

**NETWORK ADMINISTRATION AND MIKROTIK ROUTER
CONFIGURATION**

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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 “**NETWORK ADMINISTRATION AND MIKROTIK ROUTER CONFIGURATION**” submitted by Limon Mondol, ID No: 172-15-9899 to the Department of Computer Science and Engineering, Daffodil International University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on 08 July 2020.

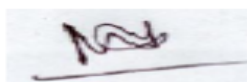
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DECLARATION

I hereby declare that, this project has been done by me under the supervision of **Mr. Gazi Zahirul Islam, Assistant Professor, Department of CSE**, Daffodil International University. I also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

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I would like to express my heartiest gratitude to **Dr. Syed Akhter Hossain, Professor and Head, Department of CSE**, for his kind help to finish our project and also to other faculty member and the staff of CSE department of Daffodil International University.

I would like to thank my entire course mate in Daffodil International University, who took part in this discuss while completing the course work.

Finally, I must acknowledge with due respect the constant support and patients of our parents.

ABSTRACT

This Report is based on “Network Administration and Mikrotik Router Configuration”. The use of Mikrotik router is essential in ISP company companies in the current world. This is the Mikrotik router board hardware operating system. Anyone can install and install all kind of useful features such as- bandwidth maintenance, routing, wireless, firewall, hotspot, VPN server and more then. Linux is a UNIX based operating system. It was first introduced by Linux Torvalds. It is an open source operating system that was designed to provide free and a low cost operating system for the computer users. The medium or large size organizations need a server system to maintain their complex IT infrastructure. Peer-to-peer networks make problematic in the way of security and resource sharing for medium or large size organization. As the server is little expensive, here I try to design a cost effective server system of this type of organization. This system provides almost all the service need by an organization to maintain their infrastructure. This system increases reliability and network security for their network. This design is implemented using VMware Workstation12.0 and Centos7. After implementation of all service, this system is tested in different stages and it works successfully as a prototype. In the future I need to improve centralize login system to get better performance for windows users.

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CHAPTER 01

Introduction

1.1 Introduction

Today, larger number of man around the globe is utilizing Internet framework and servers, which are a vital part, and they can't take care of web association. These days, any organization is about programming based collaboration and Web programming. Each organization is at present occupied with programming based correspondence and Internet innovation. Web Banking, SMS Alert Banking, Mobile Banking, Transfer of Digital Funds, and so forth are unrealistic without the utilization of servers and one of them is Linux. It has advanced into a business, instructive and individual efficiency operating system.

As a student of a BSc in CSE at daffodil international university, I started here with some of the basic networking knowledge. Then I listen to “DOL” which is another part of Daffodil International University. To manage a networking system, you need to know about how to manage PC and their maintenance, server configuration, routing based on MikroTik router configuration. For all of this networking knowledge, I chose Daffodil Online Limited as my internship company.

Here I am presenting an Internship report on “Network Administration and Mikrotik Router Configuration” is all about how to configure MikroTik router, Linux basic commands and Linux server configuration.

1.2 Motivation

Present i am pursuing my Bachelors in Computer Science Engineering at Daffodil International University, I understand the importance of gaining different knowledge which will complement the textbook knowledge and help a student gain a wider perspective of the subjects.

The IT enabled organizations are highly needed servers to better manage business-critical information, sharing a file, protect data by making a backup for employees and clients.

When an organization has 9 to 10 users in his networks then he needs to consider investing a network server. Using windows it is really expensive to set up this type of system. So I use a free Operating System CentOS to set up this system to make this cost-effective. Moreover, Linux has own secured Kernel to protect it from Virus so we do not need to buy antivirus to protect our system. For this reason, I am using Linux to implement this system.

1.3 Internship Objectives

Linux operating system is an ethical period and free operating system. Now Linux user simply operates this operating system because this operating system gives us a graphical and command mode user interface. The main intention is to support huge security on the server. A lot of objects area unit is provided below:

- Install a new OS (centos-6/ centos-7).
- Management system hardware.
- Maintain Network Management & server Configuration.
- Maintain & Create a Linux filing system.
- Perform user & community administration.
- Support the network and server system.
- Generate a specific primary server in a Linux system.
- Give better service & communicate with customers.
- File edit, ether port configuration, set new line etc.
- Web server hosting and configuration.
- Nagios, samba, etc server configuration.

1.4 Introduction to the Company

It announces that Daffodil Online is a Top ISP organization which is starting their excursion in 2002 in Bangladesh. They have their representatives who are profoundly instructed and they have a decent expertise in systems administration and have encountered on MTCNA, MTCRE and LINUX. In the event that you see their portal, at that point you can depend on their expertise. They have new innovation and a decent

organization framework. They chose their work in an alternate class. They have claimed their Networking administrator, Linux administrator, Server maintainer, ISP setup, cable, and road laborer who are doing cabling in various road pools. Kazi Mahbubul Alam who is the Assistant Director and has to run the DOL.

1.5 Report Layout

First Chapter: I have explained in this chapter, Introduction, Motivation, internship objective of internship, Introduction to the company.

Second Chapter: I have explained in this chapter Introduction to Organization, IT Service, Professional Training Service, Target Group, SWOT analysis and Organization Structure.

Third Chapter: I have explained about daily tasks and activities, Events and Activities, Project tasks and activities, Linux basic commands, details user, directory & file, user permission, IP configuration, SSH Security.

Forth Chapter: I have explained in this chapter about Samba Server, Nagios Server, FTP Server, Web Server, yum Server.

Fifth Chapter: I have explained in this chapter about MikroTik, WAN & LAN configuration, Bandwidth Manage, Filter Rules, Site block, Mangle Rule, PPPOE Server configuration, Hotspot User Configuration.

Sixth Chapter: I have explained is Competencies Earned, Smart Plan and Reflection.

Seventh Chapter: I have explained is Discussion and Conclusion and Future Career Scope.

CHAPTER 02

Organization

2.1 Introduction

As this can be the planet in twenty first century, IT (Information Technology) is taking part in a very important role within the survival and therefore the growth of each industries and organizations. Nowadays, each operation desires the involvement of IT because it is significant within the economic development of the country.

Talking concerning ISP (Internet Service Provider), associate degree ISP may be a company that has access to the net. ISPs directly connects client to the net through copper wires, wireless, optical fiber connections. ISPs use a spread of technologies to alter customers to attach to their network.

Daffodil on-line Ltd. (DOL) is proud to be one amongst the trailblazers and oldest ISP/ASPs in Asian country and providing one stop integrated ICT services and resolution since Gregorian calendar month 2002. It has its own Fiber Optic WAN infrastructure to serve company, SME and individual purchasers. As we glance at the expansion over the last decade since we tend to begin, we tend to square measure very happy with what we've got achieved. We tend to square measure even additional excited concerning our outlook for AN equally promising future. We've got worked with several national comes and international organizations with high appreciation from all involved. We tend to square measure victimization the newest technologies and upgrading the services where it's needed. Our company Network resolution department is capable of providing state-of-art network and telecommunication solutions with a gaggle of extremely economical technical consultants. DOL includes a terribly robust skilled engineering and management team certified and related to Microsoft, Sun, and Cisco, Oracle and Linux and actively attached world leading computing associations together with ACM, BCS, ACS, IEEE, and PMI. [1]

2.2 Product and Market Situation

Daffodil on-line Ltd (DOL) is ISP Company. They're the foremost tough and most traditional businesses within the ICT area. DOL primary marketing principles is "Long

Term Relationship with the clients & consumers”. As they give the impression of being at the expansion over the decade since our origination, they're extraordinarily pleased with what we've completed, and also a lot of excited concerning our viewpoint for an equivalently promising futurity. Daffodil on-line Ltd (DOL) additionally gives many IT Services and Professional Training services. Those products are provided below:

➤ **IT Services:**

- Domain registration and hosting
- Website development
- Internet Service supplier
- Company Internet resolution
- Security resolution
- Open supply application resolution
- Data connectivity & information Centers
- Hi speed Wi-Fi Zone
- Mail
- DNS Server resolution
- Computer accessories

➤ **Professional Training Services:**

- RHCSS
- ISP setup
- Linux
- CCNA
- Joomla Web Development
- Magenta Web Development
- Website Development with PHP & MYSQL
- E-commerce
- Ethical Hacking
- RHCE

2.3 Target Group

Daffodil Online gives a great deal of administrations. As an understudy at Daffodil International University, you can pick up your objective Fellowship by get preparing under Daffodil Online. The gathering is given below:

- Internet Solution at the corporate level.
- They will give an answer for a wide range of security.
- If you need Domain enrollment and amp, they will give with facilitating.
- They will give you preparing on site improvement.
- Networking courses (MTCNA, MTCRE, MTCNA, Cambium arrange).
- Utility arrangement with open sources.
- All sorts of internet services.

2.4 SWOT Analysis

SWOT (Analysis is a technique for understanding your company Strengths, Weakness, and identifying opportunities & threats in your organization).

➤ Strengths:

- High speed offered
- Container proposal bundled services (1-stop purchasing)
- Own support
- Media-rich native content

➤ Weaknesses:

- Our organization has a little market place in Dhaka city.
- The organization has a little staff for work.
- The organization is powerless in the direction of the imperative physique by staff tacking off.
- The organization income will be decrees if customer will not satisfy.
- Huge quantity of cash needed to line up business
- Competition with tiny resellers
- No expertise with business customers
- Opinion of weak client maintenance

- Many clients competitive to capability

➤ **Opportunities:**

- Product & Services line ought to be magnified. the corporate target are to launch these services as presently as attainable
- Create awareness in customer's mind
- Multiple Target market
- Entering into new communication Sector

➤ **Threats:**

- Other ISP square measure providing bribe to the company house to let take their affiliation. a free net affiliation at the residence of the administrators
- If we have a tendency to don't take necessary action the corporate, would possibly act method from the arena.
- Less Awareness within the client mind
- Price Fluctuation by contestant.

2.5 Organization Structure

Show this figure 2.1 Daffodil on-line Ltd (DOL) Organization Structure.



Figure 2.1 Organization Structure of Daffodil Online Limited.

CHAPTER 03

Tasks, Projects and Activities

3.1 Daily Task and Activities

Continuation of my place time, Daffodil online LTD they're assigned some responsibility. During this place time I additionally with success complete my work.

- Month - 1: During that opening month of my internship period on daffodil online limited I have learned a new idea and also completed the subsequent responsibilities:
 - Learning & perception about Basic Network.
 - Learning & opinion about Network Devices.
 - Learning & understanding regarding Transmission Media.
 - Hardware & Software Troubleshooting.
 - Combining Optical Cable.
 - Idea and Classes of IP Address.
 - Basic idea about MikroTik.
 - Basic concept of Linux.
- Month – 2 During this month of my internship time on daffodil online limited I have learned new conception about Linux basic command and completed the subsequent responsibilities:
 - Simple Run level command.
 - Basic user-level command.
 - User Management.
 - Directory & File Management.
 - Directory & File permissions.
 - File Ownership Change.
 - Install, Update and Remove Package Using YUM.
 - Linux PC static and Dynamic IP Configuration.
 - SSH configuration with security.
 - Securing with IP tables.

- Month – 3: During this month of my internship period on daffodil online limited I have learned new conception about Linux Server and completed the subsequent responsibilities:
 - Knowledge gathering about samba server & Samba server configuration.
 - Knowledge gathering about Nagios server & Nagios server configuration.
 - Learning, understanding & FTP server configuration.
- Month – 4: During this month of my internship period on daffodil online limited I have learned new conception and completed the subsequent responsibilities:
 - WAN Setup.
 - Static LAN Setup
 - Bandwidth Management.
 - Firewall rules Configuration.
 - Mangle Rules create.
 - Hotspot User Configuration
 - PPOE Server Configuration.

