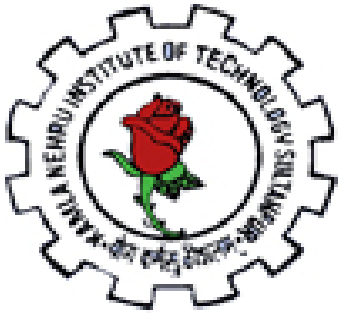
KAMLA NEHRU INSTITUTE OF TECHNOLOGY,

SULTANPUR-228118

A

PROJECT REPORT ON

"NETWORK MANAGEMENT"



Submitted To:

Mr. Amit Shukla

Submitted By:

Deepika Tripathi (0910410017)
Harshit Kumar Gupta (0910410025)
Katyayni Singh (0910410028)
Mukesh Kumar Gupta (0910410035)
Prakhar Kumar Saxena (0910410040)
Prerna Yadav (0910410043)
Jahanvi Pandey (1010410902)

Deptt. Of Computer Science & Technology

DECLARATION

We hereby declare that this submission is our own work and that to the best of my knowledge and belief, it contains no material previously published or written by another person nor material which to a substantial extent has been accepted for the award of any degree or diploma of the university or other institute of higher learning, except where due knowledge has been made in the text.

Signature:

Deepika Tripathi (0910410017)

harshit Kumar Gupta (0910410025)

Katyayni Singh (0910410028)

Mukesh Kumar Gupta (0910410035)

Prakhar Kumar saxena (0910410040)

Prerna Yadav(0910410043)

Jahanvi Pandey (1010410902)

Date: 11 December 2012

CERTIFICATE

This is to certify that Summer Training Report outlined "Summer Training Report at Nettech Private Limited" which is submitted by *Deepika Tripathi* in partial fulfillment of the requirement for the award of degree Bachelor of Technology in department of Computer Science of UP Technical University is a record of the candidates' own work carried out by him. The matter embodied in the report is original and has not been submitted for the award of any other degree.

Swapan Purkait

(Head of Nettech Private Limited)

DATE: 08.09.2012

CERTIFICATE

This is to certify that Summer Training Report outlined "Summer Training Report at Nettech Private Limited" which is submitted by *Harshit Kumar Gupta* in partial fulfillment of the requirement for the award of degree Bachelor of Technology in department of Computer Science of UP Technical University is a record of the candidates' own work carried out by him. The matter embodied in the report is original and has not been submitted for the award of any other degree.

Swapan Purkait

(Head of Nettech Private Limited)

DATE: 08.09.2012

CERTIFICATE

This is to certify that Summer Training Report outlined "Summer Training Report at Nettech Private Limited" which is submitted by *Katyayni Singh* in partial fulfillment of the requirement for the award of degree Bachelor of Technology in department of Computer Science of UP Technical University is a record of the candidates' own work carried out by him. The matter embodied in the report is original and has not been submitted for the award of any other degree.

Swapan Purkait

(Head of Nettech Private Limited)

DATE: 08.09.2012

CERTIFICATE

This is to certify that Summer Training Report outlined "Summer Training Report at Nettech Private Limited" which is submitted by Mukesh Kumar Gupta in partial fulfillment of the requirement for the award of degree Bachelor of Technology in department of Computer Science of UP Technical University is a record of the candidates' own work carried out by him. The matter embodied in the report is original and has not been submitted for the award of any other degree.

Swapan Purkait

(Head of Nettech Private Limited)

DATE: 08.09.2012

CERTIFICATE

This is to certify that Summer Training Report outlined "Summer Training Report at Nettech Private Limited" which is submitted by Prakhar Kumar Saxena in partial fulfillment of the requirement for the award of degree Bachelor of Technology in department of Computer Science of UP Technical University is a record of the candidates' own work carried out by him. The matter embodied in the report is original and has not been submitted for the award of any other degree.

Swapan Purkait

(Head of Nettech Private

Limited) DATE: 08.09.2012

CERTIFICATE

This is to certify that Summer Training Report outlined "Summer Training Report at Nettech Private Limited" which is submitted by *Prerna Yadav* in partial fulfillment of the requirement for the award of degree Bachelor of Technology in department of Computer Science of UP Technical University is a record of the candidates' own work carried out by him. The matter embodied in the report is original and has not been submitted for the award of any other degree.

Swapan Purkait

(Head of Nettech Private Limited)

DATE: 08.09.2012

CERTIFICATE

This is to certify that Summer Training Report outlined "Summer Training Report at Nettech Private Limited" which is submitted by *Jahanvi Pandey* in partial fulfillment of the requirement for the award of degree Bachelor of Technology in department of Computer Science of UP Technical University is a record of the candidates' own work carried out by him. The matter embodied in the report is original and has not been submitted for the award of any other degree.

Swapan Purkait

(Head of Nettech Private Limited)

DATE: 08.09.2012

ACKNOWLEDGEMENT

It's a great pleasure for us to present this report of summer training which we did in Nettech Pvt. Ltd .(at L.N.M.I.I.T , Jaipur) in partial fulfillment of B. Tech Program under Kamla Nehru Institute of Technology.

The satisfaction that accompanies the successful completion of any task would be incomplete without the expression of gratitude to the people who made it possible. So, We take the opportunity to acknowledge all those graceful people who always stood before us providing the priceless guidance and encouragement to understand the existing project schemas and helped us enthusiastically to head on towards the new development methodologies and research in the growing field of Network Management.

We also thank our colleagues who have helped in successful completion of the project.

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COMPANY PROFILE

Nettech established in 2002, is a full information technology consulting and development firm specializing in the area of computer networking. At Nettech, client relationships are the cornerstone of our business. It place tremendous importance on establishing open, collaborative relationships with its clients, each of which, it build on a foundation of trust. Its heritage is based on helping clients to take advantage of new technologies.

Nettech works only with cutting-edge technologies. Its staff members are certified in their fields and have many years of experience in designing and implementing solutions for its clients. Whether someone looking forward to building a network from the ground-up, building web presence or enhancing existing network, it have the technical prowess to accomplish beyond your expectation.

Nettech's staff is experienced in networking technologies, including Microsoft windows 2003, Novell NetWare 5.1/6, Linux, Internet, TCP/IP, Ethical hacking and telecommunications and networking. Along with its technological expertise, Nettech applies its business experience to help clients solve complex problems by leveraging information technologies.

Introduction

The dynamic growth of networking (typically Linux-based systems) is heralding a new era of Network Management (NM) , where security, configuration, performance, etc will play key roles. This training on Network Management provides you with an opportunity to learn the important aspects of Network Management from where you can move ahead at ease. With Linux-based Network Management skills, you'll be prepared to take hold of the challenges of Network Management in the new era of networking .

You can establish yourself as a leader within your own organization, showing others the advantages that a good network manager can offer. Or you can look for new opportunities where companies are seeking the same expertise but haven't found it within their own organization. The choice is yours, once you have the skill !!!.

Introduction to Networking and Network Management

Network management refers to the activities, methods, procedures, and tools that pertain to the operation, administration, maintenance, and provisioning of networked systems. [1]
Operation deals with keeping the network (and the services that the network provides) up and running smoothly. It includes monitoring the network to spot problems as soon as possible, ideally before users are affected.
Administration deals with keeping track of resources in the network and how they are assigned. It includes all the "housekeeping" that is necessary to keep the network under control.
Maintenance is concerned with performing repairs and upgrades - for example, when equipment must be replaced, when a router needs a patch for an operating system image, when a new switch is added to a network. Maintenance also involves corrective and preventive measures to make the managed network run "better", such as adjusting device configuration parameters.
Provisioning is concerned with configuring resources in the network to support a given service. For example, this might include setting up the network so that a new customer can receive voice service.

Functions that are performed as part of network management accordingly include controlling, planning, allocating, deploying, coordinating, and monitoring the resources of a network, network planning, frequency allocation, predetermined traffic routing to support load balancing, cryptographic key distribution authorization, configuration management, fault management, security management, performance management, bandwidth management, and accounting management.

➢ Structured Cabling

Category 5 cable, commonly known as Cat 5, is a twisted pair cable type designed for high signal integrity. Many such cables are unshielded but some are shielded. Category 5 has been superseded by the Category 5e specification. This type of cable is often used in structured cabling for computer networks such as Ethernet, and is also used to carry many other signals such as basic voice services, token ring, and ATM. Cross cables and parallel cables are used to connect two devices in a network.

➢ Basic UNIX Concepts

UNIX architecture is divided in three main divisions:-

- Kernel
- Shell
- Utilities

Linux has got few characteristics like Multi-User System, Multiprogramming/ Multitasking system, Uses Time Sharing, Access rights for Files and Processes and uses File and Process hierarchies. Linux's file system is also different as Hierarchical structure, Consistent treatment of file data, Ability to create, modify and delete files, Dynamic growth of files, Protection of file data, Treating peripheral devices (terminals, tapes, etc.) as files. Everything is linux is either a file or a process. Each file has got three sort of permissions on it:-

- Read
- Write
- Execute

Also each privileged user has got login names, passwords, user id, group id and home directory.

➢ Commands and Utilities

Webmail is a graphical based utility provided in linux used for system administration. It includes features like dhcp, dns, sendmail configuration for a server which makes it easy for an administrator to get in depth information about the system and modify it accordingly.

Few commands used are:

- Ping

The IP protocol includes control messages called (Internet Control Message Protocol) ICMP packets. One type of ICMP packet is called an ``echo request," and the IP rules require its recipient to send back an ``echo reply." These are incredibly useful because you can determine (1) whether the remote host is up and talking to the network, (2) the time required for a packet to make a round-trip to the host, and (3) (by sending a few dozen echo requests) what fraction of the packets sent between the hosts get lost somewhere along the way. The *ping* command (named after the sound of an active sonar system) sends echo requests to the host one specifies on the command line, and lists the responses received their round trip time. When terminated *ping* (probably by hitting control-C) it summarizes the results, giving the average round trip time and the percent packet loss. This command is used constantly to determine whether there is a problem with the network connection between two hosts.

- traceroute [options] host [packetsize]

TCP/IP command. While *ping* gives information about the performance of the network path between two hosts, *traceroute* will actually show the route. It attempts to list the series of hosts through which sender's packets travel on their way to a given destination. By observing the output of this command, and especially by following it up with *ping*s of

specific hosts on the route, the exact location of a bad (high error or latency) link can be discovered.
Attempts tracing by launching UDP probe packets with a small TTL, then listening for an ICMP “time exceeded” gateway. Host is the dest hostname/IP address. Packetsize is the #bytes of probe datagrams.

➢ Networking with Linux

Linux also comes under the category of network operating systems. It has got several inbuilt utilities and commands required for networking. Network management requires monitoring which permissions have to be given to which file and which user should be given what sort of powers to make system more secure and less vulnerable to attacks. Also monitoring ports, services and processes is also a network administrator’s work. He monitors the ports and analyzes their present status, sort and amount of traffic passing through them.

