NETCAMP®

an ISO 9001:2015 Company

PROJECT REPORT ON

Under Supervision-

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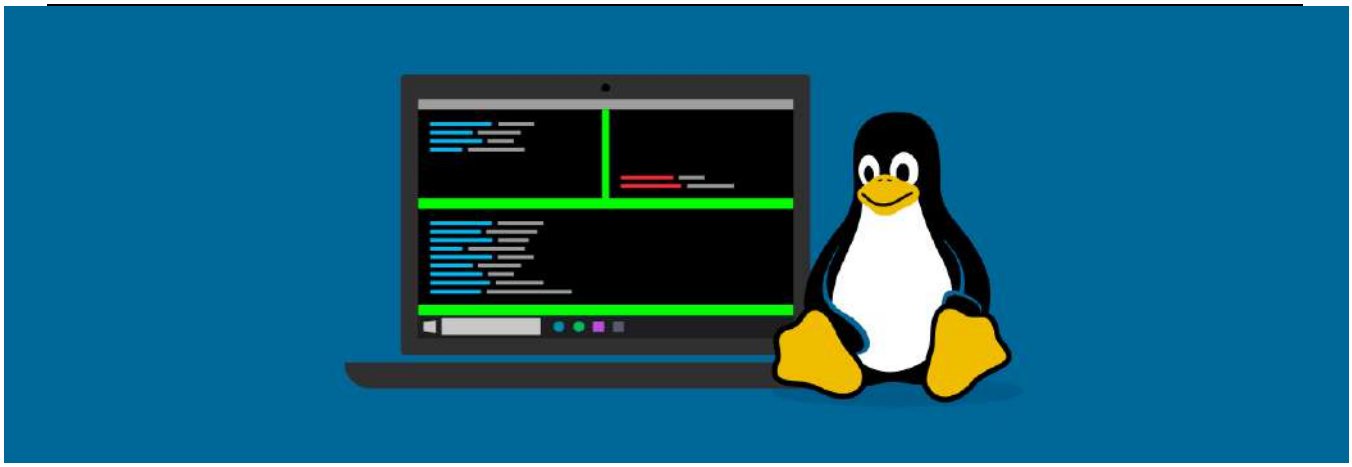
NETWORK MANAGEMENT



SUBMITTED BY

NAINA SETHIA

Amity University Chhattisgarh, Raipur

Acknowledgement

I have taken efforts in this project. However, it would not have been possible without the kind support and help of many individuals and organizations. I would like to extend my sincere thanks to all of them.

I am highly indebted to Netcamp Solutions Private Limited. For their guidance and constant supervision as well as for providing necessary information regarding the project and also for their support in completing the project.

I would like to express my gratitude towards Mr. Santu Purkait, Director: Netcamp Solutions Private Limited For their kind co-operation and encouragement which help me in completion of this project.

I would like to express my special gratitude and thanks to organization persons for giving me such attention and time.

My thanks and appreciations also go to my colleagues in developing the project and people who have willingly helped me out with their abilities.

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College ID: A809150824045

Netcamp ID: 4250094

College: Amity University Chhattisgarh, Raipur

Date: 04-10-2025

Signature:

Netcamp Solutions Private Limited

Certificate

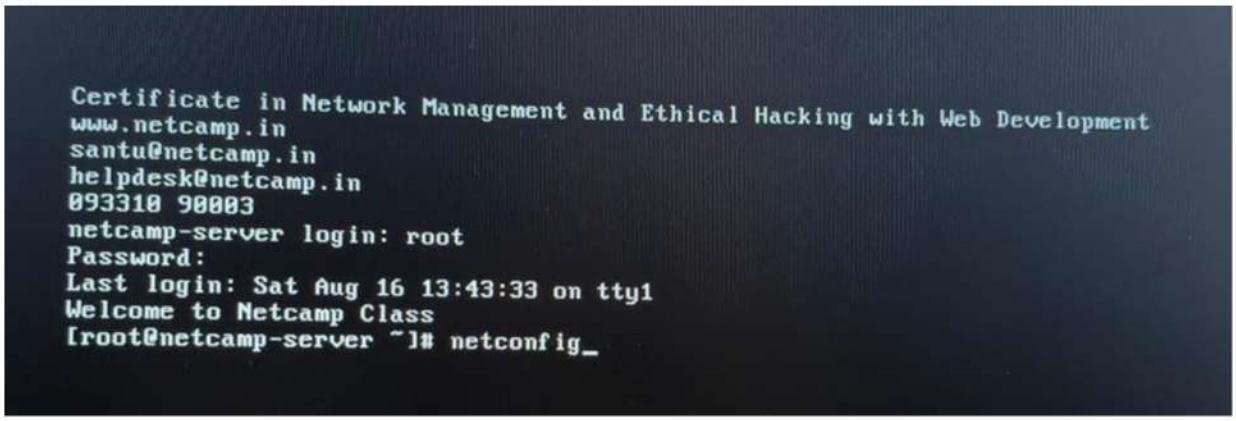
This is to certify that, ***Naina Sethia****, a student of program,* ***Network Management on Linux*** *has successfully completed a project on Networking under the guidance of* ***Mr. Santu Purkait*** *during the Dates: 4th August 2025 to 4th October 2025 by* ***Netcamp Solutions Private Limited*****.**

