data send between two or more end station.

1.3 Internship Objectives

Extreme target of my entry level position program is to set myself up as a qualified one in the focused activity showcase. So this is exceptionally powerful of aptitude improvement. I might want to assemble some remarkable quality to give myself as gifted one. The temporary job in software engineering is intended to give work involvement while

understudies is still in school, to facilitate work involvement with scholarly preparing, and to help understudy to make the change from classroom to work.

1.4 Introduction to the Company

Daffodil Online Ltd. prides itself as one of the leading nationwide Internet Service Provider (ISP) in Bangladesh. They are the most experienced and most seasoned organization in the ICT field where they are fundamental business morals is Long Term Relationship with they are clients. As we take a gander at the development throughout the decade since our commencement, they are greatly pleased with what they have accomplished, and significantly more amped up for they are standpoint for a similarly encouraging future. It might satisfy you to realize that they began they are task in the year 2002. Amid the previous years, they broadened they are activity and administration portfolio as indicated by the client's proposal and thinking about requests of time. They worked with numerous national undertakings and universal associations and accomplished the notoriety. They are utilizing the most recent innovations and redesigning the administrations wherever it is required [1].

1.5 Report Layout

In the chapter-1 I have depicted goal of entry level position, Motivation of temporary job and

Introduction to the organization

In the chapter (2)I have depicted the philosophy of my temporary job. What's more, this part gives the data about where the temporary job has been connected to attempt this program. Likewise included about how performed the temporary job functions, about the organization, what are the IT benefit offered in DOL and what are the parts of in occupations market of Mikrotik.

In the chapter (3)I have depicted about day by day errand and exercises, Events and Activities and Challenges.

In the chapter (4)I have depicted is Competencies Earned, Smart Plan, and Reflection

In the chapter (5)I have depicted is Conclusion and Future Scope. I examine Future Scope of Mikrotik and compose conclusion

CHAPTER 2 Organization

2.1 About the Organization

Daffodil Online Ltd. (DOL) is glad to be one of the pioneers and most seasoned ISP/ASPs in Bangladesh and giving one stop coordinated ICT administrations and arrangement since July 2002. It has its own particular Fiber Optic and Radio Link WAN framework to serve corporate, SME and individual customers. The establishment worked with numerous national tasks and universal associations with high thankfulness from all concerned. It utilizing the most recent advances and redesigning the administrations wherever it is required. The focuses Corporate Network Solution division is fit for giving condition of-craftsmanship system and media transmission arrangements with a gathering of exceptionally productive specialized specialists. DOL has an exceptionally solid expert building and administration group guaranteed and connected with SUN, Cisco, Microsoft, Linux, and Oracle and effectively required with world driving registering affiliations including IEEE, ACM, ACS, BCS, and PMI. Its Corporate Social Responsibility ethos reinforces the awareness of other's expectations on Community, Workstation, Location and Market put. As a Group concern [1].

2.2 Product and Market Situation

Daffodil Online Ltd. prides itself as one of the main across the country Internet Service Provider (ISP) in Bangladesh. They are the most experienced and most established organization in the ICT field where they are fundamental business morals is Long Term Relationship with their clients. As they take a gander at the development throughout the decade since our commencement,

➤ IT Services

- Corporate Internet Solution
- Security solution.
- Domain registration and web hosting.
- Website development.
- Open source application solution.
- Internet Service Provider

- State of the Art Data Centers.
- Data Connectivity, Data center& Co-Location.
- Bulk SMS Service.
- Proxy & DNS Server solution, Mail Server Solution.
- And All computer accessories
- Professional course and trainings:

➤ **Professional Training Services**

- ISP Setup and administration using Linux.
- Training Course on Certified Ethical Hacking (CEH).
- ISP Setup and Administration using MikroTik.
- Web site Development with Joomla.
- PHP and MYSQL for Website Development.
- E-commerce & Open source Joomla Virtue Mart.
- Red Hat Certified Security Specialist (RHCSS).
- Red Hat Certified Engineer (RHCE).

2.3 Target Group

The organization's client base incorporates all customers and all little to medium-sized organizations, including new businesses. The organization intends to focus on SOHO customers, as these are ideal focuses for our new rapid offerings, and hold the best development potential for the organization.

2.4 SWOT Analysis

SWOT Analysis is a helpful procedure for understanding your Strengths and Weaknesses, and for recognizing both the Opportunities open to you and the Threats you confront

Strengths:

- Communication between individuals isolated by remove (at home and inside the work environment)
- Working from home easily
- Setting up an online business
- Gathering data (significant resource in business)

Weaknesses:

- New contestants think little of levels of mastery expected to survive the market
Large entreties of cash required to set up organizations
- Competition for little affiliates
- Numerous evaluating duties and administration alternatives

Opportunities:

- Age structure of the populace evolving
- Number of family units in the UK expanding
- Introduction of easier duties
- Revision of administrative structure

Threats:

- The Economic Crisis - Householders less inclined to expand their Broadband memberships Stock Market's absence of trust in the computerized correspondences showcase.
- It stays to be perceived how far shoppers can be convinced to grasp Internet get to.

2.5 Organization Structure

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



Figure 2.5 Organization Structure of Daffodil Online Ltd

CHAPTER 3

Tasks projects & Activities

3.1 Daily Task and Activities

- Month - 1: In the first month of internship on daffodil online limited I have learned and played out the accompanying undertakings:
 - Learning & understanding About Network Components.
 - Learning & understanding Basics of Linux.
 - Understanding Linux HDD Partitions.
 - Learning & understanding Linux Run Level.
 - Linux Installation.
- Month - 2: In the second month of internship on daffodil online limited I have learned and performed the following tasks:
 - Basic Linux Commands.
 - Linux User and Password Management.
 - Know About logged in users.
 - File and Directory Accessing.
 - To Copy and Move File and Directories.
- Month – 3: In the third month of internship on daffodil online limited I have learned and performed the following tasks:
 - Concept and Classes of IP Address
 - Concept of Private IP Address
 - Concept of Subnet mask
 - Classification of Subnet mask
 - Basic Concept of VLAN and Configuration
 - Connecting Optical Cable
- Month – 4: The last month of internship on daffodil online limited I have learned and performed the following tasks:
 - Basic Concept of MIKROTIK
 - Installation MIKROTIK
 - Static Routing

- DHCP Routing
- Bridge Configuration
- Firewall Setup

3.2 Events and Activities

- Check and Handle Computer Systems and Network.
- Setting up user accounts, Access and passwords.
- Troubleshooting Network and routers.
- Troubleshooting local area networks and switches.
- Handle network Mistake.
- Technical support for people access the network.
- Day to day admin and lookup of network use.
- Suggesting IT solutions to business problems.
- Client help over the phone or Physical move to client.
- Check Fiber Optical Media Convertor & Fiber Optic Transmission devices.

3.3 Project Task and Activities

Linux Install

➤ 3.4.1 Creating Linux Partition

For Installation of Linux we have to create at least 3 partitions root (/), boot, and swap.

- **Root Partition: /**

A Root Partition there is where “/” The root directory is located all files (except in /boot) are on the root partition. Minimum 5 GB HDD Space Required.

- **Boot Partition: /boot**

The Partition boot (200 MB): the segment mounted on/boot/contains the working framework portion (which enables your framework to boot Linux), alongside records utilized amid the bootstrap procedure. Because of impediments, making a local ext3 Partition to hold these documents is required. For most clients, a 200 MB boot segment is adequate.

