NETWORK ADMINISTATION AND ISP SERVER CONFIGURATION ON MIKROTIC ROUTER

BY

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This report is Present partial fulfillment of the requirements for the Degree of Bachelor of Science in Computer Science and Engineering

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DAFFODIL INTERNATIONAL UNIVERSITY

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APPROVAL

This Internship titled "**Network Administration and ISP Server Configuration on Mikrotik Router**". Submitted by Ariful Islam, ID No: 163-15-8352 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 08th July 2020.

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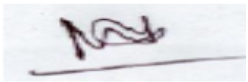

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DECLARATION

I want to mention that this Report is ready by me, **Ariful Islam, ID NO-163-15-8352,** Department of Computer Science And Engineering, Daffodil International University. Underneath the Supervisor of **Gazi Zahirul Islam, Lecturer, Department of CSE, Daffodil International University.**

I conjointly declare that neither this place report has been Submitted elsewhere of any Degree. I collect data from Books, Internet, narcissus on-line restricted (DOL), Information center and net Service Supplier (ISP)

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ACKNOWLEDGEMENT

Firstly I need to share my opinion. My heartiest because of almighty Allah for his kindness and secondly I am substantially grateful on my Parents to finish the ultimate year internship with success.

I am grateful to **Mr. Sabbir Ahmed**, General Manager of Daffodil Online Limited. I am grateful to **Mr. Sabbir Ahamed, General Manager of Daffodil Online Limited**. I am also grateful to **Kabirul Islam Rubel**, **System Admin (Network & Training)** of **Daffodil Online Limited**. Without their continuous support I can't able to continue my internship in that Company. Overall every member of that Company very much friendly and helped me very much.

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I would prefer to convey entire course mate in Daffodil International University, Who took half during this Discuss whereas finishing the Course work. Finally, I need to acknowledge with due respect the constant support and patients of oldsters.

ABSTRACT

This internship report is based on “ISP setup and administration Using Mikrotik and Linux System. Mikrotik router is very much essential in the ISP Company. Anyone can install and uses various kind of features, Such as Bandwidth Maintenance, Wireless, Firewall, Hotspot and VPN Server. There are various types of work in the Computer network that’s why needs different types of Computer server. For an example-Nagios server, FTP server, Samba server, web server, Mail server, Proxy server etc. Every server works differently and without this server very much difficult to maintain computer network. When we need to secure our data or information over internet have must set up server using Linux operating system. For this purpose I choose my report name is “**Network administration and ISP Server Configuration On Mikrotik Router**” (Linux Platform).This report is discuss about the Mikrotik router Configuration, ISP setup, Server Installation Configuration, step by step server configuration process, Linux Installation process, Mikrotik router step by step configuration process.

TABLE OF CONTENTS

PAGE

CONTENTS

LIST OF FIGURES

FIGURES **PAGE NO**

CHAPTER 1

INTRODUCTION

1.1 Introduction

Computer network is that the era of knowledge Technology. Many of us round the world victimization web technology. Internet is extremely abundant necessary in every corner of the globe. While not web one moment can't pay today and server is a component and parcel. Linux is open source platform. Linux is quietly doable the foremost necessary free code action since the first area war, or a lot of recently. We tend to cannot do something while not server connected web Communication. That's why DNS server is extremely necessary for web technology. Internship is that the recent apply for the scholars understands the $64000 operating, atmosphere and challenges of the roles. Engineering, bioscience, all branches have their own importance of spot before degree award. Today each commerce and sector is extremely abundant associated with code based mostly and web technology known as E-commerce. On-line Banking, Mobile Banking etc. They can't work while not server. DNS is extremely helpful server provide distinction form of service E-mail, E-Business, Telecommunication, Mobile Technology etc. Don't seem to be doable while not server. DNS one among them. Nowadays each Banking technology, Concern depends differing kinds of code and web technology and required server. Banking Software, Debit Card, Master card, ATM technology, On-line dealing etc. are depends code and differing kinds of server Linux is one among them. Linux has developed for Business, Education, and eventually personal productivity.

1.2 Motivation

I am presently obeying my Bachelors in Computer science and engineering at Daffodil International University, I will perceive the importance of gaining sensible data. Without practical knowledge it is very difficult to survive in every sector. Practical knowledge help a wider perspective of the textbook knowledge. During internship I face many problem. When I face any problem I will try my best to solve it. I think it is good way to get knowledge and I am absolutely arch within the details of Linux network, server management and Mikrotik Configuration. When I was visit the field as an ISP provider I have getting some point very well, Communication with various people, Understanding actually what they want. I choose my internship at daffodil online limited because (DOL) is now very much well-known at reputed Internet service provider. It is overcome every Customer Satisfaction and services because of their good reputation of the country. I think I can successfully prove my experience in any ISP sector.

1.3 Internship Objectives

The objective of my internship program is to organize myself within the competitive job market. I believe this talent is incredibly effective in each network sector. I might wish to gather some extraordinary talent to prove myself.

The internship is to supply some work expertise whereas students are still learning and wish to coordinate job experience with some educational coaching. It's facilitate to the scholar to form the transition from room to job sector.

1.4 Introduction to the Company

Daffodil on-line limited is one of the leading internet service provider (ISP) in People's Republic of Bangladesh. It's the foremost oldest and older Company in ICT field within the Country. They are basic business is long term relationship with their Customers whereas they are providing services. They are terribly happy with what they need achieved, and they are outlook for associate degree equally promising future.

Daffodil online limited started their operation within the year of 2002. Throughout the past year they're extended operation and repair per the customer's recommendation additionally considering their demands of your time. Daffodil on-line worked with several international organizations, and additionally worked several national comes. Daffodil on-line victimization the most recent technologies and additionally upgraded the services. Its company network maintenance department to capable the state-of-art network and additionally telecommunication resolution with economical experience cluster.

1.5 Report Layout

Chapter (1): I have described concerning objective of place, Motivation of place, and introduction of the corporate.

Chapter (2): I have described here methodology of my internship and gives information about where the internship has been attached to assume this program. In this chapter also included about how did perform the internship works, about the company and what are the IT service offered in DOL, and Rules about the Linux in job market.

Chapter (3): In this chapter I have described about the daily task and activities, Events, and challenges.

Chapter (4): I have described about expertness earned, smart plan, Reflections.

Chapter (5): I have described is Conclusion, future scope and also discuss future scopes of Linux and Conclusion.

CHAPTER 2

INTERNSHIP ENTERPRISE

2.1 Introduction

Daffodil Online limited (DOL) is one of the ISP/ASPs in Bangladesh and providing one stop integrated services and solution. It has its own Fiber optic and Radio Link WAN infrastructure to serve corporate and individual clients. Daffodil online worked with many national projects and international organizations as well reputation. It uses latest technologies and upgrading the services wherever it is required.

The centers of corporate network solution is capable of providing state-of-art network and telecommunication solution with highly efficient technical experts. It has very good professional engineer and management team certified and associated with Cisco, Microsoft, Linux, and oracle and involved with world leading computing associations including IEEE, ACM, ACS, BCS and PMI. Its Corporate Social responsibilities on community, Workstation, Location and market place. DOL promotes Three major platforms e.g., nation building, Education, and environment through its programs and services.

2.2 product and market Situation

Daffodil online Ltd. is one of the leading nationwide Internet service Provider (ISP) in Bangladesh. It is the most experienced and oldest company in the ICT field where their basic business is Long Term relationship with their Customers. As they look at the growth over the decade, they are extremely proud of what they are achieved. Daffodil online Limited also provides various type of IT services and also provides professional training services. These are given below.

IT Services:

- Corporate Internet Solution.
- Security Solution.
- Web hosting and Domain registration.
- Open source application Solution.
- Internet Service provider (ISP).
- Wi-Fi zone.
- Data Connectivity and Data center.
- Bulk SMS service.
- Mail Server, proxy and DNS server solution.

Professional Training Services:

- ISP Setup & Administration using Mikrotik.
- MYSQL and PHP for website Development.
- ISP setup & Administration using Linux.
- Red HAT Certified Engineer.
- Training Course on Ethical hacking (CEH).
- Red HAT Certified Security Specialist.
- E-Commerce & Open source Joomla Virtue Mart.
- Website Development.

2.3 SWOT Analysis

SWOT analysis is very important and useful technique for understanding Weakness and Strengths and identifying the Opportunities and what kind of threats you face.

Strengths:

- Communication between the people separated by distance.
- People working from home.
- Setting up for an Online Business.
- Collecting Information

Weakness:

- Large amount of money required to setup business.
- Competition for difference reseller.
- Many pricing tariffs and service option.

Opportunities:

- Structure of the Population Changing.
- Number of households increasing.
- Introduction of the simpler tariffs.
- Revision of orderliness framework.

Threats:

- The Economic Crisis- Broadband subscriptions Stock Market lack of the confidence in the digital-Communications market to the householder's.
- It remains to be seen how far client can be persuaded to embrace internet access.

2.4 Organizational Structure.

Organizational Structure of Daffodil online limited shows in fig: 2.4

Figure: 2.1 Organization structure of Daffodil Online Limited.

CHAPTER 3

TASK PROJECT AND ACTIVITIES

3.1 Daily Task and Activities.

Month-1: In the first month of my internship I have learned and performed about the following Task:

- Learning and perception about the Basic Network Components.
- Learning and perception Mikrotik.
- Learning and perception ISP Connectivity.
- Static, DHCP, PPPoE, Hotspot Network configuration.
- Bridge mode configuration.
- Bandwidth manage simple queues, PCQ.

Month-2: In the second month of my Internship I have learned and performed the following Task:

- MAC Binding and Firewall rules.
- Website Block.
- Packet filtering and separate bandwidth.
- To Copy and Move File and Directories.
- VLAN Configuration.
- System user manage for read, write and full access.
- Router Backup and maintains.
- Static routing, OSPF routing, BGP Configuration.

Month -3: In the third month of my Internship I have learned and performed about the following Task:

- Learning about Linux.
- Learning basic Command.
- Linux Partition configuration.
- Linux Installation.
- Linux run level command.

Month-4: In the last month of my internship I have learned and performed about the following Task:

- Linux OS user management.
- File and directory permission for user, group and other.
- Package install using YUM.
- Configuration FTP server.
- Configuration web server.
- Configuration Mail server.
- Configuration Nagios server.
- Remote Login using SSH or telnet.
- Configuration Selinux and Firewall.
- Server Backup and Monitoring.

3.2 Events and Activities

- Monitor and Maintain office Network.
- Setup user net permission.
- Troubleshooting Network & configuration.
- Troubleshooting switches & routers.
- Technical support for people using remote access.
- Suggesting IT solutions.
- Server configuration and maintenance.
- Server backup and monitoring.

3.3.1 Project Task and Activities

About Mikrotik

Mikrotik is a Latvian Company and was founded in1996 to develop routers. Mikrotik provide the Hardware and Software for Internet connectivity around the world. The Router OS software system provides that Stability, Controls, and flexibility for all kinds of data and routing. In 2002 the Router board brand was born and one of the best reseller in the world and most probably Customers in every country.

Router OS

Operating system is the main product of Mikrotik based on linux kernel, known as Router OS. Installed on the company Hardware (Router board series). Its turns into a Computer network router and implements the such features, Firewall, VPN(Virtual private network) service, quality of service, Bandwidth shaping and wireless access points functions. The system also serve Captive portal based hotspot system.