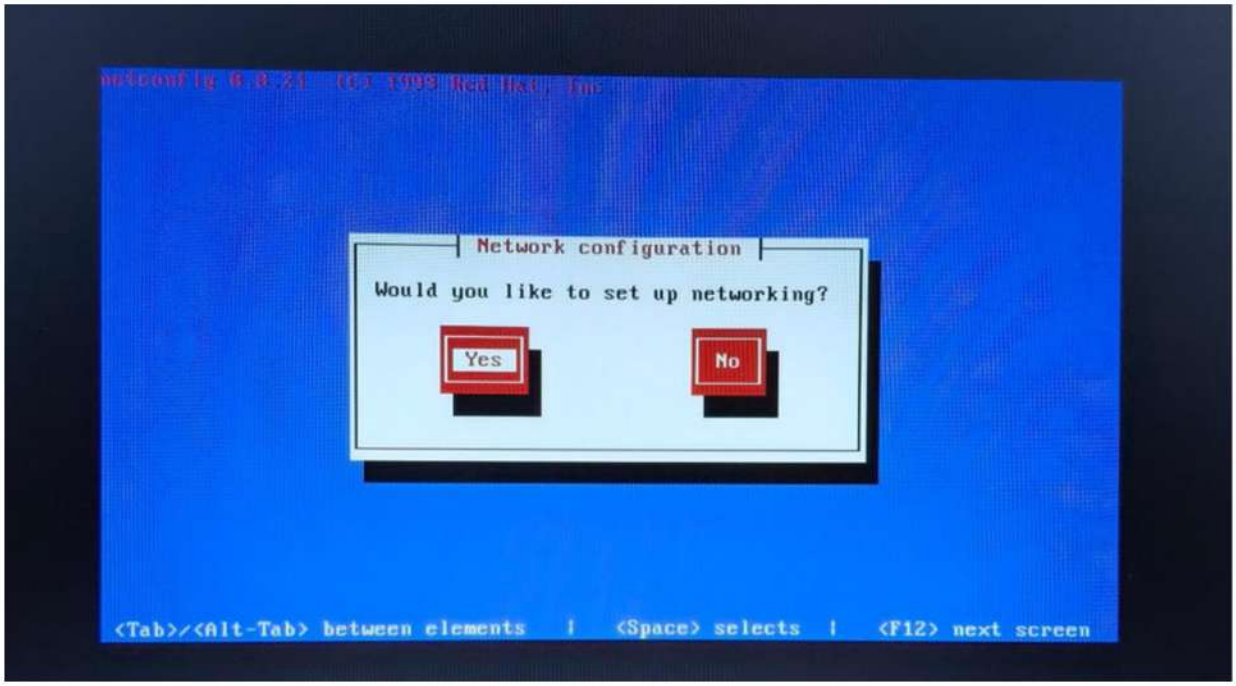
INDEX

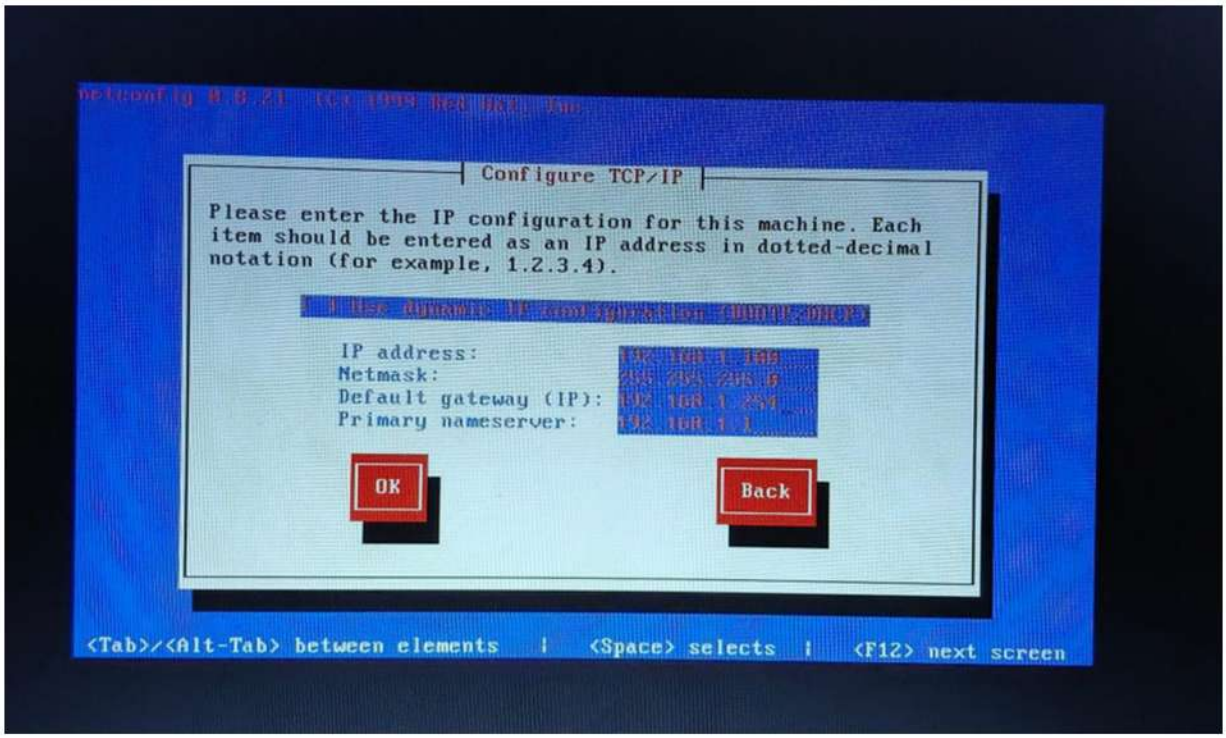
1.To change the mac address

(open VMware--->new file--->server1,server2--->open the server in VM)

(server1)