➢ User Administration

User administration means keeping an eye over user activities and giving him required permissions over files to facilitate his work while keeping other files and directories safe which are not required by him. Each user has its primary and secondary group attached with it and its individual home directory. These groups play an important role as an administrator has to see in which group a certain user has to be add up. It is done with few commands:
useradd
passwd
usermod
chmod
chown

➢ Telnet configuration

Telnet is a simple remote terminal protocol that is part of the Internet Protocol (IP) suite. Telnet allows a user at one site to establish a TCP connection to a login server at another site, then passes the keystrokes from one system to the other. Telnet can accept either an IP address or a domain name as the remote system address.
The services file associates official service names and aliases with the port number and protocol the services use. To enable Telnet, you must edit the services file. Perform the following:
Open the services file with an MPE text editor. You may edit the /etc/services file from the POSIX shell or the SERVICES.NET.SYS file from MPE/iX, whichever you prefer. Both file names should point to the same file.
Verify that the following line exists in the file or add it if it does not:

telnet 23/tcp

If the line already exists in the file and it is preceded by a pound symbol (#), delete the symbol and any spaces before the service name to enable the service.
Save the file and exit the editor program.

➢ File Systems Management

Major partitions on a Linux system:

- ***data partition***: normal Linux system data, including the *root partition* containing all the data to start up and run the system
- ***swap partition***: expansion of the computer's physical memory, extra memory on hard disk.
- Usually, systems contain a root partition, one or more data partitions and one or more swap partitions.
- **fdisk**

- Swap space is only accessible for the system itself, and is hidden from view during normal operation. Any problem with using the *swap* partition?
- Typically, *system data* is separate from user data. Programs that offer services are kept in a different place than the data handled by this service. Different partitions created:
    - a partition with all data necessary to boot the machine
    - a partition with configuration data and server programs
    - one or more partitions containing the database tables, user mails, an ftp archive etc.
    - a partition with user programs and application
    - one or more partitions for the user specific files (home directories)
    - one or more swap partitions

Also in linux links are maintained to files for better management. Two types of links are present:-

Hard Links

Soft Links

These links are based on the concept of inodes. In a file system, a file is represented by an *inode*, a serial number. Every partition has its own set of inodes; throughout a system with multiple partitions, files with the same inode number can exist. Each inode describes a data structure on the hard disk.

When a hard disk is initialized to accept data storage, usually during the initial system installation process or when adding extra disks to an existing system, a fixed number of inodes per partition is created.

- **Routing**

It is a process of forwarding messages to the destination node based on its address . Three types of addresses are used in routing:

Unicast
Broadcast
Multicast
Several sort of topologies are used to manage a network like Bus, Tree, Star, Ring etc. In routing several protocols and terminologies are used like IP, EGP, IGP, Distance Vector, Link State routing etc.

- FTP configuration

FTP relies on a pair of TCP ports to get the job done. It operates in two connection channels as I'll explain:

FTP Control Channel, TCP Port 21: All commands you send and the ftp server's responses to those commands will go over the control connection, but any data sent back (such as "ls" directory lists or actual file data in either direction) will go over the data connection.
FTP Data Channel, TCP Port 20: This port is used for all subsequent data transfers between the client and server.

Most Linux software products are available in a precompiled package format. Downloading and installing packages isn't hard. If you need a refresher, Chapter 6, "Installing Linux Software", covers how to do this in detail. It is best to use the latest version of VSFTPD.
When searching for the file, remember that the VSFTPD packages' filename usually starts with the word vsftpd followed by a version number, as in vsftpd-1.2.1-5.i386.rpm for Redhat/Fedora or vsftpd_2.0.4-0ubuntu4_i386.deb for Ubuntu.
Commands used are:

chkconfig vsftpd on
/etc/init.d/vsftpd start
/etc/init.d/vsftpd stop

/etc/init.d/vsftpd restart

- **DNS configuration**

Domain Name System (DNS) converts the name of a Web site (www.linuxhomenetworking.com) to an IP address (65.115.71.34). This step is important, because the IP address of a Web site's server, not the Web site's name, is used in routing traffic over the Internet. This chapter will explain how to configure your own DNS server to help guide Web surfers to your site.

BIND is an acronym for the Berkeley Internet Name Domain project, which is a group that maintains the DNS-related software suite that runs under Linux. The most well known program in BIND is named, the daemon that responds to DNS queries from remote machines.
There are 13 root authoritative DNS servers (super duper authorities) that all DNS servers query first. These root servers know all the authoritative DNS servers for all the main domains - .com, .net, and the rest. This layer of servers keep track of all the DNS servers that Web site systems administrators have assigned for their sub domains.

Commands Used are:
[root@bigboy tmp]# host www.saurabhcom
www.linuxhomenetworking.com has address 65.115.71.34
To start, stop, and restart BIND after booting, use:
[root@bigboy tmp]# /etc/init.d/named start
[root@bigboy tmp]# /etc/init.d/named stop
[root@bigboy tmp]# /etc/init.d/named restart

- DHCP configuration

Normally if you have a cable modem or DSL, you get your home PC's IP address dynamically assigned from your service provider. If you install a home cable/DSL router between your modem and home network, your PC will most likely get its IP address at boot time from the home router instead. You can choose to disable the DHCP server feature on your home router and set up a Linux box as the DHCP server.

You can configure a DHCP server using the configuration file /etc/dhcpd.conf.

DHCP also uses the file /var/lib/dhcp/dhcpd.leases to store the client lease database. There are two types of statements in the configuration file:

- Parameters — state how to perform a task, whether to perform a task, or what network configuration options to send to the client.
- Declarations — describe the topology of the network, describe the clients, provide addresses for the clients, or apply a group of parameters to a group of declarations.

To start the DHCP service, use the command /sbin/service dhcpd start. To stop the DHCP server, use the command /sbin/service dhcpd stop.

- Samba configuration

Samba can be used to allow connectivity between Linux and Windows(95,98,NT,2000). Samba can be used to share printers, share directories, connect to an NT domain, and many other useful features. However, this tutorial explains the steps involved in basic

configuring Samba for file and print sharing. For more complex topics, visit the Samba website or type the command man smb.conf on a Linux machine with Samba installed. Configuring Samba is done by editing the configuration file /etc/smb.conf that is usually located under the /etc directory. Everytime you modify this file, Samba must be restarted for the changes to take effect.

Basic Samba Information

Starting, Stopping, and Restarting Samba

Most Linux distributions come with scripts to start, stop, and restart Samba properly. If yours does not, use the commands under the Optional Commands column

	Runlevel Script	Optional Command
Start Samba	/etc/rc.d/init.d/samba start	/usr/sbin/smbd -D and /usr/sbin/nmbd -D
Stop Samba	/etc/rc.d/init.d/samba stop	killall -TERM smbd and killall -TERM nmbd
Restart Samba	/etc/rc.d/init.d/samba restart	killall -HUP smbd and killall -HUP nmbd

Samba can be configured to send plain-text passwords or encrypted passwords. The Microsoft SMB protocol originally used plain-text passwords. However, with Service Pack 3 or higher for Windows NT 4.0, they changed the protocol to use encrypted passwords. Samba must be configured for this to connect to Windows NT 4.0 machines. One way to do this is to modify the NT registry; however, if you choose this option all NT machines must be configured to use plain-text passwords which is time-consuming and might cause conflicts elsewhere. The easy way to handle this is to configure Samba to send encrypted passwords. This can be done with the following steps:

Create a separate password file for Samba based on your /etc/passwd file. This will create Samba users for every user that already exists on your system. To do this by executing the command cat /etc/passwd | mksmbpasswd.sh > /etc/smbpasswd. The script should be in the /usr/bin directory or you can get it here.

Make sure only root has permission to read and write to the Samba password file with the command chmod 600 smbpasswd.

The script does not copy the passwords. To set the Samba password for each users thus enabling their Samba accounts, use the command smbpasswd username for each user.

Edit the smb.conf file to include the two lines
encrypt passwords = yes
smb passwd file = /etc/smbpasswd
Restart Samba with /etc/rc.d/init.d/smb restart

- Shell Programming

Few commands used are as:

1. ls -l for listing the files as well as directories those are kept in the particular working directory .

SYNTAX -
[root@nettech root]#ls –l

2. ls -la same as 'ls -l'but by this command we can also see the hiden files.

SYNTAX

[root@nettech root]#ls –la

3. ls -li same as 'ls -la' but it will also shows us the inode number of each and every file .

SYNTAX

[root@nettech root]#ls –li

4. ls by this command we can see only file name nothing else

SYNTAX

[root@nettech root]#ls

5. clear it will clear the screen(short cut ctl+l)

SYNTAX

[root@nettech root]#clear

6. exit to end a current session as well current terminal logging

SYNTAX

[root@nettech root]exit

7. touch to create a new empty file

SYNTAX

[root@nettech root]#touch

8. cd to change the working/present directory

SYNTAX

[root@nettech root]#cd /home/mango
where '/home/mango' is the desired directory to be change from
'/root'

9. cat to view the contents of a file and it is also used for creating a new file with some contents

SYNTAX

[root@nettech root]#cat <file name> to view file contents
[root@nettech root]#cat > newfilename enter,then you can write something in the file and then to save the file contents press clt+d then enter

10. mkdir to make a new directory

SYNTAX

[root@nettech root]#mkdir newdirname

you can also create a directory at your desired path without changing your present working directory

SYNTAX
[root@nettech root]#mkdir /home/mango/newdirname

11.
rm to remove a empty file

SYNTAX

[root@nettech root]#rm filename

Webmin was used to configure the system as per required needs.

Screen shots are shown after the final configuration of the system for Nitdgp group.

Project

Consider yourself a Final year Engineering student, who will be passing out in July 2012. Year 2011 was a bad year in terms of job or job market, with the global slow down and recession the prospect of a 5 figure Salary Cheque is a mirage for the students passing out in year 2012. Your college authorities with the help of your college alumni association has lined up few off-campus placement drives, but none of them will give the amount of salary you were looking for in the year 2012.

Meantime in your summer break some of you joined a network course in Lnmiit Jaipur offered by some unknown company called Nettech. The course was for 25 days. The basic idea for joining the course was going away from the mad – mad world for 25days.
Though the idea was FUN and MASTI, you liked the course and learned how to setup a network infrastructure which can be a basic platform for any e-Business.

After completing the course you decided, enough is enough no more searching for jobs, you will start your own company which will provide e-Business and e-Service solutions to the various small companies across the Country.

On a last day of the training program, during your tea break (in the mess) you proposed your idea to all of your group members of your group. You were overwhelmed with the support and their willingness to join your new venture. All wanted to leave their own mark – idea was to be a "JOB Maker – Not a JOB Seeker".

You all decided to start, the company name will be the group name that you had in Nettech. You decided to start the web services first so you can display your product lines on the web as well as communicate with your future customers.