3.3.2Router Board

The company procreation series of integrated circuit boards, which that sell name as Router board and essential components which performance a complete operating platform for Router OS. The router board line attached with Router OS and marketed as small, medium sized wireless ISP (Internet Service Provider). Providing wireless Broadband access in outlying areas. Products are include office or Home office (SOHO) routers and for indoor outdoor uses devices MIMO and TDMA. Routers are unclad without (PCBs) for integration into mores solution. Router board also has series of Mini PCI and Mini PCI wireless adapters that's support the range of IEEE 802.11 protocol and used for the router boards lineup.

Despite the reason in house developed linux kernel required for hardware support and not make publicly available by Mikrotik. Many Router board Supported by Linux based firmware for openwork.

3.3.1-shows figure on Mikrotik Router Board

3.3.3 Network Diagram of Mikrotik configuration

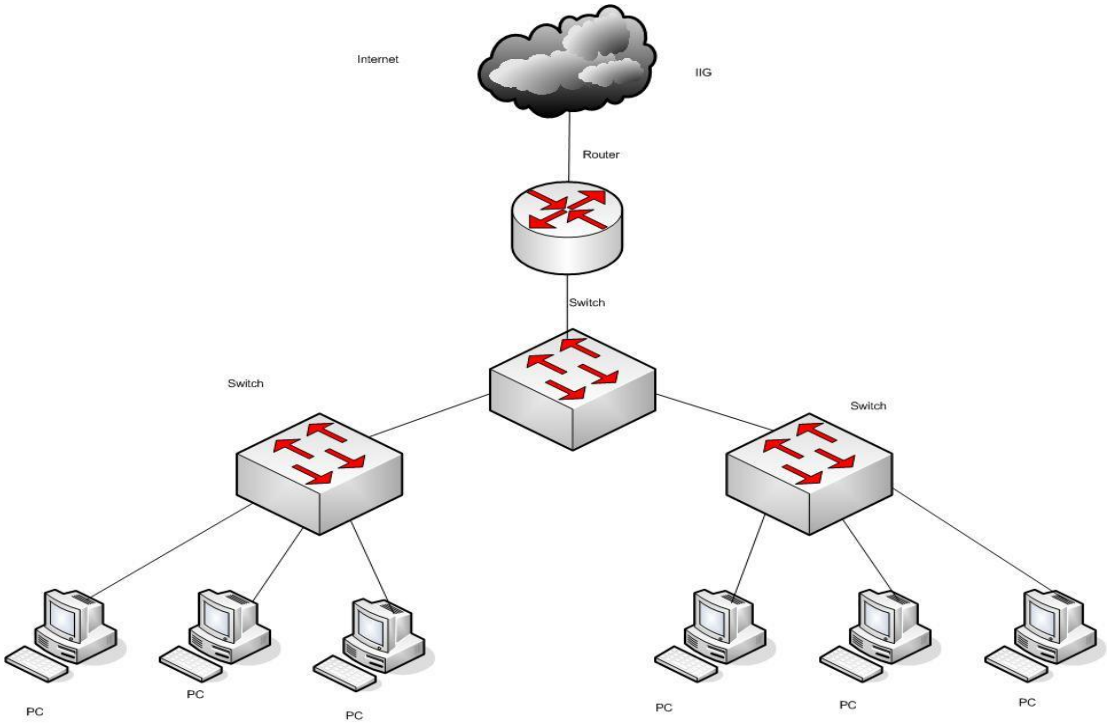

Figure 3.3.2-Shows figure on Network diagram of Mikrotik Configuration

Mikrotik Advantage

- Winboox GUI over IP and MAC or telnet, SSH, Web interface.
- Static, DHCP, PPPoE, Hotspot configuration.
- VLAN configuration.
- Firewall rules, NAT, Port forwarding, Address List, Layer7 Protocol configuration.
- Routing mode configuration support RIPv1 & v2, OSPF v2, BGPv4, mikrotik.
- VPN configuration PPPoE, PPPTP, L2TP, Open VPN, GRE Tunnel etc.
- Wireless network configuration AP mode, Virtual AP, Access Control List, WEP, WPA, WPA2 encryption.
- Bandwidth manage.
- Web proxy configuration.
- Cost effective.
- Smooth network connectivity.

3.3.4 Mikrotik Configuration

An ISP Company provide Internet in three way - Configuration given below:

- Static
- DHCP
- PPPoE

Network admin LAN (Local Area network) give internet four ways:

- Static
- DHCP
- PPPoE
- Hotspot

3.3.5 Static Configuration

In Static configuration IP address set manually and Configuration WAN and LAN network service in manual way. In Static routing configuration ISP provide IP address, Subnet Mask, Gateway and DNS.

Step1:

- Press power button to the Mikrotik router.
- Connect the Mikrotiklan port and the other port with UTP cable to the PC.
- Browse with Winbox.

First open WinBOX. Then Click in the Neighbors and refresh button. After show the router MAC Address and IP Address. By Default username admin and password are null. Next press the connect button.

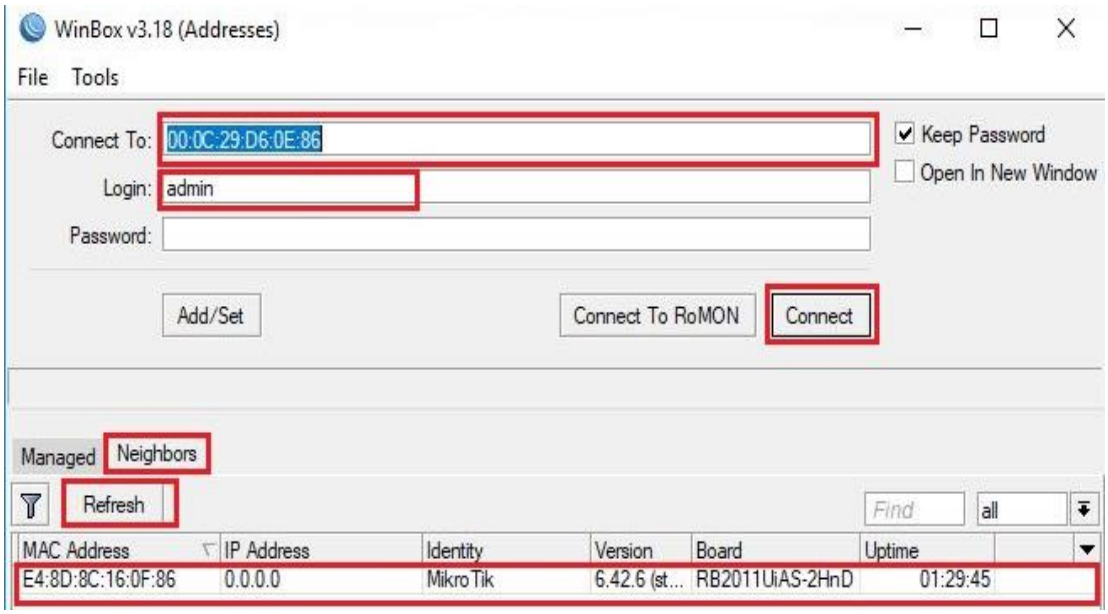

Figure3.3.3-Shows on WinBox login page

Open the Mikrotik GUI Mode and you can see which user login, router interface MAC, router name, winbox model, Mikrotik router model.

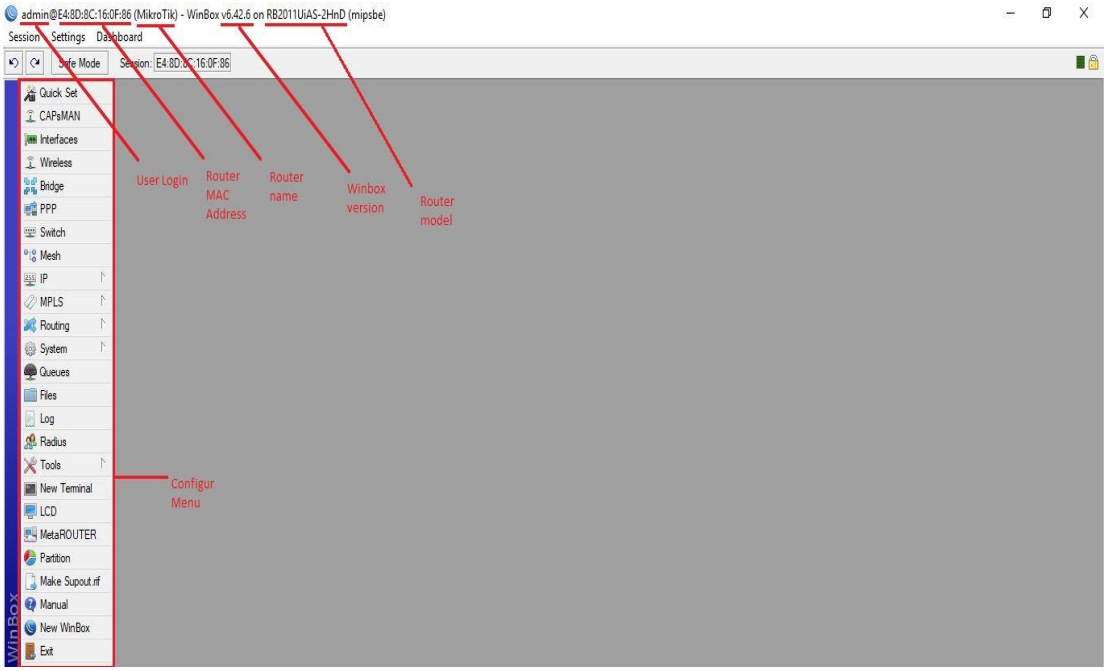

Figure3.3.4: Shows the WinBox tools

Now click the interface and select WAN and LAN Interface.

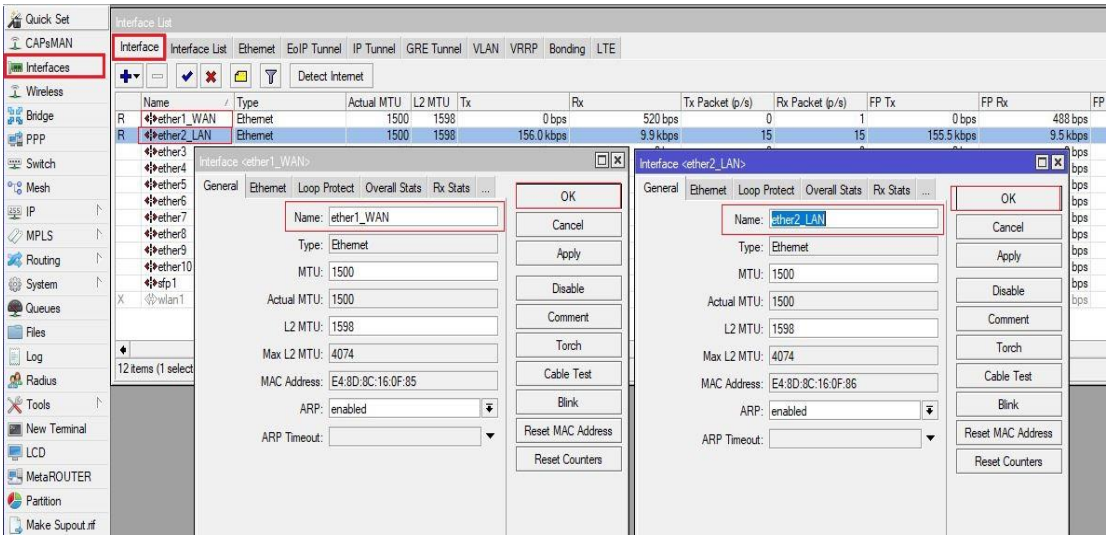

Figure3.3.5: Shows LAN, WAN interface

ISP Company provide WAN IP address and set WAN interface. Then LAN interface set LAN IP address.