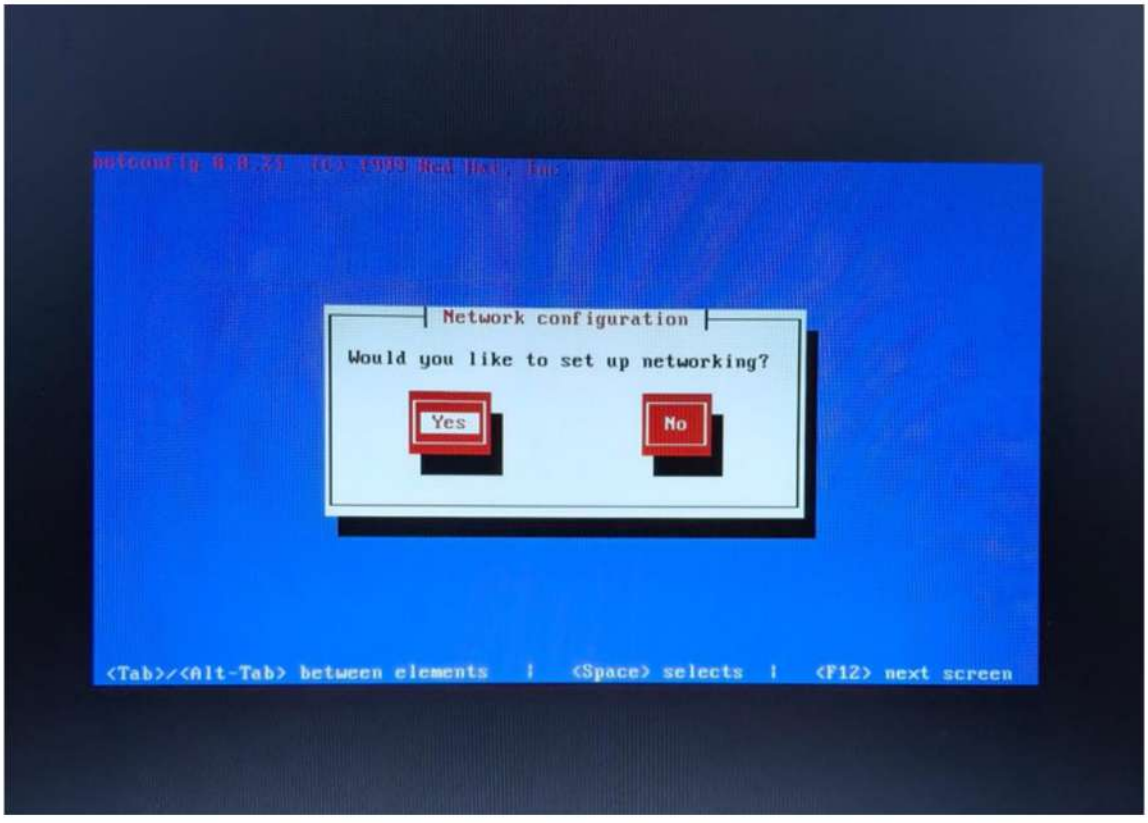


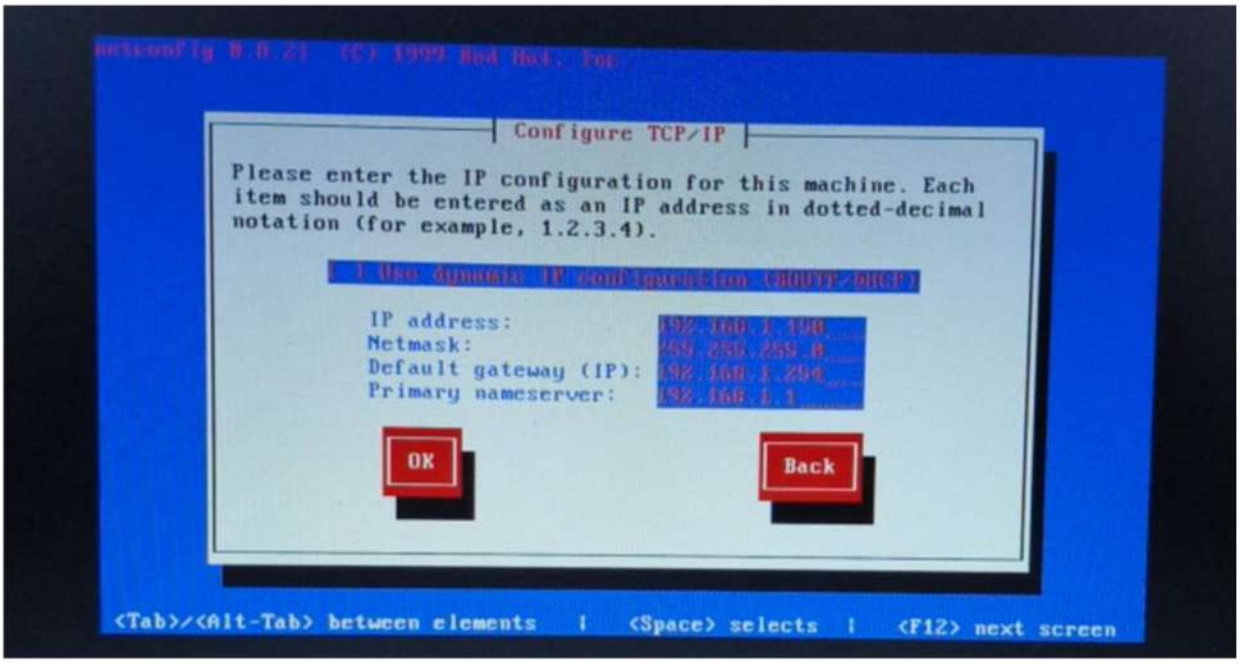
```
[root@netcamp-server ~]# service network restart
Shutting down loopback interface:                          [  OK  ]
Setting network parameters:                                [  OK  ]
Bringing up loopback interface:  ip_tables: (C) 2000-2002 Netfilter core team
                                                           [  OK  ]
Bringing up interface eth0:  ip_tables: (C) 2000-2002 Netfilter core team
                                                           [  OK  ]
[root@netcamp-server ~]# _
```

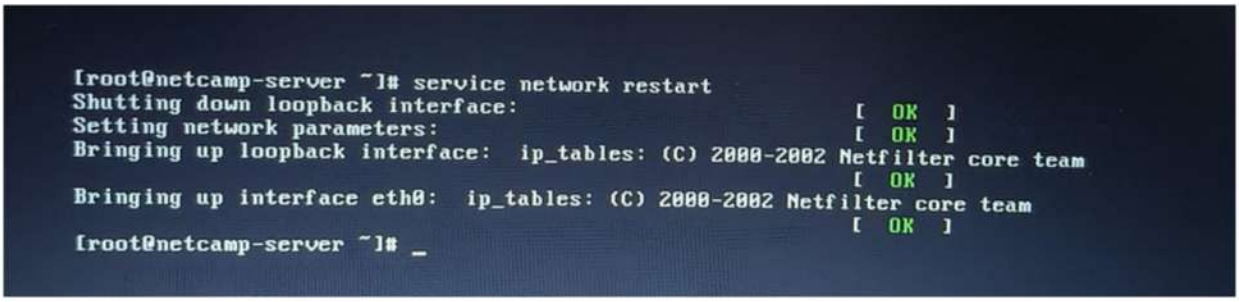
```
[root@netcamp-server ~]#
[root@netcamp-server ~]#
[root@netcamp-server ~]# ifconfig
eth0      Link encap:Ethernet  HWaddr 00:0C:29:DA:6B:42
          inet addr:192.168.1.100  Bcast:192.168.1.255  Mask:255.255.255.0
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:2953 errors:0 dropped:0 overruns:0 frame:0
          TX packets:8 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:250843 (244.9 KiB)  TX bytes:336 (336.0 b)
          Interrupt:5 Base address:0x2000

lo        Link encap:Local Loopback
          inet addr:127.0.0.1  Mask:255.0.0.0
          UP LOOPBACK RUNNING  MTU:16436  Metric:1
          RX packets:6 errors:0 dropped:0 overruns:0 frame:0
          TX packets:6 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:0
          RX bytes:588 (588.0 b)  TX bytes:588 (588.0 b)

[root@netcamp-server ~]# ifconfig eth0 down
[root@netcamp-server ~]# ifconfig eth0 hw ether 1A:2B:3C:4D:50:80
[root@netcamp-server ~]# ifconfig eth0 up
[root@netcamp-server ~]#
```

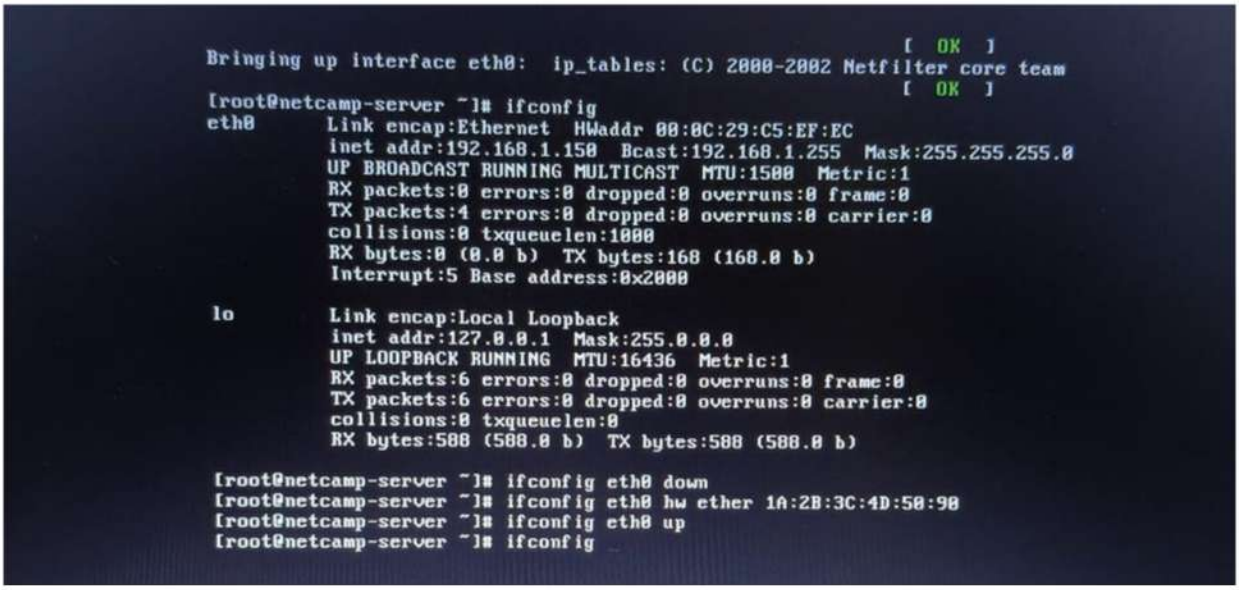
(server2)

```
Certificate in Network Management and Ethical Hacking with Web Development
www.netcamp.in
santu@netcamp.in
helpdesk@netcamp.in
093310 90003
netcamp-server login: root
Password:
Last login: Sat Aug 16 13:43:33 on tty1
Welcome to Netcamp Class
[root@netcamp-server ~]# netconfig_
```