The Owner of Nettech was very happy with your initiation, he agreed to give you a loan of Rs. 10,00,000/- (Rupees ten lac only) as your starting capital. Infact he was so happy that some of his students are willing to take the path which he has taken some 7 years before, he gave the loan at meager 4% annual interest (where the business loan is anything about 9% + from any reputed bank in India)

You bought the following items to start your Company and plan to inaugurate the portal by 9am 1st August 2011. (very little time left – but you are motivated to go ahead and – confident you will be ready by then)

a) Rented a space to use it as office and keep your servers
b) 2 Red Hat Linux Enterprise server. With plenty of memory and stoage space
c) 2 live IP address
d) 32Mbps internet connection from reliance
e) A domain name as your groupname.in

After a group meeting you decided to do the following and get it going.

- Create one web server which will host all the web sites for the Company (company.in) here company.in is groupname.in
- Create one DNS server (which is same as your web server).
- Create one mailing server which will provide the email service for the Institution / Company (mail.company.in – and should be able to access from web). Mail server should have POP3 support so user can download email in their own laptop/desktop. (Please customize the mail page with your own company logo and company name)
- The mail server will be the file server which will have file storage space for the user.

- File server will also have a dhcp server (range of ips =192.168.1.150 to 192.168.1.200 gateway=192.168.1.1 and dns server = give your dns server) so that it can give ip address to all client machines for lan uses .
- Implement samba on your file server so it can be accessed from a windows machine.
- You were 7/8 in your group you decided that you will be the Chairman of the company and will have access to all the files / folders in your company. You created three departments – Sales, Research and Accounts. Please divide the group members in all these groups. For the file management you decided about the following points.

Create a new partition where you will mount a folder called chairman and enable quota only for the chairman user for 200 mb.

Email address
username@company.in

company.in (should also open as www.company.in)
sales.company.in
research.company.in
accounts.company.in
mail.company.in

Common data folder for user (only departmental access – only the department people can read and write on the same) (samba share)

/departmentname/data

Common driver folder for the user (only departmental access – only access (r-x) but they can't write on the same) (samba share)
/departmentname/driver

Please make a note, chairman will have full access on these folder called data and driver; and he can also upload files and the folders through samba also.

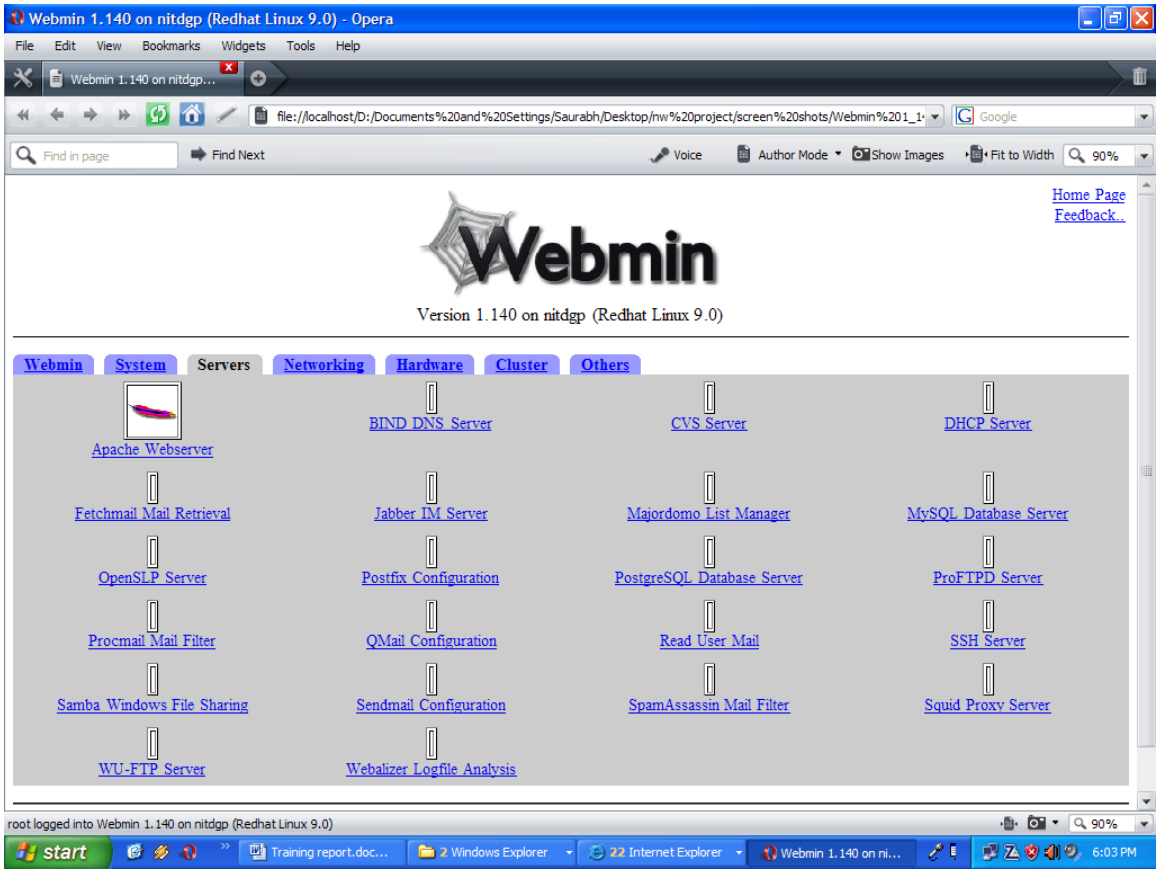
In your locality there are 9 other companies, please make sure they can view your web page as well send email to you and other employees of your company.

You should also view others domain and send mail to them

Please design and implement the same.

Please note Reliance will give the public ip address only after a week so, all job has to be done with private ip address only [speak to Sirshak Sir] for the same.

Firewall : Please use firewall in your server make sure that telnet, ftp and ssh is not allowed from outside the network (allow only to your group members ip only)