- **SWAP Partition: swap**

The Partition swap is utilized to help virtual memory. As such, information is composed to a swap segment when there isn't sufficient RAM to store the information your framework is handling. Segment Swap should approach 2x physical RAM for up to 2 GB of physical RAM, and after that an extra 1x physical RAM for any sum over 2 GB, however it can't under 32 MB [3]

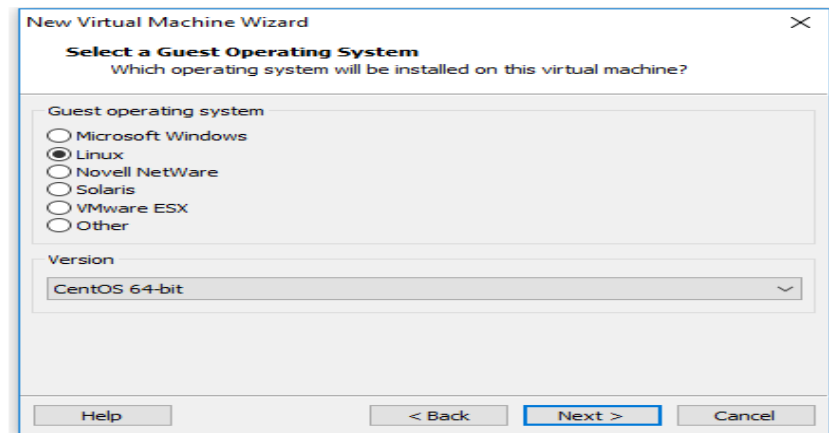


Figure 3.1: Show Linux select system

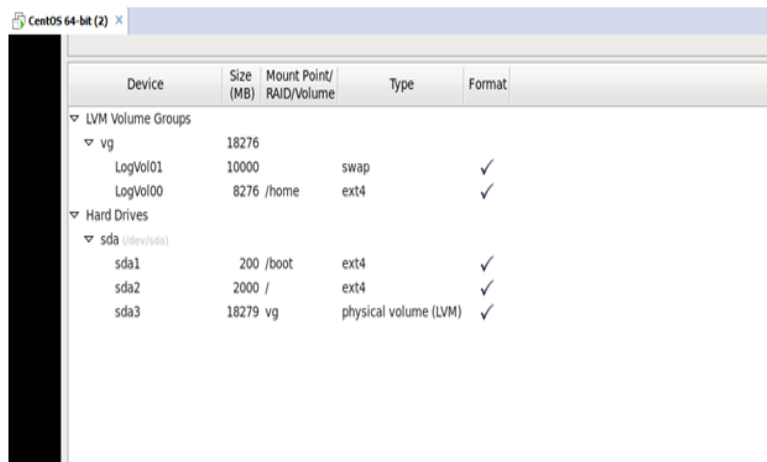


Figure 3.2: Partition of Linux

➤ 3.4.2 Linux Run-Level Used by Centos/Ubuntu

init 0 = Shut Down.

init 1 = Single User Mode.

init 2 = Multi User Mode.
init 3 = Full Multi User Mode.
init 4 = Unused.
init 5 = X-Window (GUI Mode)
init 6 = Reboot.
See current run-level = who -r

➤ 3.4.3 The Basic Command of Linux

Shutdown = power off ,init 0, shutdown -h now .
Reboot = reboot or init6 .
Logout = log the running user off the system.
Present Working Directory = pwd .
Create a blank file = touch doll(File name).
Create a directory = makedirs(directory name).
List information about file = ls .
Chang Working Directory = cd /root/Desktop(directory path)

➤ 3.4.4 User Create and Password Management

Adding a user = addusershahin(username).
Set a Password to New User = passwd12345(username).
Password Disable/Remove = passwd -d shahin(username).
Verify user information = finger shahin(username).
Locking an account = passwd -l shahin(username).
Unlock an account = passwd -u shahin(username).
Delete a user = userdelshahin(username).
Delete a user with home directory = userdel -r shahin(username).

```
root@localhost:~
File Edit View Search Terminal Help
[root@localhost ~]# useradd shahin
[root@localhost ~]# passwd
Changing password for user root.
New password:
[root@localhost ~]# passwd shahin
Changing password for user shahin.
New password:
BAD PASSWORD: it is too short
BAD PASSWORD: is too simple
Retype new password:
passwd: all authentication tokens updated successfully.
[root@localhost ~]# █
```

Figure 3.3: Add User and Password

Show User Password in fig 3.4

```
root@localhost:~
File Edit View Search Terminal Help
[root@localhost ~]# passwd -l shahin
Locking password for user shahin.
passwd: Success
[root@localhost ~]# █
```

Figure 3.4: Show User Password

Show Delete User in fig 3.5

```
root@localhost:~
File Edit View Search Terminal Help
[root@localhost ~]# userdel -r shahin
[root@localhost ~]# █
```

Figure 3.5: User Delete

➤ 3.4.5 To Know About the Logged In User

w

who

who am i

➤ 3.4.6 To Copy or Move a File

Copy = cp filename destination example: cp file1 /home/shahin/ahammad

Move = mv filename destination example: cp file1 /home/shahin/ahammad

3.5 Concept and Classes of IP Address

Table 1: Classes Of IP Address

| Class | 1 st Octet Decimal Range | 1 st Octet High Order Bits | Network/Host ID (N=Network, H=Host) | Default Subnet Mask | Number of Networks | Hosts per Network (Usable Addresses) |
|-------|-------------------------------------|---------------------------------------|-------------------------------------|---------------------|----------------------------|--------------------------------------|
| A | 1 – 126* | 0 | N.H.H.H | 255.0.0.0 | 126 ($2^7 - 2$) | 16,777,214 ($2^{24} - 2$) |
| B | 128 – 191 | 10 | N.N.H.H | 255.255.0.0 | 16,382 ($2^{14} - 2$) | 65,534 ($2^{16} - 2$) |
| C | 192 – 223 | 110 | N.N.N.H | 255.255.255.0 | 2,097,150 ($2^{21} - 2$) | 254 ($2^8 - 2$) |
| D | 224 – 239 | 1110 | Reserved for Multicasting | | | |
| E | 240 – 254 | 1111 | Experimental; used for research | | | |

3.5.1 Concept of Private IP Address

Table 2: Private IP Address

| Class | Private Networks | Subnet Mask | Address Range |
|-------|-------------------------|-------------|-------------------------------|
| A | 10.0.0.0 | 255.0.0.0 | 10.0.0.0 - 10.255.255.255 |
| B | 172.16.0.0 - 172.31.0.0 | 255.240.0.0 | 172.16.0.0 - 172.31.255.255 |
| C | 192.168.0.0 | 255.255.0.0 | 192.168.0.0 - 192.168.255.255 |

Address: 192.168.5.1 11000000.10101000.00000101 .00000001
 Net mask: 255.255.255.0 = 24 11111111.11111111.11111111 .00000000
 Wildcard: 0.0.0.255 00000000.00000000.00000000 .11111111