Open the control pannel ,click on view by category then click on network and sharing then click on change adapter setting (disable VMnet8 and set ip on VMnet1)-->proporties-->internet protocols version4-->change ip address
Then ping the device on command prompt:

-ping 192.168.1.100

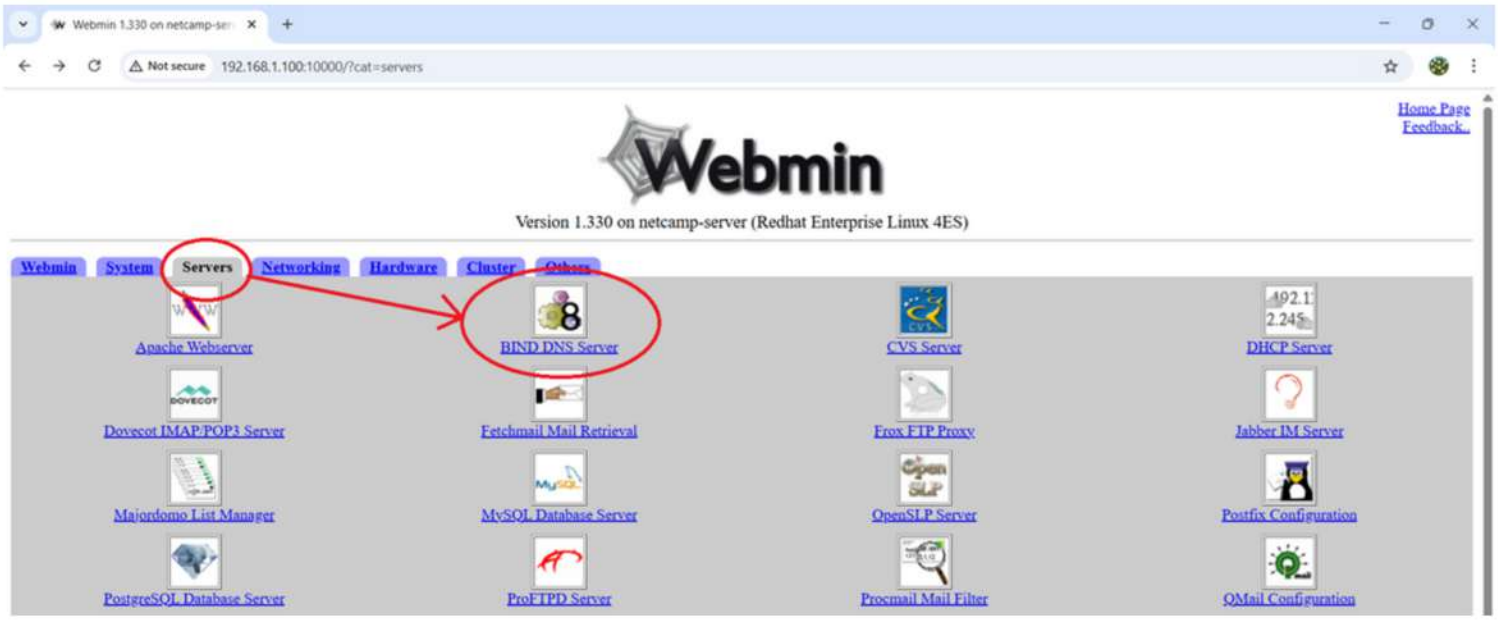
-ping 192.168.1.150

DNS Server

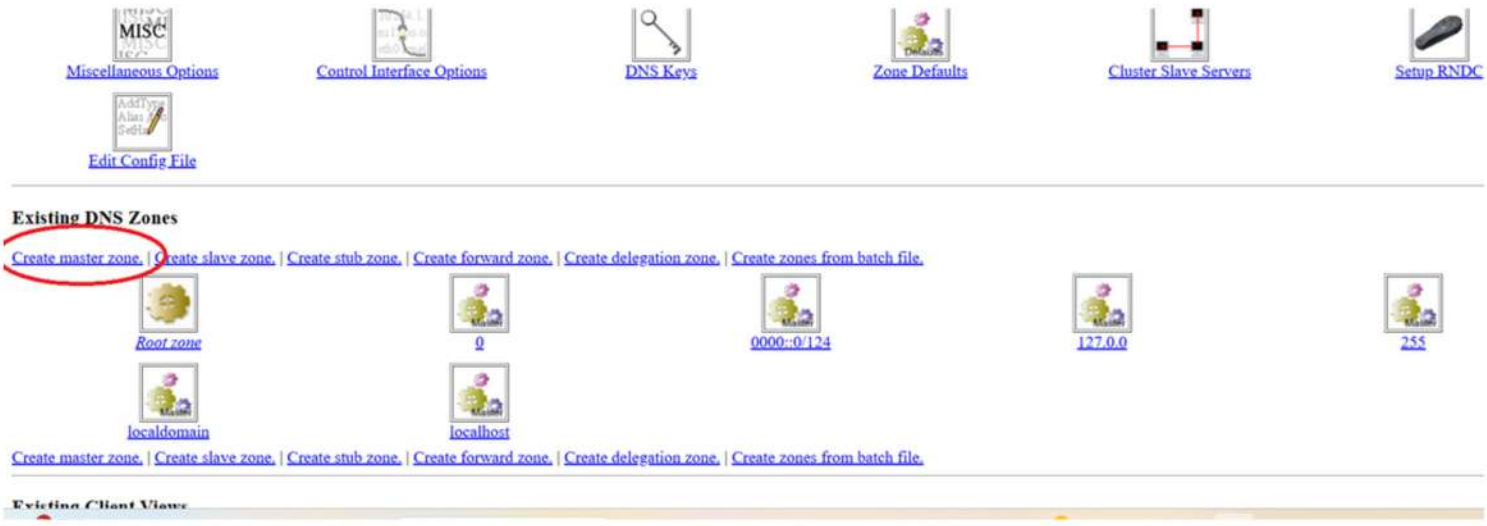
WHAT IS DNS?

DNS(Domain Name System) is a hierarchical and distributed naming system that translate domain names into IP addresses .This makes it easy for people to use names instead of remembering long numbers when browsing the internet. It translate websites names into IP addresses and it make communication between computers easier and faster.

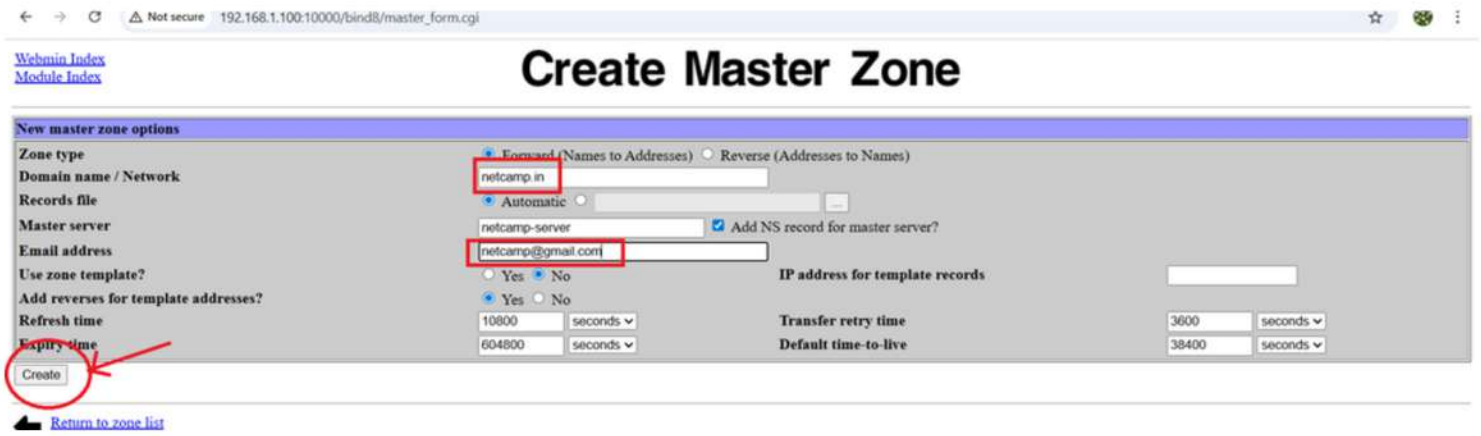
1.Click on server then open BIND DNS Server