Webmin 1.140 on nitdgp (Redhat Linux 9.0) - Opera
File Edit View Bookmarks Widgets Tools Help
Webmin 1.140 on nitdgp...
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Find in page
Find Next
Voice
Author Mode
Show Images
Fit to Width
90%
Home Page
Feedback..
Webmin
Version 1.140 on nitdgp (Redhat Linux 9.0)
Webmin
System
Servers
Networking
Hardware
Cluster
Others
Apache Webserver
BIND DNS Server
CVS Server
DHCP Server
Fetchmail Mail Retrieval
Jabber IM Server
Majordomo List Manager
MySQL Database Server
OpenSLP Server
Postfix Configuration
PostgreSQL Database Server
ProFTPD Server
Procmail Mail Filter
QMail Configuration
Read User Mail
SSH Server
Samba Windows File Sharing
Sendmail Configuration
SpamAssassin Mail Filter
Squid Proxy Server
WU-FTP Server
Webalizer Logfile Analysis
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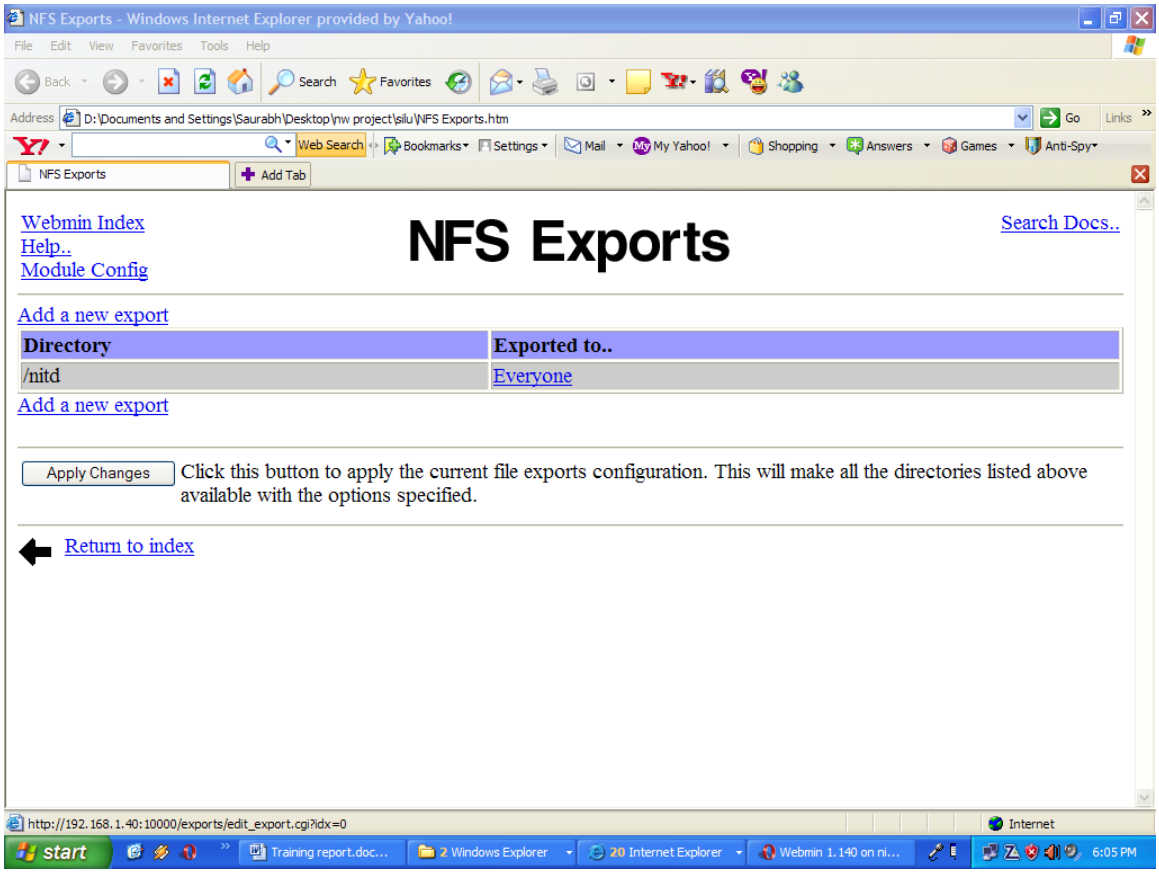
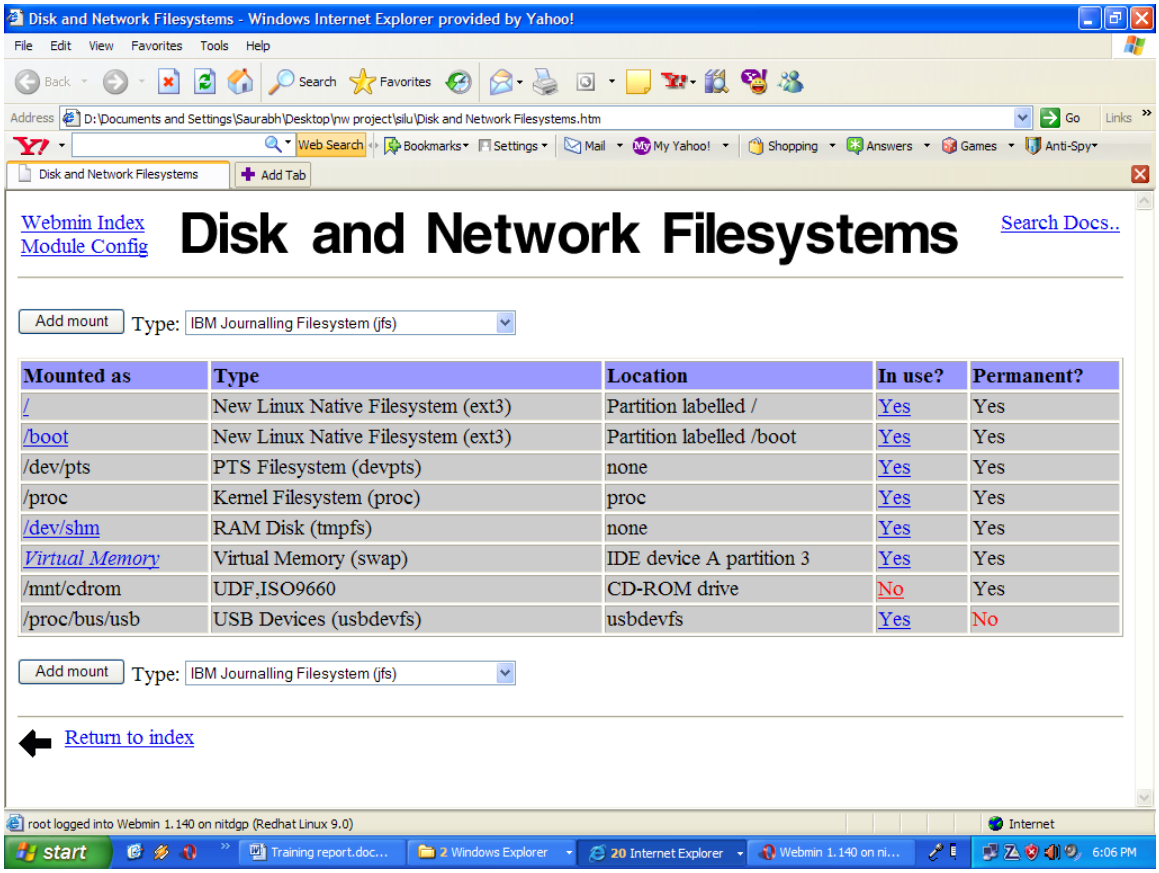
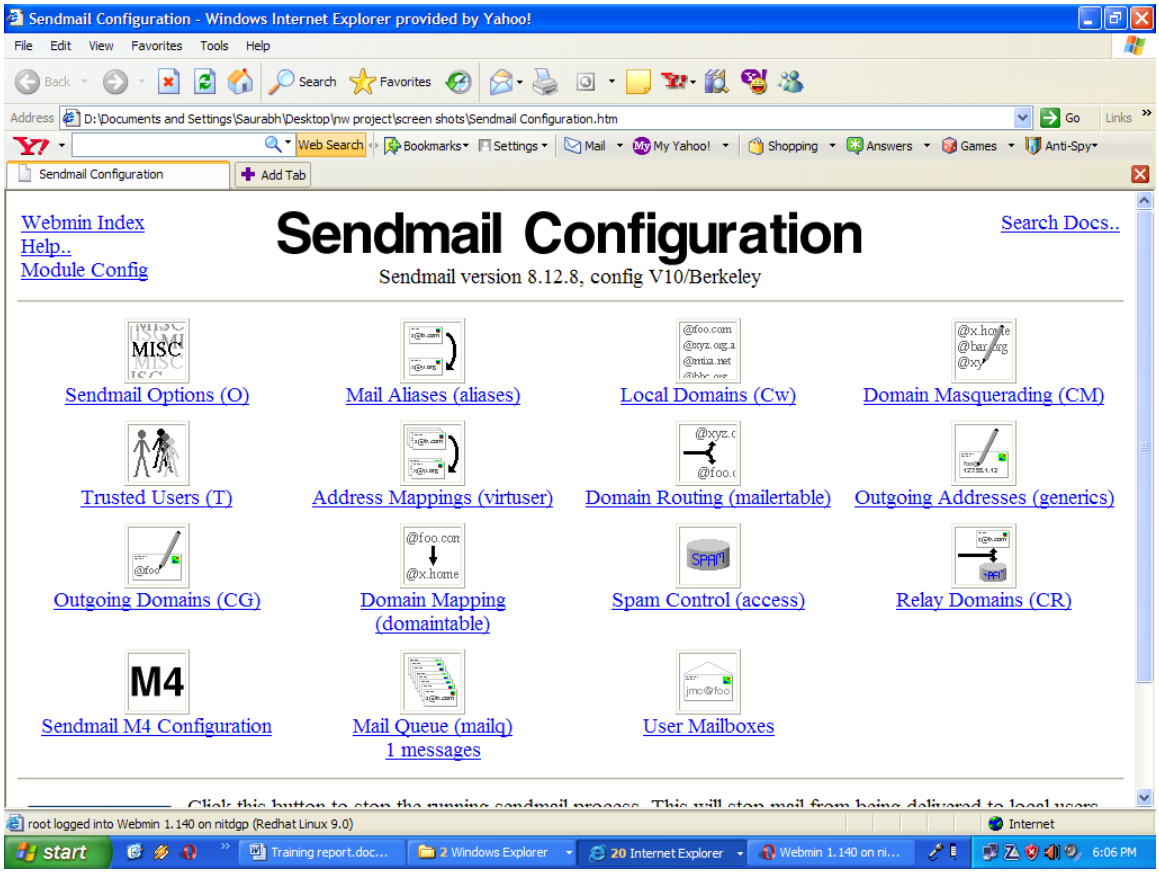
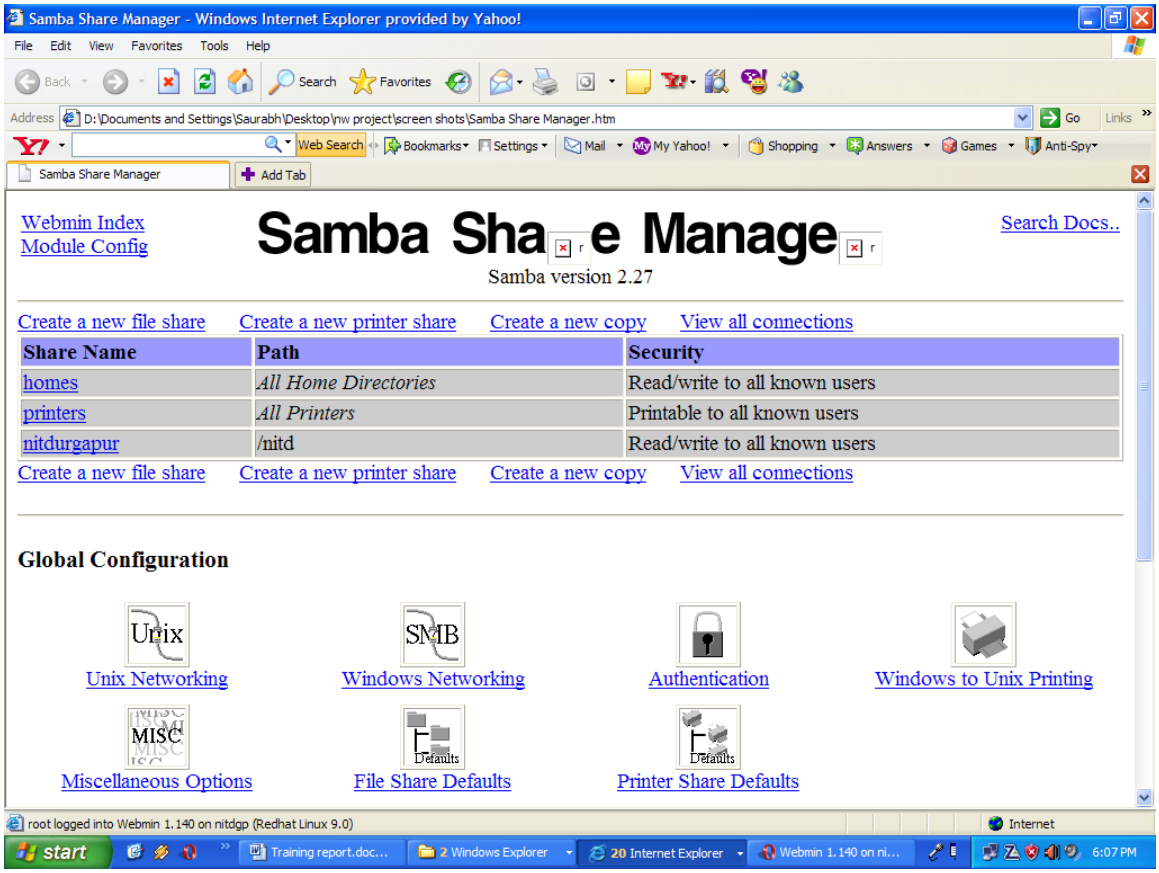
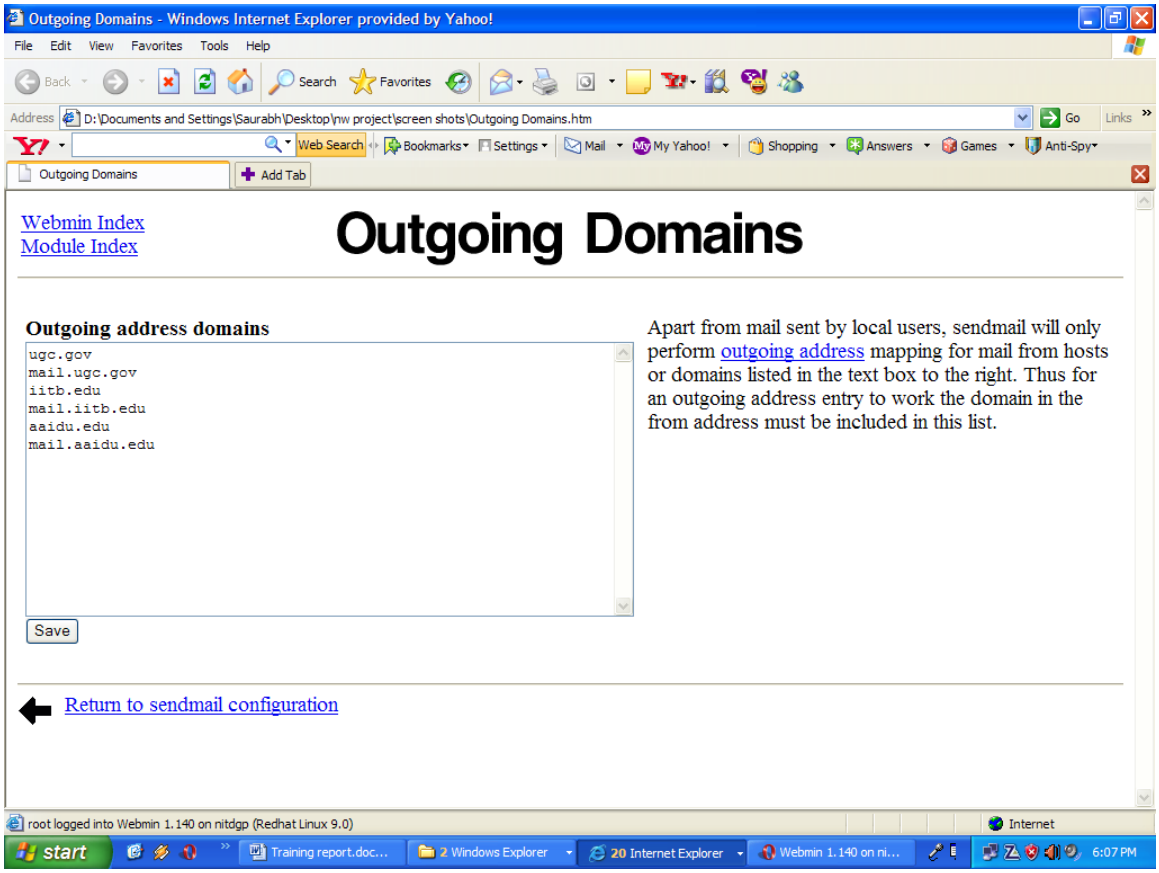
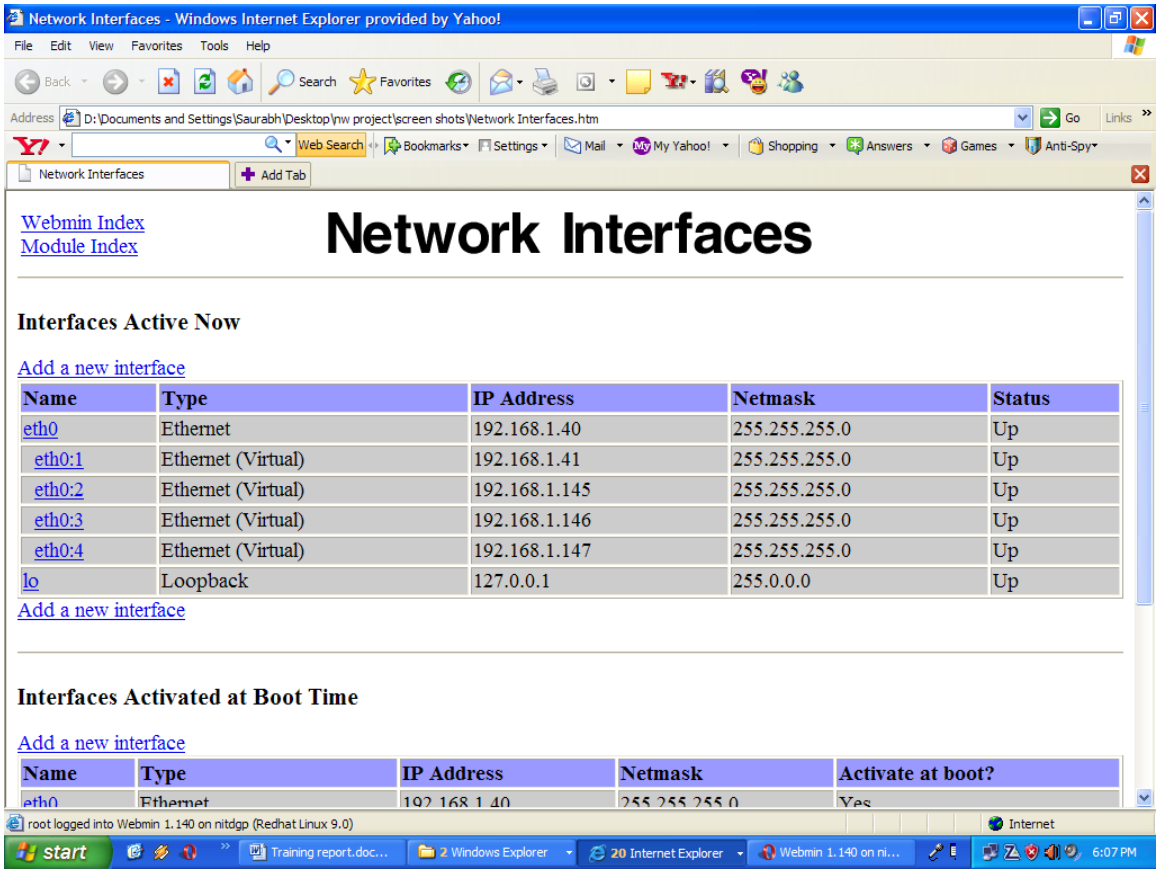