Network: 192.168.5.0/24 11000000.10101000.00000101 .00000000 (Class C)
 Broadcast: 192.168.5.255 11000000.10101000.00000101 .11111111
 Host Min: 192.168.5.1 11000000.10101000.00000101 .00000001
 Host Max: 192.168.5.254 11000000.10101000.00000101 .11111110
 Hosts/Net: 254 (Private Internet)

| Network | Network (binary) | Broadcast address |
|------------------|--|-------------------|
| 192.168.5.0/26 | 11000000.10101000.00000101. 00 000000 | 192.168.5.63 |
| 192.168.5.64/26 | 11000000.10101000.00000101. 01 000000 | 192.168.5.127 |
| 192.168.5.128/26 | 11000000.10101000.00000101. 10 000000 | 192.168.5.191 |
| 192.168.5.192/26 | 11000000.10101000.00000101. 11 000000 | 192.168.5.255 |

3.5.2 Concept of Subnet mask

Table 3: Subnet Mask

| Prefix size | Subnet mask | Available subnets | Usable hosts per subnet | Total usable hosts |
|-------------|-----------------|-------------------|-------------------------|--------------------|
| /24 | 255.255.255.0 | 1 | 254 | 254 |
| /25 | 255.255.255.128 | 2 | 126 | 252 |

| | | | | |
|-----|-----------------|----|----|-----|
| /26 | 255.255.255.192 | 4 | 62 | 248 |
| /27 | 255.255.255.224 | 8 | 30 | 240 |
| /28 | 255.255.255.240 | 16 | 14 | 224 |
| /29 | 255.255.255.248 | 32 | 6 | 192 |
| /30 | 255.255.255.252 | 64 | 2 | 128 |

3.5.3 Simple Switching

A switch in an Ethernet-based LAN peruses approaching TCP/IP information bundles/outlines containing goal data as they go into at least one information ports. The goal data in the parcels is utilized to figure out which yield ports will be utilized to send the information on to its expected goal.

Changes are like center points, just more intelligent. A center basically interfaces every one of the hubs on the system - correspondence is basically in a heedless way with any gadget endeavoring to convey whenever, bringing about numerous impacts. A switch, then again, makes an electronic passage amongst source and goal ports for a brief instant that no other activity can enter. This outcomes in correspondence without impacts [5].

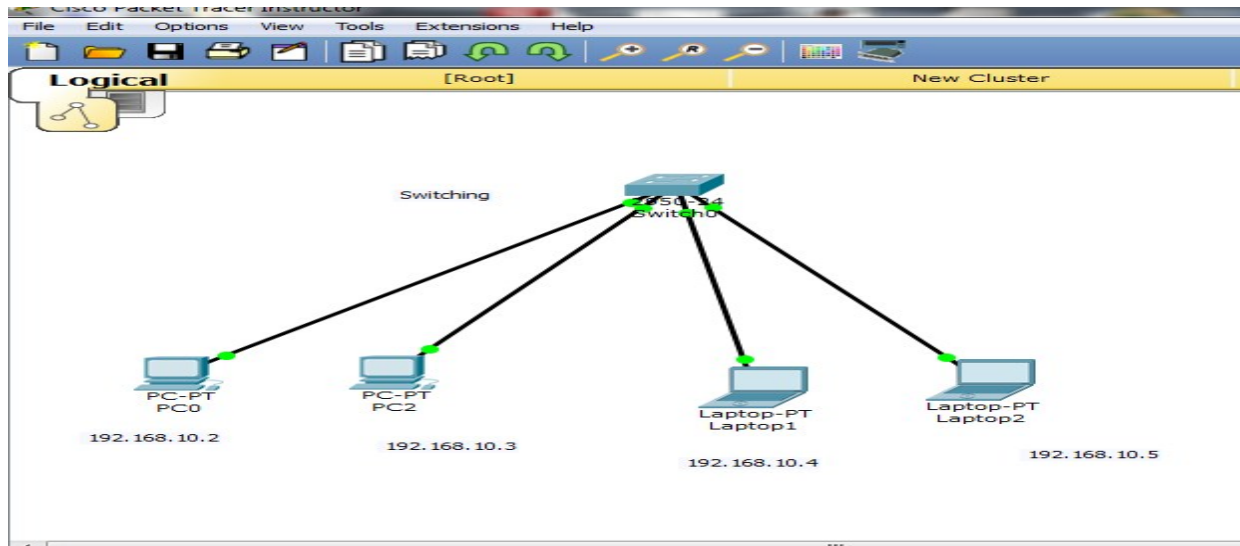


Figure 3.6: Simple Switching

3.6. Connecting Optical cable

Three ways to connecting cable Determine your cable size Choose the right connectors

Strip The Cable

➤ UTP Cable

UTP Cable is a shorter method for saying unshielded contorted combine. This is one of the minimum costly wires and works for fundamental needs of telephone frameworks so it is a standout amongst the most ordinarily introduced in private enterprises.

The contorted link sets work to counteract EMI (electromagnetic obstruction) from outside sources. This would be obstruction from electromagnetic radiation, ground water, weight, root frameworks and then some. It additionally eliminates crosstalk. Curiously enough, UTP wire is authorize with being found by Alexander Graham Bell. It is nothing unexpected that UTP Cable is the absolute most basic sort of copper phone wire.

The two wires in each combine convey inverse signs. Each flag is recognized as the contrary end when the flag achieves the collector. Contorting the sets together is the manner by which the impacts of crosstalk are countered [5].



Figure 3.7: UTP Cable

➤ **Fiber Optic Cable**

A fiber optic link characterized in IEEE 802.8 is link that contains optical filaments (typically glass) covered in plastic that are utilized to send information by beats of light. The covering shields the filaments from warm, chilly, electromagnetic obstruction from different kinds of wiring, and in addition some insurance from bright beams from the sun. Fiber optics take into account a considerably speedier information transmission than standard copper wires, since they have a substantially higher transfer speed. They are regular among corporate systems or overall systems, for example, Internet spines, on account of the capacities of the link [5].

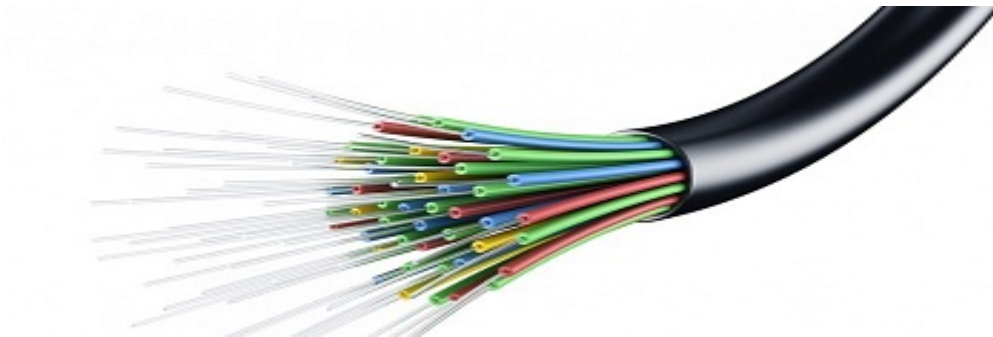


Figure 3.8: Fiber Optic Cable

➤ **RJ-45 Connector**

Short for Registered Jack-45, a RJ-45 is a 8-stick association utilized for Ethernet arrange connectors. This connector takes after the RJ-11 or 6-stick connector utilized with phones in the United States, yet they're totally unique. The photo is of a RJ-45 connector isolated from the link.

This connector is most generally associated with the finish of Cat5 link, which is associated between a PC arrange card and a system gadget, for example, a system switch [5].