3.2 Events and Activities

- Monitor and configuration Desktop PC, Laptop and Network Systems.
- Troubleshooting LAN and switches.
- Troubleshooting Network and routers.
- Checking Fiber Optical Media converter & Fiber Optic Transmission devices.
- Technical support for individual's victimization the network.
- Setting up user accounts, permissions, and passwords.
- Advising IT solutions to business issues.
- Customer Maintenance over the telephone or Physical move to customer Ends.
- Day by day admin and maintains the overall network.

3.3 Project Task and Activities

3.4 Linux Basic Users Level Command

Basic Shut down Command = poweroff, init 0, shutdown-h now.

Basic Reboot Command = reboot, init 6.

How can Display date and time = date.

How can Show Present Working Directory = pwd.

How can know which type of user = w, who, who am i.

How can show Linux Configuration File = cd /etc

How can show Disk Information = df -h, df -hT

How can show ROM Information = free -m, cat /proc/meminfo

How can show OS version of Linux = cat /etc/readhat-release

How Can Open More than Terminal one a time = Press {(Ctrl + Alt) , F2, F3, F4, F5, F6, F7, F8, F9 }

How an show CPU Information = lscpu

How can Clear Terminal History = clear

How can back previous Directory = cd ..

3.5 User Create, Password Management, Delete User, Change User

How can you add a new User = useradd (user Name)

How can set password for a New User = passwd (User Name)

How can disable or remove a user = passwd -d (User Name)

How can Delete a User = userdel (User Name)

How Can Delete a user from Home Directory = userdel -r (User Name)

How can change a user = su (User Name)

3.6 Directory & File Create, Show, Delete

How can you create a file =touch (File Name)

How can create a Directory = mkdir (Directory Name)

How can show the list of information about a Directory = ls (Directory Name)

How can create Multiples Directory on a time = mkdir (Directory Name)
{1,2,3,4,.....}

How can Delete a Directory = rm -r (Directory Name)

How can Delete a File = `rm (File Name)`

How can Delete all directory = `rm -rf *`

3.7 Directory Copy with paste & copy With Rename

How can copy with paste a Directory = `cp "Source Address" "Destination Address"`

Example= `cp Limon Limon2/Limon3 -r`

How can copy with rename a directory = `cp "Source Address" "Destination Address" "New Folder Name" -r`

Example = `cp Limon Limon2/Limon3/New_Folder -r`

3.8 Directory Move & Move With Rename

How can Move with paste a Directory = `mv "Source Address" "Destination Address"`

Example= `mv Limon Limon2/Limon3`

How can move with rename a directory = `mv "Source Address" "Destination Address" "New Folder Name"`

Example = `mv Limon Limon2/Limon3/New_Folder`

3.9 VI Editor in Linux Centos

How can edit a File = `vi (FileName)`

How can insert some Text = press `i`

How can delete line = press `dd`

How can copy a line = at first press `Esc` Key and press `5yy` to copy the line

How can paste a copy line = press `p` for paste this copy line

How can set line number = `:set nu`

How can delete more than line = `(line number)dd`

How can search a word = `/XYZ` that search this word

How can go top line in a paragraph = `:0`

How can go bottom line in a paragraph = `:$`

How can go Specific line in a paragraph = `:10` that go to line 10

How can save the Document:

`:wq` (Save the current working document and exit for the VI Editor)

:w {Save the current working document but doesn't exit VI Editor (you can continue write this document) }

:q (Exit the VI Editor without a saved document)

3.10 User Information

How can show user information = cat /etc/passwd

How can Search specific user = cat /etc/passwd | grep (user name)

How can create comment in user = usermod -c "(Your Comment)" (user name)

3.11 Group Details

How can create group = groupadd (group name)

How can show group information = cat /etc/group

How can Search specific group = cat /etc/group | grep (group name)

Add user in Group = usermod -G (group name) (user name)

One time add user in a group = useradd -G (group name) (user name)

How can delete a Group = groupdel (group name)

3.12 File & Directory Permission

How can show file id = ls -ld (file or directory name)

How can show permission state = ls -l (file or directory name)

File permission number system:

Table 3.1 Directory Permission number

R	Read	4
W	Write	2
X	Execute	1
Total Number		7

Note: IF number 0 then No permission to this file.

Set permission to a file = chmod (permission number) (file name)

Example: chmod 764 file

3.13 File Ownership Change

How can change user ownership = `chown (user name) (file name)`

How can change group ownership = `chown : (group name) (file name)`

Example: `chown :technical file`

How can change group and user ownership change in same time = `chown (user name):(group name) (file name)`

3.14 Linux PC IP Address Configurations

How can see IP address = `ifconfig`

How can see port status = `mil-tool` (Ethernet port name)

DHCP IP Configuration

At first go to = `cd /etc/sysconfig/network-scripts/`

Go to = `vim ifcfg-eth0`

Show this figure 3.1 DHCP IP configuration

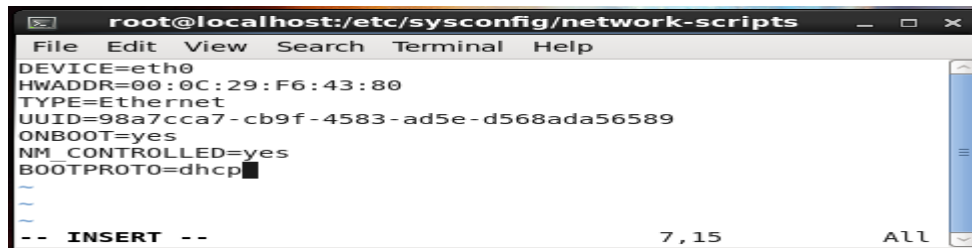


Figure 3.1: DHCP IP configure

Save this configuration.

Now we just restart your network following by the command
(service network restart).

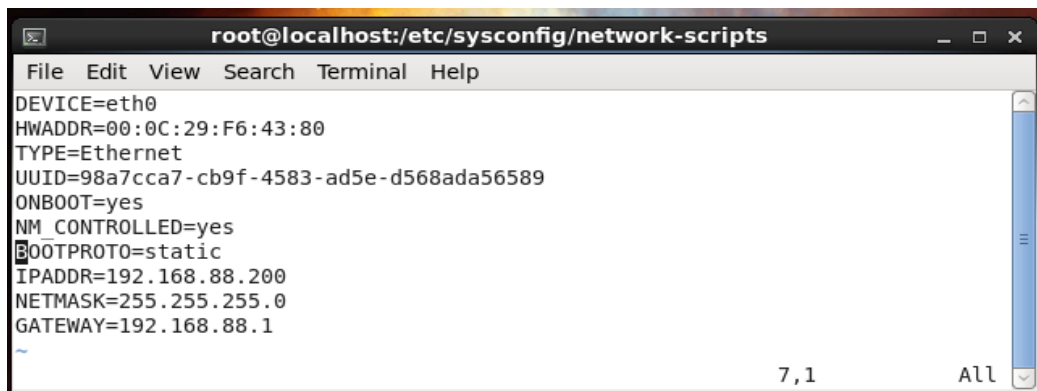
Static IP Configure

At first go to = `cd /etc/sysconfig/network-scripts/`

Go to = `vim ifcfg-eth0`

Save this configuration.

Show this figure 3.2 Static IP Configuration

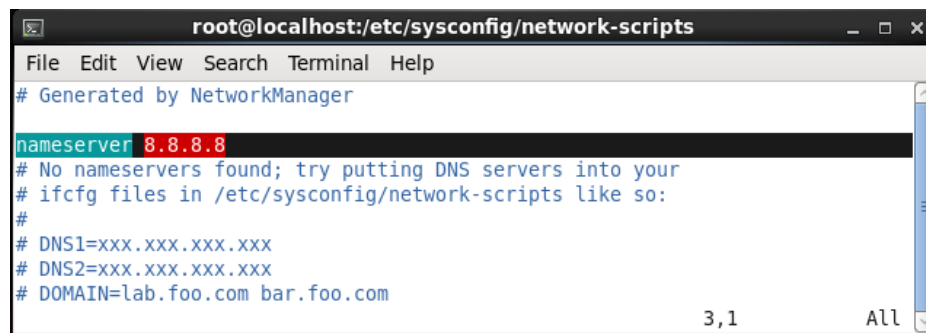


```
root@localhost:/etc/sysconfig/network-scripts
File Edit View Search Terminal Help
DEVICE=eth0
HWADDR=00:0C:29:F6:43:80
TYPE=Ethernet
UUID=98a7cca7-cb9f-4583-ad5e-d568ada56589
ONBOOT=yes
NM_CONTROLLED=yes
BOOTPROTO=static
IPADDR=192.168.88.200
NETMASK=255.255.255.0
GATEWAY=192.168.88.1
```

Figure 3.2: Static IP configure

Now go to =vim /etc/resolv.conf

Show this figure 3.3 LINUX Static DNS Configuration



```
root@localhost:/etc/sysconfig/network-scripts
File Edit View Search Terminal Help
# Generated by NetworkManager
nameserver 8.8.8.8
# No nameservers found; try putting DNS servers into your
# ifcfg files in /etc/sysconfig/network-scripts like so:
#
# DNS1=xxx.xxx.xxx.xxx
# DNS2=xxx.xxx.xxx.xxx
# DOMAIN=lab.foo.com bar.foo.com
```

Figure 3.3: Static DNS Configure

Save this configuration.

Now we need to restart to your network by using the flowing command (#service network restart).

3.15 SSH Configuration

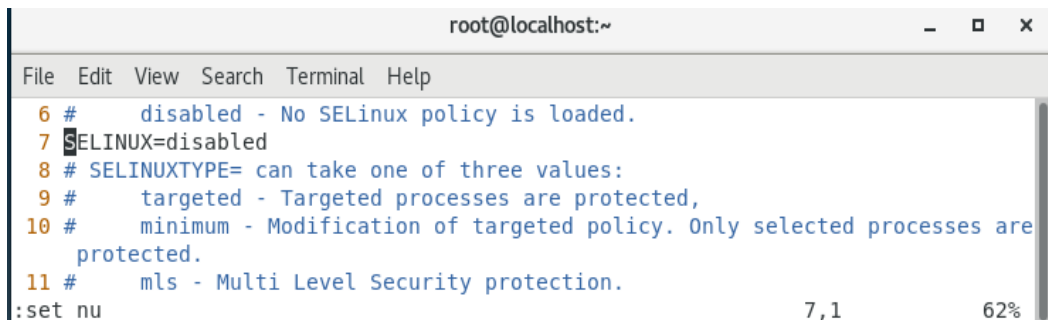
Step 1:

At first, configure Static IP to our server PC.

Step 2:

SELinux disabled by using following command (**#vim /etc/sysconfig/selinux**).