NFS Exports - Windows Internet Explorer provided by Yahoo!
File Edit View Favorites Tools Help
Back Search Favorites
Address D:\Documents and Settings\Saurabh\Desktop\nw project\silu\NFS Exports.htm
Go Links
Web Search Bookmarks Settings Mail My Yahoo! Shopping Answers Games Anti-Spy
NFS Exports
Add Tab
Webmin Index
Help..
Module Config
NFS Exports
Search Docs..
Add a new export
Directory
Exported to..
/nitd
Everyone
Add a new export
Apply Changes
Click this button to apply the current file exports configuration. This will make all the directories listed above available with the options specified.
Return to index
http://192.168.1.40:10000/exports/edit_export.cgi?idx=0
Internet
start
Training report.doc...
2 Windows Explorer
20 Internet Explorer
Webmin 1.140 on ni...
6:05 PM

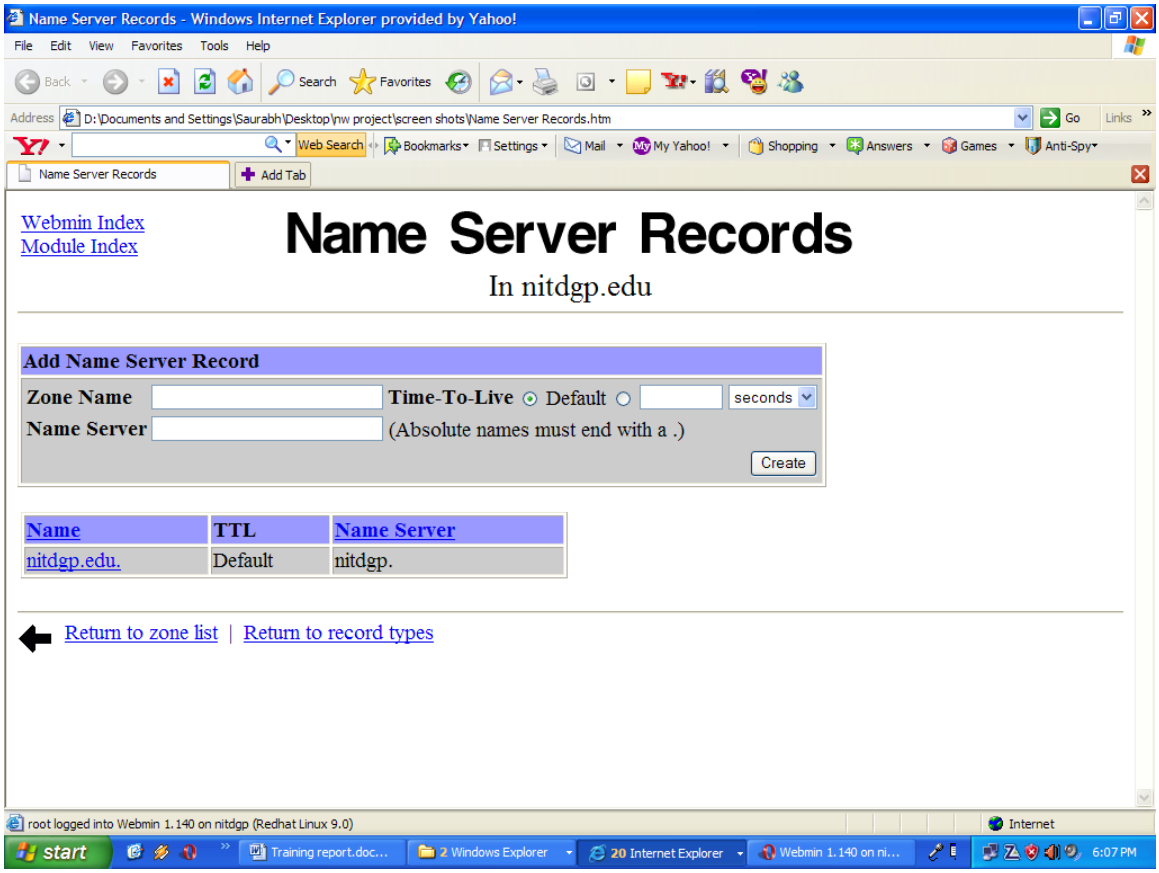

Disk and Network Filesystems - Windows Internet Explorer provided by Yahoo!
File Edit View Favorites Tools Help
Address D:\Documents and Settings\Saurabh\Desktop\nw project\silu\Disk and Network Filesystems.htm
Disk and Network Filesystems
Webmin Index
Module Config
Disk and Network Filesystems
Search Docs..
Add mount Type: IBM Journalling Filesystem (jfs)
Mounted as | Type | Location | In use? | Permanent?
/ | New Linux Native Filesystem (ext3) | Partition labelled / | Yes | Yes
/boot | New Linux Native Filesystem (ext3) | Partition labelled /boot | Yes | Yes
/dev/pts | PTS Filesystem (devpts) | none | Yes | Yes
/proc | Kernel Filesystem (proc) | proc | Yes | Yes
/dev/shm | RAM Disk (tmpfs) | none | Yes | Yes
Virtual Memory | Virtual Memory (swap) | IDE device A partition 3 | Yes | Yes
/mnt/cdrom | UDF,ISO9660 | CD-ROM drive | No | Yes
/proc/bus/usb | USB Devices (usbdevfs) | usbdevfs | Yes | No
Add mount Type: IBM Journalling Filesystem (jfs)
Return to index
root logged into Webmin 1.140 on nitdgp (Redhat Linux 9.0)
start
Training report.doc...
2 Windows Explorer
20 Internet Explorer
Webmin 1.140 on ni...
6:06 PM