Figure 3.9: RJ-45 Connector

3.7 MIKROTIK Router

MIKROTIK Ltd. Referred to globally as MIKROTIK is a Latvian producer of PC organizing gear. It offers remote items and switches. The organization was established in 1995, with the plan offer in the rising remote innovation advertise. Starting at 2014, the organization has in excess of 100 representatives. The organization's items are known for being low-estimated contrasting options to costly switches and Ethernet radio transfer lines [6].

3.8 Router OS

The primary result of MIKROTIK is a working framework in view of the Linux bit, known as the MIKROTIK Router OS. Introduced on the organization's exclusive equipment (Router board arrangement), or on standard x86-based PCs, it transforms a PC into a system switch and actualizes different extra highlights, for example, firewalling, virtual private system (VPN) administration and customer, data transmission forming and nature of administration, remote access point capacities and other regularly utilized

highlights while interconnecting systems. The framework is likewise ready to fill in as a hostage gateway based hotspot framework [7].

3.9 Features

Router OS bolsters numerous applications utilized by Internet specialist organizations. For instance

- It can be utilized as a router
- It gives OSPF, BGP, Multiprotocol Label Switching(VPLS/MPLS),
- It can be utilized as a switch or extension
- Provides PPPoE Client-Server
- Provides VPN-Virtual Private Network.
- Provides Firewall rules
- Provide DHCP Server benefit
- Provide Wi-Fi and hostage entry based Hotspot System
- Bandwidth administration is simple
- Easy GUI interface

Router OS underpins numerous applications utilized by Internet The item is upheld by MikroTik through a gathering and a wiki, giving varying and topical cases of setups. Router OS bolsters Internet Protocol Version 4 (IPv4) and Internet Protocol Version 6 (IPv6).

The product offers help for all intents and purposes all system interfaces that the Linux piece 2.6.16 backings, with the exception of remote, where the Authentication person chipsets are the main bolstered equipment, starting at 3.x variant. net specialist co-ops. For instance [7].

3.10 Release history

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

- Router OS version **6**: May 2013
- Router OS version **5**: Mar 2010
- Router OS version **4**: Oct 2009
- Router OS version **3**: Jan 2008[8]

3.11 Router Board

The organization produces a progression of coordinated circuit sheets, showcased under the name Router board, and additionally extra parts which execute an entire equipment working stage for Router OS.

The Router board line, joined with Router OS, is promoted at little to medium-sized remote Internet specialist co-ops 3.18, ordinarily giving broadband remote access in remote territories. Items incorporate pre-amassed little office/home office (SOHO) switches, remote 802.11n MIMO and TDMA gadgets for indoor and outside utilize, and furthermore uncovered switches in type of printed circuit sheets (PCBs) for joining into custom arrangements. Likewise, the Router board line incorporates a progression of Mini PCI and Mini PCI Express remote connectors, supporting a scope of IEEE 802.11 conventions, and intended to be utilized together with the switch sheets lineup.

Regardless of the way that in-house created Linux piece patches required for equipment bolster are not made freely accessible by MikroTik, numerous Router board sheets and their variants are very much upheld by outsider Linux-based firmware's, quite Openwork [9].



Figure3.10: 750G mikrotik Router

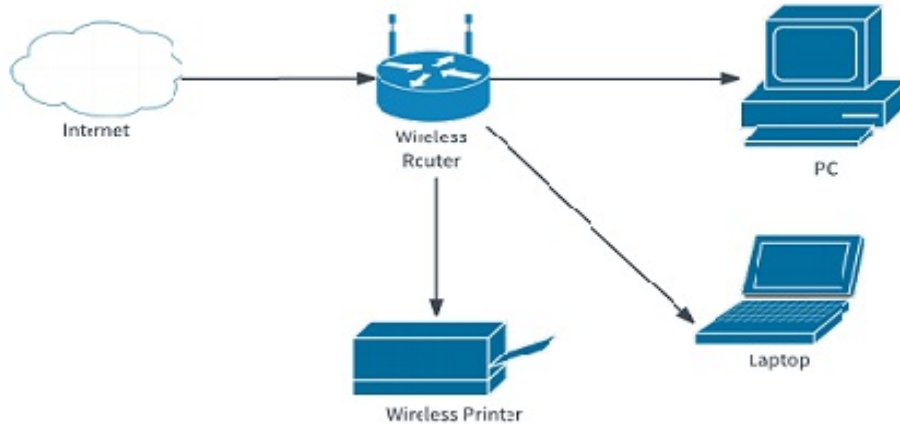
3.12 Cloud Core Router

In November 2012 MikroTik discharged the Cloud Core Router 3.19 figure coordinated unit which depends on the Tiller CPU supporting 16 to 36 CPU centers, 12 1000Base-T Ethernet interfaces, and up to four SFP (Mini GBIC) interfaces, and in addition "quick way" bundle sending between interfaces (with guaranteed 24 million parcels for every second sending rate). This unit focuses on the medium-sized system suppliers and additionally endeavor to be a very much estimated contrasting option to the next more notable brands [10].



