ISP SETUP AND ADMINISTRATION WITH LINUX AND MIKROTIK

SUBMITTED

BY

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This report is represent 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 "**ISP Setup and Administration with Linux and Mikrotik**". Submitted **by Md. Al-Amin, ID No:** 161-15-6797 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 May 2, 2019.

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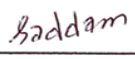

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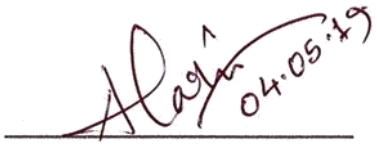
DECLARATION

I want to mention that this Report is ready by me, **Md.Al-Amin, ID No: 161-15-6797,** Department of Computer Science And Engineering,Daffodil International University. Underneath the Supervisor of **Md.Al-Amin Hossain, 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, Daffodil on-line Limited (DOL), Information center and net Service Supplier (ISP).

Supervised by:



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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 with Linux and Mikrotik. 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. 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.

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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 internship 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 delineate regarding objective of place, Motivation of place and Introduction of the company.

Chapter (2): I have delineate here methodology of my internship and offers data regarding wherever the internship has been connected to assume this program. During this chapter conjointly enclosed regarding however did perform the internship works, regarding the corporate and what are the It service offered in DOL, and rules regarding the Linux System in job Market.

Chapter (3): In this chapter I even have delineate concerning the daily task and activities, Events and challenges.

Chapter (4): I have delineated concerning skillfulness earned, smart plan, Reflections.

Chapter (5): I have delineated is Conclusion, future scope and additionally discuss future scopes of Linux and conclusion

CHAPTER 2

INTERNSHIP ENTERPRISE

2.1 Introduction

Daffodil on-line (DOL) is one amongst the ISP/ASPs in Bangladesh and providing one stop integrated services and solution. Its own Fiber optic and communication system WAN infrastructure to serve company and individual shoppers. Daffodil on-line worked with several national comes and international organizations. It uses latest technologies and upgrading the services where it's needed.

The centers of company network solution is capable of providing state-of-art network and telecommunication solution with extremely economical technical specialists. its superb skilled engineer and management team certified and related to Cisco, Microsoft, Linux, and oracle and involved world leading computing associations together with IEEE, ACM, ACS, BCS, And PMI. Its company social responsibilities on community, digital computer, Location and market place. DOL promotes three major platforms e.g., nation building, Education, and surrounding through its programs and services.

2.2 product and market Situation

Daffodil on-line ltd. is one in all the nationwide net service supplier (ISP) in Bangladesh. It's the foremost old and oldest company within the ICT field wherever their basic business is future relationship with their Customers. As they give the impression of being at the expansion over the last decade, they're very happy with what they're achieved. Daffodil on-line restricted conjointly provides numerous style of IT services and conjointly 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 incredibly necessary and helpful technique for understanding weakness and Strengths and distinctive the Opportunities and what reasonably threats you face.

Strengths:

- Communication between the individual 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 evaluation tariffs and repair possibility.

Opportunities:

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

Threats:

- The economic Crisis -Broadband subscriptions securities market lack of the boldness within the digital-communications market to the householders.
- It remains to be seen however way shopper may be persuaded to embrace net 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: Within the initial month of my position I even have learned and performed regarding the subsequent 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 position I even have learned and performed the subsequent 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 position I even have learned and performed concerning the subsequent Task:

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

Month-4: In the last month of my position I even have learned and performed concerning the subsequent 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 could be a Latvian Company and was basic in 1996 to develop routers. Mikrotik give the Hardware and software package for web property round the world. The RouterOS computer code provides that stability, Controls, and Suppleness for all types of information and routing. In 2002 simplest the router board whole was born and one among of the simplest reseller within the world and most likely Customers in every country.

Router OS

Operating system is the main product of Mikrotik based on Linux kernel, known as RouterOS. 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 RouterOS. The router board line attached with RouterOS 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's for openwork.

3.3.1-shows figure on Mikrotik Router Board

3.3.3 Network Diagram of Mikrotik configuration

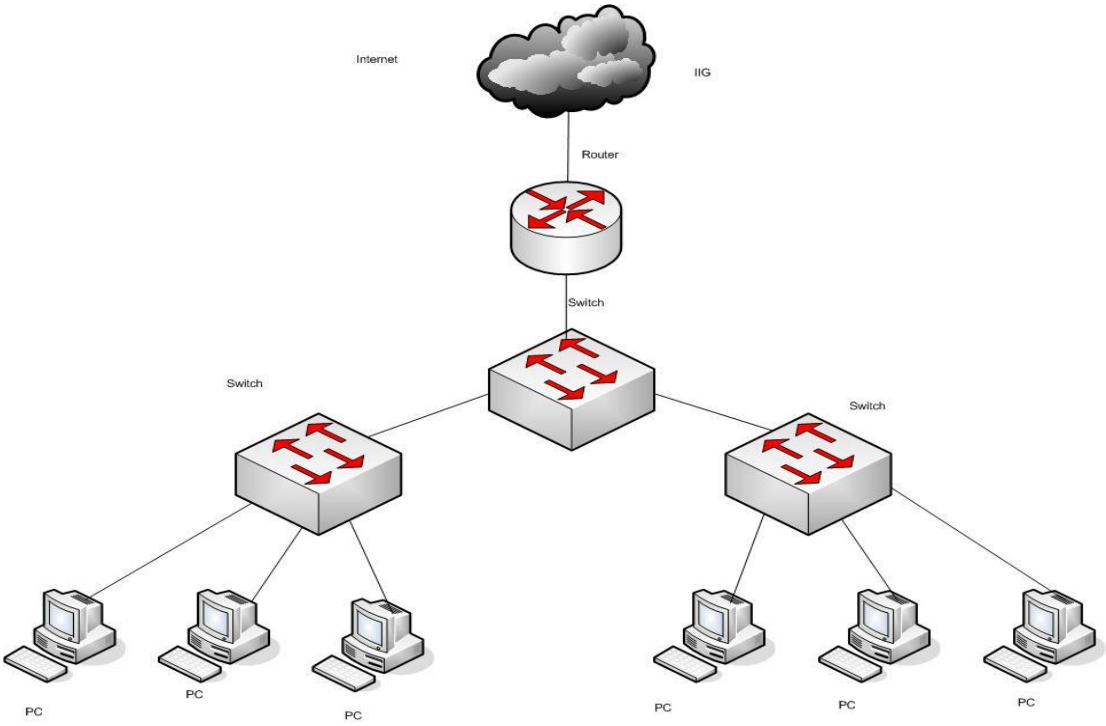

Figure 3.3.2-Shows figure on Network diagram of Mikrotik Configuration

Mikrotik Advantage

- Win box 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, mark traffic.
- 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 Mikrotik LAN port and the other port with UTP cable to the PC.
- Browse with Win box.

First open Win BOX. 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.