2.Click on create master zone

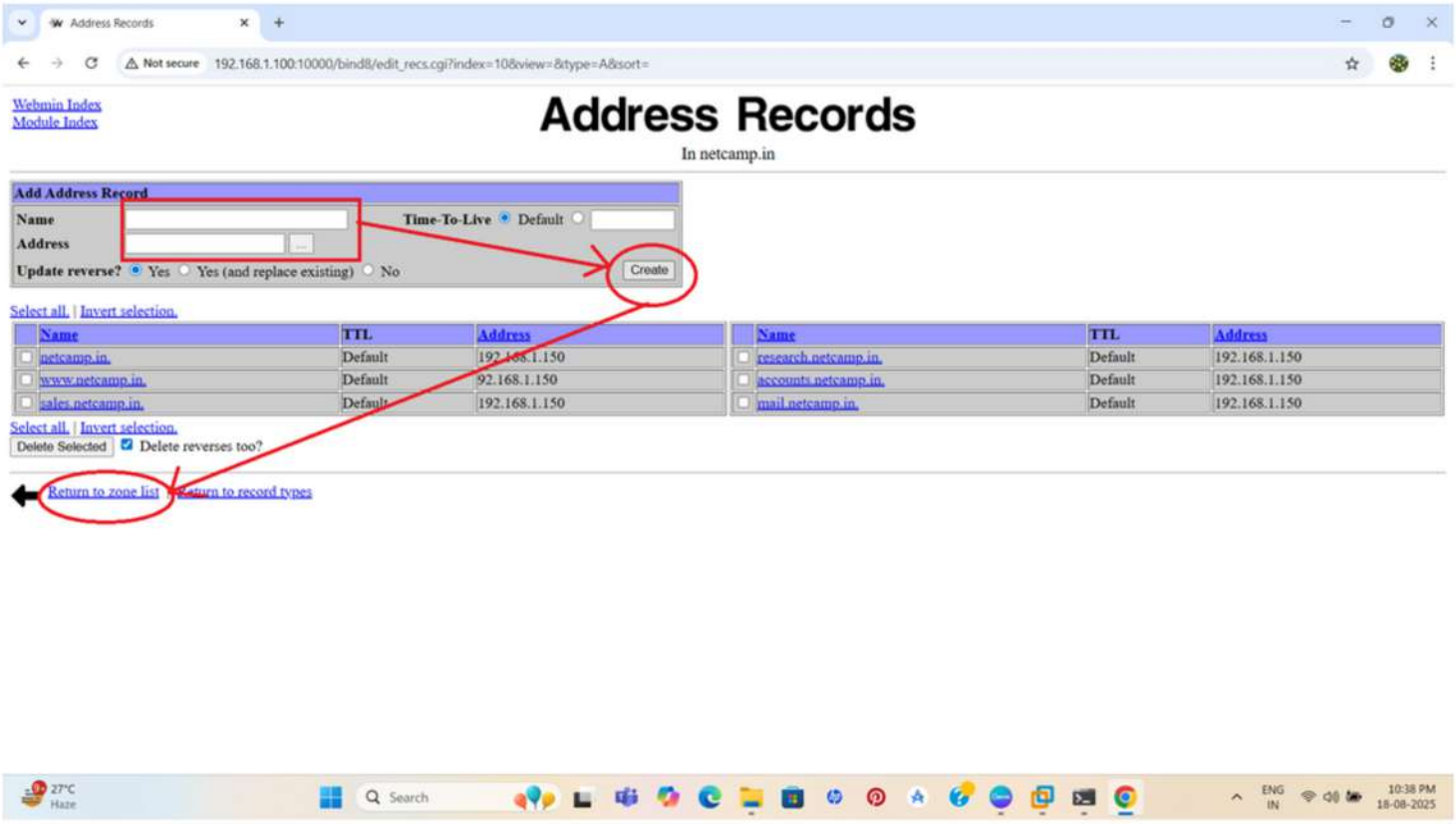


3.Set domain name and email address then click on create



4.click on Address

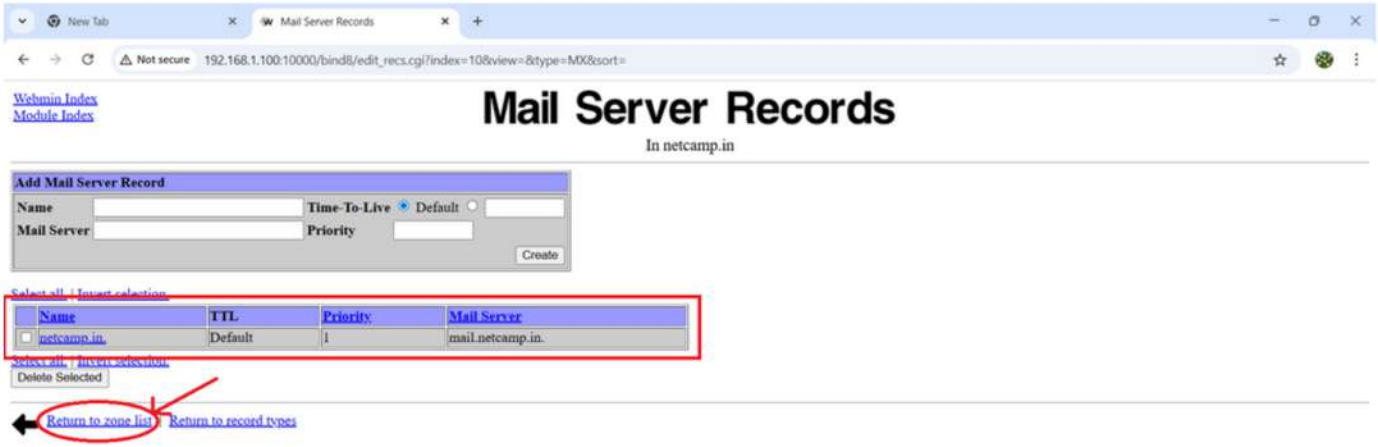
5.Provide name and IP address then create, Click on return to zone list