Step 2:
Process: Set IP address-
IP →Address→"+"→WAN

IP →Address→"+"→LAN

10.10.10.102/24>Network>10.10.10.0>Interface>Ether1-WAN
IP>Address>"+">Address>192.168.0.1/24>Network>192.168.0.0>Interface >Ether2-LAN

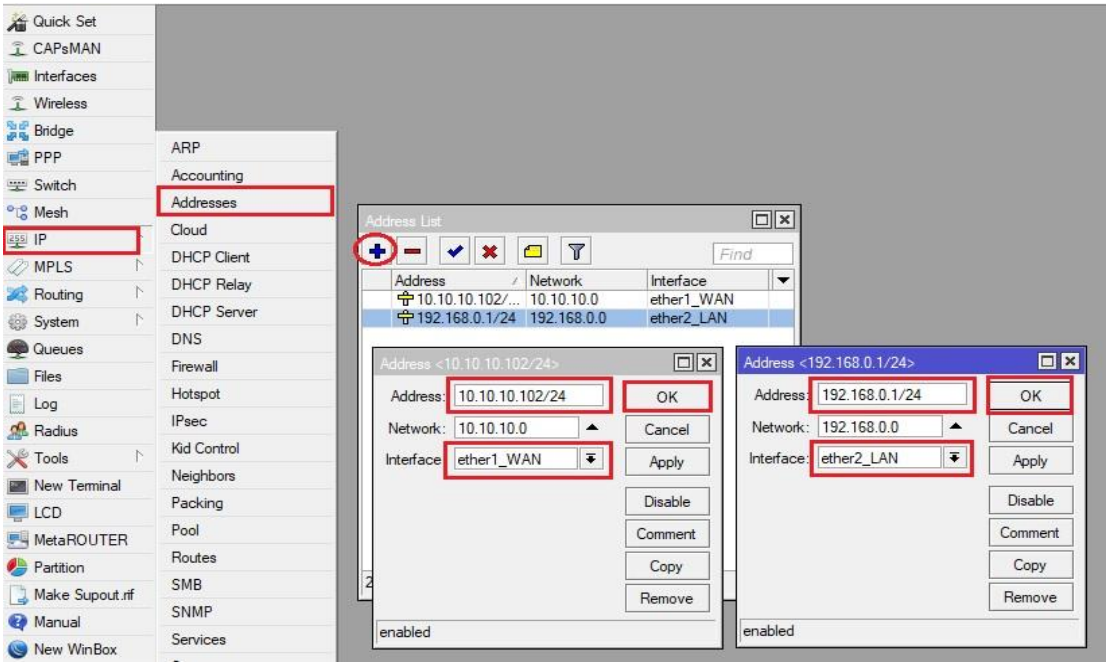

Figure3.3.6: Shows Set LAN, WAN IP address

WAN Gateway IP set in IP to routes then ok.

Step3:
Setting up gateway and Defining Routes.
Process:
IP>Route>"+">Gateway>10.10.10.1
Note: Must be noticed that the destination address will be 0.0.0.0/0(Default route).
Then we can set Gateway.
Apply>ok

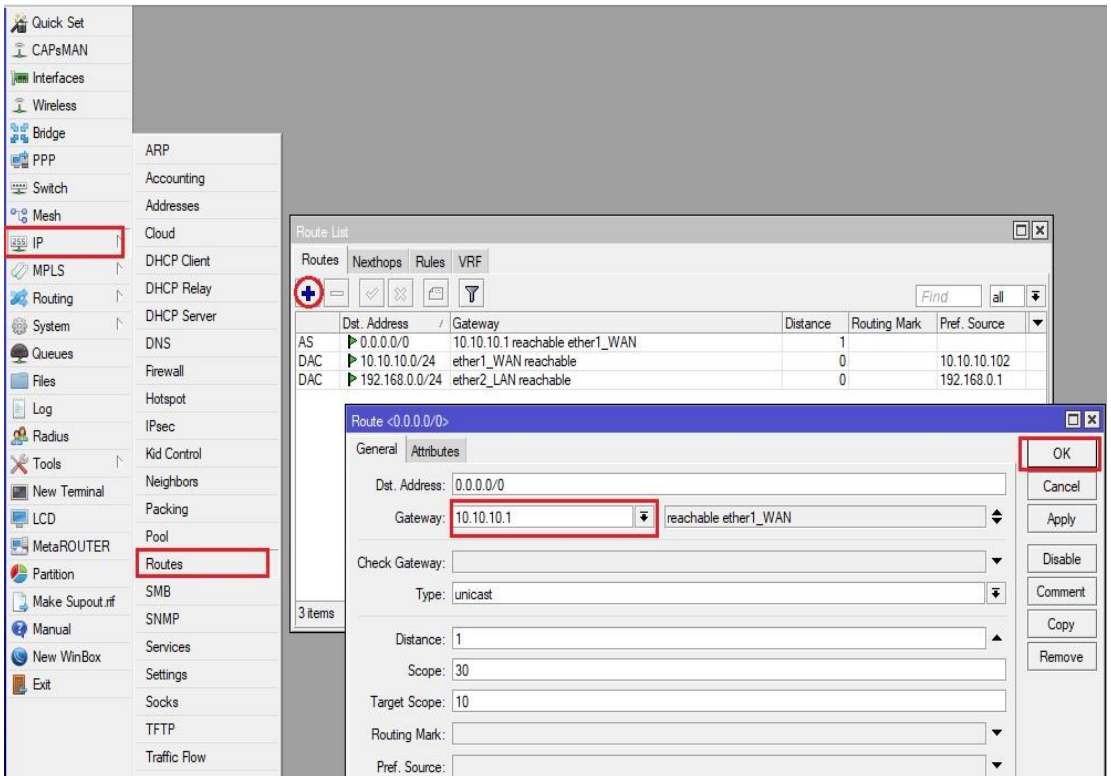

Figure3.3.7-Shows Gateway Routes.

Step4:

IP>DNS>Server>203.190.10.252

Alternate DNS server >8.8.8.8

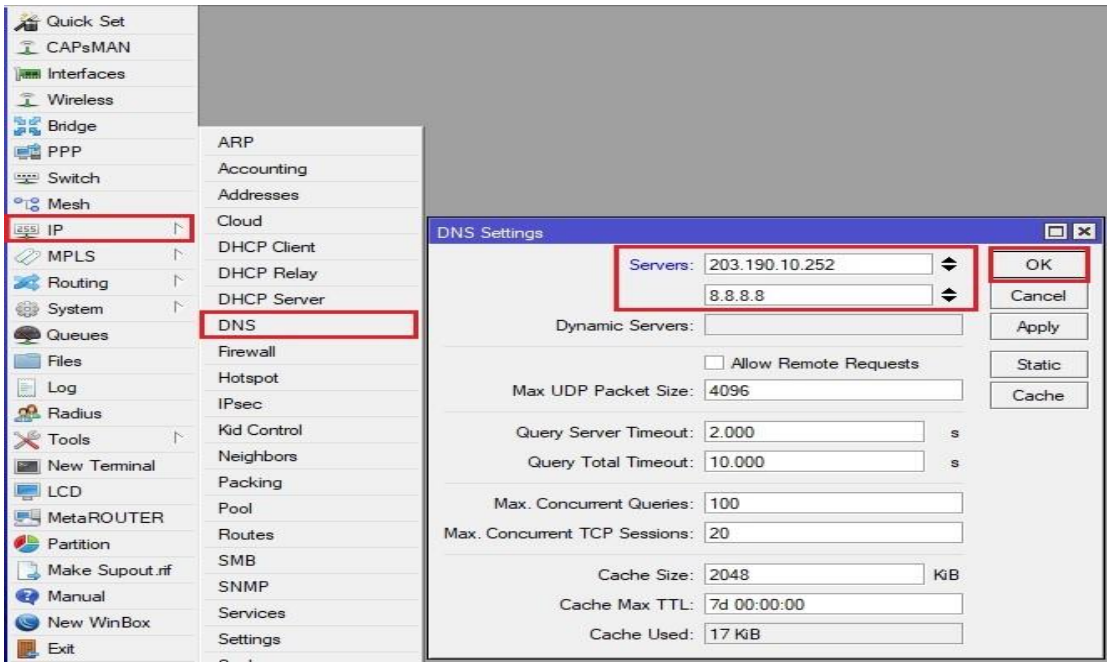

Figure3.3.8-Setup DNS servers

Step5:

Process:

IP >Firewall>"+">NAT>Action>Masquerade

Apply>OK

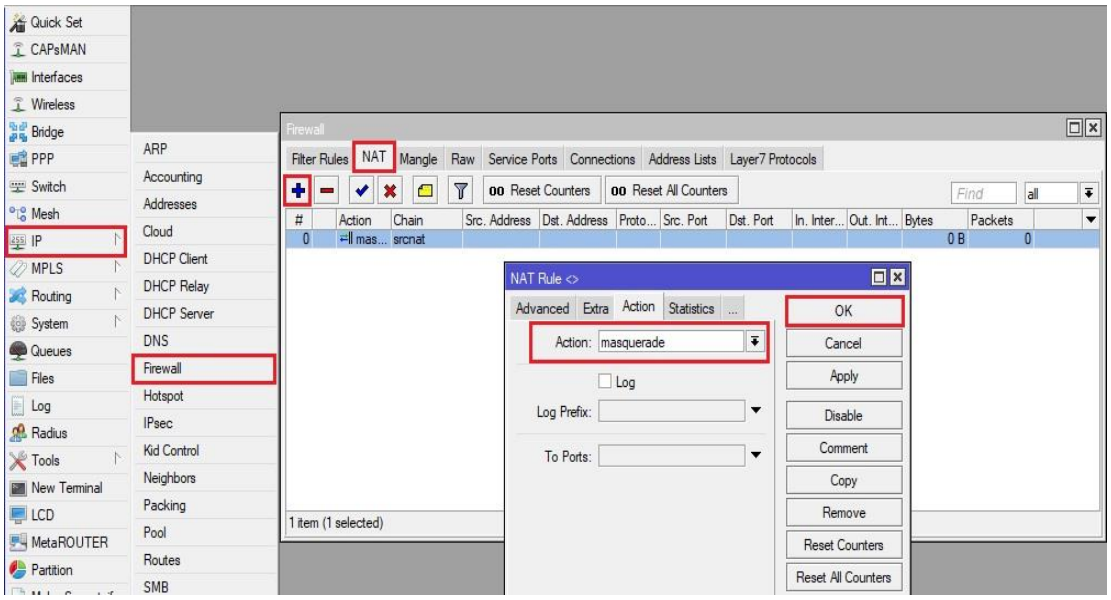

Figure3.3.9-Setup NAT

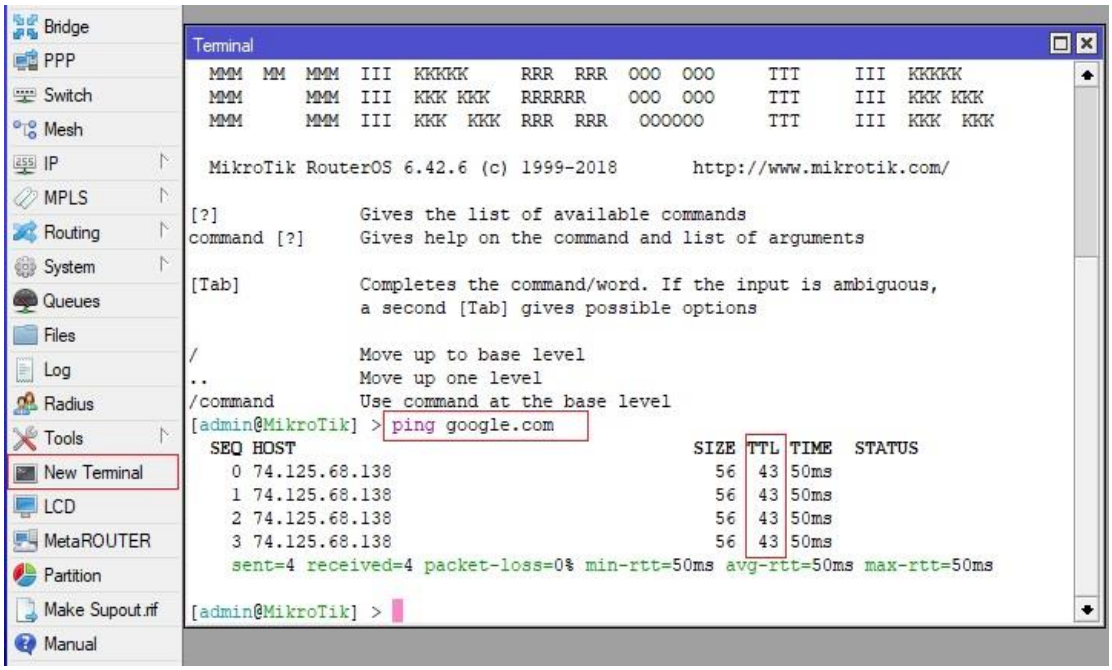

Figure3.3.10-Check Network

Open the new terminal and ping (google.com) or we can ping the IP address. If google get ping then understand that the configuration has setup successfully.

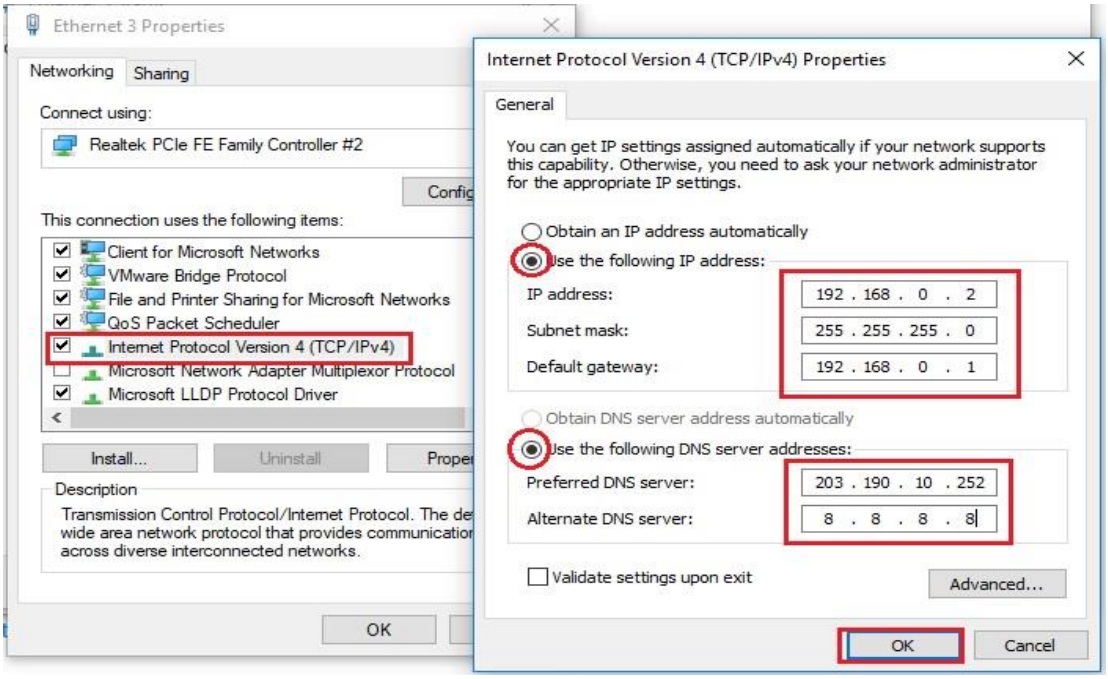

Figure3.3.11-Setup IP in Pc

Set up IP in PC:

Select internet protocol version 4(TCP/IPv4)

IP address>192.168.0.2>Subnet Mask>255.255.255.0>Default gateway>192.168.0.1

DNS Server>203.190.10.252>8.8.8.8

Apply>OK

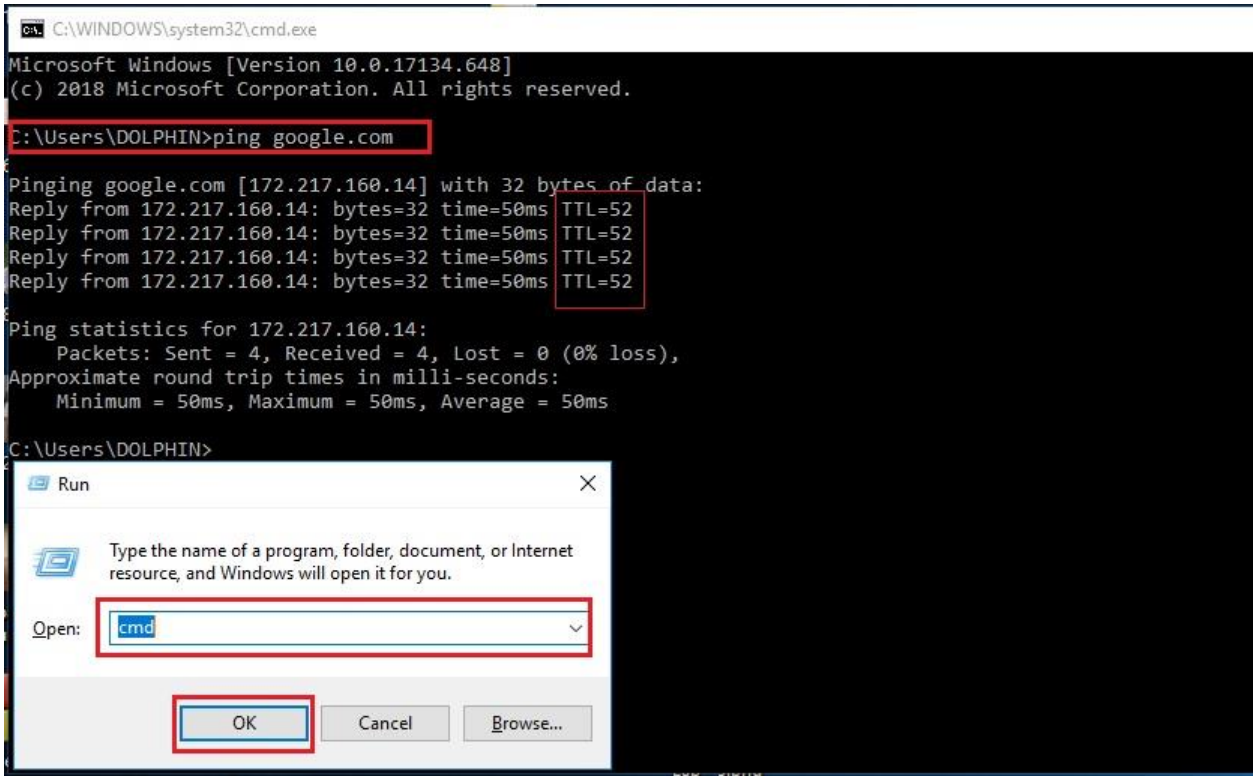

Figure3.3.12-Check Network in PC

Open the PC command line and ping (google.com). If PC get ping the static Configuration setup successfully.

3.3.6 Bridge Mode Configuration

Process:

Bridge >Bridge>“+”>General>Name>Bridge LAN>Type Bridge

Apply >Ok

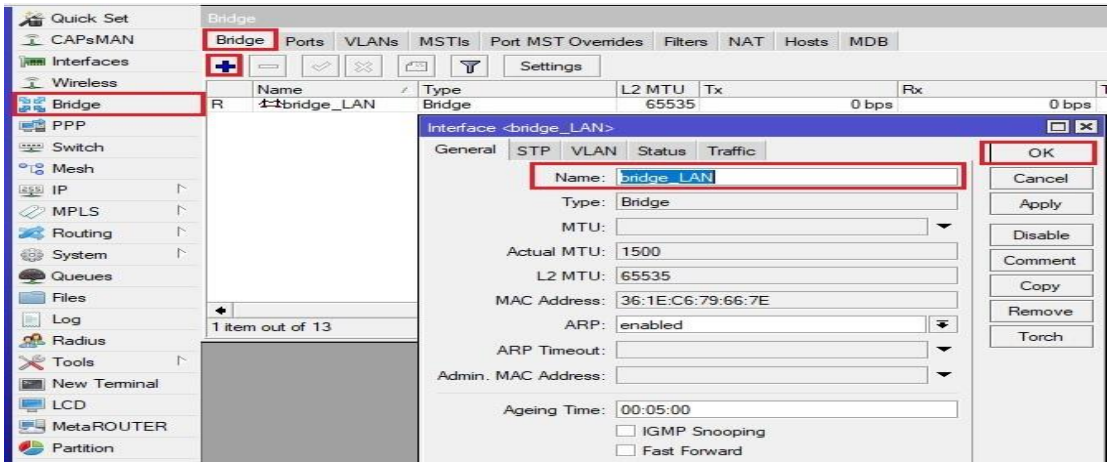

Figure3.3.13-Bridge Mode Configuration

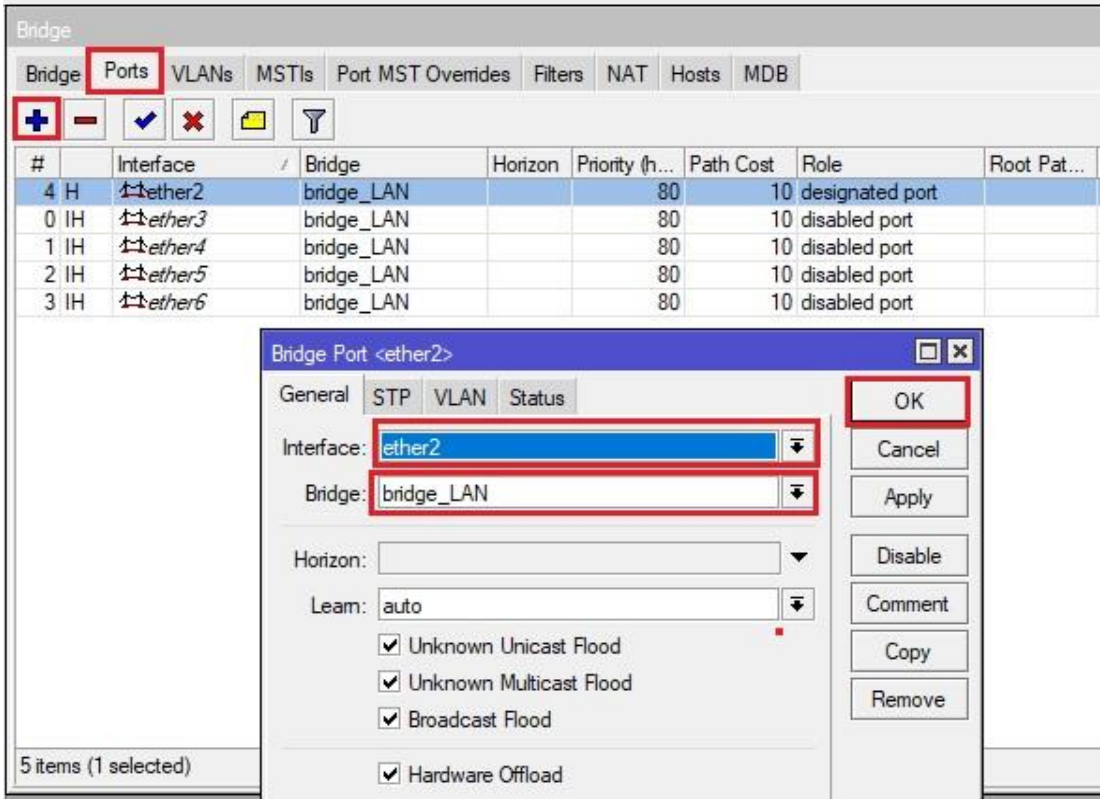

Figure3.3.14-Setup Bridge.