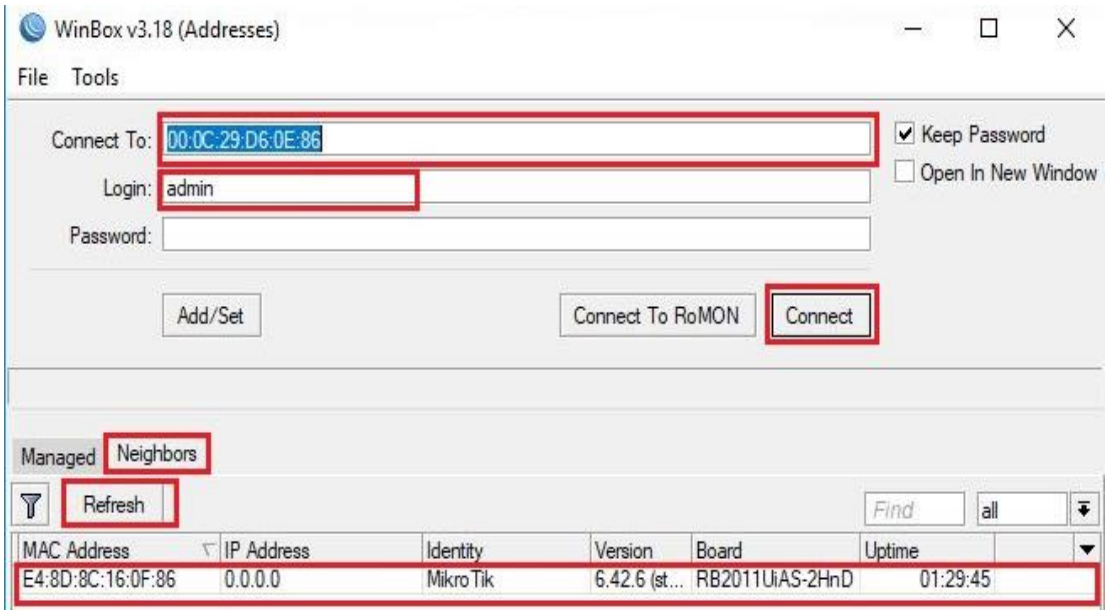

Figure3.3.3-Shows on WinBox login page

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

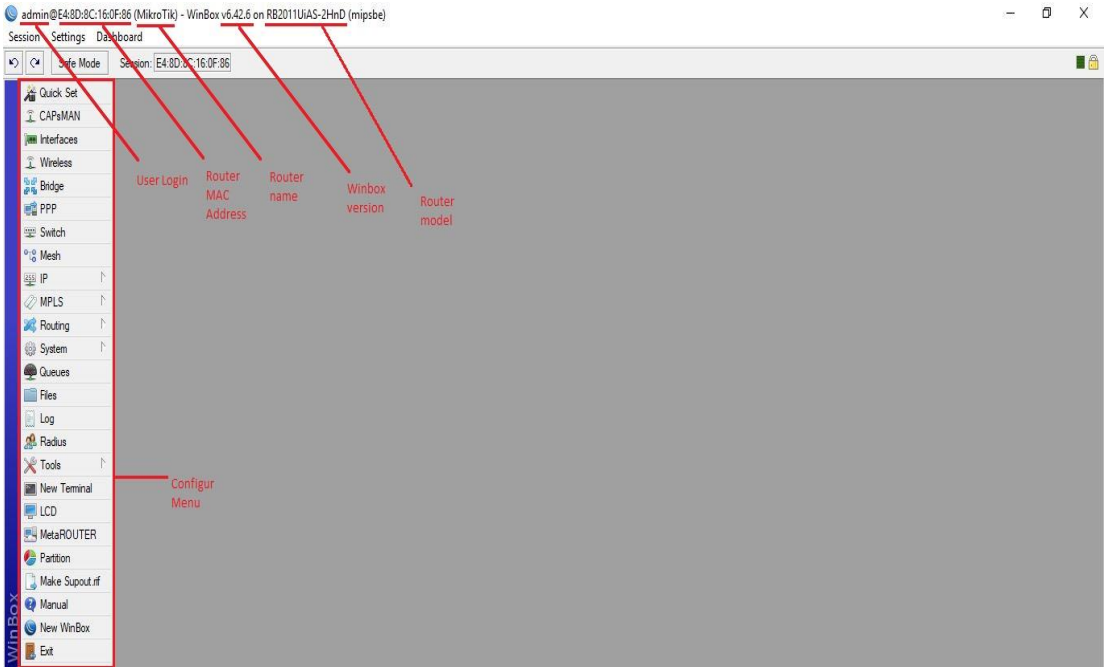

Figure3.3.4: Shows the WinBox tools

Now click the interface and select WAN and LAN Interface.

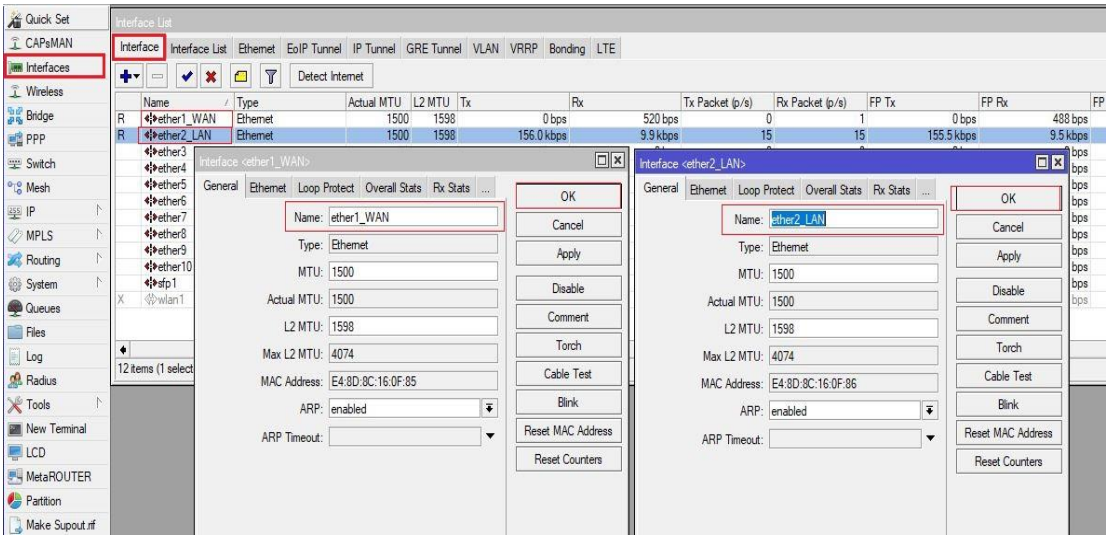

Figure3.3.5: Shows LAN, WAN interface

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>"+">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

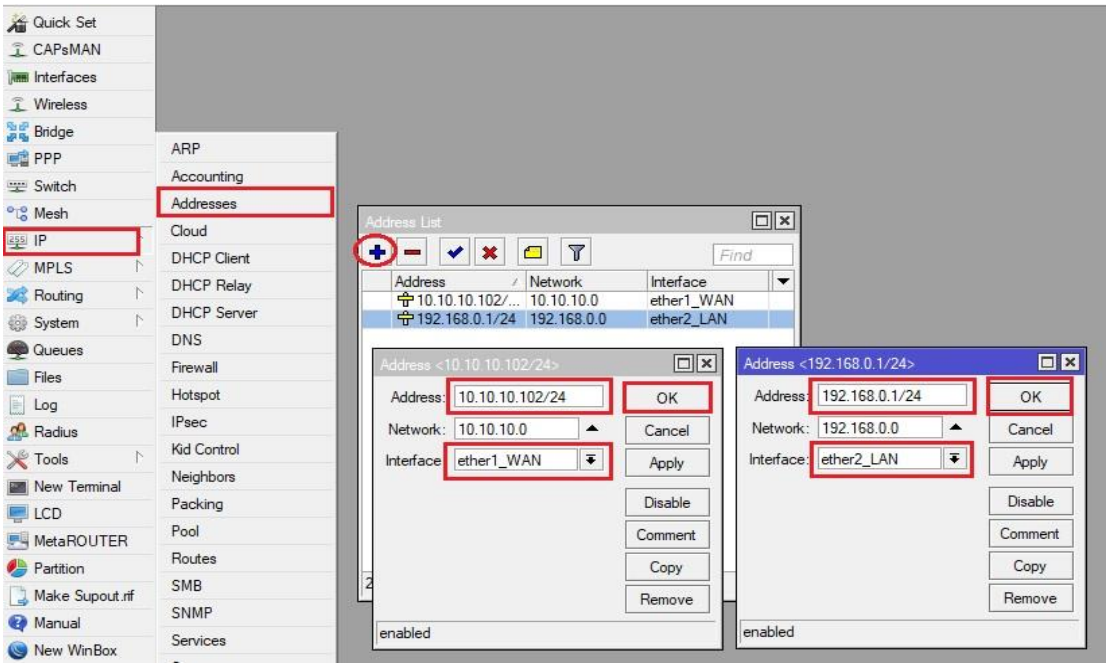

Figure3.3.6: Shows Set LAN, WAN IP address

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

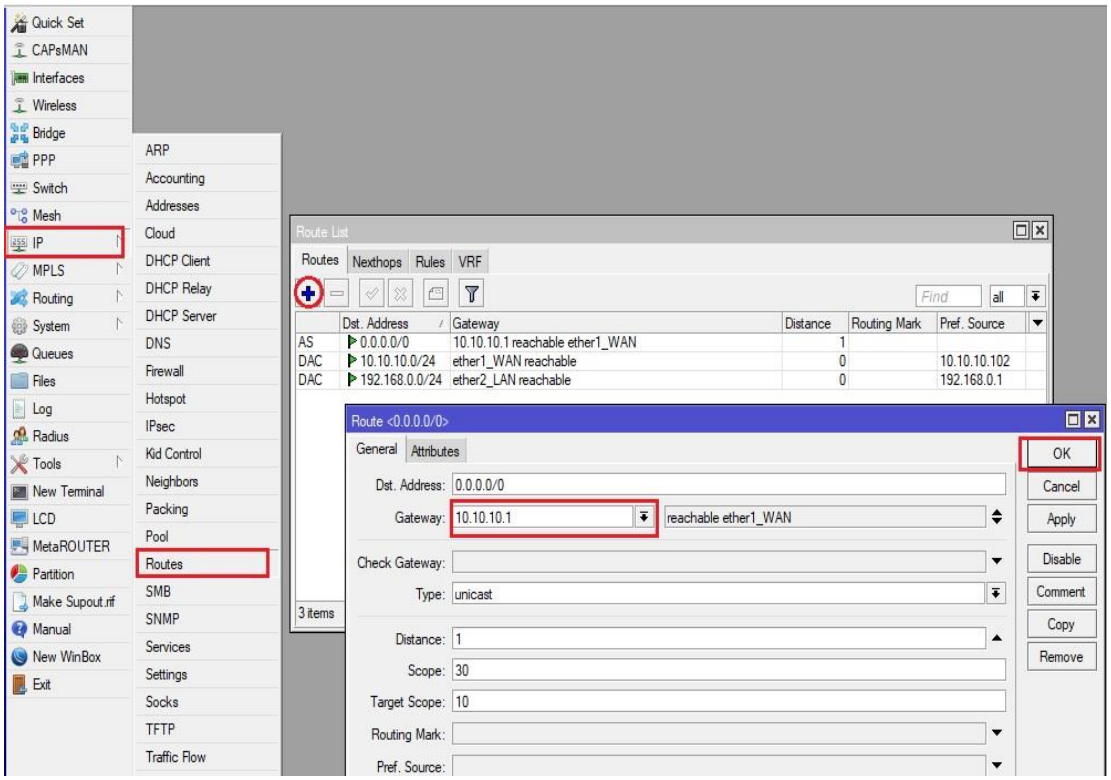

Figure3.3.7-Shows Gateway Routes.