Show this figure 3.4 SELinux disabled



```
root@localhost:~
File Edit View Search Terminal Help
6 # disabled - No SELinux policy is loaded.
7 SELINUX=disabled
8 # SELINUXTYPE= can take one of three values:
9 # targeted - Targeted processes are protected,
10 # minimum - Modification of targeted policy. Only selected processes are
    protected.
11 # mls - Multi Level Security protection.
:set nu                                7,1                                62%
```

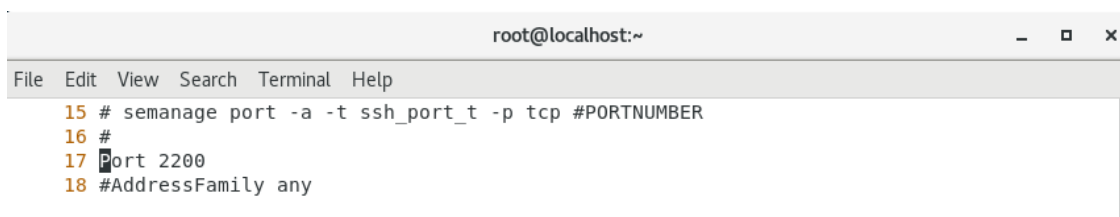
Figure 3.4: selinux disabled

For IP tables stop we executed the direction (**# systemctl stop iptables**). For this session as it were and Iptables disable by using (**# systemctl disable iptables**) command. After complete our configuration you just reboot this server.

Step 3:

Configuration for SSH by using the following command (**# vi /etc/ssh/sshd_config**).

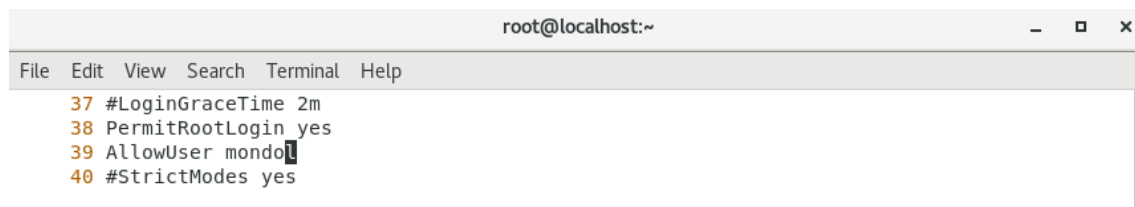
Here line number 17 change port number, line number 38 Enable permit Root Login, line number 39 create new Allow user. Save this command by using (**:wq**) command. Show this figure 3.5 sshd port change



```
root@localhost:~
File Edit View Search Terminal Help
15 # semanage port -a -t ssh_port_t -p tcp #PORTNUMBER
16 #
17 Port 2200
18 #AddressFamily any
```

Figure 3.5: sshd port change

Show this figure 3.6 sshd Permission



```
root@localhost:~
File Edit View Search Terminal Help
37 #LoginGraceTime 2m
38 PermitRootLogin yes
39 AllowUser mondo
40 #StrictModes yes
```

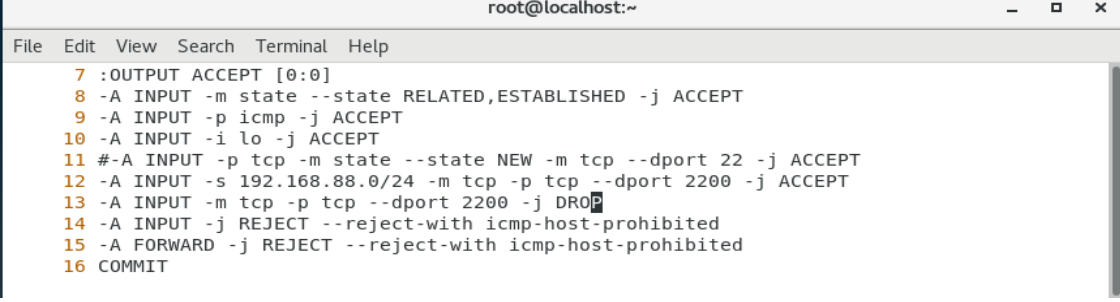
Figure 3.6: sshd permission root login & user create

After complete configuration we need must be restart to this the Service by using (**#service sshd restart**) this command.

Step 4:

Iptables configuration by using following command (#vi /etc/sysconfig/iptables).

Show this figure 3.8 iptables configuration

A screenshot of a terminal window titled 'root@localhost:~'. The window contains a list of iptables rules, numbered 7 through 16. The rules are as follows:

```
7 :OUTPUT ACCEPT [0:0]
8 -A INPUT -m state --state RELATED,ESTABLISHED -j ACCEPT
9 -A INPUT -p icmp -j ACCEPT
10 -A INPUT -i lo -j ACCEPT
11 #-A INPUT -p tcp -m state --state NEW -m tcp --dport 22 -j ACCEPT
12 -A INPUT -s 192.168.88.0/24 -m tcp -p tcp --dport 2200 -j ACCEPT
13 -A INPUT -m tcp -p tcp --dport 2200 -j DROP
14 -A INPUT -j REJECT --reject-with icmp-host-prohibited
15 -A FORWARD -j REJECT --reject-with icmp-host-prohibited
16 COMMIT
```

Figure 3.7: iptables configuration

Here delete 14 & 15 lines. Create new 12 and 13 lines. Save this file by using (:wq).

Restart this service by using this command (# systemctl iptables restart).

Chapter 04

Server Configurations

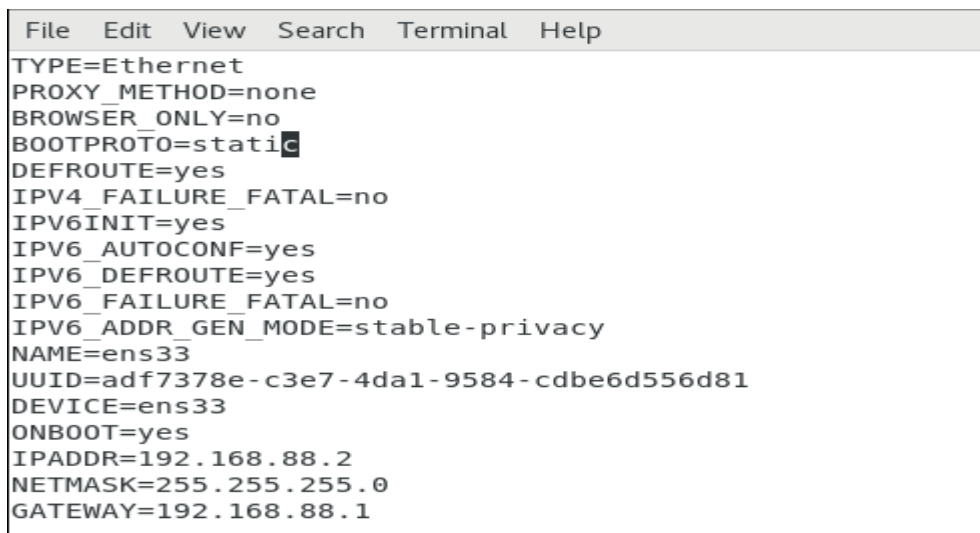
4.1 Samba Server

Samba is an incredibly helpful systems administration instrument for any individual who has the two Windows and UNIX frameworks on his system. Running on a UNIX framework, it permits Windows to share records and printers on the UNIX host, and it additionally permits UNIX clients to get to assets shared by Windows frameworks. [2]

4.2 Samba Server Configuration

Step 1:

Before configuring the Samba server we've to set up our network configuration. As a result of while not network samba server cannot be designed. Show this figure 4.1 samba server static IP configurations

A screenshot of a terminal window with a menu bar at the top containing 'File', 'Edit', 'View', 'Search', 'Terminal', and 'Help'. The terminal displays the following configuration for the network interface ens33:

```
TYPE=Ethernet
PROXY_METHOD=none
BROWSER_ONLY=no
BOOTPROTO=static
DEFROUTE=yes
IPV4_FAILURE_FATAL=no
IPV6INIT=yes
IPV6_AUTOCONF=yes
IPV6_DEFROUTE=yes
IPV6_FAILURE_FATAL=no
IPV6_ADDR_GEN_MODE=stable-privacy
NAME=ens33
UUID=adf7378e-c3e7-4da1-9584-cdbe6d556d81
DEVICE=ens33
ONBOOT=yes
IPADDR=192.168.88.2
NETMASK=255.255.255.0
GATEWAY=192.168.88.1
```

Figure 4.1: Samba server static IP configuration

Step 2:

At first install samba packages by using the following command to install a package.

(#yum install samba -y)

After complete install samba packages, we need to start snm & nmb service by using the following command to start these services.

(#systemctl start smb)

(#systemctl start nmb)

Permanently active this service using the following command

(#systemctl enable smb)

(#systemctl enable nmb)

Step 3:

Now edit samba configuration file by using following command

(# vi /etc/samba/smb.conf)

Here global access to create a workgroup & host allow IP address. Show this figure 4.2

samba server smb global access configure

```
6 [global]
7         workgroup = WORKGROUP
17        host allow = 127. 192.168.88.
```

Figure 4.2: smb global access configure

Here line number 40 to line number 46 create share drive location access user. Show this

figure 4.3 samba server smb share directory configure

```
40 [sambashare]
41     command          = share directory
42     path              = /home/sambashare
43     valid user        = mondol
44     public            = no
45     browseable        = yes
46     writable          = yes
47
```

Figure 4.3: smb share directory configure

Step 4:

Now create a directory by using the following command **(#mkdir /home/sambashare).**

Add a user they can be access this sharing directory. Following command to add a user **(#adduser mondol).**

Samba user password set by using the following command **(#smnpasswd -a mondol).**

Then enter your password two times.

Step 5:

Now set permission to access sharing directory. Show this figure directory permeation.

Show this figure 4.4 samba share directory permission

```
[root@localhost ~]# chown -R mondol /home/sambashare/  
[root@localhost ~]# chmod 750 /home/sambashare/  
[root@localhost ~]# chown mondol /home/sambashare/*
```

Figure 4.4: samba share directory permission

Step 6:

How can “samba share” access from windows. If smb1 client is not enabled on to our windows PC then go to, Control Panel=>Uninstall a program=>Turn windows features on or off=>. Show this figure 4.5 smb enable Windows PC

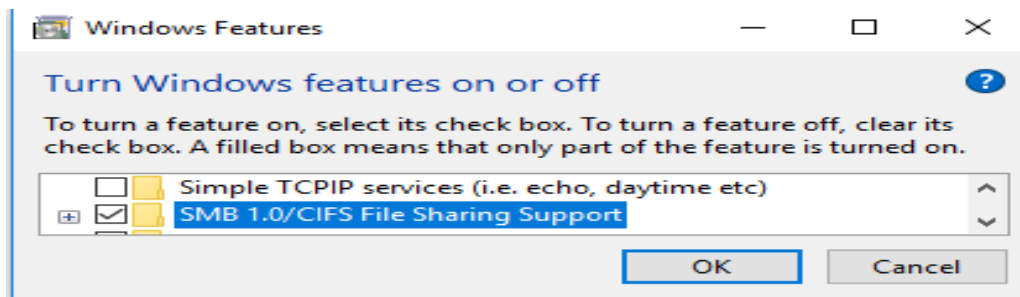


Figure 4.5: smb enable windows PC

Step 7:

Samba access to Windows PC. Show this figure 4.6 samba server access windows PC

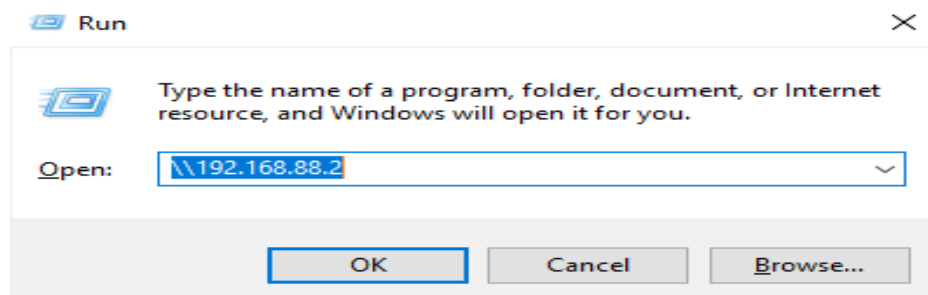


Figure 4.6: samba server access

Here write samba server user name and password. Show this figure 4.7 samba server access user name & password