Bridge> “+”>Ports >General>Interface-Ether2>Bridge-LAN

Apply>Ok

3.3.7 PPPoE Server Configuration

Step1:

Process:

IP>Pool> “+”>Name >pppoe pool>Addresses>11.11.11.1-11.11.11.254

Apply>OK

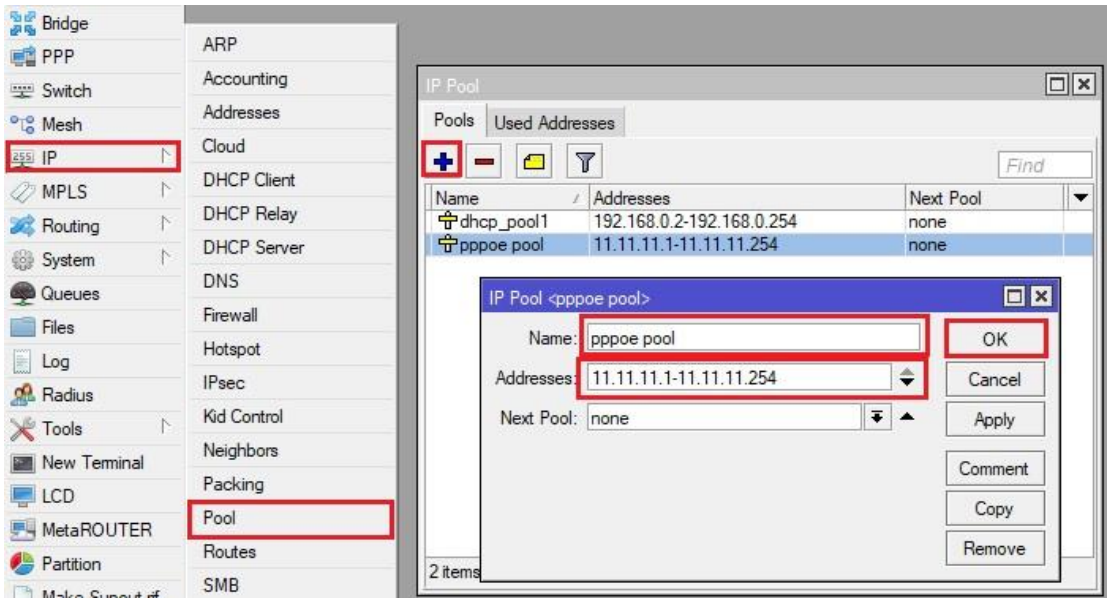

Figure3.3.15-IP pool Create.

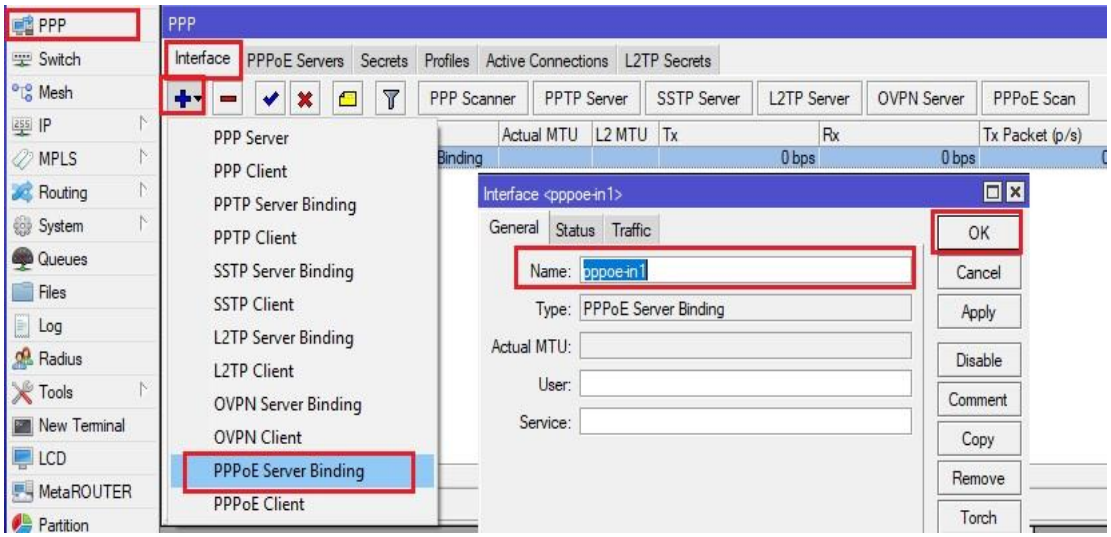

Figure3.3.16-PPPoE Server Binding.

Step2:

Process:

PPP>Interface> “+”>pppoe Server Binding>General>pppoe-in1

Apply>Ok

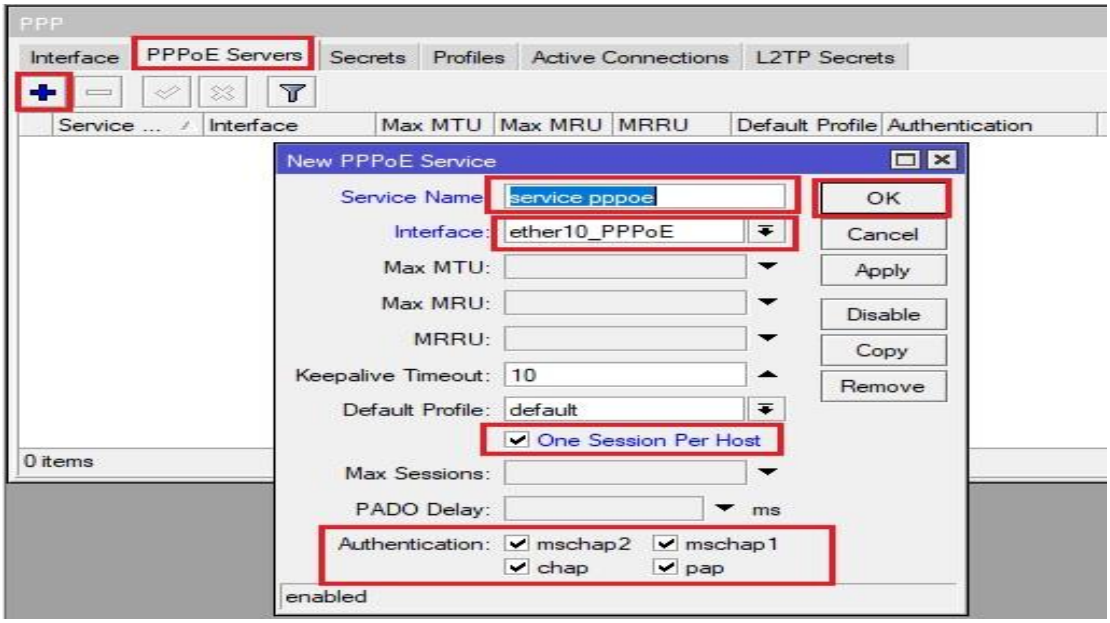

Figure3.3.17-Shows PPPoE Servers Setup

Step3:

PPP> “+”>PPPoe Servers>Service Name-Service pppoe>Interface>ether10_PPPoE

Default profile>default>select-One Session per Host

Authentication> Select >mschap2>mschap1>chap>pap

Step4:

PPP> “+”>Profiles>General>Name-profile 1M>Local Address -PPoe Gateway>Remote address-PPPoE pool

DNS Server>203.190.10.252

Units>Rate limit>1M/ 1M

Apply >OK

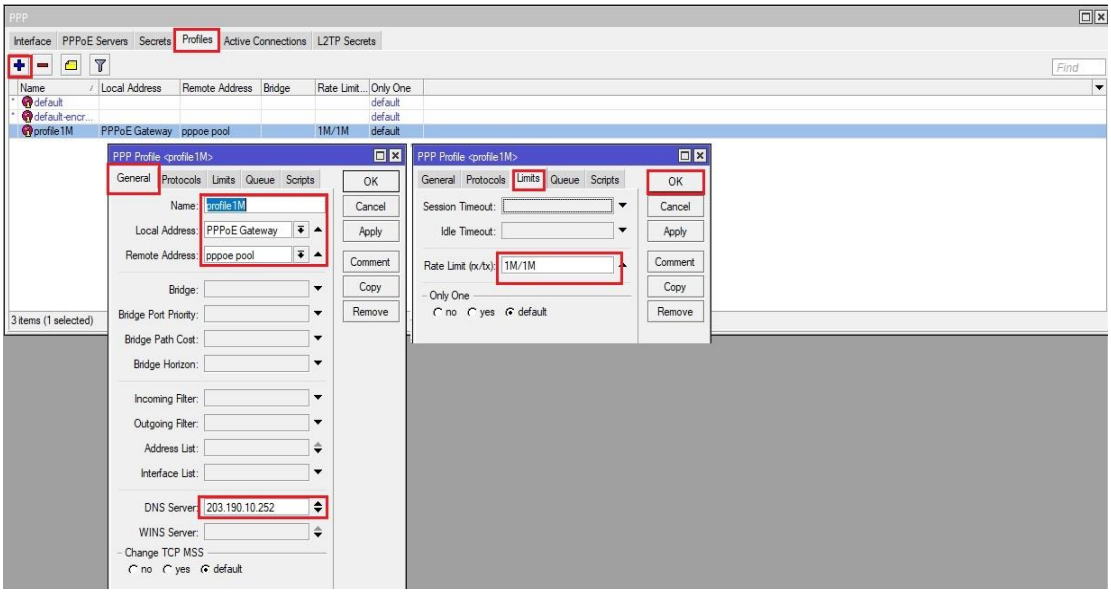

Figure3.3.18-Shows DNS server, Gateway and Rate limit setup

Step5:

Process:

PPP>Secrets>Name-arif>pass-1234>Service-pppoe

Profile>profile-1M

Apply>Ok

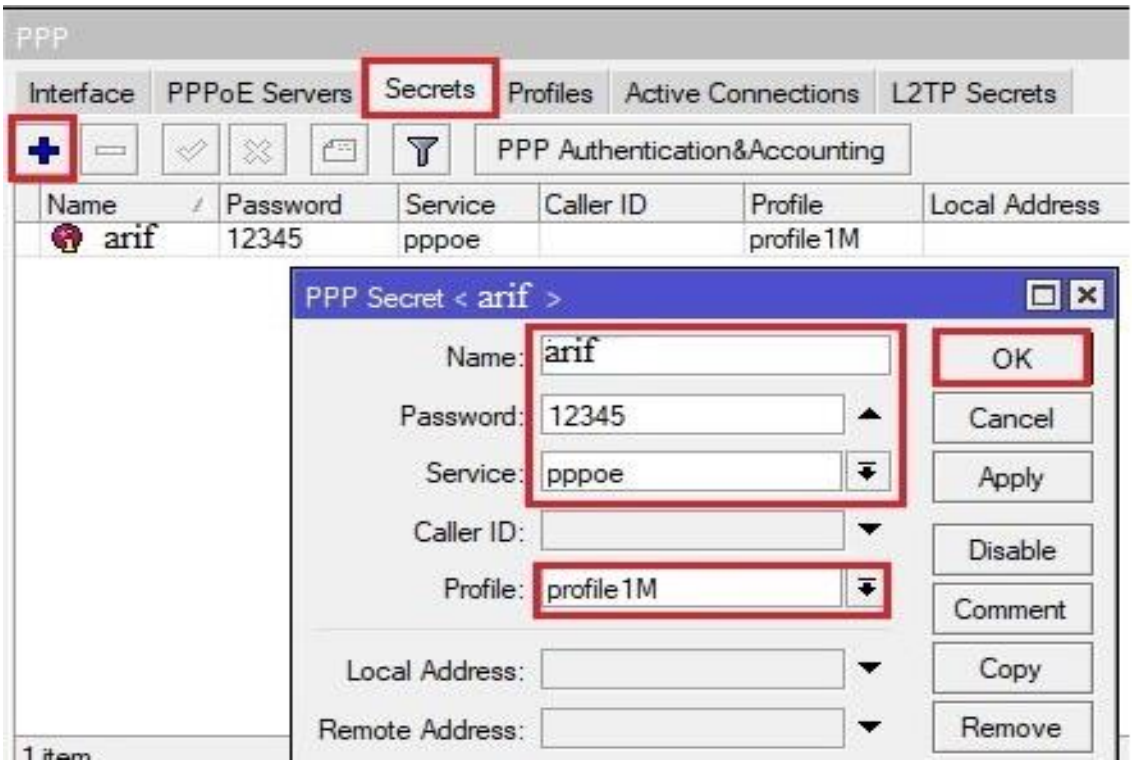

Figure3.3.19-PPPoE Name, Password Setup

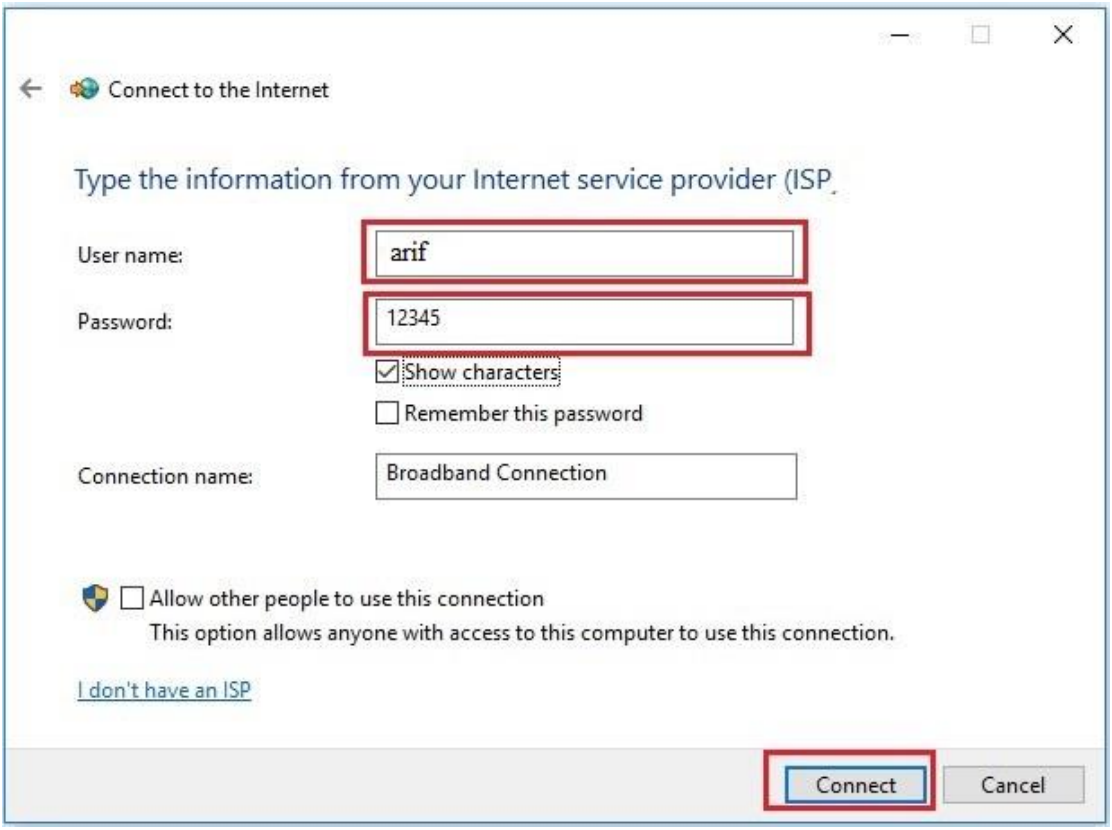

Figure3.3.20-Shows Connect to the Internet

Step6:

Username>arif

Password>1234>Connect

3.3.8 LINUX Administration

Centos Install

Create Linux Partition:

For installation of Linux we need to create at least three partition (/) root, Boot and swap.

- Root partition (/):
  All files located at the root directory except (/boot).In root partition needed Minimum 5GB Hard Drive.

- Boot partition (/boot):
  In boot partition 200 MB is sufficient. It contains the operating System kernel during the bootstrap process.

- Swap partition (swap):
  Swap partition is used to support for the virtual memory. When there is not enough space of RAM to store data in your system. Swap partition should equal (2*Physical Memory RAM).

Linux partition with LVM:

- /Boot-Standard500
- LVM-Root>Swap>Fill to maximum allowable size

Create LVM:

LVM volume Group

- Swap-(2*physical Ram)
- /Root-Minimum 10GB
- /home-Fill to Maximum

Linux Run-level command

- init 0 -Shutdown
- init1 -Single user mode
- init 2 -Multi user mode
- init 4 -Unused
- init 5 -Window(GUI Mode)

- init 6 -Reboot
- who –r -See current Run level

Basic Command of Centos

- Poweroff,init0,shutdown-h now-(Shutdown)
- Reboot/init6-(Reboot)
- Pwd-(Present working Directory)
- Ls-(List Information)
- Cal, cal 2019,cal 31 2019-(Display a Calender)
- Date-(Display or change date or Time)
- touch arif-(Create a blank file)
- mkdir arif-(Create a directory)
- Cd /root/Desktop-(Change working directory)

Create user and manage password

- Adduser arif(Username)-adding a user
- password arif(Username)-password set for a new user
- password –d arif(Username)-password disable /delete
- userdel arif(username)-Delete a user
- userdel –r arif(Username)-Delete a user with home directory
- finger arif(Username)-verify information
- password –l arif(username)-looking an account
- password –u arif(Username)-unblock an account
- who/who am i-(To know about the logged in User)

File Copy and Move

- cp filename destination –(Copy file)
- mv filename destination-(Move a file)

Vi Editor Command

- vi arif(filename)-To edit file
- press i/a – insert Tex
- press x/dd-To delete a character
- press esc key and type 10yy to copy 10 line- Copy line

- press p – Paste
- :set nu-To set line number
- /xyz for search xyz-For search
- :0- Go to the top of the lines
- :$-go to the Bottom of the line
- :100 to go 100 no line-go specific line
- :wq!-To save the document
- :w-Save the current changes without exist of vi
- :q- without saving any changes vi editor exists

Update/Install/Remove package

- yum install (package name)-To install a package
- yum remove (Package name)-Remove/Uninstall a package using Yum
- yum update (Package name)-Update a package
- yum search (Package name)-search a package
- yum info (package name)-package information
- yum list installed-show list of installed package

File and Directory Compress, Decompress Using Tar, Untar

- Create Directory
- Pwd-(present working directory)
- mkdir day15-(create directory)
- ls-(list information)
- cd day15
- cp –rv /etc/ .
- ls
- du –shetc–(Show file size)
- du –sh*-(Show inside directory file)
- tar-cvf etcarchive.tar etc –(For archive)
- du –sh*
- rm –rfetc
- tar –xf etcarchive.tar-(Decompress)

(.tar, gz,)-Compress, Decompress

- tar –czvf etc.tar.gz etc-(Compress)
- rm –rfetc
- ls
- tar –xzvfetcnew tar.gz-(Extract)

(.bz2)-Compress, Decompress

- tar –cjvf etcbak.tar.bz2 etc –(Bz2-More compress)
- rm –rfetc
- tar –xjvf etcbak.tar.bz2-(Decompress)

File Compress and Decompress:

- seq 10000000 > file
- du –sh*
- du –sh file
- g zip file-(Compress only for file)
- du –sh file.gz
- gunzip file.gz-(Extract)
- du –sh file

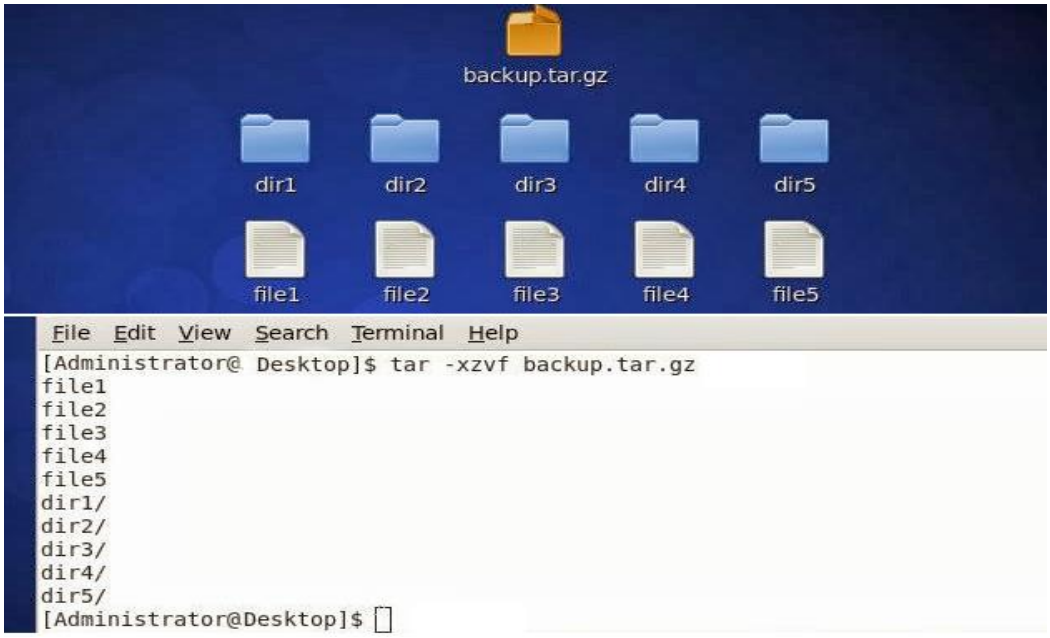

Figure3.3.21- Shows Tar and Un tar

Network Configuration

#ifconfig or ifconfig eth0-(To see ip address)