Step4:

IP>DNS>Server>203.190.10.252

Alternate DNS server >8.8.8.8

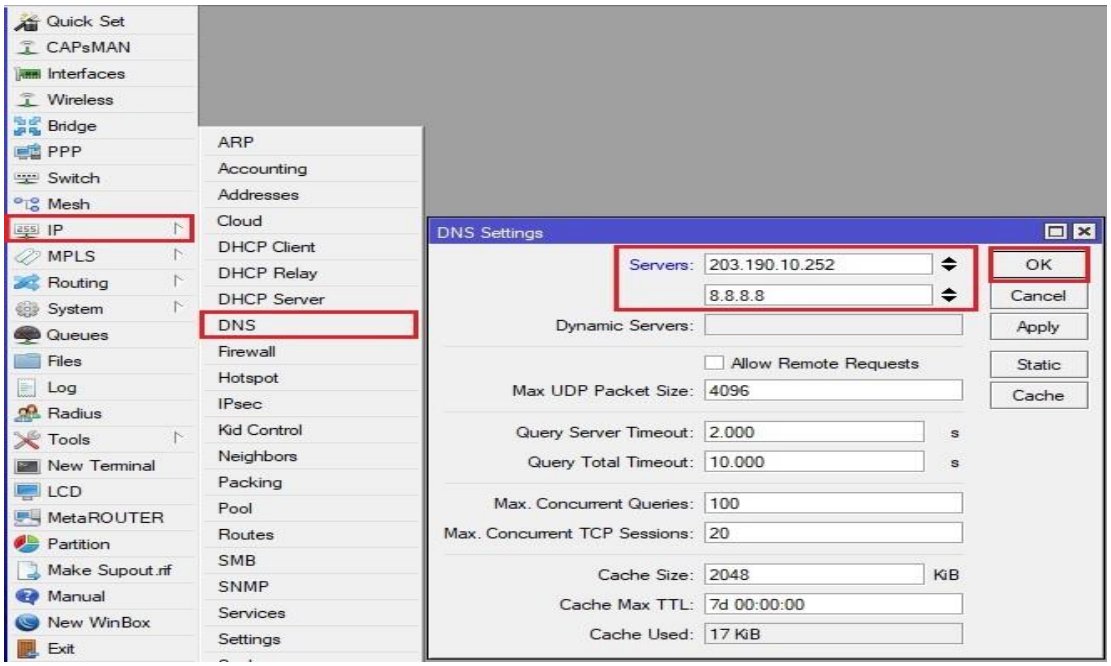

Figure3.3.8-Setup DNS servers

Step5:

Process:

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

Apply>OK

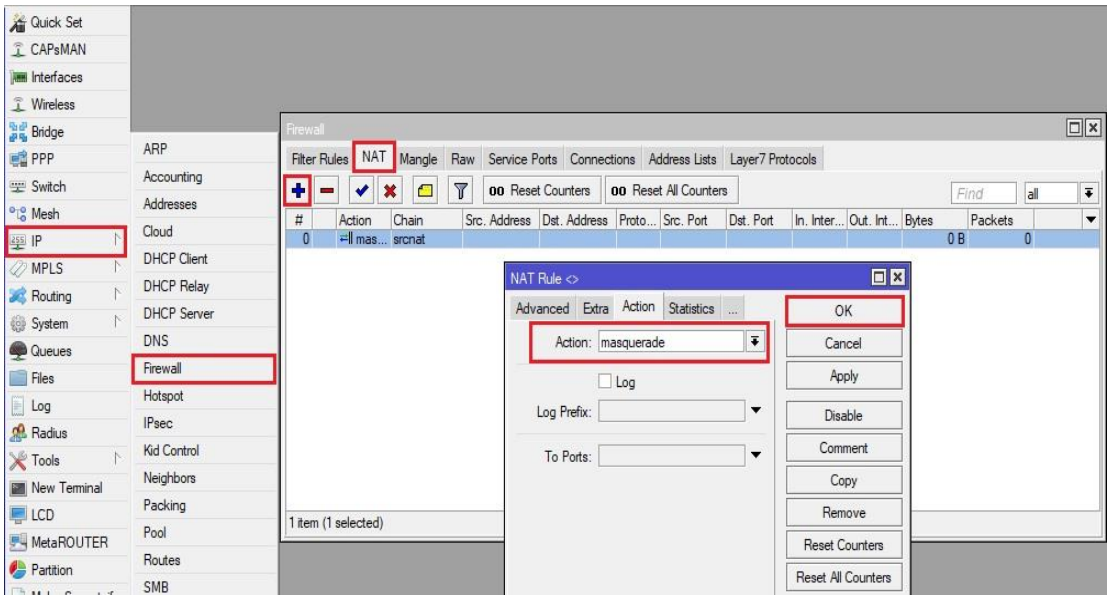

Figure3.3.9-Setup NAT

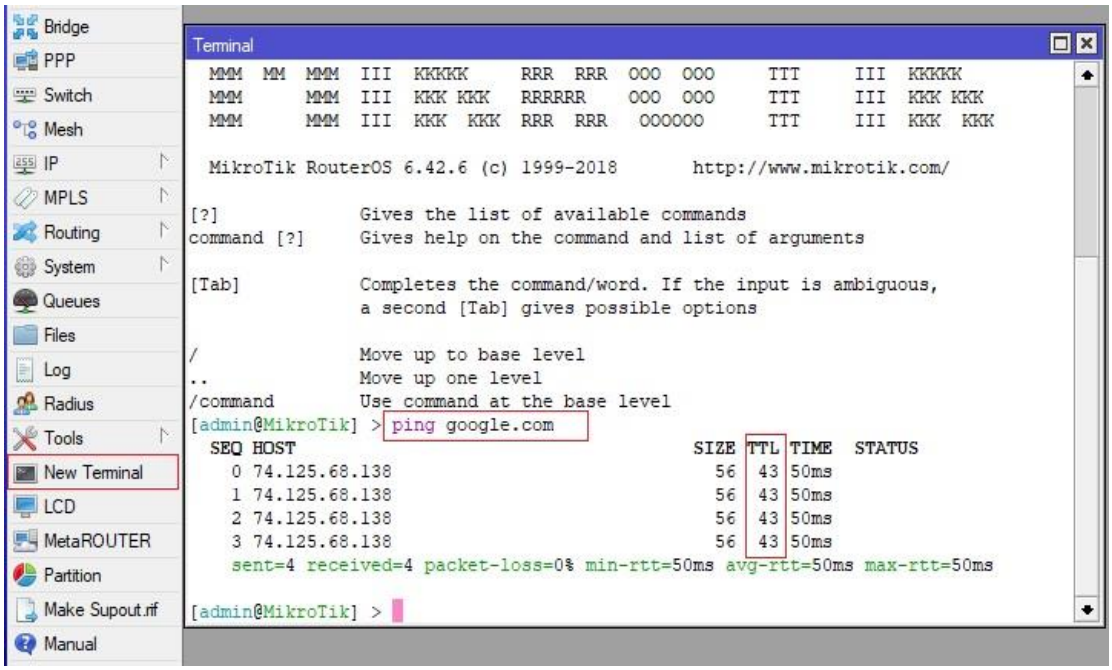

Figure3.3.10-Check Network

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.