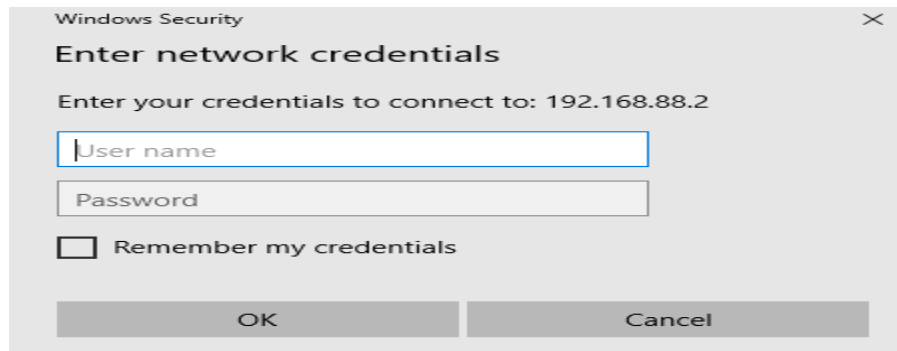


Figure 4.7: Samba server access user name and password

Here samba sharing directory. Show this figure 4.8 samba sharing directory

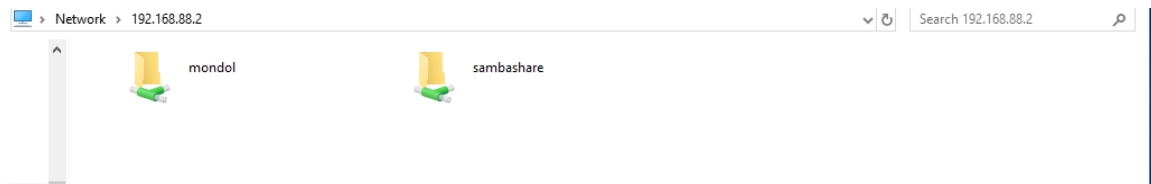


Figure 4.8: samba server sharing directory

4.3 Nagios Server

Nagios is a free and open-source PC programming application that screens structure frameworks and entire IT establishment. Nagios screens the system issues brought about by over-burden information connections or system associations, just as checking router, switches and more, administrations and business forms are working appropriately. [3]

4.4 Nagios Server Configuration

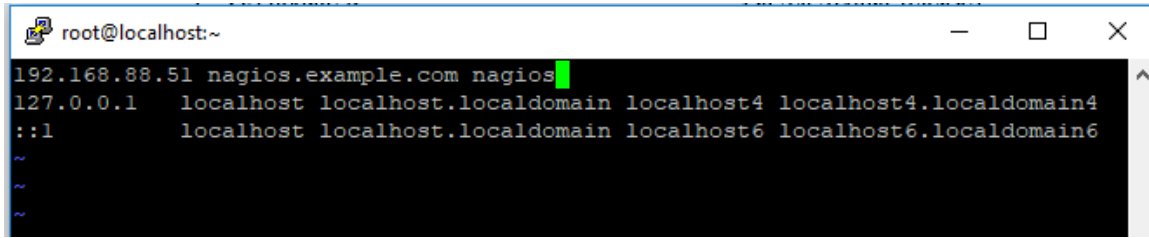
Step 1:

At first, configure Static IP to our Nagios server PC. SELinux disabled by using the following command (**#vi /etc/sysconfig/selinux**).

Firewall stop by using the following command (**#Systemctl stop firewalld**) and firewall permanently disable by using this (**#Systemctl disable firewalld**) command.

SSH enables to default port by using the following command (**#systemctl restart ssh**).

Iptables disable for the temporary using following command (**#systemctl stop iptables**)
Hostname setup following command (**# vi /etc/hosts**).). Show this figure 4.9 host name



```
root@localhost:~  
192.168.88.51 nagios.example.com nagios  
127.0.0.1    localhost localhost.localdomain localhost4 localhost4.localdomain4  
::1         localhost localhost.localdomain localhost6 localhost6.localdomain6
```

Figure 4.9: Nagios host name setup

Step 2:

Before configuring Nagios server we need install some required packages using the following command to install these packages

(# yum install httpd php php-cli gcc glibc glibc-common gd gd-devel -y).

Wget installation for minimal mode using the following command

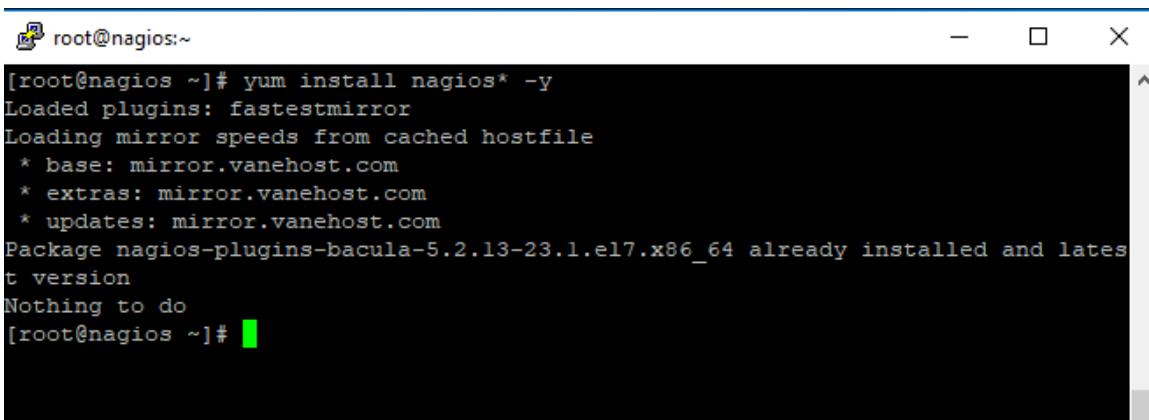
(#yum install wget -y).

Another required package installation using the following command

(# yum install epel-release -y).

Step 3:

Nagios server installs using the following command (**#nagios* -y**). Show this figure 4.10 nagios server packages install.



```
root@nagios:~  
[root@nagios ~]# yum install nagios* -y  
Loaded plugins: fastestmirror  
Loading mirror speeds from cached hostfile  
* base: mirror.vanehost.com  
* extras: mirror.vanehost.com  
* updates: mirror.vanehost.com  
Package nagios-plugins-bacula-5.2.13-23.1.el7.x86_64 already installed and latest version  
Nothing to do  
[root@nagios ~]#
```

Figure 4.10: Nagios server packages installed

Step 4:

Now start Nagios server using the following command (**#systemctl start Nagios**).

Enable the Nagios server using the following command (**#systemctl enable Nagios**).

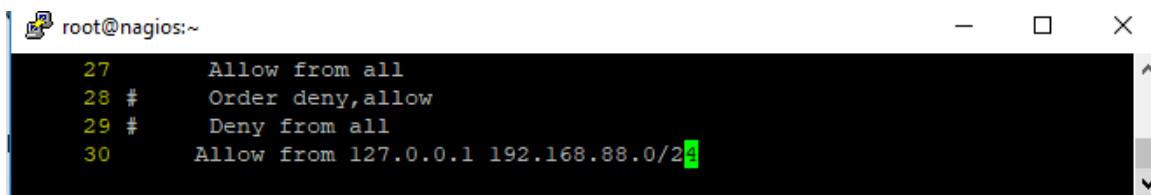
Now start httpd server using the following command (**#systemctl start httpd**).

Enable httpd server using the following command (**#systemctl enable httpd**).

Step 5:

Now configure Nagios server by using the following command

(**# vi /etc/httpd/conf.d/nagios.conf**). Here line number 30 allows LAN block IP address to access this server. Show this figure 4.11 nagios server LAN block allows.



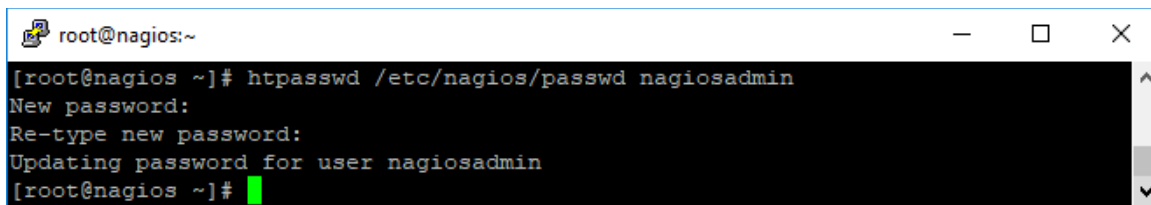
```
root@nagios:~  
27     Allow from all  
28 #    Order deny,allow  
29 #    Deny from all  
30     Allow from 127.0.0.1 192.168.88.0/24
```

Figure 4.11: Nagios server allow LAN block

Step 6:

Password set for default user Nagios admin using the following command

(**#htpasswd /etc/nagios/passwd nagiosadmin**). Show this figure 4.12 name & password



```
root@nagios:~  
[root@nagios ~]# htpasswd /etc/nagios/passwd nagiosadmin  
New password:  
Re-type new password:  
Updating password for user nagiosadmin  
[root@nagios ~]#
```

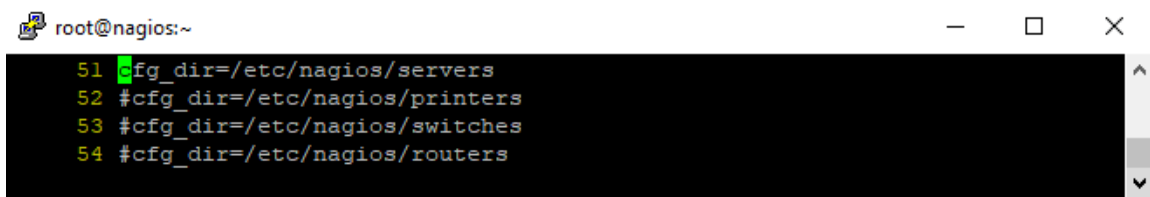
Figure 4.12: Nagios default user admin Password set

Step 7:

Directory configuration for clients using following command

(**# vi /etc/nagios/nagios.cfg; # mkdir /etc/nagios/servers**).

Here line number 51 configure default directory. Show this figure 4.13 default directory.