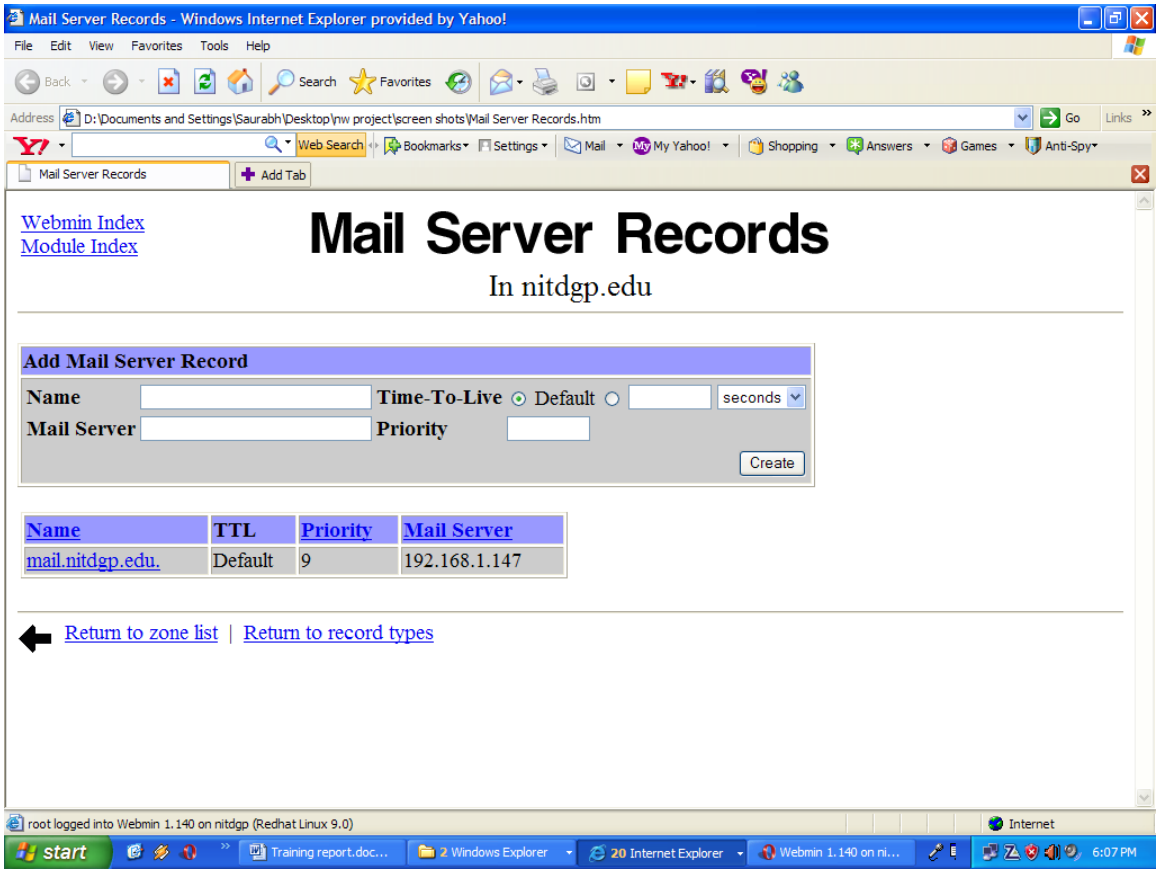

Sendmail Configuration - Windows Internet Explorer provided by Yahoo!
File Edit View Favorites Tools Help
Back Search Favorites
Address D:\Documents and Settings\Saurabh\Desktop\nw project\screen shots\Sendmail Configuration.htm
Go Links
Web Search Bookmarks Settings Mail My Yahoo! Shopping Answers Games Anti-Spy
Sendmail Configuration
Add Tab
Webmin Index
Help..
Module Config
Sendmail Configuration
Sendmail version 8.12.8, config V10/Berkeley
Search Docs..
Sendmail Options (O)
Mail Aliases (aliases)
Local Domains (Cw)
Domain Masquerading (CM)
Trusted Users (T)
Address Mappings (virtuser)
Domain Routing (mailertable)
Outgoing Addresses (generics)
Outgoing Domains (CG)
Domain Mapping (domaintable)
Spam Control (access)
Relay Domains (CR)
Sendmail M4 Configuration
Mail Queue (mailq)
1 messages
User Mailboxes
root logged into Webmin 1.140 on nitdgp (Redhat Linux 9.0)
Internet
start
Training report.doc...
2 Windows Explorer
20 Internet Explorer
Webmin 1.140 on ni...
6:06 PM


Samba Share Manager - Windows Internet Explorer provided by Yahoo!
File Edit View Favorites Tools Help
Address D:\Documents and Settings\Saurabh\Desktop\nw project\screen shots\Samba Share Manager.htm
Samba Share Manager
Webmin Index
Module Config
Samba Share Manager
Search Docs..
Samba version 2.27
Create a new file share
Create a new printer share
Create a new copy
View all connections
Share Name
Path
Security
homes
All Home Directories
Read/write to all known users
printers
All Printers
Printable to all known users
nitdurgapur
/nitd
Read/write to all known users
Create a new file share
Create a new printer share
Create a new copy
View all connections
Global Configuration
Unix Networking
Windows Networking
Authentication
Windows to Unix Printing
Miscellaneous Options
File Share Defaults
Printer Share Defaults
root logged into Webmin 1.140 on nitdgp (Redhat Linux 9.0)
Internet
start
Training report.doc...
2 Windows Explorer
20 Internet Explorer
Webmin 1.140 on ni...
6:07 PM

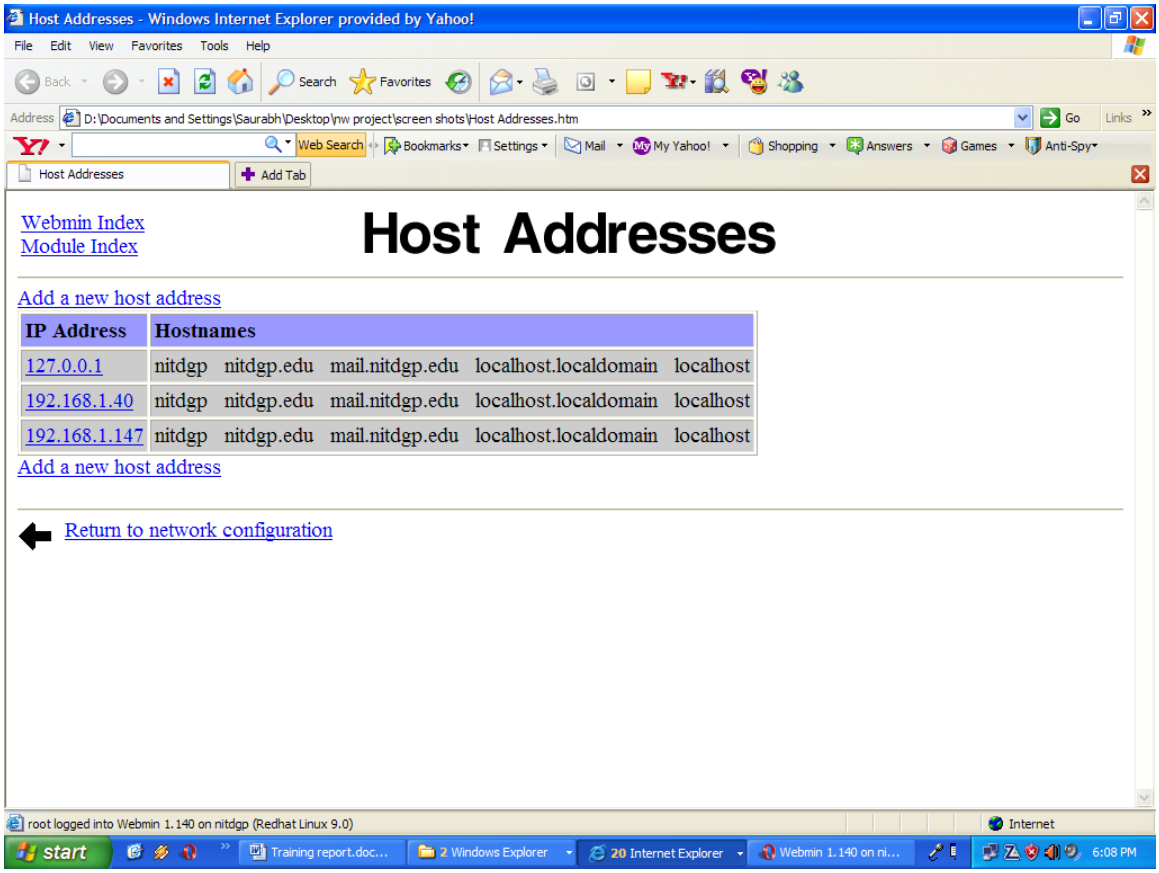

Outgoing Domains - Windows Internet Explorer provided by Yahoo!
File Edit View Favorites Tools Help
Search Favorites
Address D:\Documents and Settings\Saurabh\Desktop\nw project\screen shots\Outgoing Domains.htm
Go Links
Web Search Bookmarks Settings Mail My Yahoo! Shopping Answers Games Anti-Spy
Outgoing Domains
Add Tab
Webmin Index
Module Index
Outgoing Domains
Outgoing address domains
ugc.gov
mail.ugc.gov
iitb.edu
mail.iitb.edu
aaidu.edu
mail.aaidu.edu
Apart from mail sent by local users, sendmail will only perform outgoing address mapping for mail from hosts or domains listed in the text box to the right. Thus for an outgoing address entry to work the domain in the from address must be included in this list.
Save
Return to sendmail configuration
root logged into Webmin 1.140 on nitdgp (Redhat Linux 9.0)
Internet
start
Training report.doc...
2 Windows Explorer
20 Internet Explorer
Webmin 1.140 on ni...
6:07 PM