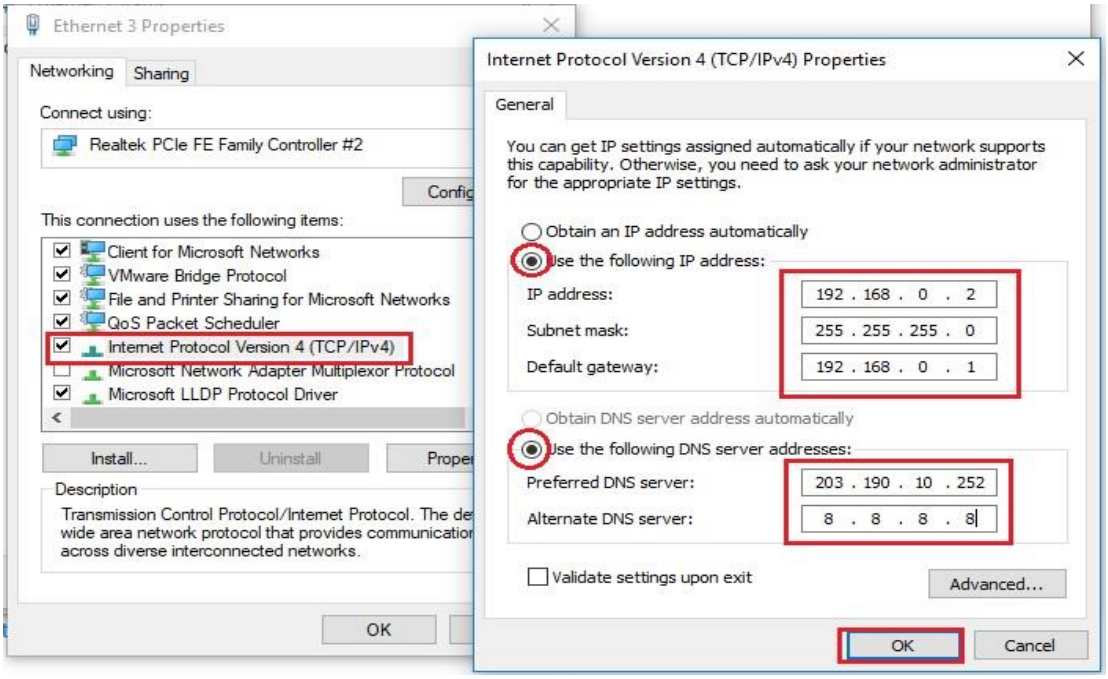

Figure3.3.11-Setup IP in Pc

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

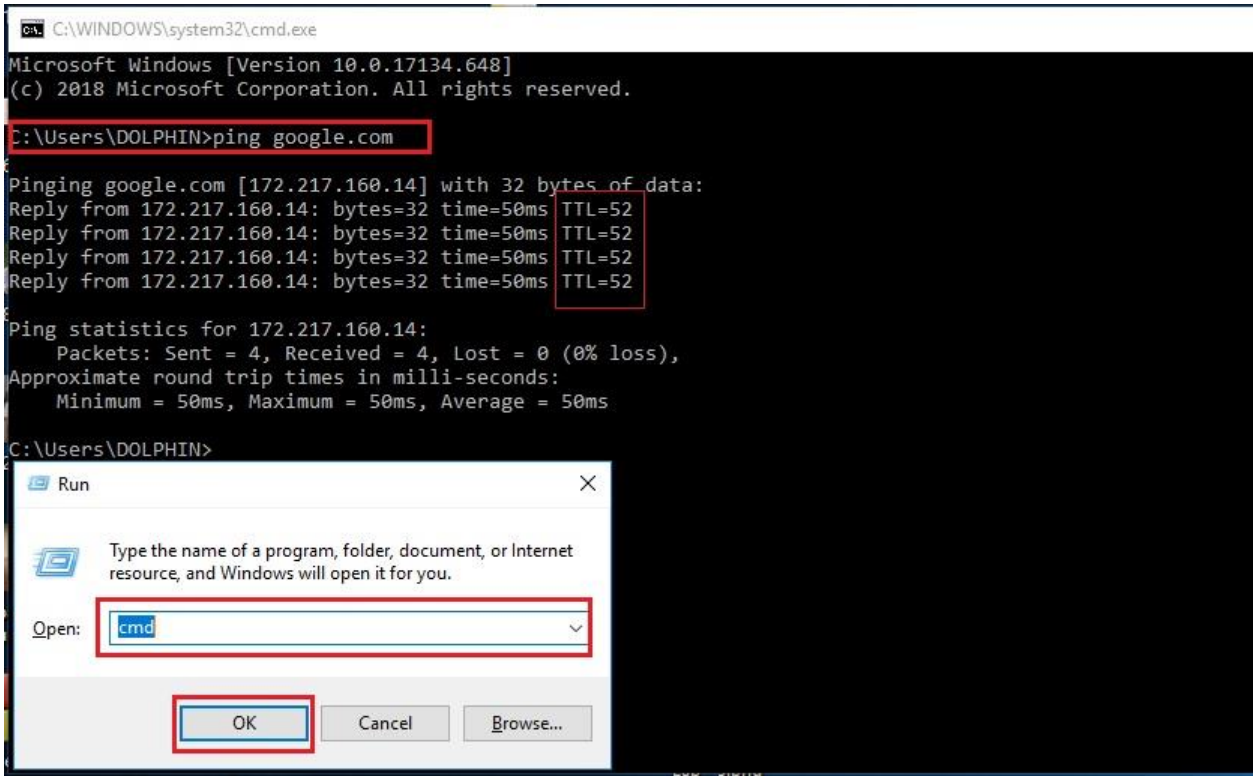

Figure3.3.12-Check Network in PC

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

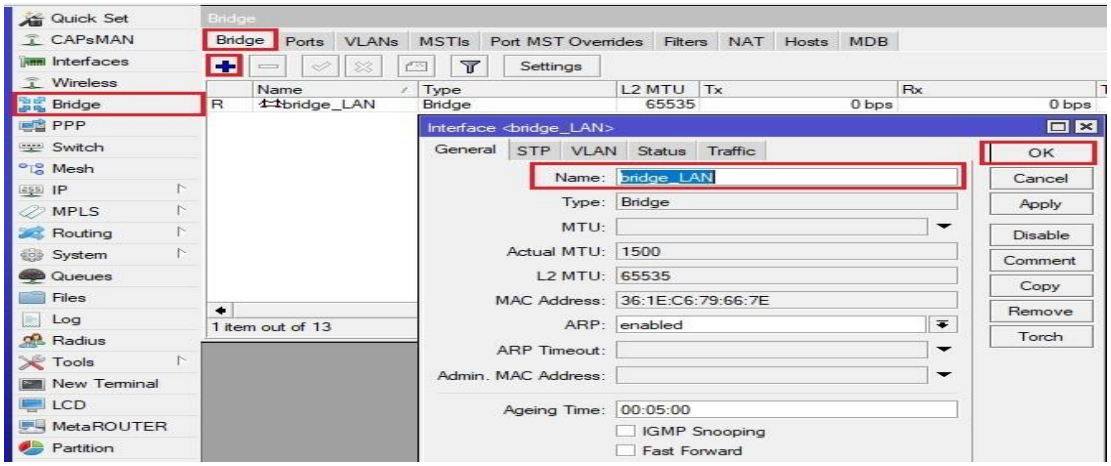

Figure3.3.13-Bridge Mode Configuration

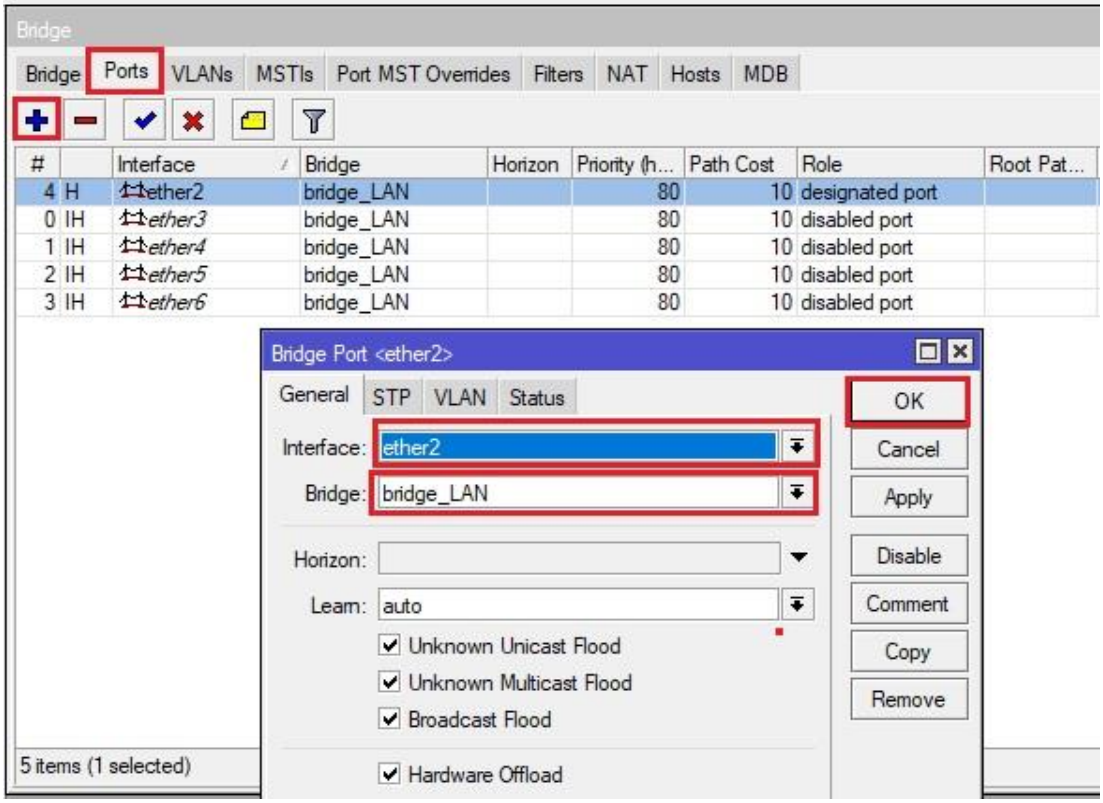

Figure3.3.14-Setup Bridge.