Figure 3.11:MikroTik Cloud Core Router 1036 Series router

3.13 Propose Network Diagram (MikroTik Configuration)

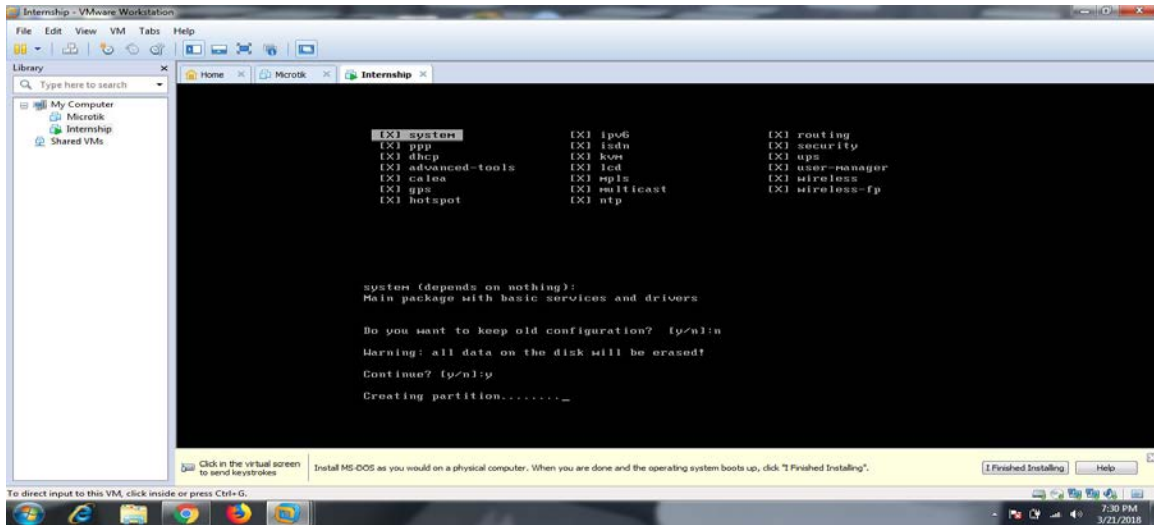


Figur 3.12: Show network Diagram

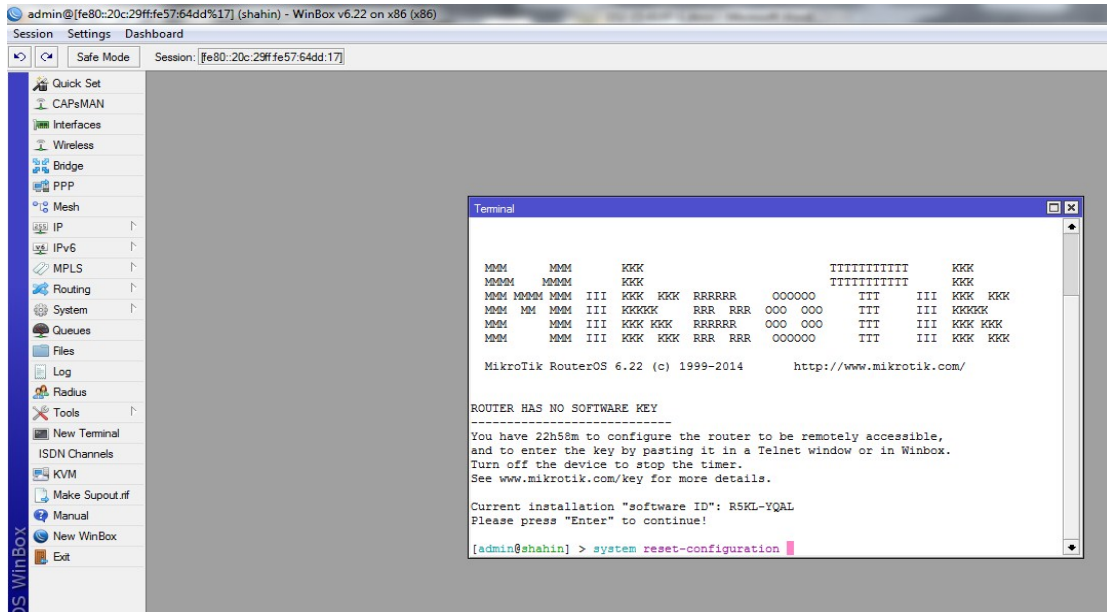
Winbox is the graphical design utility for MikroTik switch OS. At first we ought to download Winbox. After download the winbox it can be fled as no establishment is required 3.20 system graph.

➤ 3.13.1 Initial Step

- Give Power to the MikroTik Router
- Plug in a UTP cable in mikroTik LAN port and the other port to the PC.
- Browse with **Winbox**.
- Click to icon and hare show a IP address and MAC address. Click to Mac address then write 'admin' in login box and don't need to give Password. .



Figur 3.13: Screen Print creating Partition



Figur3.14: Shows Screen Print Reset MikroTik Router

✓ **Step2:**

Defining routes or Setting up Gateway

Process:

IP = Route > “+” > Gateway

N.B: that the Dist. Address will be 0.0.0.0/0 (default route). Then we can set our gateway.

Apply>Ok

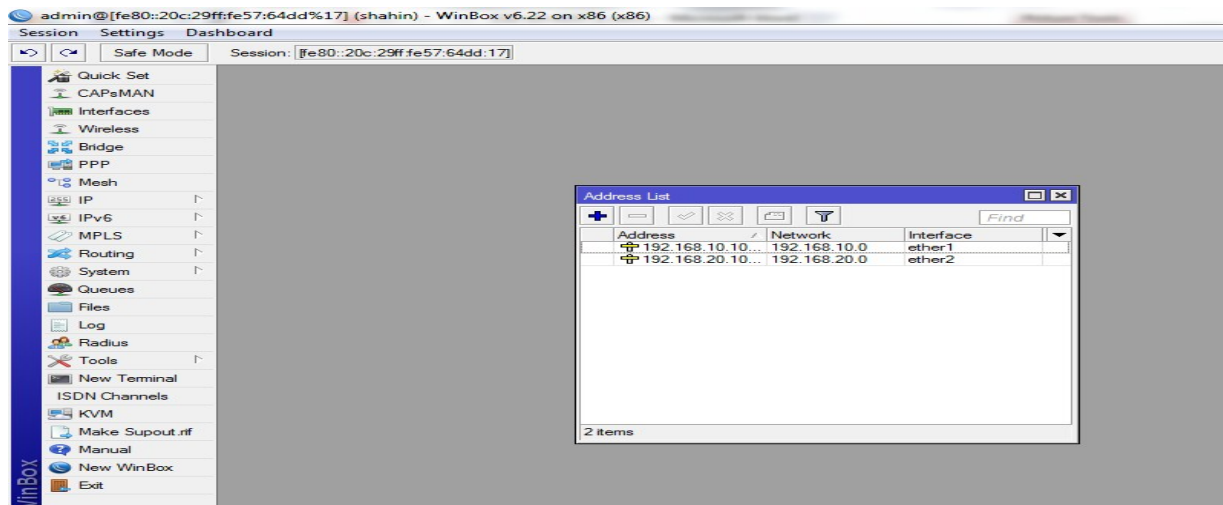


Figure 3.15: Shows Screen Print IP Address

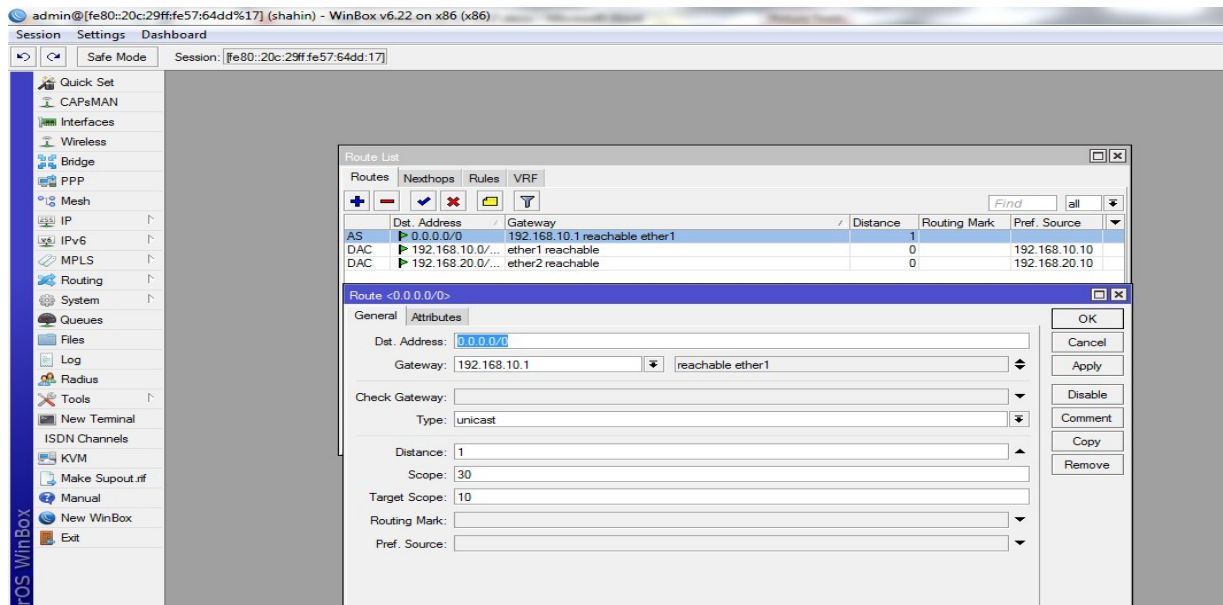


Figure 3.16: Shows Screen Print Gateway

✓ **Step3**

Process:

IP > Firewall > NAT > “+”

General:

Chain:srcnat

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

Action:

Masquerade

Apply>Ok.