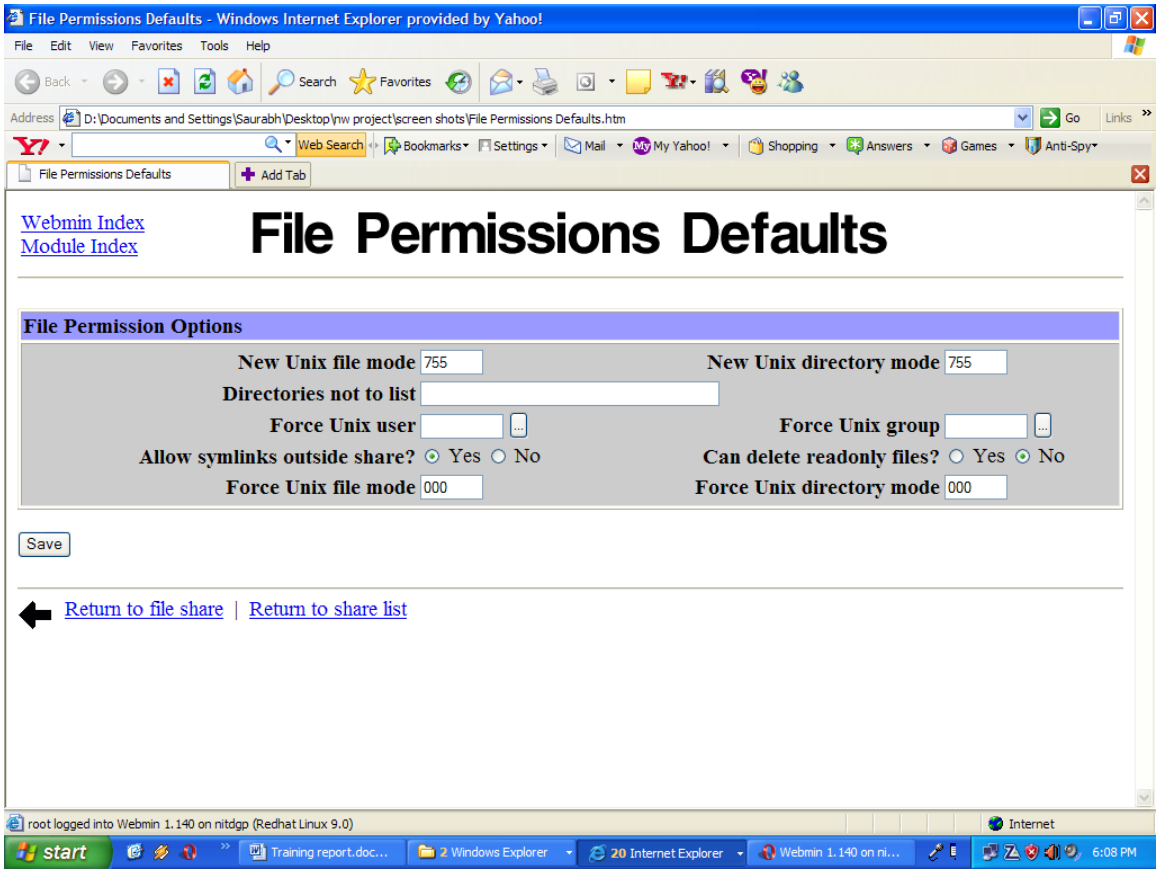

Network Interfaces - Windows Internet Explorer provided by Yahoo!
File Edit View Favorites Tools Help
Address D:\Documents and Settings\Saurabh\Desktop\nw project\screen shots\Network Interfaces.htm
Network Interfaces
Webmin Index
Module Index
Network Interfaces
Interfaces Active Now
Add a new interface
Name | Type | IP Address | Netmask | Status
eth0 | Ethernet | 192.168.1.40 | 255.255.255.0 | Up
eth0:1 | Ethernet (Virtual) | 192.168.1.41 | 255.255.255.0 | Up
eth0:2 | Ethernet (Virtual) | 192.168.1.145 | 255.255.255.0 | Up
eth0:3 | Ethernet (Virtual) | 192.168.1.146 | 255.255.255.0 | Up
eth0:4 | Ethernet (Virtual) | 192.168.1.147 | 255.255.255.0 | Up
lo | Loopback | 127.0.0.1 | 255.0.0.0 | Up
Add a new interface
Interfaces Activated at Boot Time
Add a new interface
Name | Type | IP Address | Netmask | Activate at boot?
eth0 | Ethernet | 192.168.1.40 | 255.255.255.0 | Yes
root logged into Webmin 1.140 on nitdgp (Redhat Linux 9.0)
Internet
start
Training report.doc...
2 Windows Explorer
20 Internet Explorer
Webmin 1.140 on ni...
6:07 PM

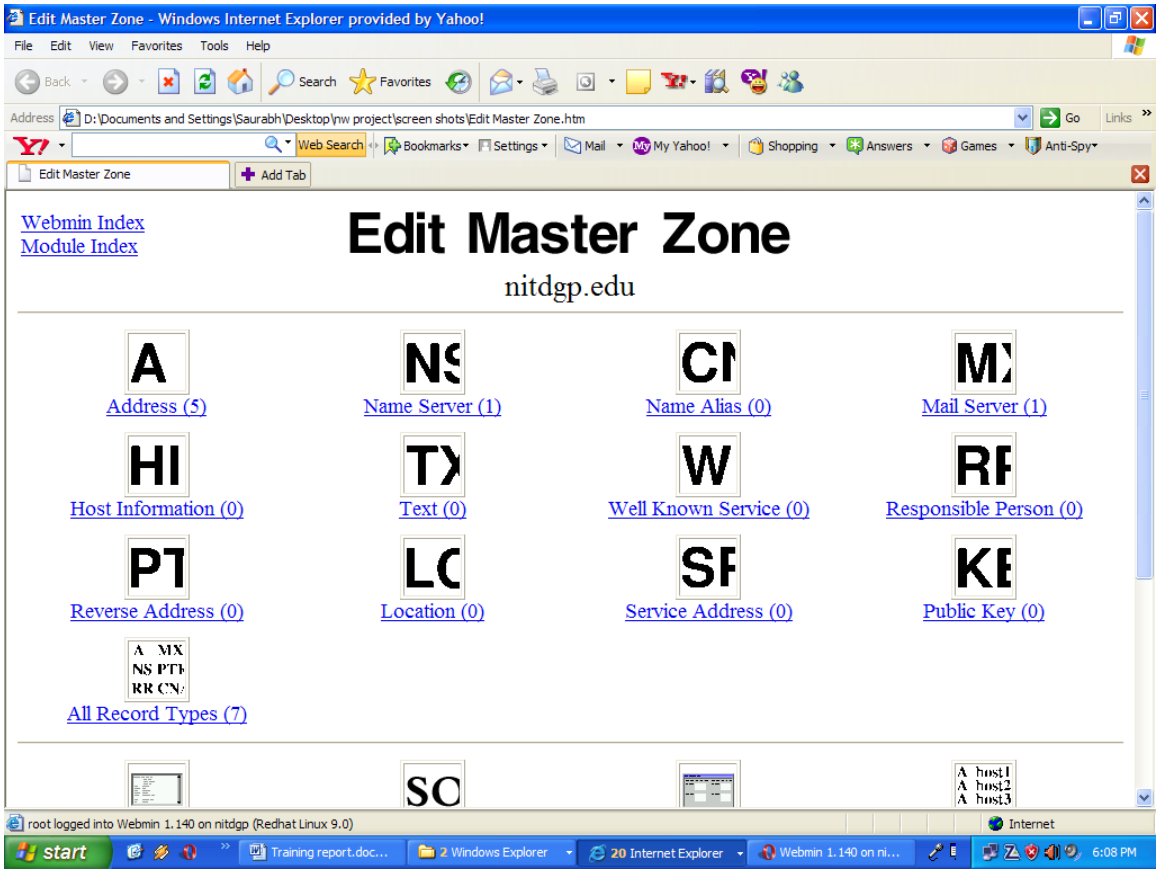

Name Server Records - Windows Internet Explorer provided by Yahoo!
File Edit View Favorites Tools Help
Back Search Favorites
Address D:\Documents and Settings\Saurabh\Desktop\nw project\screen shots\Name Server Records.htm
Go Links
Web Search Bookmarks Settings Mail My Yahoo! Shopping Answers Games Anti-Spy
Name Server Records
Add Tab
Webmin Index
Module Index
Name Server Records
In nitdgp.edu
Add Name Server Record
Zone Name
Time-To-Live Default seconds
Name Server (Absolute names must end with a .)
Create
Name TTL Name Server
nitdgp.edu. Default nitdgp.
Return to zone list | Return to record types
root logged into Webmin 1.140 on nitdgp (Redhat Linux 9.0)
Internet
start
Training report.doc...
2 Windows Explorer
20 Internet Explorer
Webmin 1.140 on ni...
6:07 PM

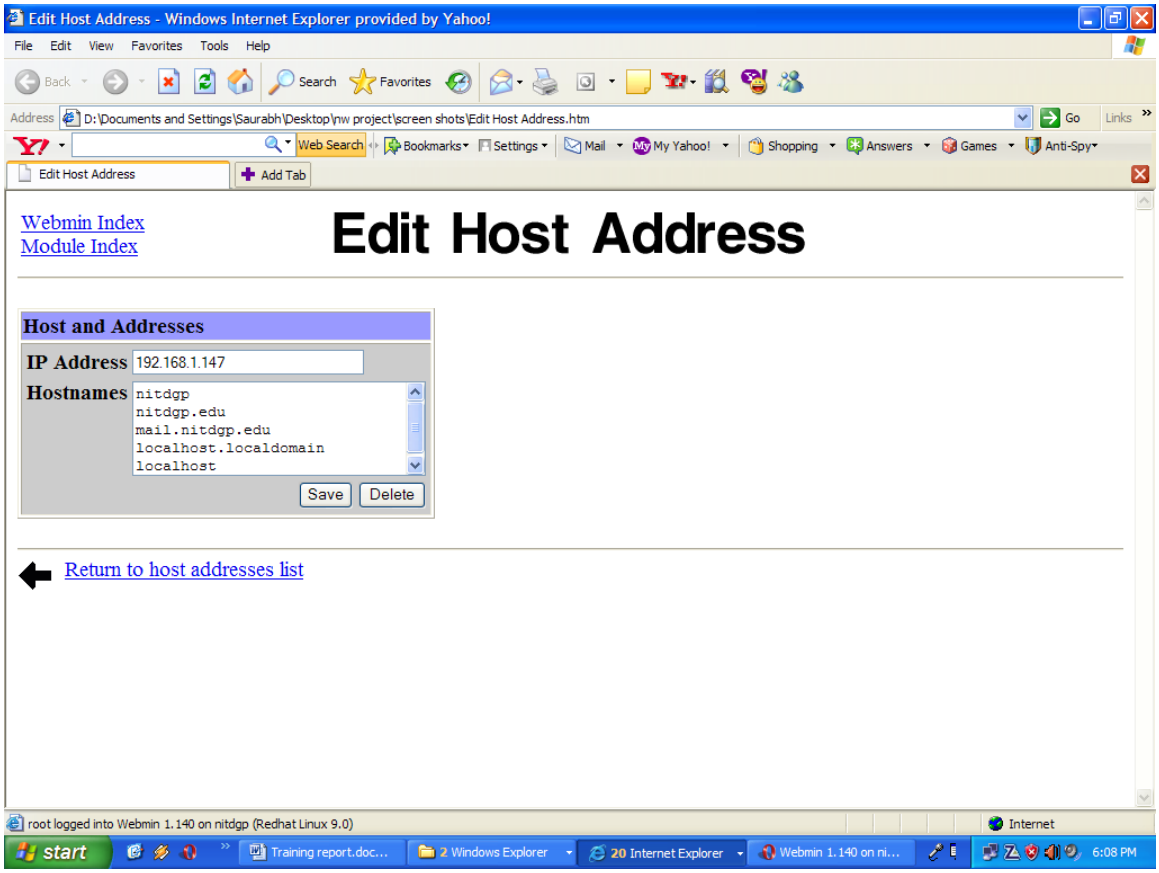

Mail Server Records - Windows Internet Explorer provided by Yahoo!
File Edit View Favorites Tools Help
Address D:\Documents and Settings\Saurabh\Desktop\nw project\screen shots\Mail Server Records.htm
Mail Server Records
Webmin Index
Module Index
Mail Server Records
In nitdgp.edu
Add Mail Server Record
Name
Time-To-Live
Default
seconds
Mail Server
Priority
Create
Name
TTL
Priority
Mail Server
mail.nitdgp.edu.
Default
9
192.168.1.147
Return to zone list | Return to record types
root logged into Webmin 1.140 on nitdgp (Redhat Linux 9.0)
Internet
start
Training report.doc...
2 Windows Explorer
20 Internet Explorer
Webmin 1.140 on ni...
6:07 PM