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

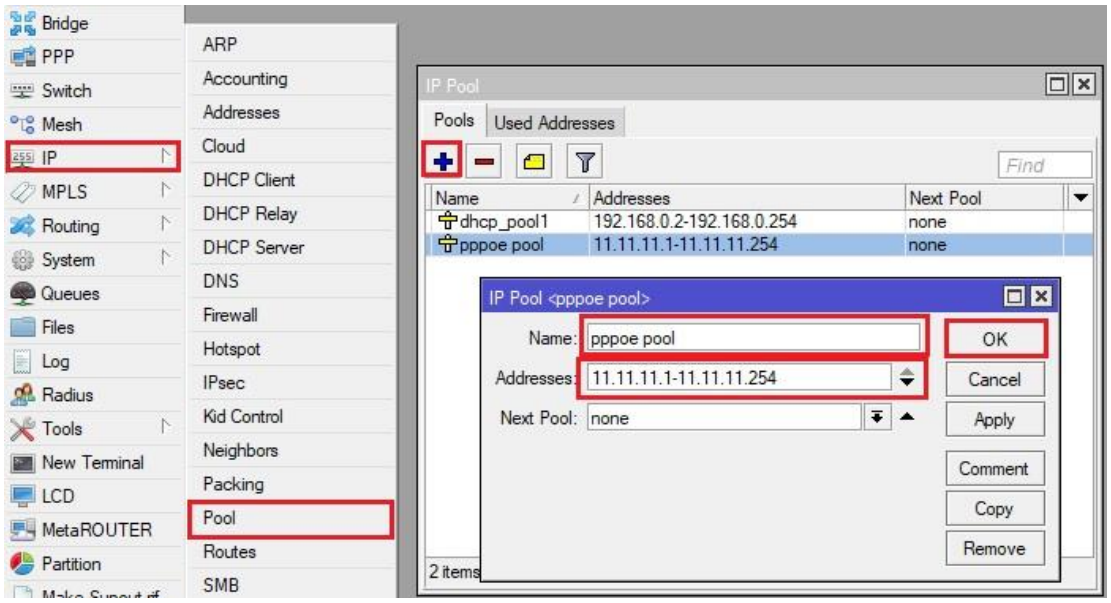

Figure3.3.15-IP pool Create.

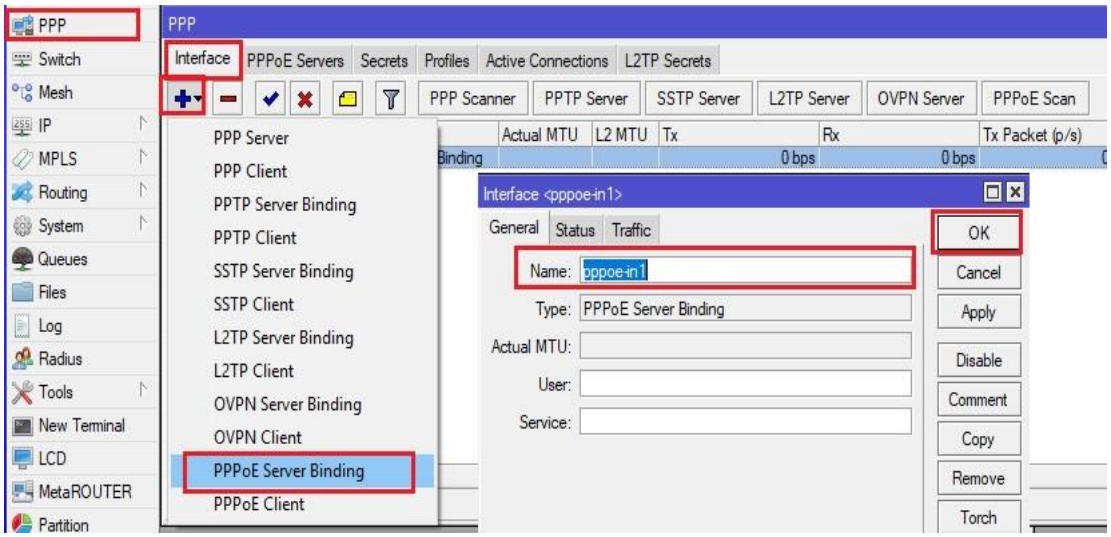

Figure3.3.16-PPPoE Server Binding.

Step2:

Process:

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

Apply>Ok

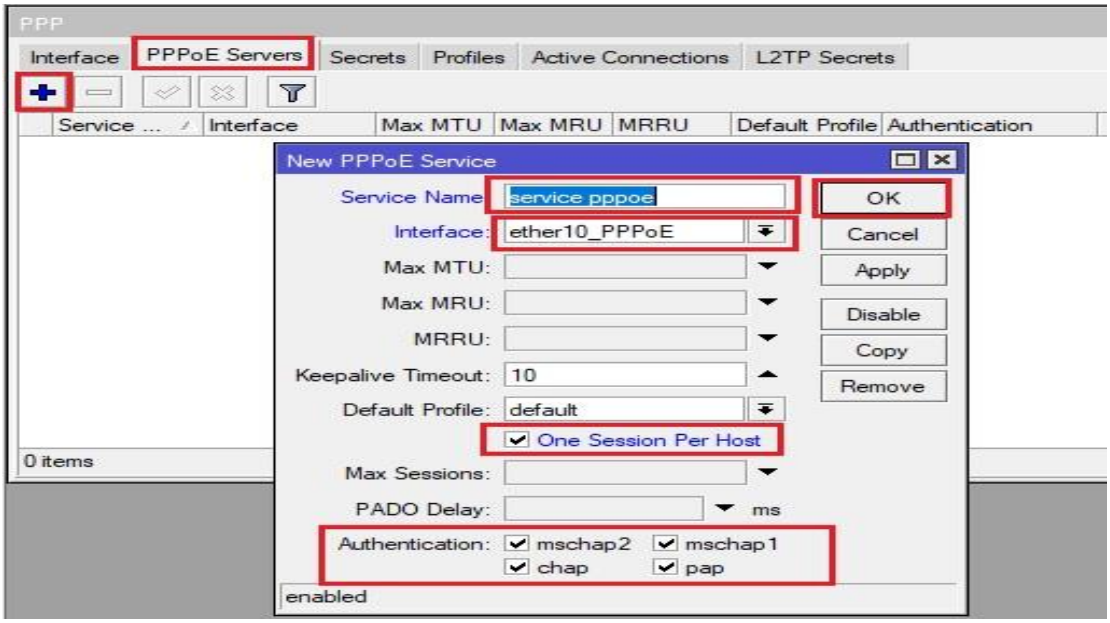

Figure3.3.17-Shows PPPoE Servers Setup

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 -PPPoE Gateway>Remote address-PPPoE pool

DNS Server>203.190.10.252

Units>Rate limit>1M/ 1M

Apply >OK

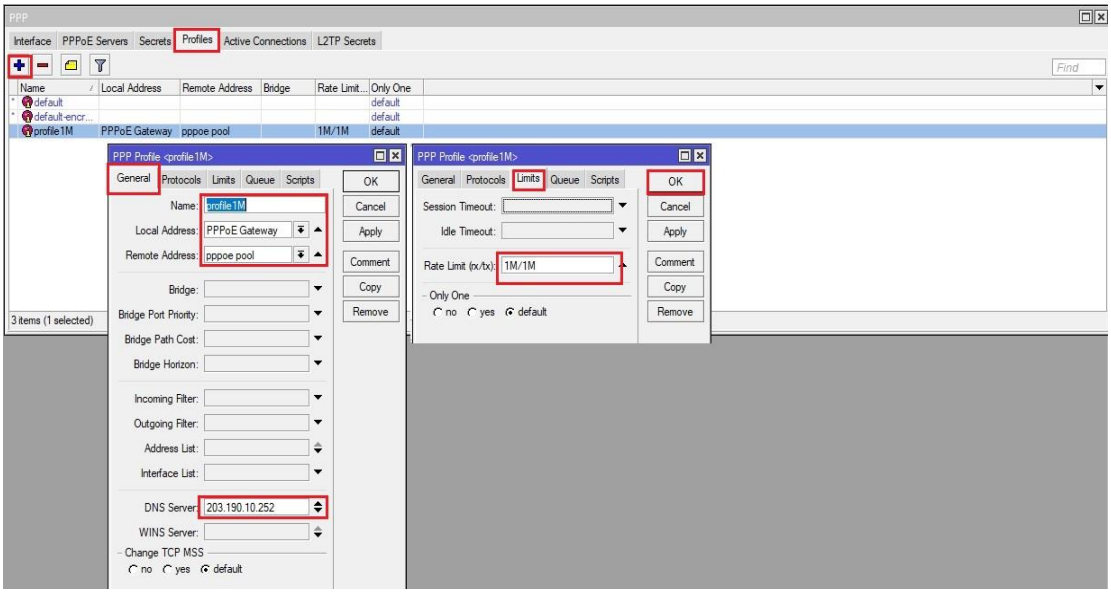

Figure3.3.18-Shows DNS server, Gateway and Rate limit setup

Step5:

Process:

PPP>Secrets>Name-alamin>pass-1234>Sevice-pppoe

Profile>profile-1M

Apply>Ok

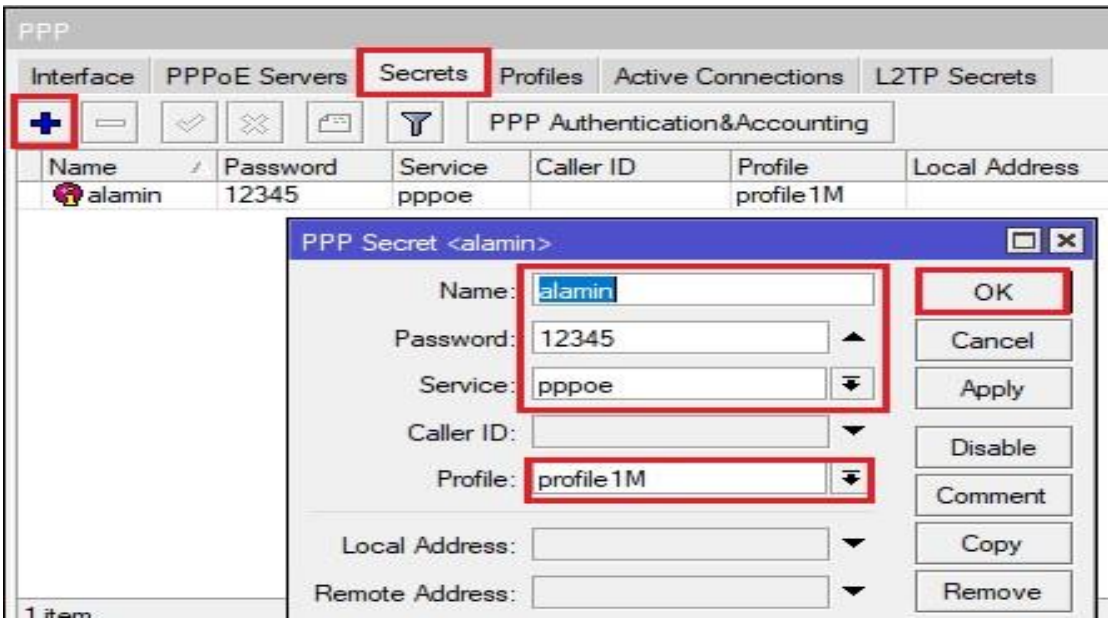

Figure3.3.19-PPPoE Name, Password Setup

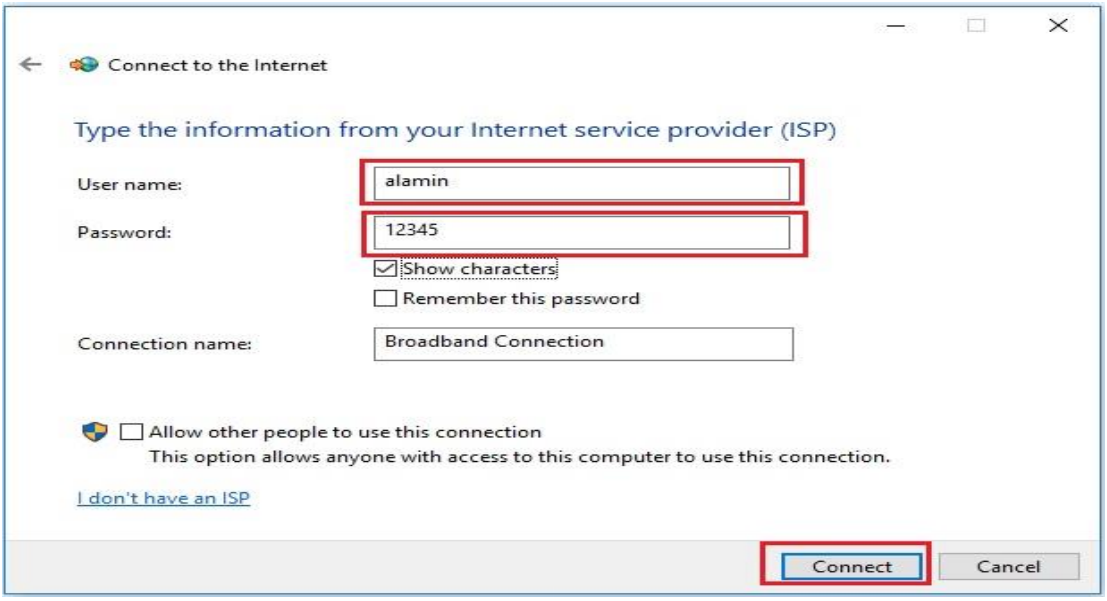

Figure3.3.20-Shows Connect to the Internet

Step6:

Username>alamin

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 alamin-(Create a blank file)
- mkdir alamin-(Create a directory)
- Cd /root/Desktop-(Change working directory)

Create user and manage password

- Adduser alamin(Username)-adding a user
- password alamin(Username)-password set for a new user
- password –d alamin(Username)-password disable /delete
- userdel alamin(username)-Delete a user
- userdel –r alamin(Username)-Delete a user with home directory
- finger alamin(Username)-verify information
- password –l alamin(username)-looking an account
- password –u alamin(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 alamin(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