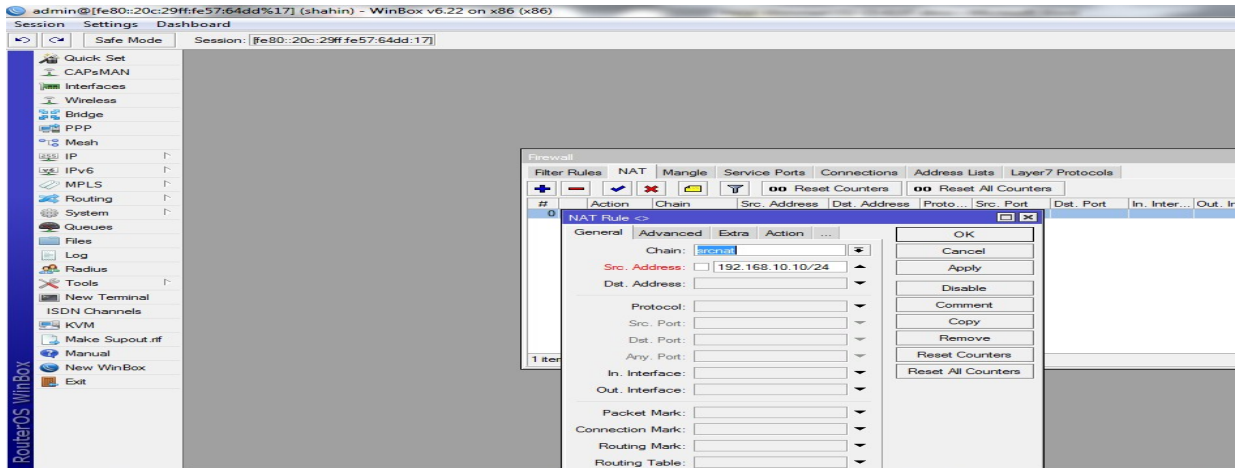


Figure 3.17: Shows Screen Print NAT Rule

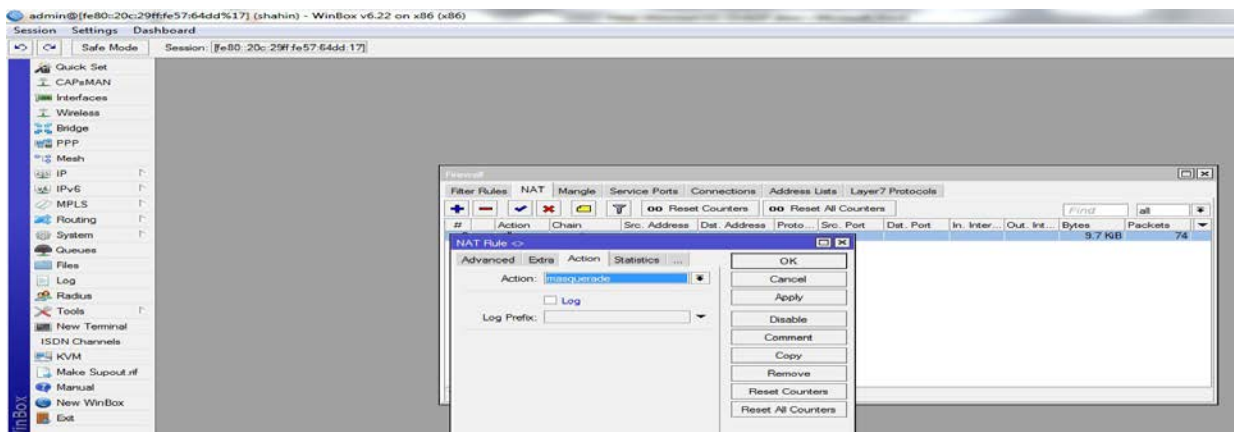


Figure 3.18: Shows Screen Print Firewall

✓ **Step 4:**

Doing the task of bridging the related ports with each other 3.26 in figure

Process:

Bridge> "+" > (bridge n, here n=1,2,3....)

Settings:

- ✓ Tick mark to 3 options

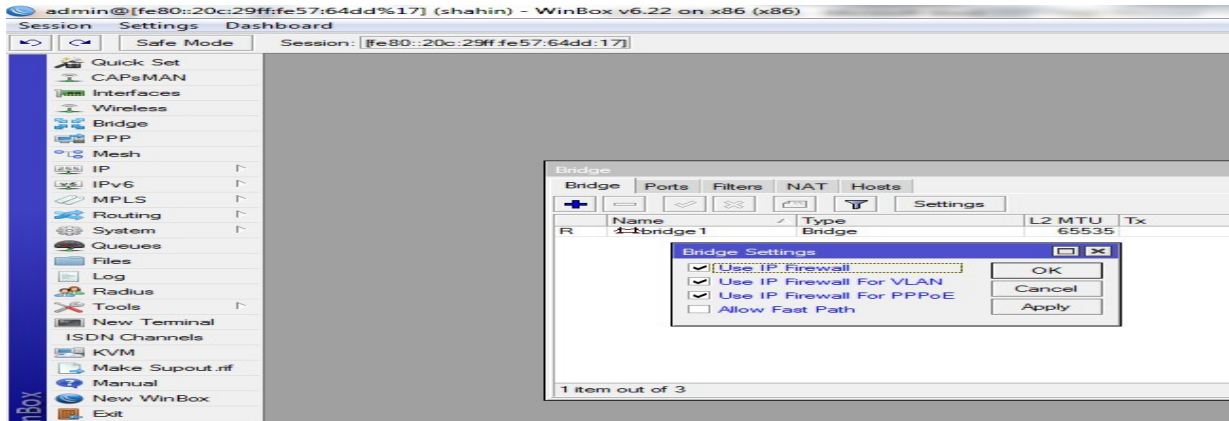


Figure 3.19: Shows ScreenPrint Bridge Settings

Ports

Ether1

Ether2

Router interface port

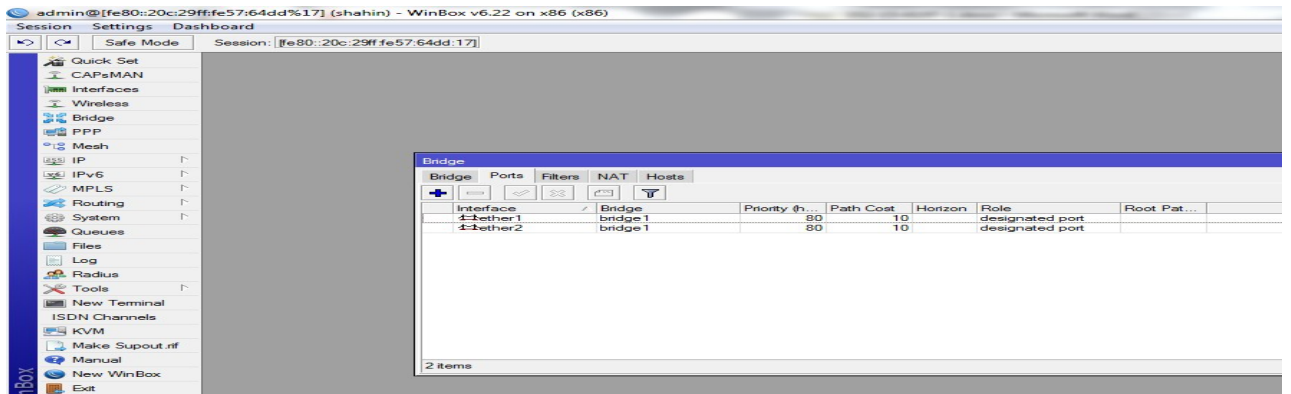


Figure 3.20: Shows Screen Print Bridge Ports Assign

✓ **Step 5:**

Knowing the profile of bridge with the DHCP Server

Process:

IP > DHCP Server > Interface: bridge 1 (bridge name)

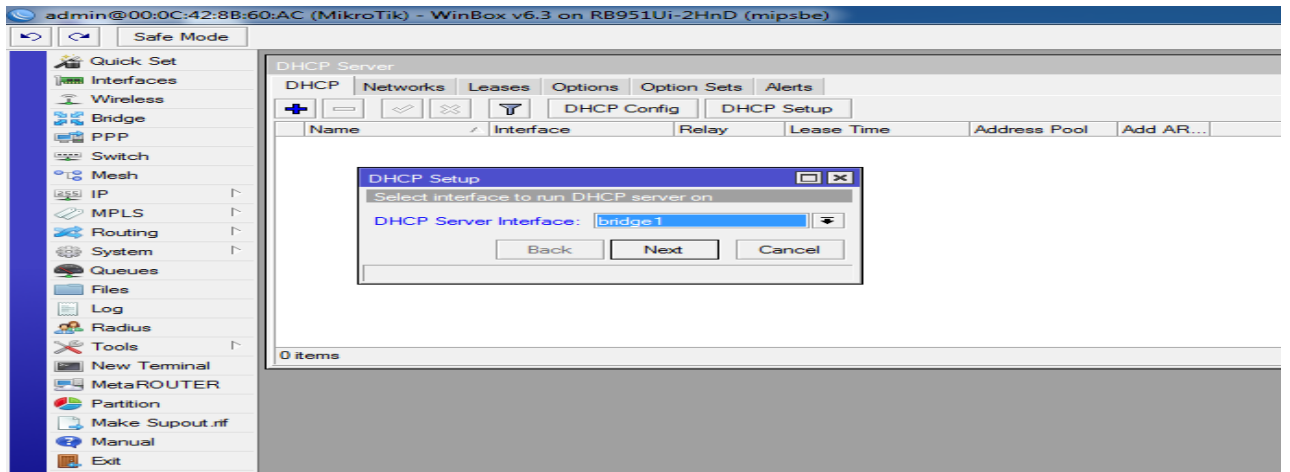


Figure 3.21: Shows Screen Print DHCP Setup

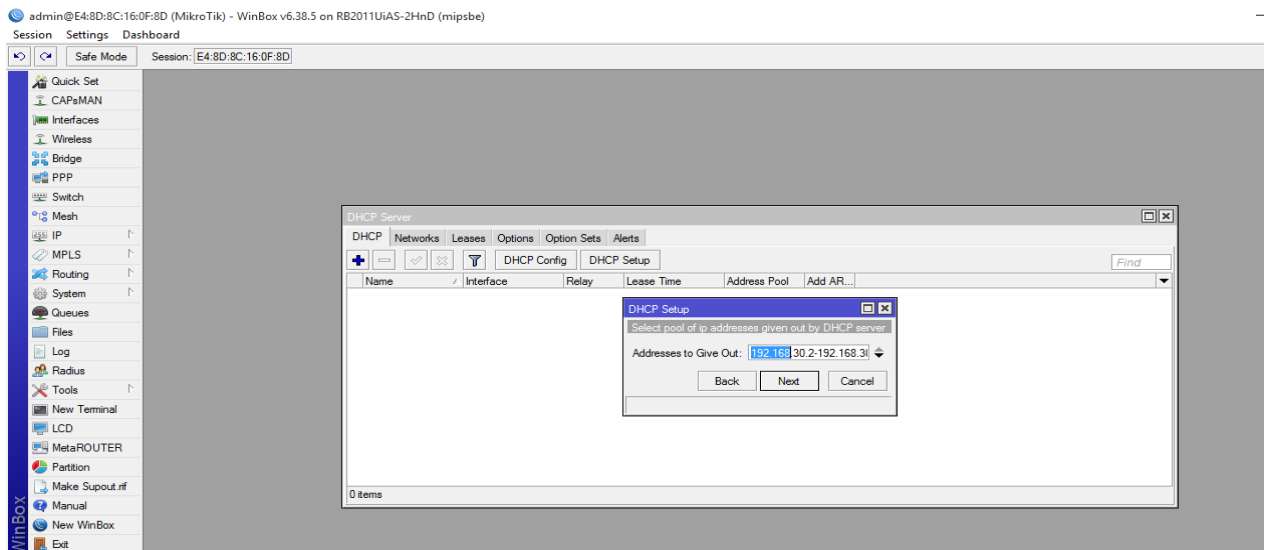


Figure 3.22: Shows Screen Print IP address pool of the local LAN.