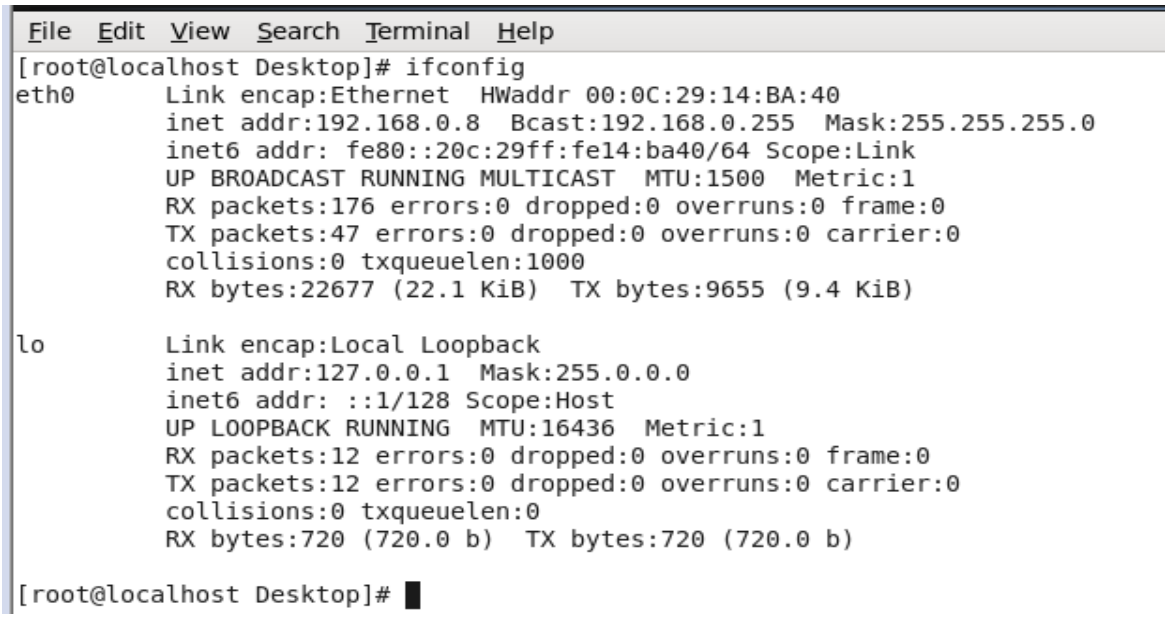

Figure3.3.22-Shows IP Address

Setup IP address with command- # vi /etc/sysconfig/network-scripts/ifcfg-eth0

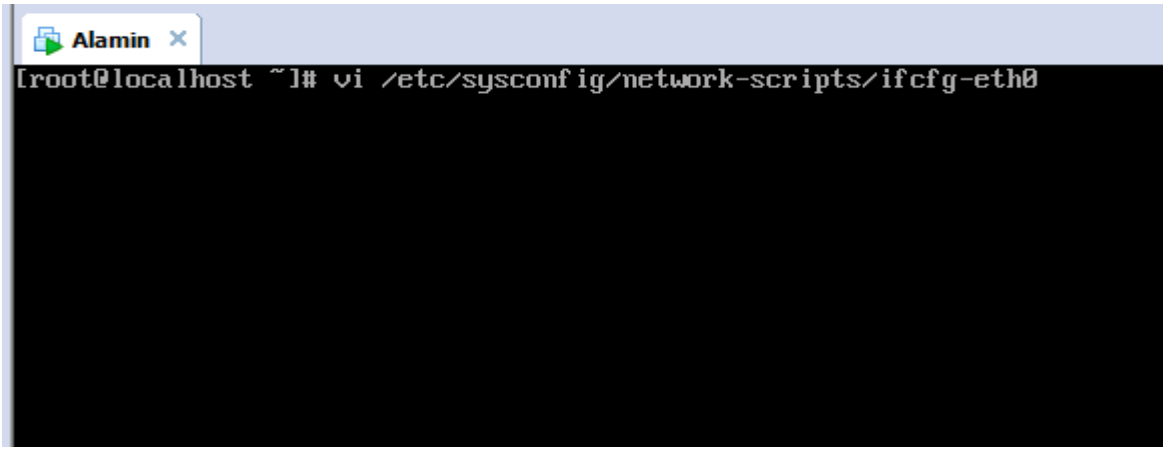

Figure3.3.24-Setup IP Address

Edit IP Address for your server. Show figure 3.3.25 shows IP Address editing.

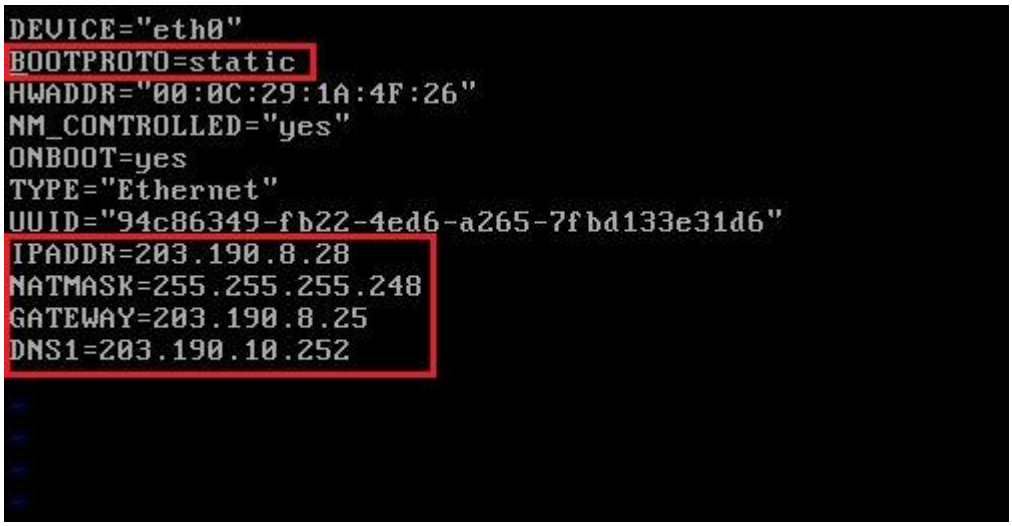

Figure3.3.25- Shows IP Address Editing

#Service network restart

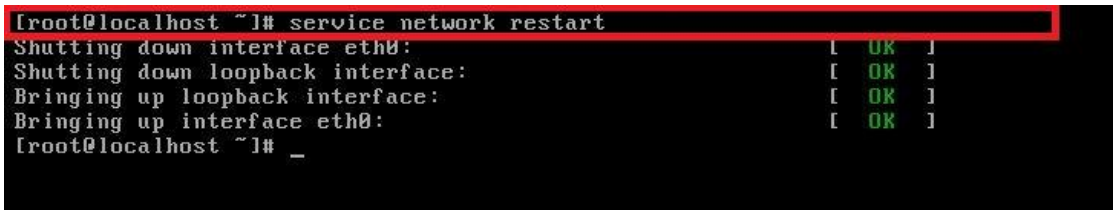

Figure3.3.26-Service Network Restart (Checking Network)

3.3.8 FTP Server Configuration:

FTP server package name vsftpd. Its means very secure file transfer protocol Daemon. FTP server configuration step follow the initial step.

Selinux Disabled

First Selinux disable. Edit selinux file and “SELINUX=disabled”. Go (#vi /etc/sysconfig/selinux)

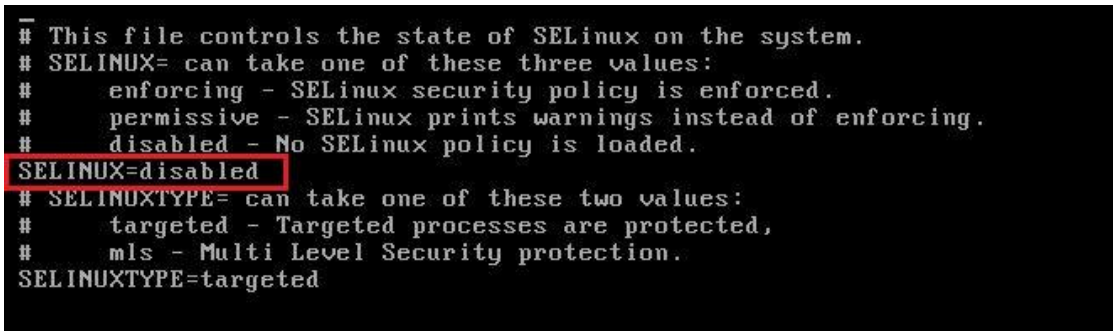

Figure 3.3.27 - selinux disabled.

Vsftpd Package Install

Now vsftpd install. Enter your command- (#yum install vsftpd* -y) show the figure - 3.3.28

```
[root@alamin ~]# yum install vsftpd* -y
Loaded plugins: fastestmirror
Determining fastest mirrors
 * base: mirror.dhakacom.com
 * extras: mirror.dhakacom.com
 * updates: mirror.dhakacom.com
Setting up Install Process
```

Figure 3.3.28 – install vsftpd package.

Now edit vsftpd.config file. (vi /etc/vsftpd/vsftpd.config) show the figure 3.3.29

```
# READ THIS: This example file is NOT an exhaustive list of vsftpd options.
# Please read the vsftpd.conf.5 manual page to get a full idea of vsftpd's
# capabilities.
#
# Allow anonymous FTP? (Beware - allowed by default if you comment this out).
anonymous_enable=YES
#
# Uncomment this to allow local users to log in.
local_enable=YES
#
# Uncomment this to enable any form of FTP write command.
write_enable=YES
#
# Default umask for local users is 077. You may wish to change this to 022,
# if your users expect that (022 is used by most other ftpd's)
local_umask=022
#
# Uncomment this to allow the anonymous FTP user to upload files. This only
```

```
# mangling on files when in ASCII mode.
# Beware that on some FTP servers, ASCII support allows a denial of service
# attack (DoS) via the command "SIZE /big/file" in ASCII mode. vsftpd
# predicted this attack and has always been safe, reporting the size of the
# raw file.
# ASCII mangling is a horrible feature of the protocol.
ascii_upload_enable=YES
ascii_download_enable=YES
#
# You may fully customise the login banner string:
ftpd_banner=Welcome to AL_Amin FTP service.
#
# You may specify a file of disallowed anonymous e-mail addresses. Apparently
# useful for combatting certain DoS attacks.
#deny_email_enable=YES
# (default follows)
#banned_email_file=/etc/vsftpd/banned_emails
#
# You may specify an explicit list of local users to chroot() to their home
# directory. If chroot_local_user is YES, then this list becomes a list of
# users to NOT chroot().
#chroot_local_user=YES
#chroot_list_enable=YES
# (default follows)
```

Figure 3.3.30 – modify the vsftpd.config.

After vsftpd.config file save, then vsftpd package restart. Show the figure 3.3.31.

Figure 3.3.31 –restart the vsftpd package.

User create for FTP

Now create a user only for use ftp server and this user not access in shell terminal. Show the figure 3.3.32

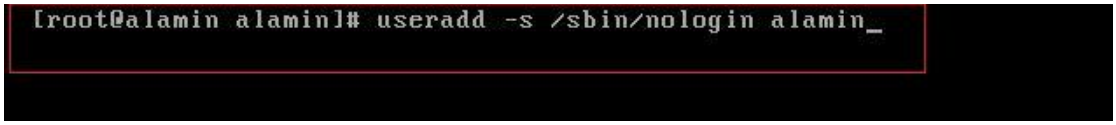

Figure 3.3.32 –create user for FTP server.