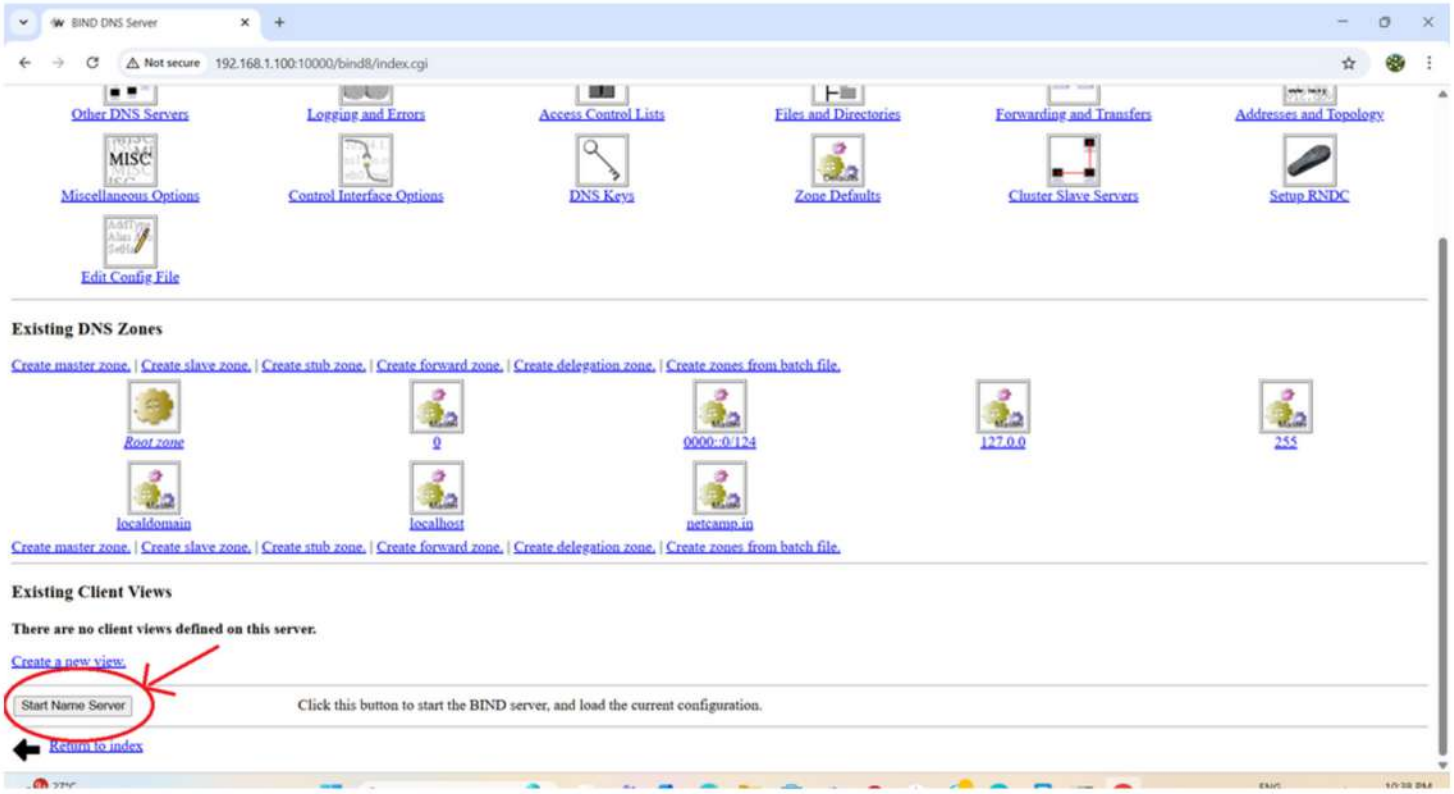
6.Then click on mail server records

7.Provide the details then click on create

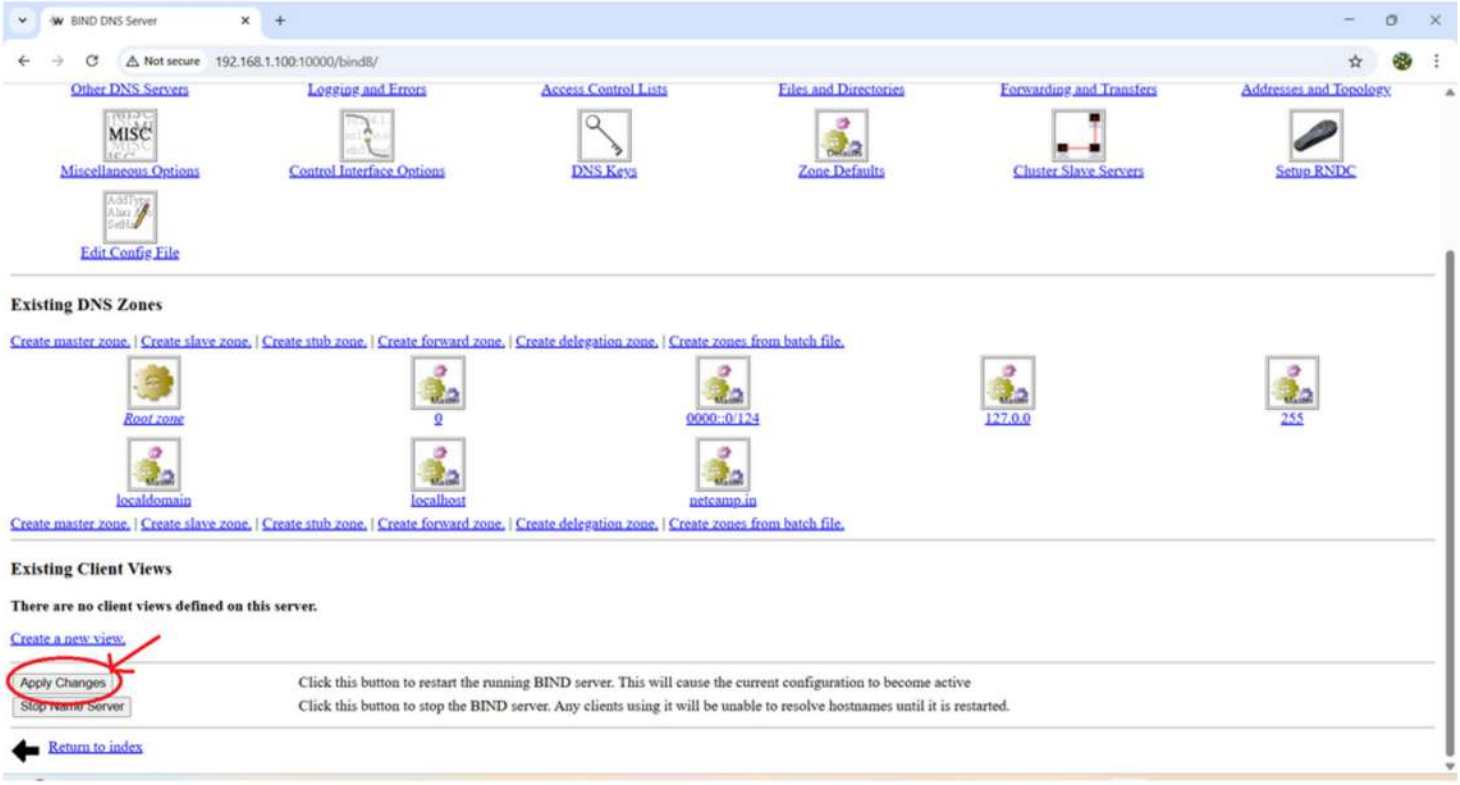
8.Then click on return to zone list



9.Start name server



10.Click on apply changes



Web Server

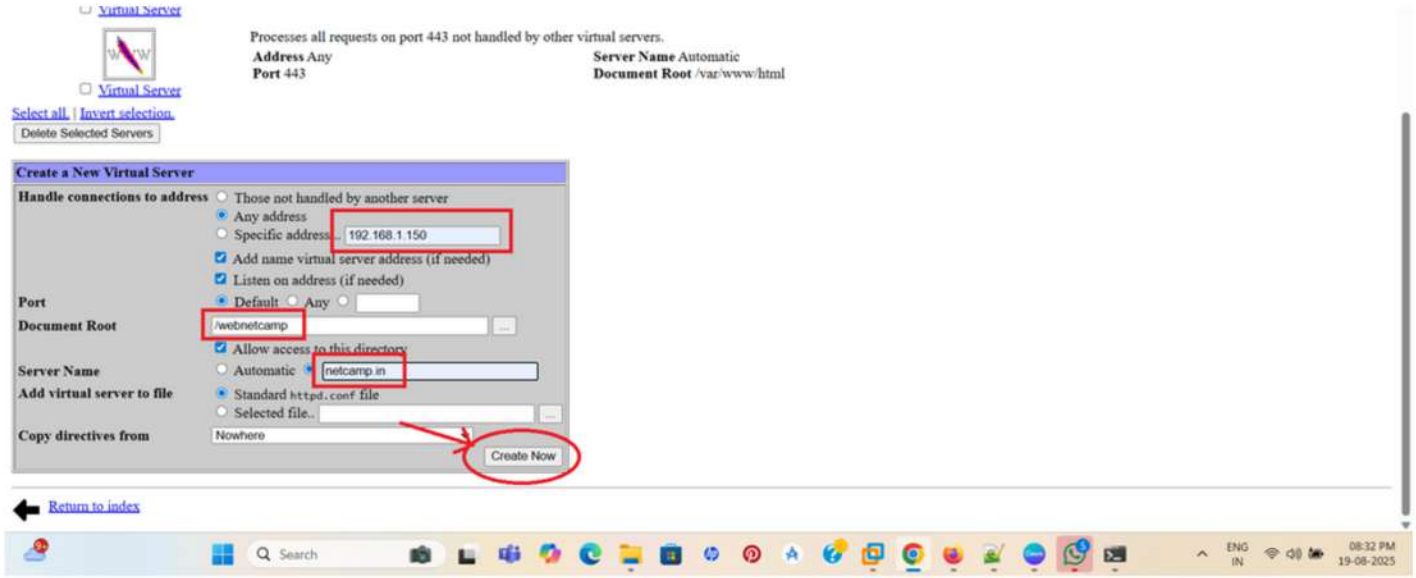
(IP 192.168.1.150)

Q. Create 4 folders :- /webnetcamp - index.html
/websales - index.html
/webresearch - index.html
/webaccounts - index.html

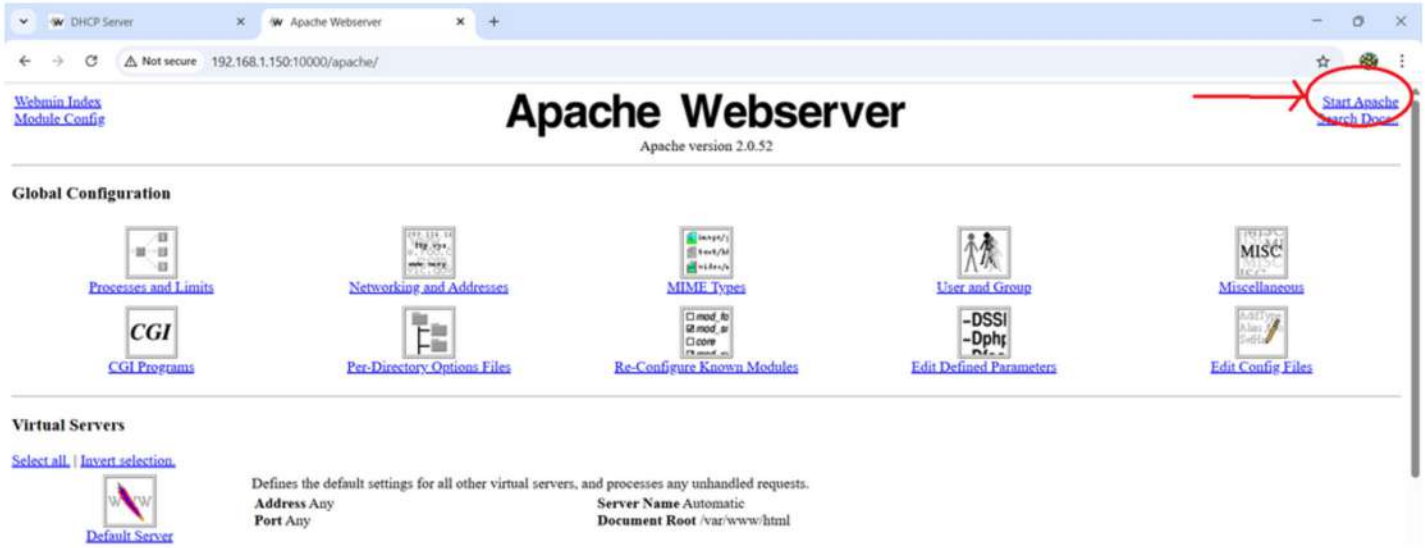
-->First we will create the folder-->file will create-->name-->index.html