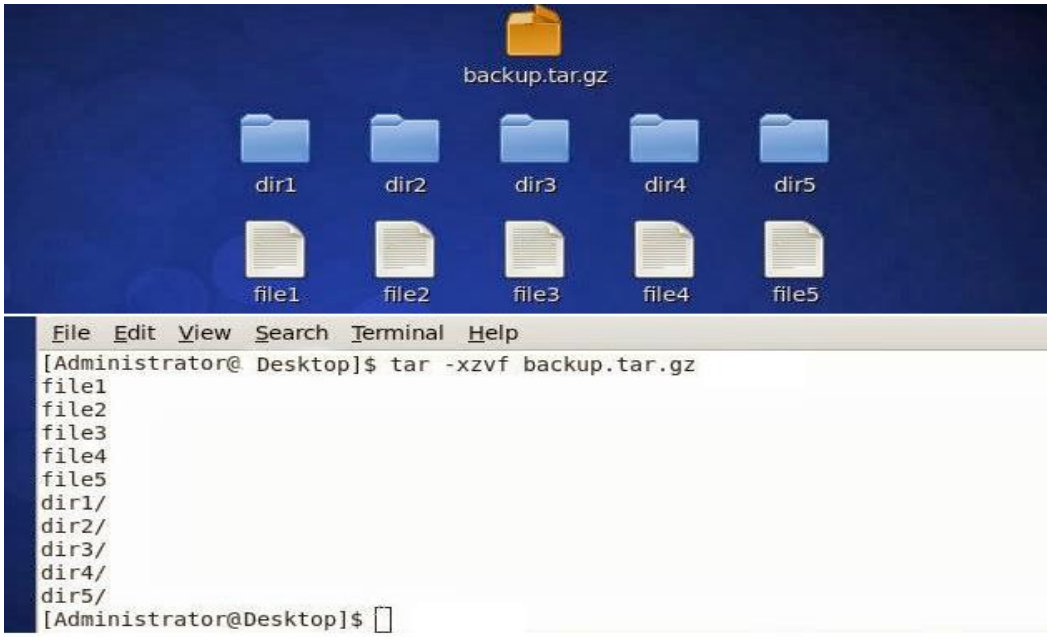

Figure3.3.21- showsTar and Un tar

Network Configuration

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

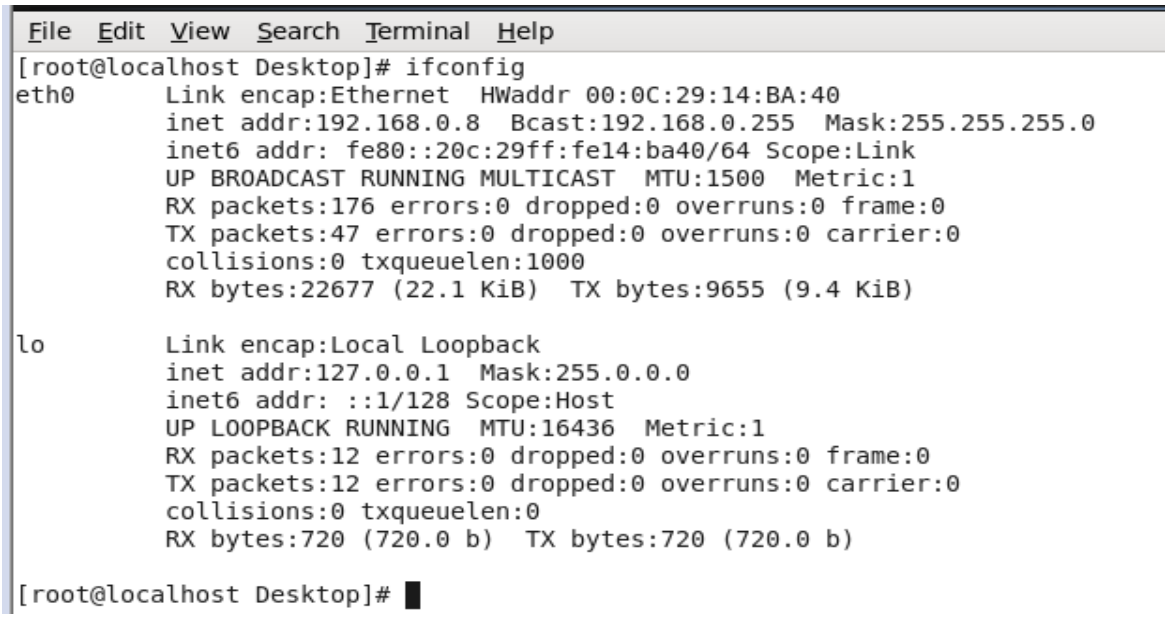

Figure3.3.22-Shows IP Address

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

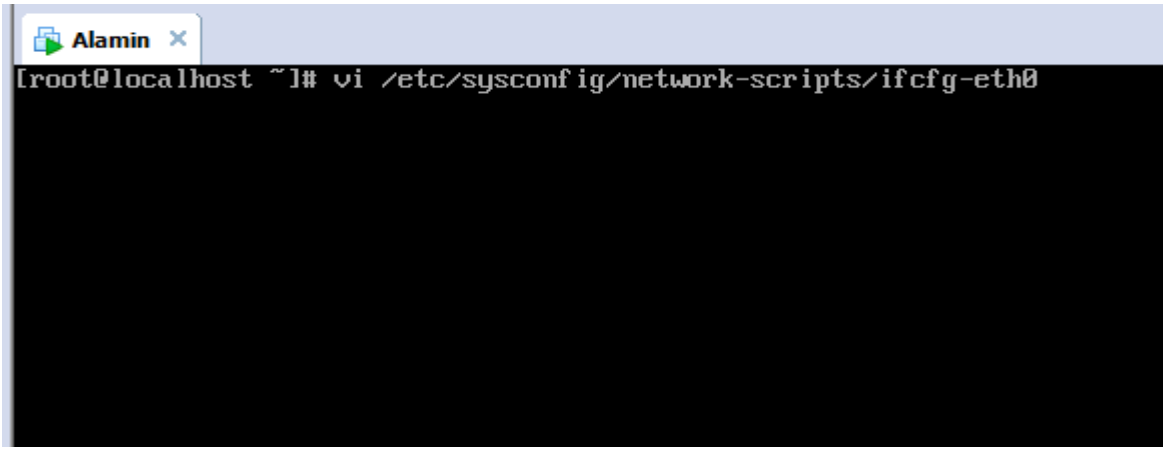

Figure3.3.23-Setup IP Address

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

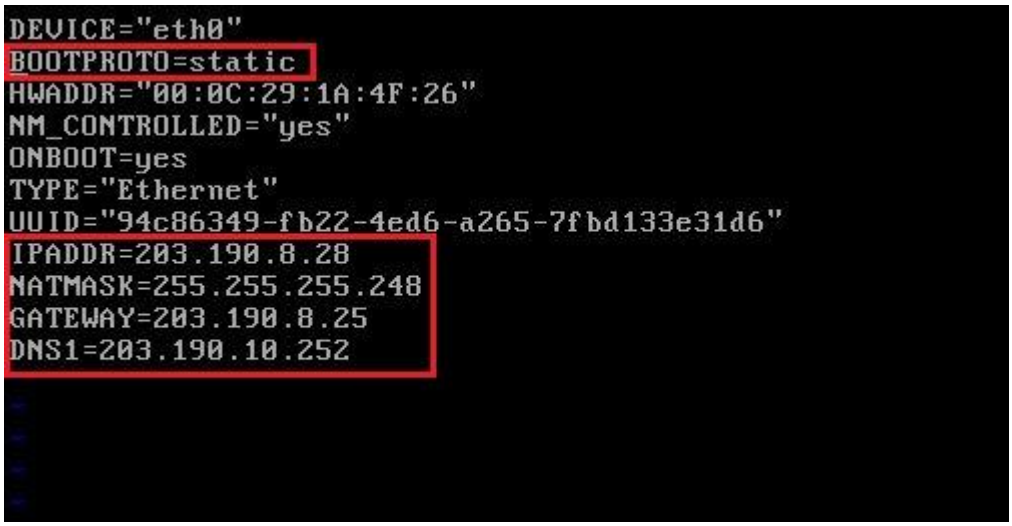

Figure3.3.24- Shows IP Address Editing

#Service network restart

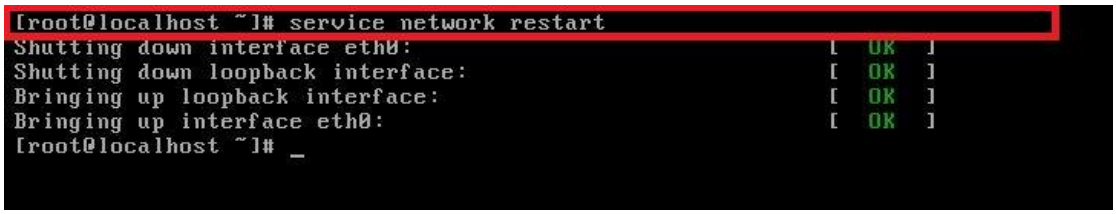

Figure3.3.25- network service restart

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)

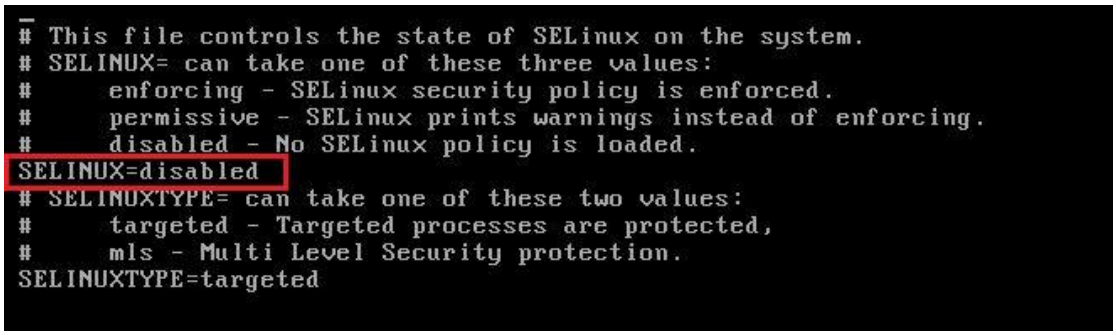

Figure 3.3.26 - selinux disabled.

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 3.3.27 – 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 3.3.28 – modify the vsftpd.config.

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

Figure 3.3.29 –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

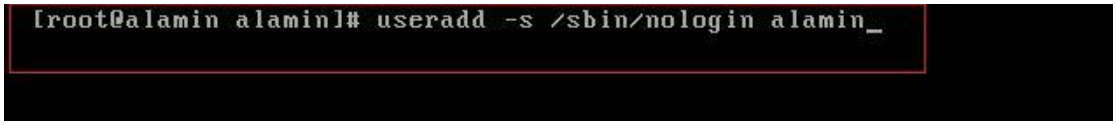

Figure 3.3.30 –create user for FTP server.

FTP server Open

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

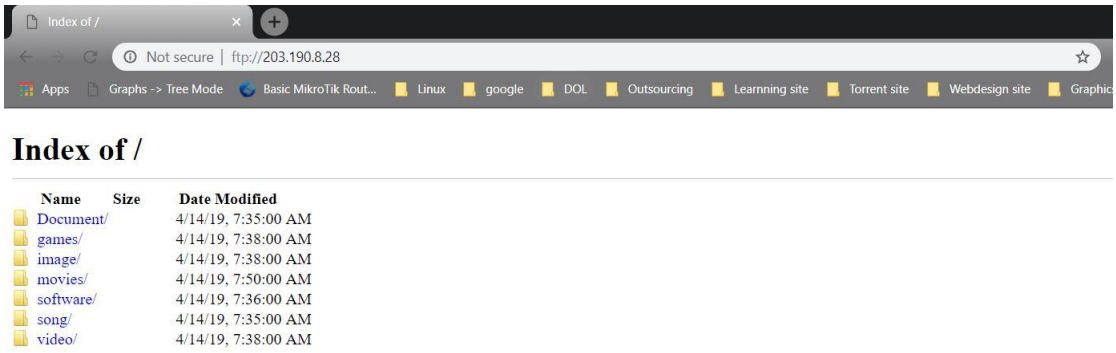

Figure 3.3.31 –show the fitp server file.

Now ftp server file upload use FileZilla software. Open FileZilla and host you're IP, username, password then connect. After connect click browse the file location and upload the file show the figure 3.3.34.

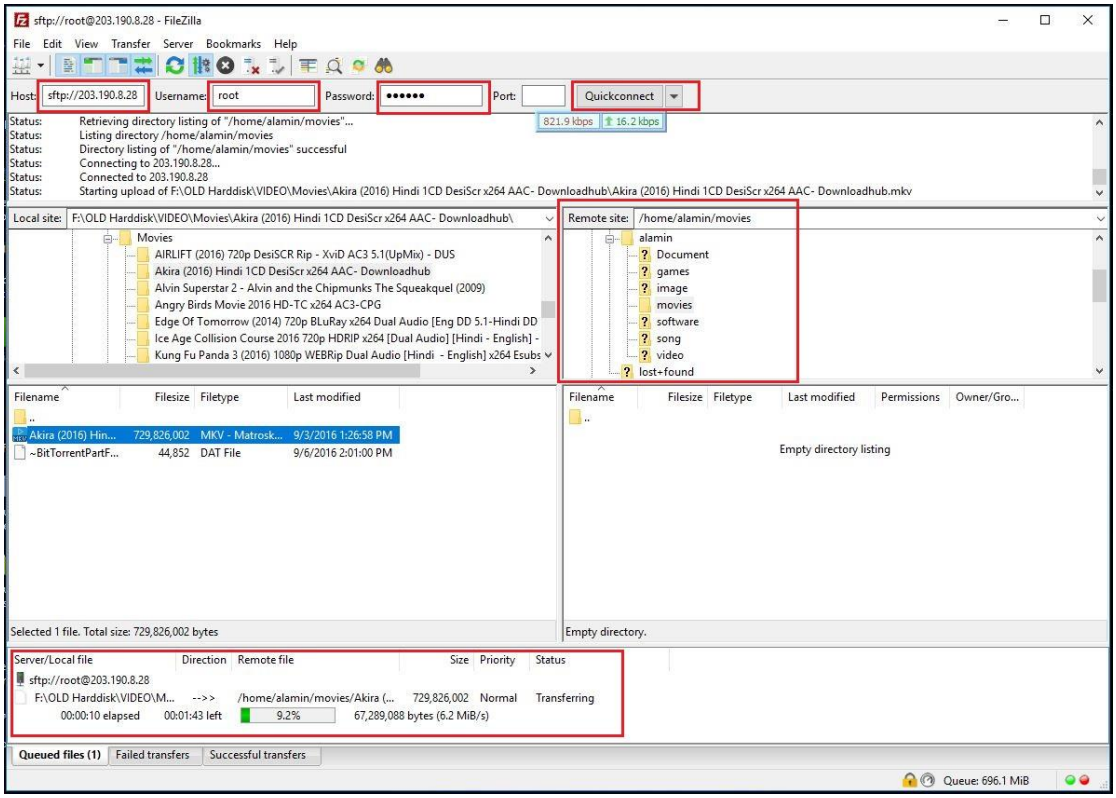

Figure 3.3.32 –upload your file in server.