FTP server Open

Next open the browser and enter your IP address (ftp://203.190.8.28) show the figure 3.3.33

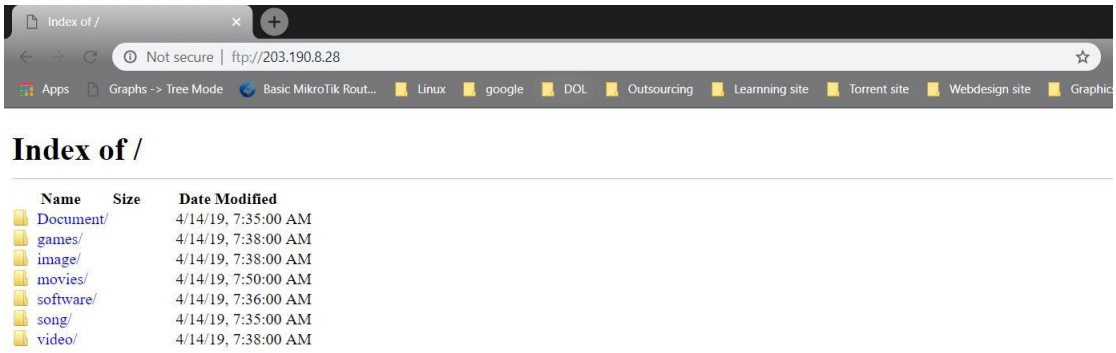

Figure 3.3.33 –show the fitp server file.

Now ftp server file upload use fileZilla software. Open filzilla and host your IP, username, password then connect. After connect click browse the file location and upload the file.show the figure 3.3.34.

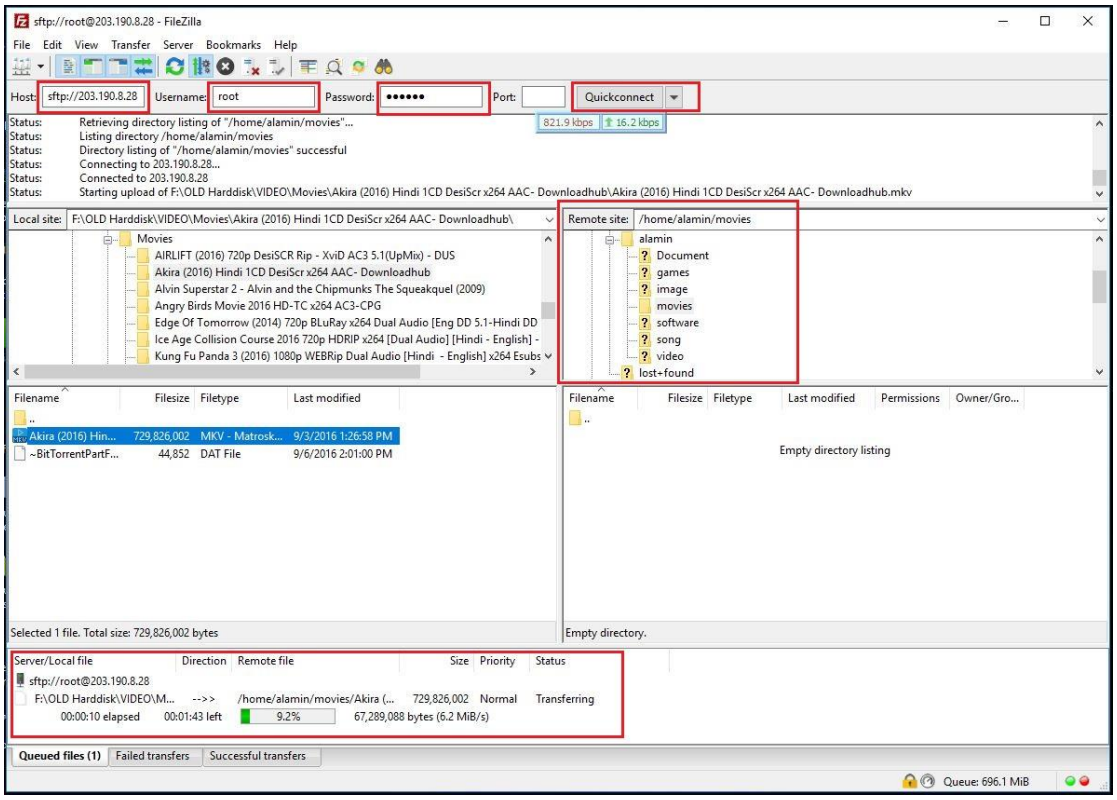

Figure 3.3.33 –upload your file in server.

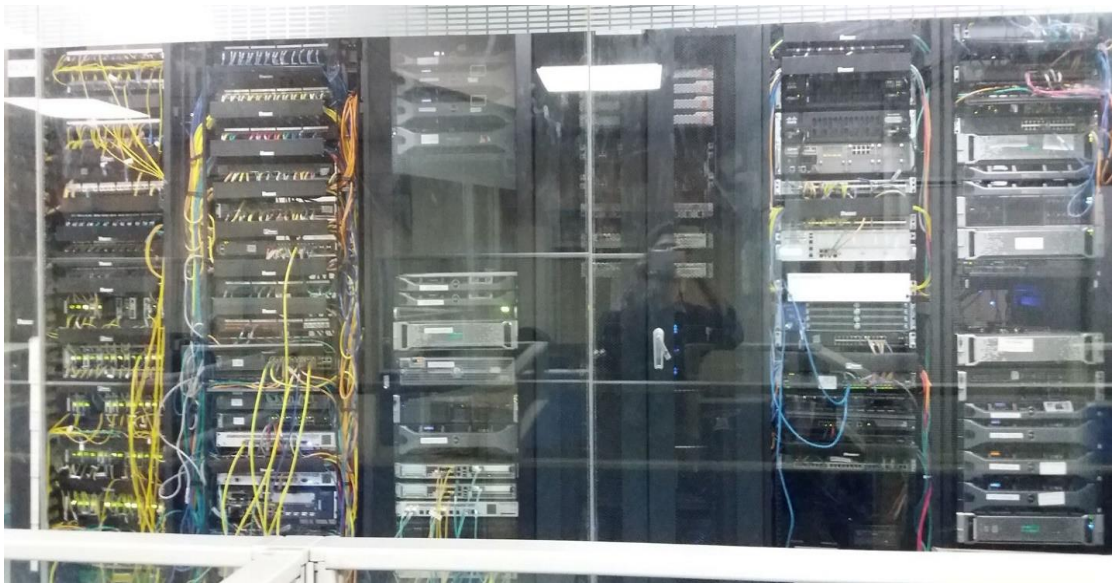

Figure3.3.35-Shows Data center in DOL.

3.3.9 Challenges

Every work has challenging in the world. The internship experience to share my friends and I have found some common challenges. I think there is three things in internship that is -temporary, Unpaid and run to gain knowledge. Sometimes I am bored and not enough work assigned to me. Interns are just get foot in the door. Some work places are give advantage of young workers by giving them long hours of work.

All of the students are influx of work when they are ask questions without any hesitation. I prove myself to ask questions. I feel myself independent and self -sufficient worker. Interns can help you for future job opening. Before I get internship I don't know about the corporate work and their activities. After internship I know about that and faces many challenges.

CHAPTER 4
Competencies and Smart Plan

4.1 Competencies Earned

Expertness earned or learning outcome is assertion of what a learner awaited to know, understanding as a result of a learning process. Both network and server machines are install at two datacenters. Advance Linux software implementation takes leading role, such an example LDAP HA, classify program learning outcomes field and evaluations of Internship. Funds create for Student association Office and Intern learning outcomes-Information gathered and Organized into a project description: Take part in the redesign of the Linux web site. Learning Outcomes-Software Install and upgrades, Configure Software and Test network employer Services. Orientation Concerning Organizational policies and method will be provide on-site Supervisor.

4.2 Smart Plan

Each and every Company need to be a smart plan to reach the success. Smart plan create some combination of Common things.

4.3 Reflection

In 2002 Daffodil on-line started their journey. They Extend Their Operation throughout the past year, and prefecture in step with the purchasers recommendation and providing sensible services to the client. They take into account demand of your time. Daffodil online limited worked several national comes and international organizations. They achieved superb name within the country. Daffodil online limited victimization latest technologies and upgrading the services once it needed. They are capable to produce state of art network and Telecommunication Solutions with an extremely virtuoso technical experience cluster.

CHAPTER 5

Conclusion and Future Career

5.1 Discussion and Conclusion

The internship has been a wonderful and rewarding experience in my life. I will be able to help me with the opportunities to network with a lot of people and I have been seen the future of it. One main issues I have learned the time management skills as well as self –motivation and great experience about the job. When I was started the internship it was challenging for me. Eight hours a day, and six days a week is going to be able to sit in the office. That's why I maintain the time. I was learn how to motivate myself. Various kinds of proposals and ideas came to the Company and looking for that. I am enjoying the work and I want to continue to work hard for my position also to be learn about the Industry and meet new people. This Internship is wonderful Experience in my life and I think other intern internship got a lot of things out of it.

5.2 Scope of Further Career

In different Areas career opportunities are available in Linux. The career opportunities are not depends only on Linux platform. It has lots of different areas like as-Device and kernel driver Development, Desktop application development. It has huge demand in an open source software and Software developers and engineers. Many Companies are migrated their operation in Linux open source platform like as Yahoo, Google, Boeing, wiki.org etc. Nowadays many companies are migrated their operation in cost effective open source solution and huge demand for the skilled professionals in LINUX and MIKROTIK etc.

References

[1] Details on Daffodil Online Limited (DOL), https://www.daffodilnet.com/; Last accessed 31-3-2019

[2] About winbox use, https://systemzone.net/mikrotik-router-basic-configuration-using-winbox/Last accessed 31-3-2019

[3] Get the SWOT, https://www.mindtools.com/pages/article/newTMC_05_1.htm/; Last accessed 31-3-2019

[4] Get the idea of IP address, https://www.cisco.com/c/en/us/support/docs/ip/routing-information-protocol-rip/13788-3.html; Last accessed 28-3-2019

[5] Detail of Router OS, http://www.mikrotik-routeros.net/routeros.html, Last Accessed 20-3-2019

[6] Centos install process, https://docs.centos.org/en-US/centos/install-guide, Last accessed 10.3-2019

[7] Mikrotik configuration VLAN concept, https://systemzone.net/category/computer-networking/mikrotik-router/vlan-configuration/; Last accessed 28-3-2019

APPENDICES

Appendix A: Internship Reflection

The basic goal of my internship is practical solution to real world. The classroom knowledge apply the practical world. Professionally relevant and learning to deal with the new knowledge, skills, ability, to determine and develop plans. Needed to add the network to the other Professional Supervisors and the employees to learn and understand through their behavior. To fulfill my internship I think about the proper business plan and planning how to contact with the colleagues and outcome of the organization. After the end of my internship experience take a professional opinion of my internship supervisor. To prepare for life in a global society internship experience is must be needed and also leadership and service gift to be able to put it to use.

Appendix B: Company Details

Head Office

Name	Daffodil Online Limited
Address	102, Shukrabad, 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	Nationwide Internet Service Provider (ISP)

NETWORK ADMINISTATION AND ISP SERVER CONFIGURATION ON MIKROTIC ROUTER

ORIGINALITY REPORT

27%	24%	1%	7%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	africasportnews.com Internet Source	10%
2	dspace.daffodilvarsity.edu.bd:8080 Internet Source	8%
3	www.ukessays.com Internet Source	2%
4	Submitted to Pathfinder Enterprises Student Paper	1%
5	Submitted to Poornima University Student Paper	1%
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7	Submitted to University of San Jose Recoletos Student Paper	1%
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11	personalcomputernetwork.blogspot.com Internet Source	<1%
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Exclude bibliography	Off		