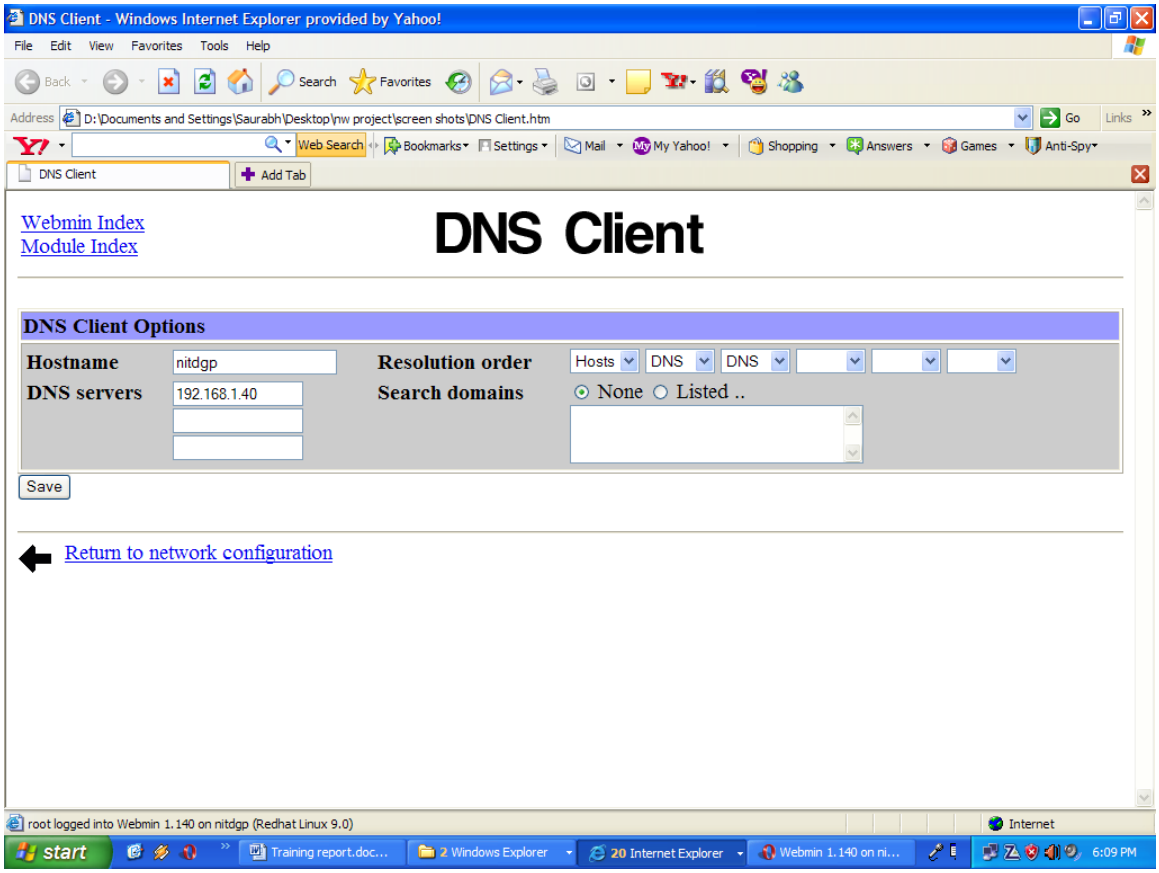

Local Domains - Windows Internet Explorer provided by Yahoo!
File Edit View Favorites Tools Help
Address D:\Documents and Settings\Saurabh\Desktop\nw project\screen shots\Local Domains.htm
Local Domains
Webmin Index
Module Index
Local Domains
Domains handled by this server
nitdgp.edu
mail.nitdgp.edu
localhost
Save
Apart from mail to nitdgp, sendmail will only accept for local delivery mail for domains and hostnames listed in the text box to the left. If you want your mail server to handle multiple email domains, they must all be listed on this form.
Note that merely including a domain in the list is not usually enough. You must also make sure that a DNS record for the domain exists, and points to your system.
Return to sendmail configuration
root logged into Webmin 1.140 on nitdgp (Redhat Linux 9.0)
Internet
start
Training report.doc...
2 Windows Explorer
20 Internet Explorer
Webmin 1.140 on ni...
6:08 PM


Host Addresses - Windows Internet Explorer provided by Yahoo!
File Edit View Favorites Tools Help
Address D:\Documents and Settings\Saurabh\Desktop\nw project\screen shots\Host Addresses.htm
Host Addresses
Add Tab
Webmin Index
Module Index
Host Addresses
Add a new host address
IP Address Hostnames
127.0.0.1 nitdgp nitdgp.edu mail.nitdgp.edu localhost.localdomain localhost
192.168.1.40 nitdgp nitdgp.edu mail.nitdgp.edu localhost.localdomain localhost
192.168.1.147 nitdgp nitdgp.edu mail.nitdgp.edu localhost.localdomain localhost
Add a new host address
Return to network configuration
root logged into Webmin 1.140 on nitdgp (Redhat Linux 9.0)
Internet
start
Training report.doc...
2 Windows Explorer
20 Internet Explorer
Webmin 1.140 on ni...
6:08 PM


File Permissions Defaults - Windows Internet Explorer provided by Yahoo!
File Edit View Favorites Tools Help
Address D:\Documents and Settings\Saurabh\Desktop\nw project\screen shots\File Permissions Defaults.htm
File Permissions Defaults
Webmin Index
Module Index
File Permissions Defaults
File Permission Options
New Unix file mode 755
New Unix directory mode 755
Directories not to list
Force Unix user
Force Unix group
Allow symlinks outside share? Yes No
Can delete readonly files? Yes No
Force Unix file mode 000
Force Unix directory mode 000
Save
Return to file share | Return to share list
root logged into Webmin 1.140 on nitdgp (Redhat Linux 9.0)
Internet
start
Training report.doc...
2 Windows Explorer
20 Internet Explorer
Webmin 1.140 on ni...
6:08 PM


Edit Master Zone - Windows Internet Explorer provided by Yahoo!
File Edit View Favorites Tools Help
Back Search Favorites
Address D:\Documents and Settings\Saurabh\Desktop\nw project\screen shots\Edit Master Zone.htm
Go Links
Web Search Bookmarks Settings Mail My Yahoo! Shopping Answers Games Anti-Spy
Edit Master Zone
Add Tab
Webmin Index
Module Index
Edit Master Zone
nitdgp.edu
Address (5)
Name Server (1)
Name Alias (0)
Mail Server (1)
Host Information (0)
Text (0)
Well Known Service (0)
Responsible Person (0)
Reverse Address (0)
Location (0)
Service Address (0)
Public Key (0)
All Record Types (7)
root logged into Webmin 1.140 on nitdgp (Redhat Linux 9.0)
Internet
start
Training report.doc...
2 Windows Explorer
20 Internet Explorer
Webmin 1.140 on ni...
6:08 PM


Edit Host Address - Windows Internet Explorer provided by Yahoo!
File Edit View Favorites Tools Help
Back Search Favorites
Address D:\Documents and Settings\Saurabh\Desktop\nw project\screen shots\Edit Host Address.htm
Go Links
Web Search Bookmarks Settings Mail My Yahoo! Shopping Answers Games Anti-Spy
Edit Host Address
Add Tab
Webmin Index
Module Index
Edit Host Address
Host and Addresses
IP Address 192.168.1.147
Hostnames nitdgp
nitdgp.edu
mail.nitdgp.edu
localhost.localdomain
localhost
Save Delete
Return to host addresses list
root logged into Webmin 1.140 on nitdgp (Redhat Linux 9.0)
Internet
start
Training report.doc...
2 Windows Explorer
20 Internet Explorer
Webmin 1.140 on ni...
6:08 PM


DNS Client - Windows Internet Explorer provided by Yahoo!
File Edit View Favorites Tools Help
Address D:\Documents and Settings\Saurabh\Desktop\nw project\screen shots\DNS Client.htm
DNS Client
Webmin Index
Module Index
DNS Client
DNS Client Options
Hostname
nitdgp
DNS servers
192.168.1.40
Resolution order
Hosts
DNS
DNS
Search domains
None
Listed ..
Save
Return to network configuration
root logged into Webmin 1.140 on nitdgp (Redhat Linux 9.0)
Internet
start
Training report.doc...
2 Windows Explorer
20 Internet Explorer
Webmin 1.140 on ni...
6:09 PM


BIND DNS Server - Windows Internet Explorer provided by Yahoo!
File Edit View Favorites Tools Help
Address D:\Documents and Settings\Saurabh\Desktop\nw project\screen shots\BIND DNS Server.htm
BIND DNS Server
Webmin Index
Module Config
Search Docs..
BIND version 9.2.1
Global Server Options
Other DNS Servers
Logging and Errors
Access Control Lists
Files and Directories
Forwarding and Transfers
Addresses and Topology
Miscellaneous Options
Control Interface Options
DNS Keys
Zone Defaults
Existing DNS Zones
Create a new master zone
Create a new slave zone
Create a new stub zone
Create a new forward zone
root logged into Webmin 1.140 on nitdgp (Redhat Linux 9.0)
Internet
start
Training report.doc...
2 Windows Explorer
20 Internet Explorer
Webmin 1.140 on ni...
6:09 PM

➢ Conclusion:

Now I have understood how a network works and being managed by network manager. Also I have gained confidence on Linux Operating System due to the training program And now I understand the Linux much better and in a used-to way. I also learnt a little bit about cryptography as well as stagnography. I learnt how to work in a group even under extreme pressure of time and performance. The team works with coordination and balanced cooperation. I can now manage to work with a team by handling problems related to different the different members, and also to face their diverse working styles. As Networking is a highly growing field of study, research and development so one can easily get some space in the corporate world. Networking engineers are high in demand and have great reputation and position.

BIBLIOGRAPHY

1. Primary source:

- NETTECH Institute
- NETTECH Course material

2. Secondary source:

- www.Wikipedia.org
- www.google.com
- www.nettech.in
- www. Domains.nettech.in
- www.linux.about.com