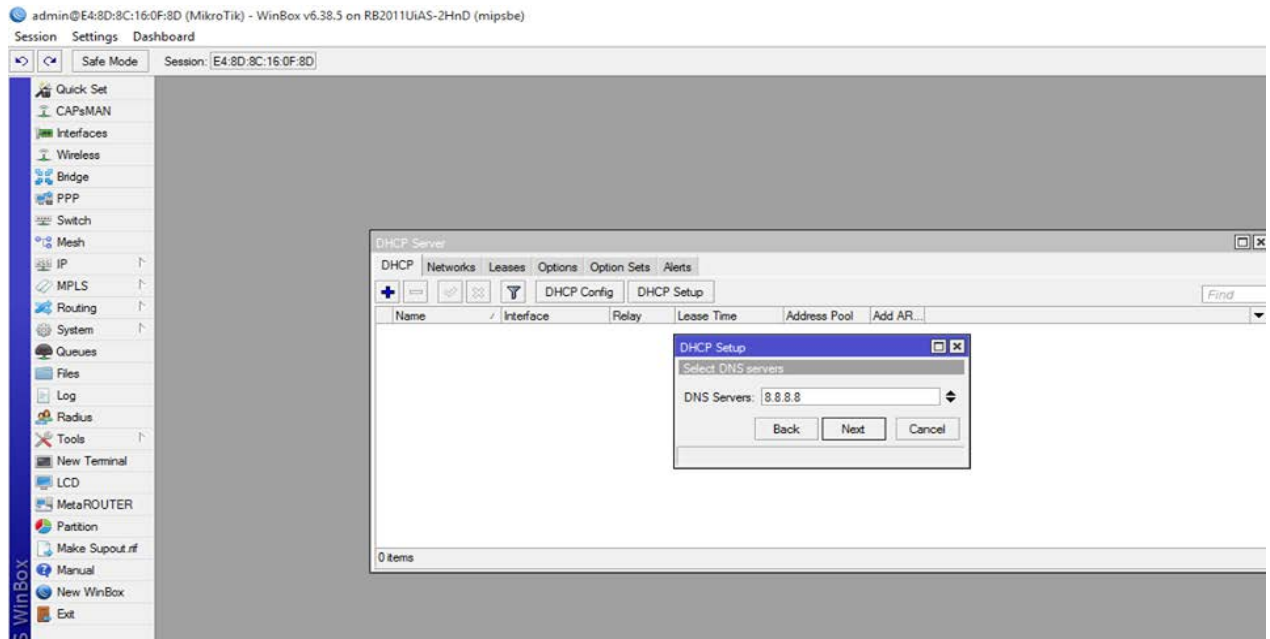


Figure 3.23: Shows Screen Print DNS Service

3.13.2: User Add

Knowing the profile of User

Process System>Identity > User>User Name

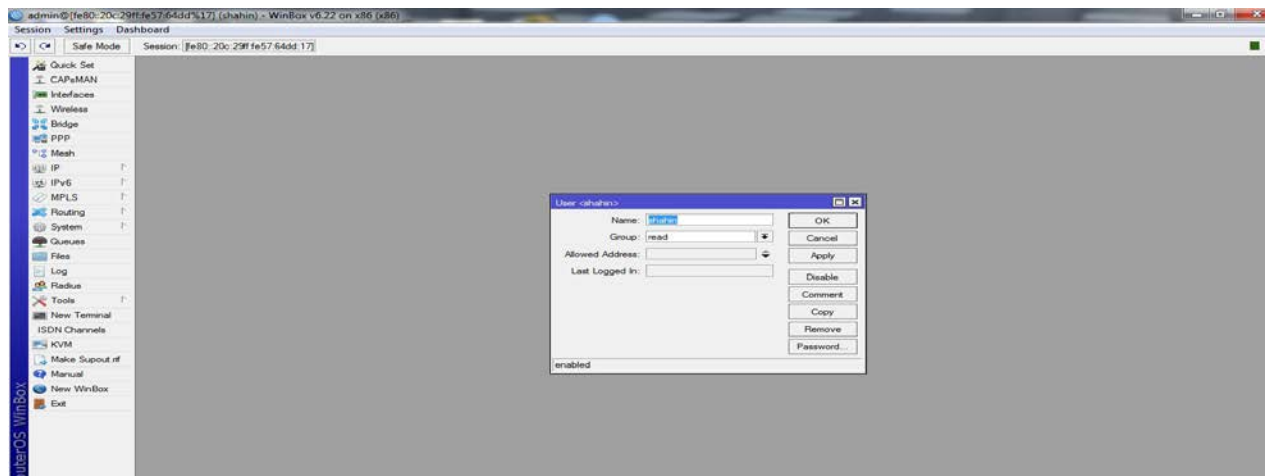


Figure 3.24: Screen Print User Add

3.14 Challenges

No work has not challenges, but rather four months of my temporary position involvement and to share companions in the wake of finding out about the party time, I've discovered that there is some regular difficulties assistant. I think it is that understudies three things: unpaid/under, transitory, and they are in a race to pick up understanding.

Now and again insufficient work: There's insufficient work doled out to me. I'm exhausted, underutilized, strumming my fingers at my work area and enticed to examine Face book.

An excess of work: Because understudies are only happy to get a foot in the entryway, some work spots may exploit youthful specialists by giving them extend periods of time of dull redundant work.

Hesitant to make inquiries: abruptly there's a convergence of work, and I at last have the opportunity to substantiate myself! Be that as it may, I don't know about x, y, z... .I may feel the strain to be a free and independent laborer, however it's such a great amount of better to clear up vulnerabilities!

CHAPTER 4

Competencies and Smart Plan

4.1 Competencies Earned

Skills Earned or learning result is an announcement of what a student is required to know, comprehend or have the capacity to do because of a learning procedure. Introduce and decommission of both system and server machines at two datacenters. Lead part in cutting edge Linux programming executions, for instance LDAP HA, adjusted to program learning results, field and temporary job assessments. The Student Association office reserves numerous understudy Intern Learning Outcomes: Gathering and arranging data into an Internship Project Description: Participate in the update of the Linux Lab site. Learning Outcomes. Introduce and Configure programming and redesigns; Install, arrange and test organize Employer Services • Furthermore, predictable with the learning results, the Internship On-Site Supervisor will give an introduction concerning hierarchical strategies and methods.

4.2 Smart Plan

Each organization ought to have a savvy intend to pick up the achievement. Essentially some normal things of mix make a Survey design.

4.3 Reflections

Daffodil Online Ltd. begun they are activity in the year 2002. Amid the previous years, they expanded they are task and administration portfolio as indicated by the client's suggestion and thinking about requests of time. They worked with numerous national tasks and global associations and accomplished the notoriety. They are utilizing the most recent advancements and redesigning the administrations wherever it is required. They are Corporate Network Solution division is able to give condition of-craftsmanship system and media transmission arrangements with an exceedingly effective specialized skill gathering.

CHAPTER 5

Conclusion and Future Career

5.1 Discussion and Conclusion

Review this internship has been a wonderful and rewarding experience. I have seen the future and I will be able to help me with the opportunity to network with a lot of people have been able to confirm that. Through this internship, I have learned that one of the main issues and time management skills as well as self-motivation. When I first started I was eight hours a day, six days a week is going to be able to sit in an office and did not think that. Once I realized what I had to do my hours of overlapping is not broken, so I organize my day job. Organized and it was the right time, when I get a response prepared for questions that need to be learned. This internship and time management of the office for many hours, I had to learn how to motivate yourself through. I'm still looking for using the company came up with the various proposals and ideas. I'm still keeping my options open to new opportunities, however, are continuing to work for the University of Bangladesh in the world. I'm enjoying this line of work. I continue to work hard for my position and hope to continue to learn about the industry and meet new people will. It was a wonderful experience, and I hope the other intern got a lot out of it!

5.2 Scope for Further Career

Vocation openings are accessible in various zones under Linux and Networking. The profession openings in Linux's specifying not just the Linux stage, it covers parcel of various zones like: Desktop Application Development, Kernel and Device Drivers Development Today their gigantic request open source programming's and open source programming's designers and system engineers. There numerous organization today relocated to Linux . The organization like Google, Yahoo, Boeing, Lufthansa, wiki.org, numerous organizations moved to practical open source arrangement. There is an enormous interest for the talented experts in LINUX, MICROTIK and so on.

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<https://en.wikipedia.org/wiki/MikroTik>04April 2018, 12:00pm

Appendices

➤ **Appendix A: Internship Reflection**

The essential objective of my temporary position in an expert setting, useful answers for certifiable issues is to apply the information picked up in the classroom. Furthermore, professionally applicable capabilities and connections in an expert setting, figuring out how to manage new information, aptitudes, and the capacity to decide how to hone and create plans. Add to coordinate with other expert's chiefs and expert connections. I am an expert in the field introduction with customers and expert decorum and expert administrators and different workers to gain from watching a comprehension of the conduct, and in addition to increase through communication. To satisfy the obligations of my temporary job, I'm practicing appropriate business behavior. I am an association's central goal/vision is executed, how to contact partners, how control is shared, how it is organized, how choices are made, how to comprehend the way of life of an expert association, and what level of responsibility and criticism to the association. With an evaluation toward the finish of my entry level position boss and temporary job encounter going through individual gatherings gives a chance to take an expert feeling. Temporary job encounters to plan for life in a worldwide society, initiative and administration, my blessing to have the capacity to put it to utilize.

➤ **Appendices B: Company Detail**



Head Office

| | |
|----------------------|---|
| Name | Daffodil Online Limited |
| Address | 102, Shukrabad (3rd floor), Mirpur Road, Dhanmondi, Dhaka - 1207, Bangladesh |
| Telephone | 02-9143258-60 |
| Fax | 880-2-8116103 |
| E-mail | info@daffodilnet.com |
| Website | www.daffodilnet.com |
| Type of Organization | Nation wide Internet Service Provider (ISP) |
| Employees | 12 |