in command prompt ->ping 192.168.1.150->telnet 192.168.1.150(login-netcamp-->(su -) -->netcamp-->cd / -->mkdir webnetcamp-->mkdir websales-->mkdir research--> mkdir webaccounts
-->cd webnetcamp-->webnetcamp index.html-->vi index.html-->press i-->:wq-->pwd (same process for websales, webresearch and webaccounts))

1.First click on server and click on Apache webserver

2.Fill all the details and click on create



3.click on start Apache



4.click on apply

5.To check the message of webnetcamp in netcampXP

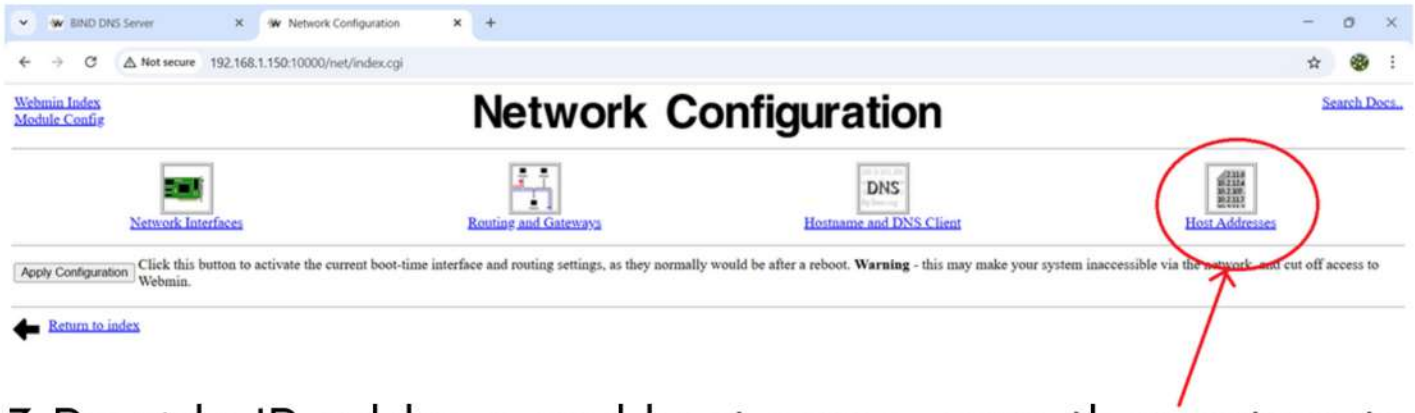
For /websales, /webresearch and /webaccounts we follow the same steps for respective folders and we get the outputs.