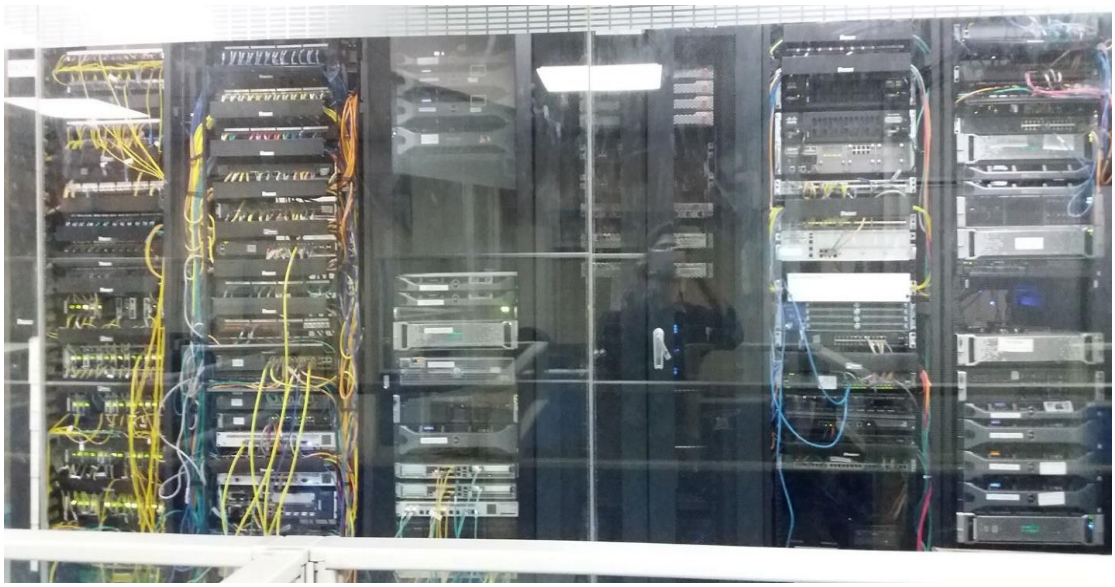

Figure3.3.33-Shows Data center in DOL.

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 given 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 attained or learning outcome is assertion of what a learner expected to understand, Understanding as a results of a learning method. Each network and server machines square measure install at two datacenters. Advance Linux computer code implementation takes leading role, such associate example LDAP hour angle, Classify program learning outcomes field and evaluations of post. Funds produce for student association workplace and intern learning outcomes-Information gathered and arranged into a project description. Participate within the design of the Linux internet site. Learning Outcomes-software Install and upgrades, setup computer code and check network leader services. Orientation regarding structure policies and Services. Orientation regarding structure policies and methodology are going to be give 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 exquisite and regardful expertise in my life. Ready to be able to facilitate Maine with the opportunities to network with lot of individuals and that I are seen the longer term of it.

One main problems I actually have learn the time management skills also as self-motivation and nice expertise regarding the duty. Once I was started the intern it absolutely was difficult on behalf of me. Eight hours daily, and six days every week goes to be ready to sit within the workplace. That's why I maintain the time. I used to be find out how to inspire myself. Numerous varieties of proposals and ideas came to the corporate and searching for that .I'm enjoying the work and that I need to still work effortless for my position conjointly to be find out about the business and new folks. This internship is marvelous expertise in my life and that I suppose different intern post got lots of things out of it.

5.2 Scope of Further Career

In different areas career opportunities area unit on the market in Linux operating System. The career opportunities aren't depends solely on Linux operating system platform. It's countless totally 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 value effective open source solution and big demand for the skilled professional LINUX and MIKROTIK etc.

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)

References

[1] Daffodilnet.com. (2019). *Daffodil Online Limited*. [online] Available at: https://www.daffodilnet.com/#about [Accessed 4 May 2019].

[2] System Zone. (2019). *Mikrotik Router Basic Configuration using Winbox*. [online] Available athttps://systemzone.net/mikrotik-router-basic-configuration-using-winbox/ [Accessed 4 May 2019].

[3] Mindtools.com. (2019). *Personal SWOT AnalysisMaking the Most of Your Talents and Opportunities*. [online] Available at: https://www.mindtools.com/pages/article/newTMC_05_1.htm [Accessed 4 May 2019].

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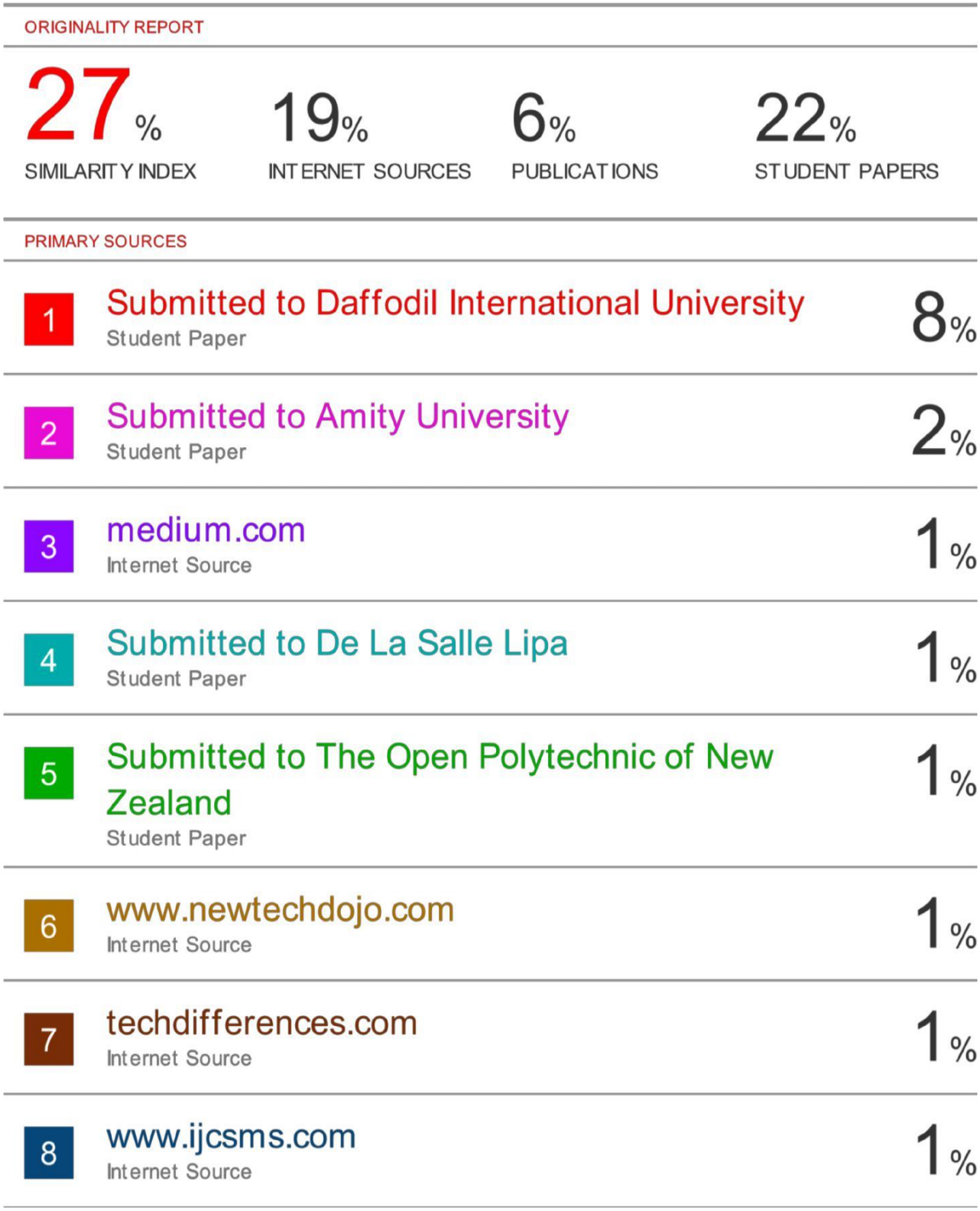
[5] Mikrotik.com. (2019). *MikroTik*. [online] Available at: https://mikrotik.com/aboutus [Accessed 4 May 2019].

[6] Docs.centos.org. (2019). *Installation Guide :: CentOS Docs Site*. [online] Available at: https://docs.centos.org/en-US/centos/install-guide/ [Accessed 4 May 2019].

[7] Systemzone.net. (2019). *VLAN Configuration - System Zone*. [online] Available at: https://systemzone.net/category/computer-networking/mikrotik-router/vlan-configuration [Accessed 4 May 2019].



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