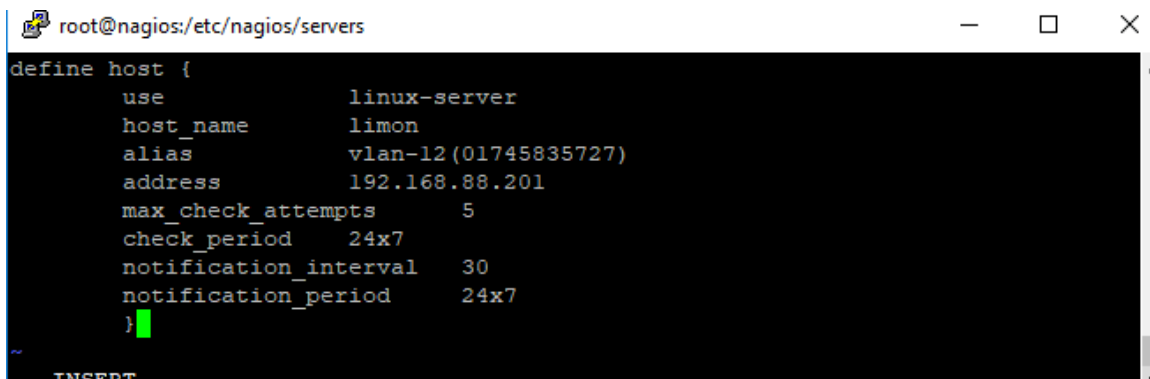
A terminal window with a black background and white text. The prompt is 'root@nagios:~'. The text shows four lines of configuration: line 51 'cfg_dir=/etc/nagios/servers' with 'cfg_dir' highlighted in green, line 52 '#cfg_dir=/etc/nagios/printers', line 53 '#cfg_dir=/etc/nagios/switches', and line 54 '#cfg_dir=/etc/nagios/routers'. A vertical scrollbar is on the right.

```
root@nagios:~
51 cfg_dir=/etc/nagios/servers
52 #cfg_dir=/etc/nagios/printers
53 #cfg_dir=/etc/nagios/switches
54 #cfg_dir=/etc/nagios/routers
```

Figure 4.13: Nagios server default directory configure

Step 8:

Now go to the location `cd/etc/Nagios` by using following command (**#cd/etc/nagios**). Create a new directory by using the following command (**# mkdir servers**). Go to this directory and create a new file by using the following command (**#touch clients.cfg**). Now configure this file by using this (**#vi clients.cfg**) command. Here add new client Nagios server. Show this figure 4.14 nagios host configure.

A terminal window with a black background and white text. The prompt is 'root@nagios:/etc/nagios/servers'. The text shows a host configuration block: 'define host {', 'use linux-server', 'host_name limon', 'alias vlan-12 (01745835727)', 'address 192.168.88.201', 'max_check_attempts 5', 'check_period 24x7', 'notification_interval 30', 'notification_period 24x7', and '}' with a green cursor at the end. A vertical scrollbar is on the right.

```
root@nagios:/etc/nagios/servers
define host {
    use          linux-server
    host_name     limon
    alias        vlan-12 (01745835727)
    address      192.168.88.201
    max_check_attempts 5
    check_period 24x7
    notification_interval 30
    notification_period 24x7
}
```

Figure 4.14: Nagios host configure

After complete host configuration restart Nagios server by using the following command (**#systemctl restart Nagios**).

Step 9:

Now go to our web browser and write down Nagios server IP address by using the following command (**192.168.88.51/Nagios**).

Show this figure 4.15 nagios server admin login.

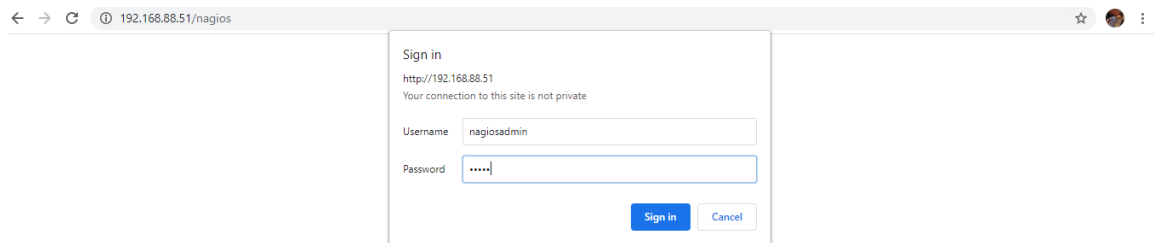


Figure 4.15: Nagios server admin login

Show this figure 4.16 nagios server client monitoring.

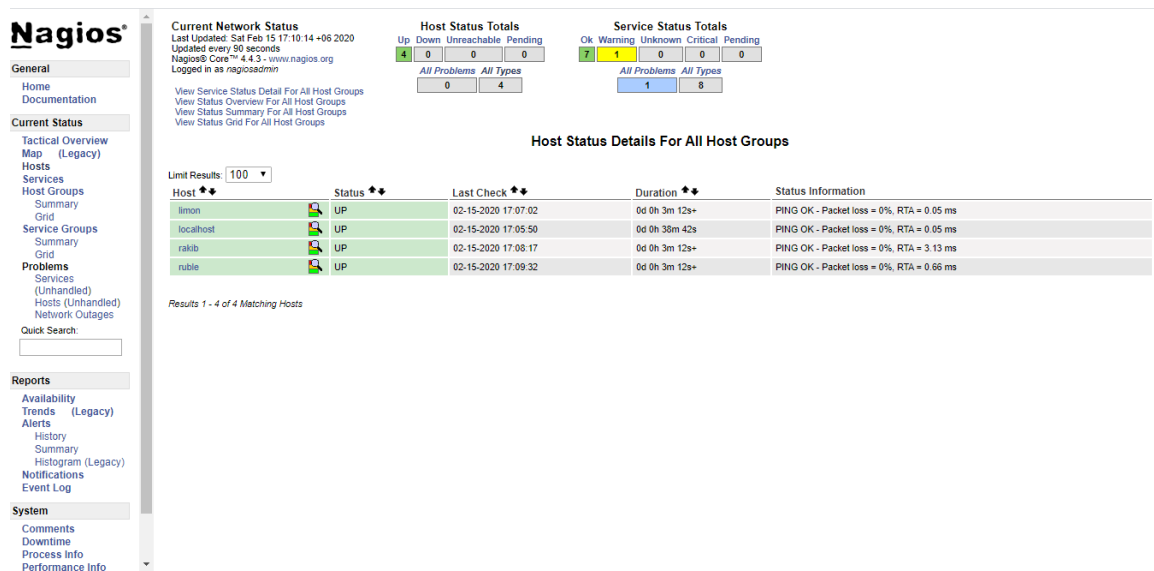


Figure 4.16: Nagios server-client monitoring

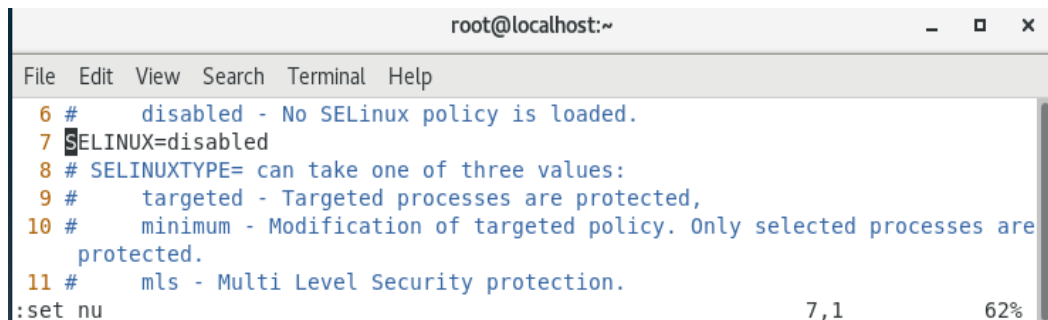
4.5 FTP Server Configuration

Step 1:

At first Configure internet to this server. As a result of while not network FTP server cannot be designed. At first, configure Static IP to our FTP server PC.

Step 2:

At first, disable Selinux execute the command (`#vim /etc/sysconfig/selinux`). Show this figure 4.17 FTP server selinux disable.



```
root@localhost:~
File Edit View Search Terminal Help
6 # disabled - No SELinux policy is loaded.
7 SELINUX=disabled
8 # SELINUXTYPE= can take one of three values:
9 #   targeted - Targeted processes are protected,
10 #   minimum - Modification of targeted policy. Only selected processes are
    protected.
11 #   mls - Multi Level Security protection.
:set nu                                7,1      62%
```

Figure 4.17: FTP server Selinux disable

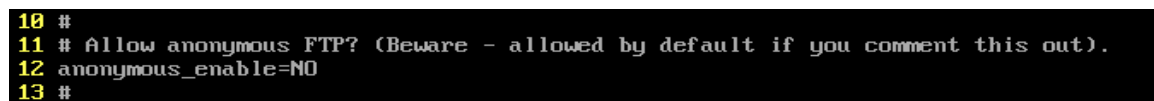
Stop iptables by using this command (`#systemctl stop iptables`).

Step 3:

Before configuring the vsftpd file, it's been downloaded and installed by using the command (`#yum install vsftpd* -y`).

Step 4:

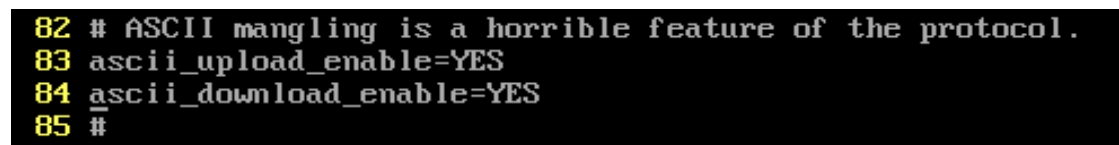
Configuration this vsftpd file by using this command (`#vi /etc/vsftpd/vsftpd.conf`). For configuring line number 12 nonuser based mostly FTP server, “anonymous_enable=NO” has been organized that is portrayed on the following figure. Show this figure 4.18 FTP server anonymous enable.



```
10 #
11 # Allow anonymous FTP? (Beware - allowed by default if you comment this out).
12 anonymous_enable=NO
13 #
```

Figure 4.18: FTP server anonymous enable

Here lines numbers 83 & 84 upload and download option have been configured. Show this figure 4.19 server asci upload & download enable



```
82 # ASCII mangling is a horrible feature of the protocol.
83 ascii_upload_enable=YES
84 ascii_download_enable=YES
85 #
```

Figure 4.19: FTP server asci upload & download enable

Step 5:

Now save this file and restart vsftpd package by using the following command (**#systemctl restart vsftpd**). Permanently enable this service by using the following command (**#systemctl enable vsftpd**).

Present you just enable firewall. Add TCP port and FTP service. Configured are represented below. Show this figure 4.20 FTP & TCP port add

```
[root@localhost ~]# systemctl start firewalld
[root@localhost ~]# firewall-cmd --permanent --add-port=21/tcp
success
[root@localhost ~]# firewall-cmd --permanent --add-service=ftp
success
[root@localhost ~]#
```

Figure 4.20: FTP & TCP port add

Show this figure 4.21 FTP user add

```
[root@localhost ~]# useradd joy
[root@localhost ~]# passwd joy
Changing password for user joy.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: all authentication tokens updated successfully.
[root@localhost ~]#
```

Figure 4.21: FTP Server New user add

Step 6:

Show this Figure 4.22 user-based FTP server is checked by a web browser.

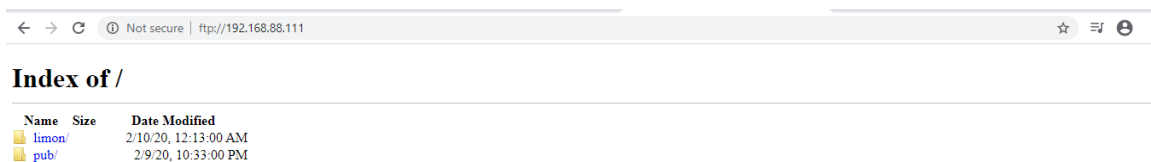


Figure 4.22: FTP server access by a web browser

Chapter 05

MikroTik Router Configurations

5.1 About MikroTik Router

MikroTik is a company that held based in 1996 to develop routers and wireless ISP systems. MikroTik currently produces hardware and software packages as web property in most of the countries around the world. Our expertise in victimization business normal laptop hardware and complete routing systems allowed the North American nation in 1997 to make the Router OS package that gives intensive security, authorities, and suppleness for every kind of knowledge interface including routing. During 2002 we tend to determine to build our hardware, and therefore the Router board complete was produced. We've got resellers in the largest components of the globe, and clients in all probability each country in the world. [6]

5.2 WAN Configuration

Step 1:

- ✓ Click IP → Click Address → Click Add → Set IP Address

The following figure 5.1 Show IP Address Set for Wan Configuration

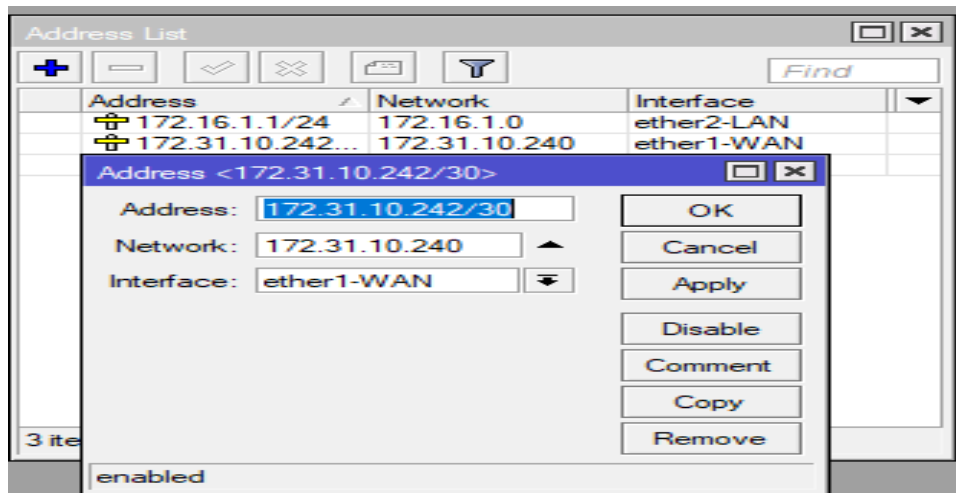


Figure 5.1: Wan IP Configuration

Step 2:

- ✓ Click IP → Click Routes → Click Add → Click General → Write Gateway IP

The following figure 5.2 Show WAN Routes Configuration

The 'New Route' dialog box shows the following configuration:

- General tab selected
- Dst. Address: 0.0.0.0
- Gateway: 172.31.10.241
- Check Gateway: (dropdown menu)
- Type: unicast
- Distance: (dropdown menu)
- Scope: 30
- Target Scope: 10
- Routing Mark: (dropdown menu)
- Pref. Source: (dropdown menu)
- Buttons: OK, Cancel, Apply, Disable, Comment, Copy, Remove
- enabled: ☒ active: ☒

Figure 5.2: Wan Route Configuration

Step 3:

- ✓ Click IP → Click DNS → Write DNS Server Address

The following figure 5.3 Show WAN DNS Server Address

The 'DNS Settings' dialog box shows the following configuration:

- Servers: 203.190.10.252, 203.190.10.253
- Dynamic Servers: (empty)
- Allow Remote Requests: ☐
- Max UDP Packet Size: 4096
- Query Server Timeout: 2.000 s
- Query Total Timeout: 10.000 s
- Cache Size: 2048 KB
- Cache Max TTL: 7d 00:00:00
- Cache Used: 53
- Buttons: OK, Cancel, Apply, Static, Cache

Figure 5.3: Wan DNS Server Address

5.3 Statistic LAN Configuration

Step 1:

- ✓ Click IP → Click Address → Click Add:

Address: Write LAN IP Address

Interface: Select interface

The following figure 5.4 Show LAN IP Address

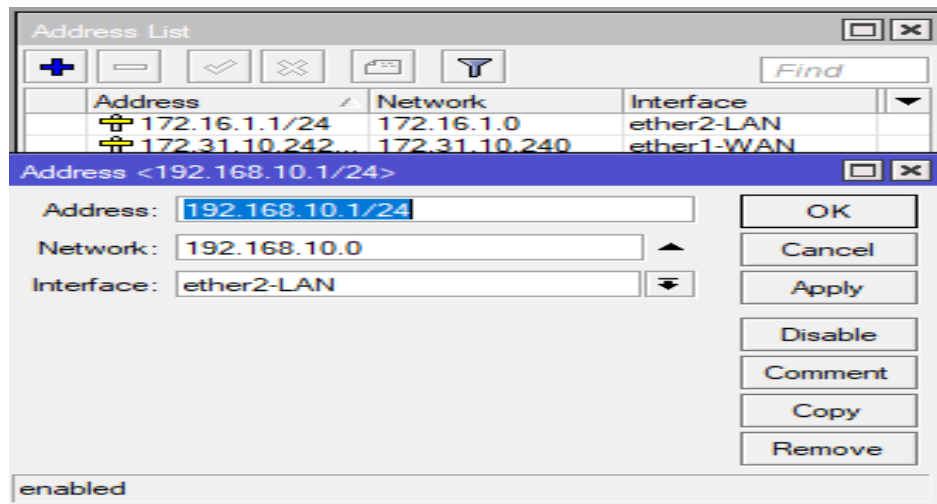


Figure 5.4: LAN IP Address

Step 2:

- ✓ Click IP → Click Firewall → Click NAT → Click Add → Click General:
Chain: Select srcnat
Src. Address: Write LAN IP Address
- ✓ Click Action :
Action: Select masquerade

The following figure 5.5 Show NAT Configuration

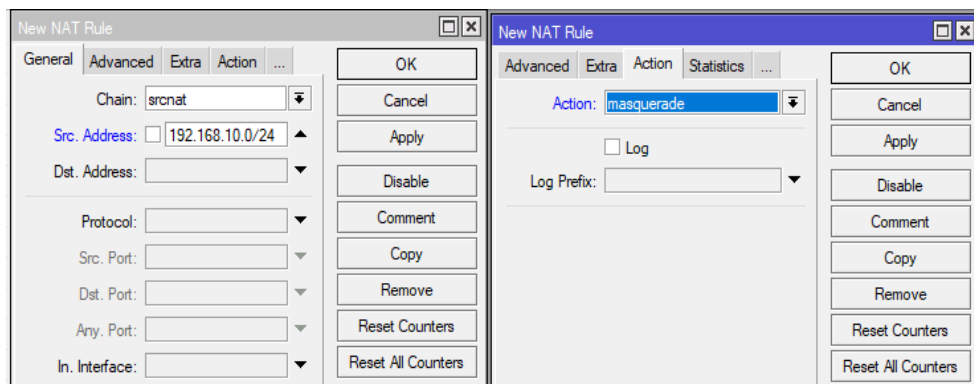


Figure 5.5: NAT Configuration

5.4 Bandwidth Share

Step 1: Bandwidth Share Target IP

- ✓ Click Queues → Click Simple Queues → Click Add → Click General:

Name: Write Name

Target: Write Target IP Address

Target Upload: Select Upload Speed

Target Download: Select Download Speed

The following figure 5.6 Show Bandwidth Share target IP

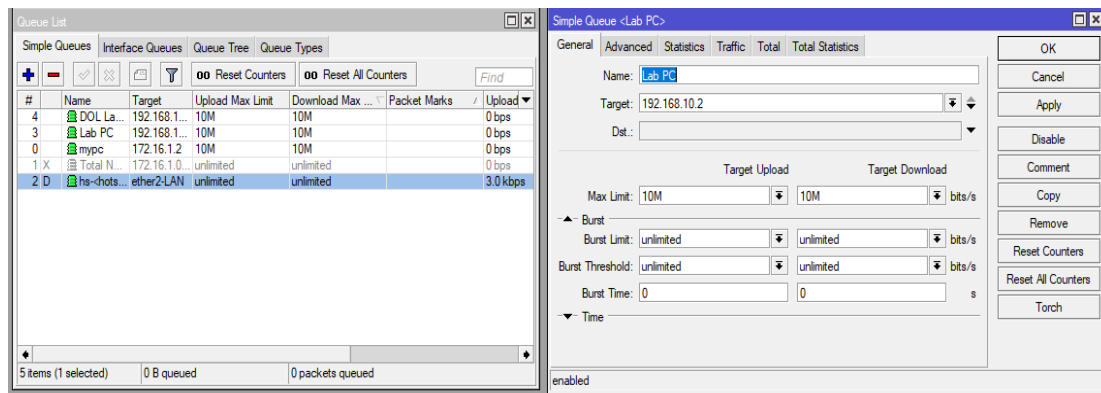


Figure 5.6: Bandwidth Share target IP

5.5 Bandwidth Share use PCQ

Step 1:

- ✓ Click Queues → Click Queue Types → Click Add

Type Name: Write name

Click Kind: Select pcq

Rate: Write Bandwidth Speed

Classifier: Select Src. Address → Select Dst. Address

Step 2:

- ✓ Click Simple Queues → Click Add → Click General:

Name: Write name

Target: Write target Network Address

- ✓ Click Advanced:

Click Queue Types → select Upload & Download Speed Name

The following figure 5.7 Show Bandwidth Share pcq Use

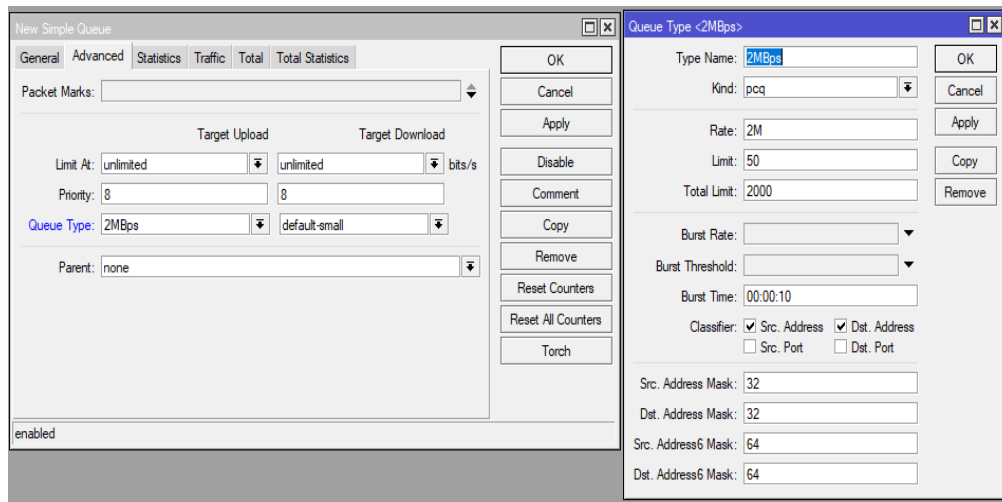


Figure 5.7: Bandwidth Share pcq use

5.6 Filter Rules Create

Step 1: Drop Filter

- ✓ Click IP → Click Filter → Click Filter Rules → Click Add → Click General:

Chain: Select forward

Src. Address: Write Network Address

- ✓ Click Action:

Action: Select drop

The following figure 5.8 Show Drop a Network

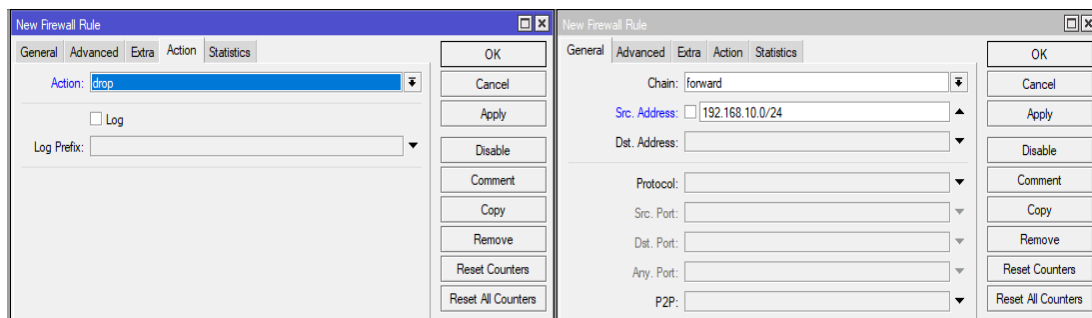


Figure 5.8: Drop a Network

Step 2: Accepted Specific IP

- ✓ Click IP → Click Filter → Click Filter Rules → Click Add → Click General:

Chain: Select forward

Src. Address: Write Accepted IP Address

- ✓ Click Action:

Action: Select Accept

Click Ok

- ✓ Drag and drop up to Drop Filter Rules

The following figure 5.9 Show Accept Specific IP from Drop Filter Rules

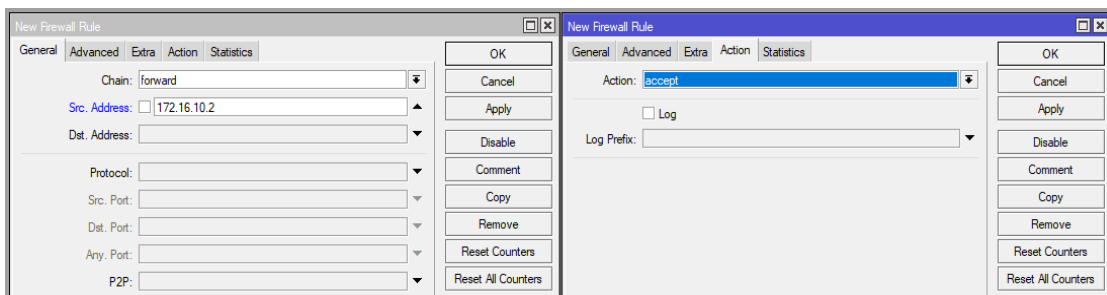


Figure 5.9: Accept IP from Filter Rules

5.7 Block Web Site

Step 1:

- ✓ Click IP → Click Firewall → Click Layer 7 Protocols
- ✓ Click Add:
 - Name: Write Identity Name
 - Regexp: Write Block format with web side name

The following figure 5.10 Show Block web site format



Figure 5.10: Block web site

Step 2:

- ✓ Click IP → Click Filter Rules → Click Add → Click General:

Chain: forward

Src. Address: Write Network Address

- ✓ Click Advanced:

Layer 7 Protocol: Select block address name

- ✓ Click Action:

Action: Select drop

The following figure 5.11 Show Block web site

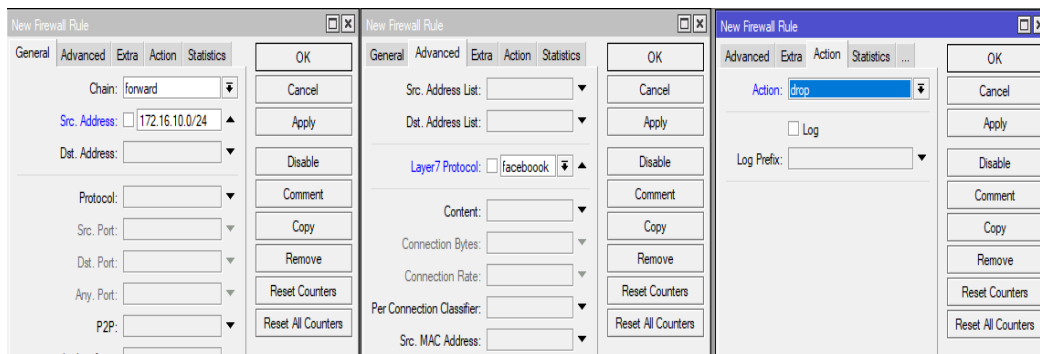


Figure 5.11: Drop Web Site from a Network

5.8 Mangle rule create

Step 1:

- ✓ Click IP → Click Firewall → Click Address List → Click Add

Name: Write web site name

Address: Write web site IP Address

The following figure 5.12 Show Facebook IP address list create

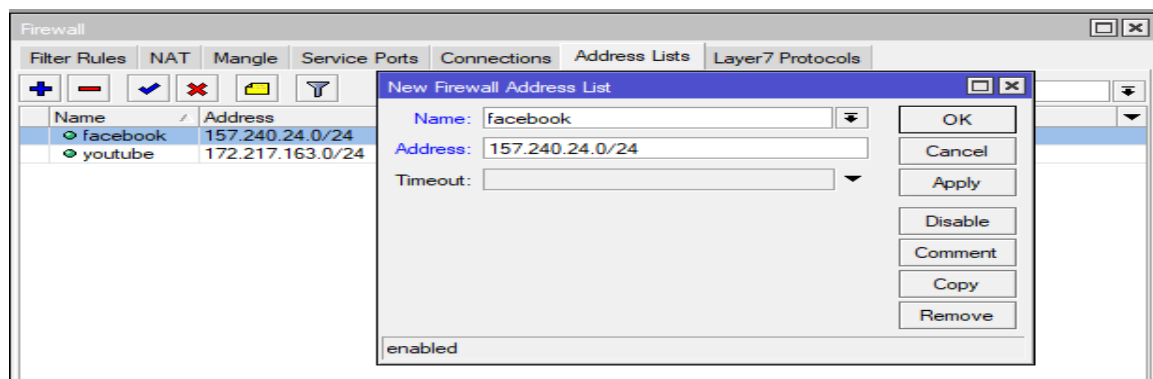


Figure 5.12: Facebook IP Address List Create

- ✓ Again same process add more IP Address

Step 2:

- ✓ Click IP → Click Mangle → Click Add → Click General:

Chain: Select prerouting

- ✓ Click Advance:

Select Dst. Address

- ✓ Click Action:

Action: Select mark connection

New Connection Mark: Write Connection Mark Name

The following figure 5.13 Show Mangle Mark Connection Create for Facebook

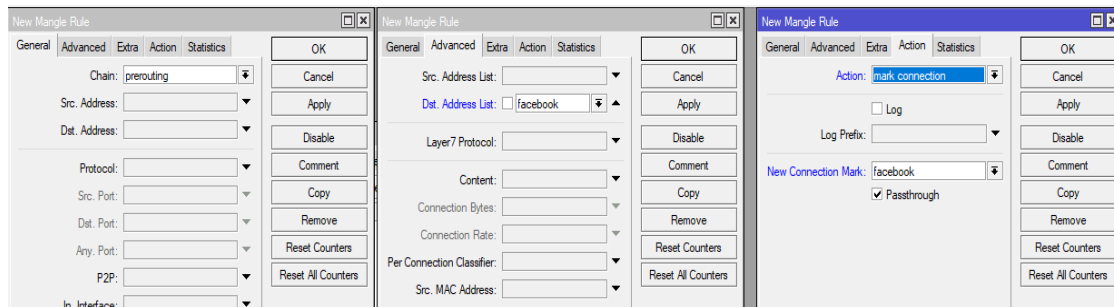


Figure 5.13: Mark Connection for Facebook

Step 3:

- ✓ Click IP → Click Mangle → Click Add → Click General:

Chain: Select prerouting

- ✓ Click Advance:

Select Dst. Address

- ✓ Click Action:

Action: Select mark packet

New Connection Mark: Write Connection Mark Name

The following figure 5.14 Show Mangle Mark Packet Create for Facebook

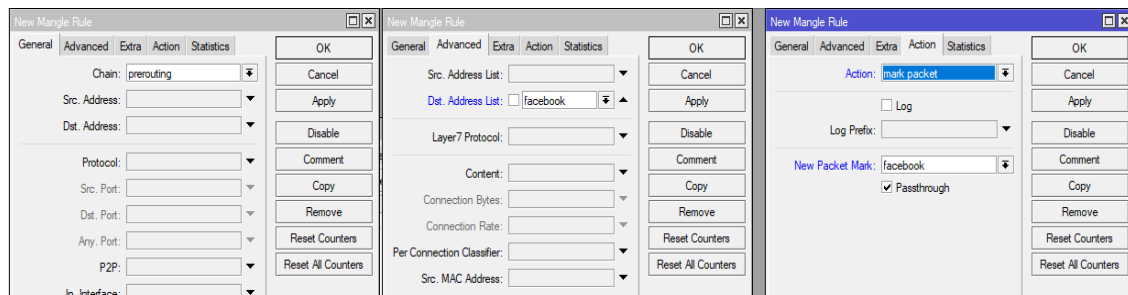


Figure 5.14: Mark Packet for Facebook

Step 4:

- ✓ Click Queue → Click Queue Type → Click Add:
 - Type Name: Write Name
 - Kind: Select pcq
 - Rate: Write Bandwidth Speed
 - Classifier: Select Dst. Address
- ✓ Again Copy This and Only Classifier: Select Src. Address

Step 5:

- ✓ Click Queue → Click Simple Queue → Click add → Click General:
 - Name: Write Name
 - Target: Write Target Network Address
- ✓ Click Advantage:
 - Packet marks: Select Packet Address
 - Queue Type: Select Upload & Download Speed

The following figure 5.15 Show High Bandwidth for Facebook

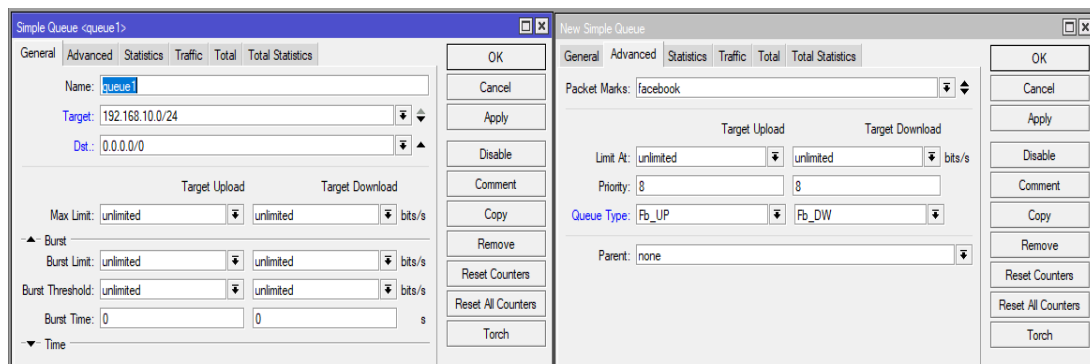


Figure 5.15: High Bandwidth for Facebook

5.9 PPOE Server Configuration

Step 1:

- ✓ Click IP → Click Pool → Click Add:

Name: Write Name

Address: Write Network Address

The following figure 5.16 Show PPOE Poll Create

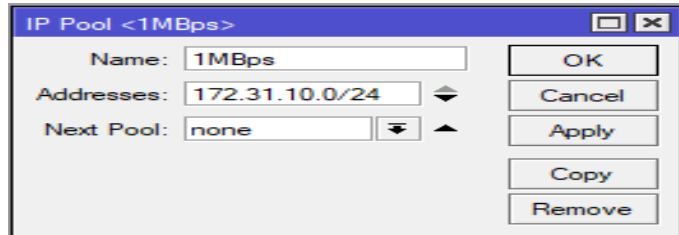


Figure 5.16: PPOE Poll Create

Step 2:

- ✓ Click PPP → Click PPOE Servers → Click Add:

Server Name: Write PPPOE Server Name

Interface: Select Interface

The following figure 5.17 Show PPOE Server Name Create

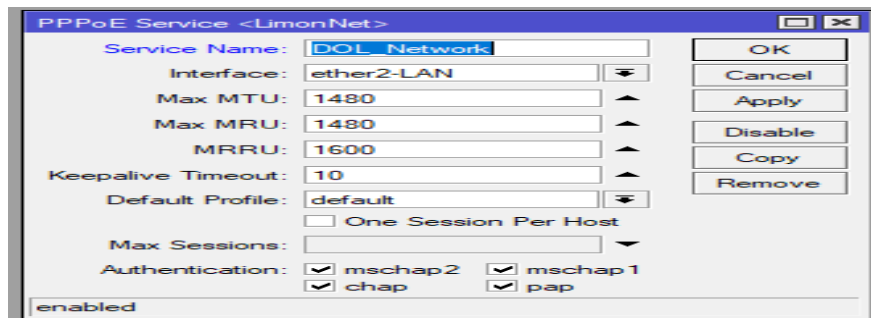


Figure 5.17: PPOE Server Name Create

Step 3:

- ✓ Click PPP → Click Profile → Click Add → Click General:

Name: Write Profile Name

Local Address: Write Local Address network Gateway

Remote Address: Select Remote Address Name

- ✓ Click Limit:

Rate Limit (rx/tx): Write User Bandwidth Speed

Only One: Select Yes

The following figure 5.18 Show PPOE Profile Create

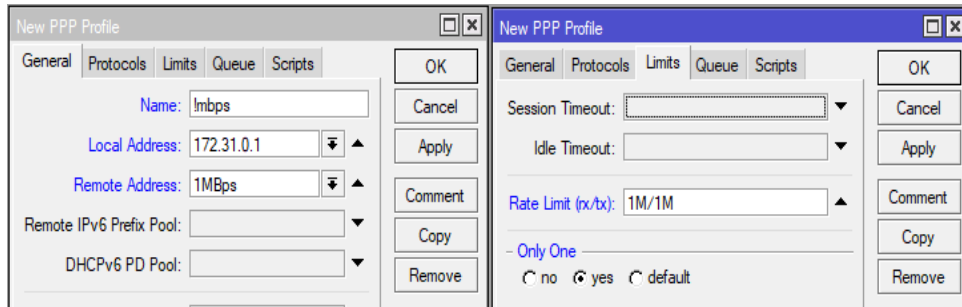


Figure 5.18: PPOE Profile Create

Step 4:

- ✓ Click PPP → Click Secrets → Click Add:

Name: User Name

Password: User Password

Service: Select PPOE

The following figure 5.19 Show PPOE User Create

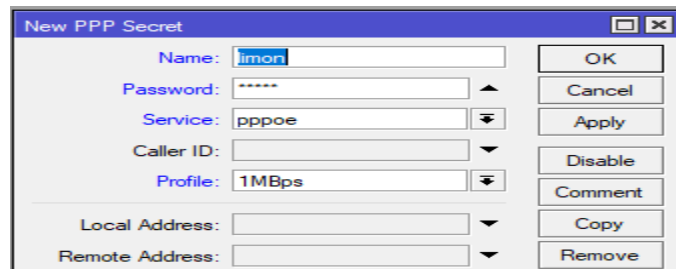


Figure 5.19: PPOE User Create

Step 5

- ✓ Click IP → Click Firewall → Click NAT → Click Add → Click General:

Src. Network: Write PPOE Network Address

- ✓ Click Action:

Action: Select masquerade

5.10 Hotspot User Configuration

Step 1:

- ✓ Click IP → Click Hotspot → Click Server → Click Hotspot Setup:

Hotspot Interface = Select Port

Local Address of Network = Write Network

Address Poll of Network = Write Poll Network

Certification = Select

IP Address of SNTP Server = Write SNTP IP

DNS Server = Write DNS Server IP

DNS Name = Write DNS Name

Name of Local Hotspot User = Write admin

Password for the User = Write Password

Click next

Click Ok

Step 2:

- ✓ Click IP → Click Hotspot → Click Server Profiles → Double Click of hosprof1 :

- ✓ Click Login:

Select HTTP CHAP

The following figure 5.20 Show Hotspot Server Profile create

Hotspot Server Profile <hsprof1>

General Login **RADIUS**

Login By: ☐ MAC ☐ Cookie ☒ HTTP CHAP ☐ HTTPS ☐ HTTP PAP ☐ Trial ☐ MAC Cookie

MAC Auth. Mode:

MAC Auth. Password:

HTTP Cookie Lifetime:

SSL Certificate:

☐ Split User Domain

Trial Uptime Limit:

Trial Uptime Reset:

Trial User Profile:

OK Cancel Apply Copy Remove

default

Figure 5.20: Hotspot profile create

Step 3:

- ✓ Click IP → Click Hotspot → Click User Profiles → Click Add → Click General:

Name = Write Name

Address Pool = Select Address Pool

Rate Limit (rx/tx) = Write Bandwidth

Open Status Page = Select HTTP Login

The following figure 5.21 Show Hotspot User Profile

The screenshot shows a 'New Hotspot User Profile' dialog box with a 'General' tab selected. The dialog has several input fields and checkboxes. The 'Name' field is set to '1Mbps'. The 'Address Pool' dropdown is set to 'hs-pool-2'. The 'Session Timeout' is empty. The 'Idle Timeout' is set to 'none'. The 'Keepalive Timeout' is set to '00:02:00'. The 'Status Autorefresh' is set to '00:01:00'. The 'Shared Users' is set to '1'. The 'Rate Limit (rx/tx)' is set to '1M/1M'. There is a checked checkbox for 'Add MAC Cookie' and the 'MAC Cookie Timeout' is set to '3d 00:00:00'. There are empty fields for 'Address List', 'Incoming Filter', and 'Outgoing Filter'. There are empty fields for 'Incoming Packet Mark' and 'Outgoing Packet Mark'. The 'Open Status Page' dropdown is set to 'HTTP login'. There is a checked checkbox for 'Transparent Proxy'. On the right side of the dialog, there are buttons for 'OK', 'Cancel', 'Apply', 'Copy', and 'Remove'. At the bottom left, there is a 'default' label.

Figure 5.21: Hotspot user profile

Step 4:

- ✓ Click IP → Click Hotspot → Click User → Click Add → Click General:

Server = Select hotspot1

Name = Write User Name

Password = Write User Password

The following figure 5.22 Show Hotspot User Create

The screenshot shows a 'New Hotspot User' window with three tabs: 'General', 'Limits', and 'Statistics'. The 'General' tab is selected. It contains the following fields and controls:

- Server:** A dropdown menu with 'hotspot1' selected.
- Name:** A text input field containing 'Limon'.
- Password:** A text input field with masked characters (asterisks).
- Address:** A text input field.
- MAC Address:** A text input field.
- Profile:** A dropdown menu with 'default' selected.
- Routes:** A text input field.
- Email:** A text input field.

On the right side of the window, there is a vertical stack of buttons: OK, Cancel, Apply, Disable, Comment, Copy, Remove, Reset Counters, and Reset All Counters.

At the bottom left of the window, the text 'enabled' is displayed.

Figure 5.22: Hotspot User

5.11 Challenges

If you see no work has any challenges, however four months of my billet expertise and to share friends the once hearing concerning the time of day, I've see that there's some common challenges intern. I believe it's that interns 3 things: unpaid / below, temporary, and that they are during a race to realize expertise. as a result of intern's are simply glad to induce a foot within the door, some work places could benefit of young staff by giving them terribly long hours of lifeless repetitive work. Afraid to raise questions: All of a sudden there's associate degree inflow of labor, and that I finally have the prospect to prove myself! However I'm undecided concerning x, y, z....I may feel the pressure to be associate degree freelance and self- spare employee, however it's higher to clarify uncertainties! Vie with alternative Intern: fortunately I used to be associate degree intern; we have a tendency to raise queries of every alternative and may simply group with comes that have worked in groups wherever there was such a cooperative relationship. Interns during a future job gap or a recommendation for a decent letter are going to be competitor in alternative workplace environments, might not be thus friendly.

CHAPTER 06

Competencies & Smart Plan

6.1 Competencies Earned:

After completed my internship programed in Daffodil on-line Ltd. (DOL). I actually have gather data of regardful downside or Troubleshooting. Faces the various practicality of sensible operating. In my placement time I had appointed some Competencies earned .Those earned I used to be attempting to finish with successfully. Those Competencies earned square measure given bellow:

- Troubleshoot hardware and software system issues, each on workstations and shopper finish.
- Router Management, watching and troubleshooting.
- Find solutions for middle level issues.
- Develop our sensible data for real downside faces.
- Research our company web site give weekly reports.
- Increase my social temperament along.
- Real expertise of operating place.

6.2 Smart Plan

Each organization must have a savvy intend to pick up progress. Initially some normal things in blend make a keen arrangement.

6.3 Reflections

Daffodil on-line Ltd. (DOL) Started they're journey within the year 2002. Continue this period, they extended they're operation and repair resume in step with the customers recommendation and considering demands of your time. They worked with several national comes and international organizations and achieved the name. They're exploitation the most recent technologies and upgrading the services where it's needed. Reflection or considering our encounters, is that the thanks to learning.

CHAPTER 07

Conclusion and Future Career

7.1 Discussion and Conclusion

Hours daily, six days seven days are going to be able to sit in Associate in nursing workplace and did not assume Review this temporary job has been an outstanding and compensating expertise. I actually have seen the longer term and that i can have the choice to help Pine Tree State with the prospect to coordinate with several people WHO have had the choice to affirm that. During this temporary job, I actually have discovered that one in all the first problems and time the board's powers solely as self-inspiration. At the purpose after I at the start began, i used to be eight. After I understood what I required to try and do my long stretches of covering is not broken, thus I delineated my traditional employment. Sorted out and it had been the right time after I get a reaction organized for queries that ought to be donnish. This interim time board of the geographical point for an excellent time, I required to work out a way to impel in person through. i am despite everything checking out utilizing the corporate thought of the many recommendations and thoughts. I am despite everything holding my alternatives receptive new prospects, in any case, are continued to figure for the University of Asian country on the world. i am appreciating this profession. I persevere buckling down for my position and arrange to persevere searching for concerning the business and meet new people can. it had been an outstanding encounter, and that i trust the opposite understudy received an excellent deal reciprocally.

7.2 Scope for Further Career

If you don't have any experience to finding any job is very challenging. A successful complete placement can provide better experience. That experience will be help into your career. I finish my internship in the Network sector, so I have more extra opportunities in the work field. My future scopes are going to be.

- To operate in the ISP Center.
- To work with an IT company.
- To be an information technology (IT), administrator.
- To do a system engineer.

- To do a server administrator.
- To do a Linux administrator.
- To do work any bank.

Appendices

Appendix A: Internship Reflection

The primary goal of my internship in a professional setting, practical solutions to real-world problems is to apply the knowledge gained in the classroom. And professionally relevant competencies and relationships in a professional setting, learning to deal with new knowledge, skills, and the ability to determine how to sharpen and develop plans. Add to network with other professional's supervisors and professional relationships. To fulfill the duties of my internship, I'm exercising proper business etiquette. I am an organization's mission / vision is implemented, how to contact colleagues, how power is shared, how it is structured, how decisions are made, how to understand the culture of a professional organization, and what degree of accountability and feedback to the organization. With an assessment at the end of my internship supervisor and internship experience running through individual meetings provides an opportunity to take a professional opinion. Internship experiences to prepare for life in a global society, leadership and service, my gift to be able to put it to use.

Appendix 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	Nationwide Internet Service
Provider (ISP) Employees	12

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