Mail Server

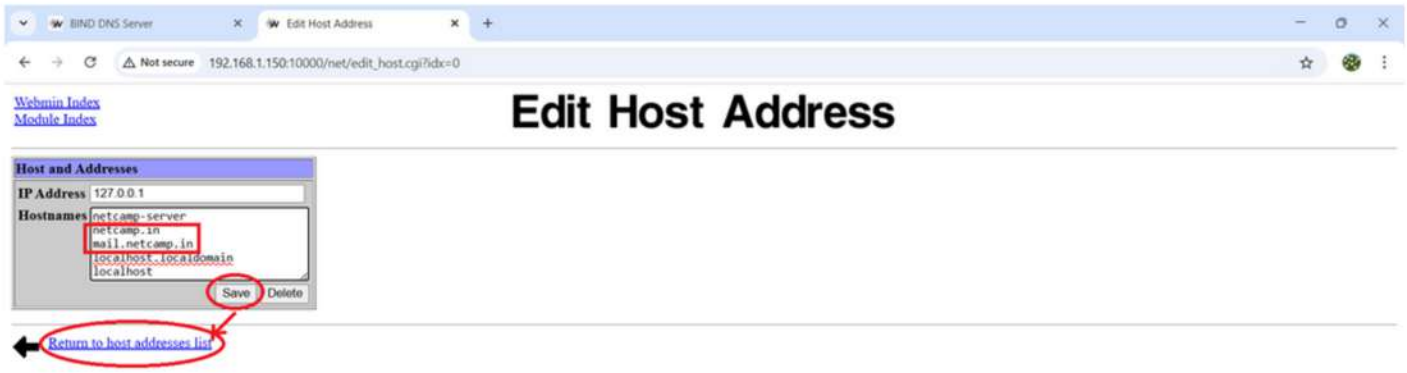
Q2. For username of chairman, sales 1, sales 2, research 1, research 2, accounts 1, accounts 2

1.Click on networking then go to network configuration

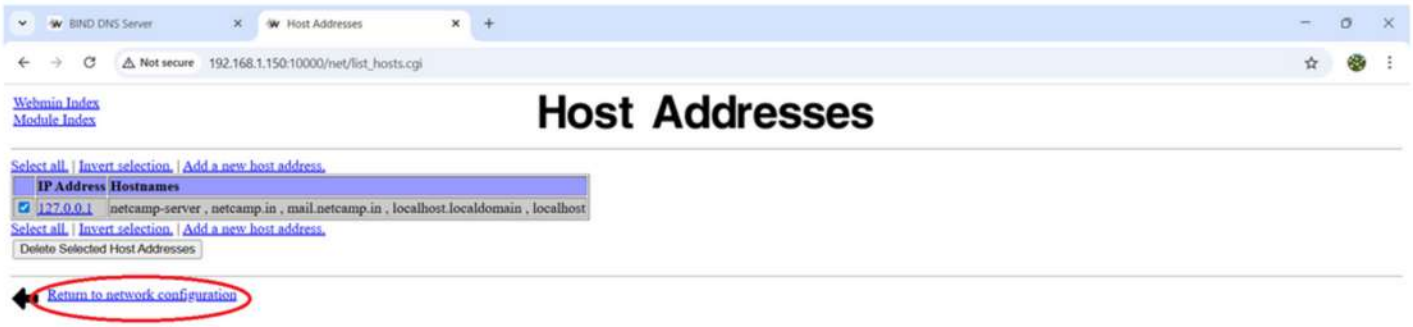
2.Click on host address



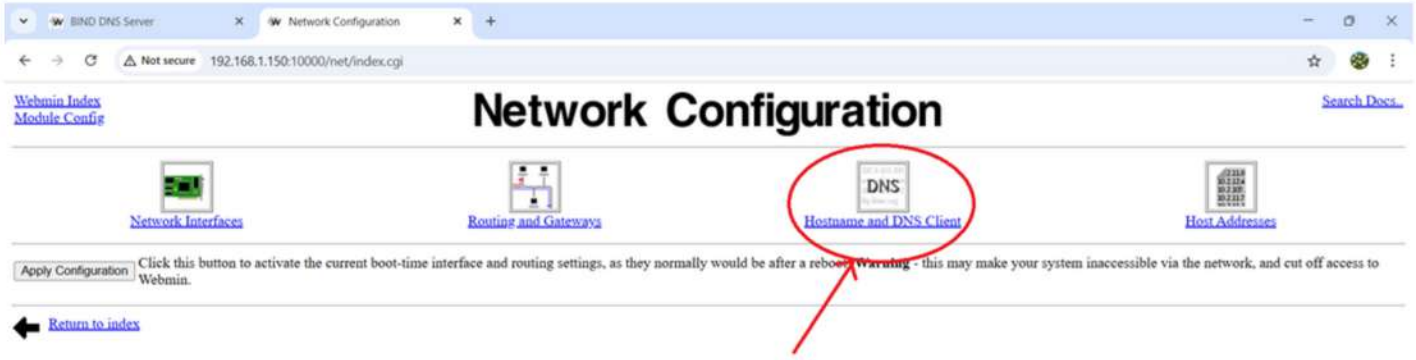
3.Provide IP address and host name, save then return to host address list



4.Click on return to network configuration



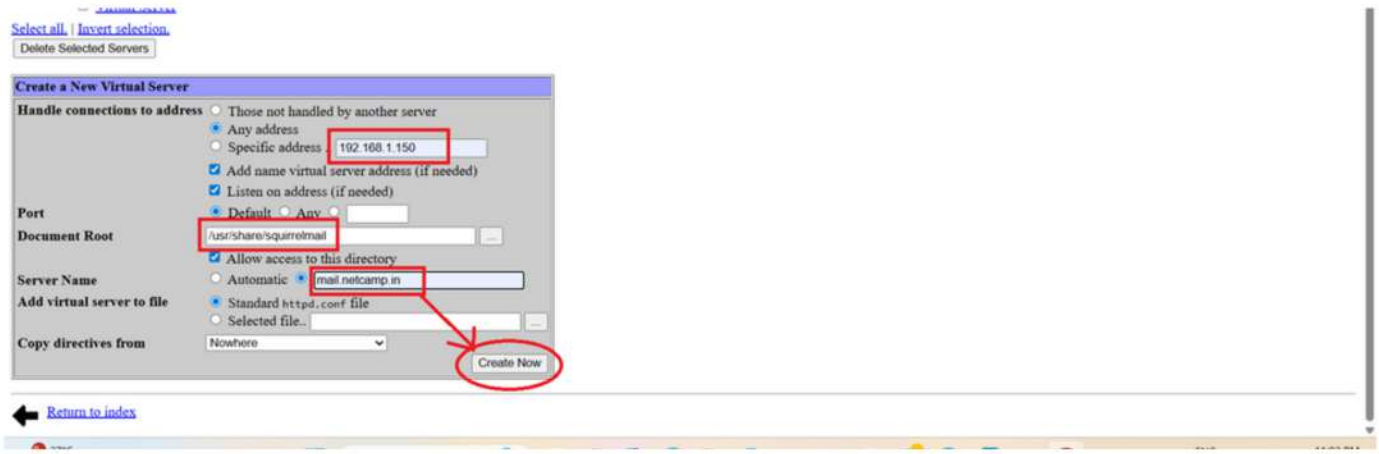
5.Click on hostname and DNS client



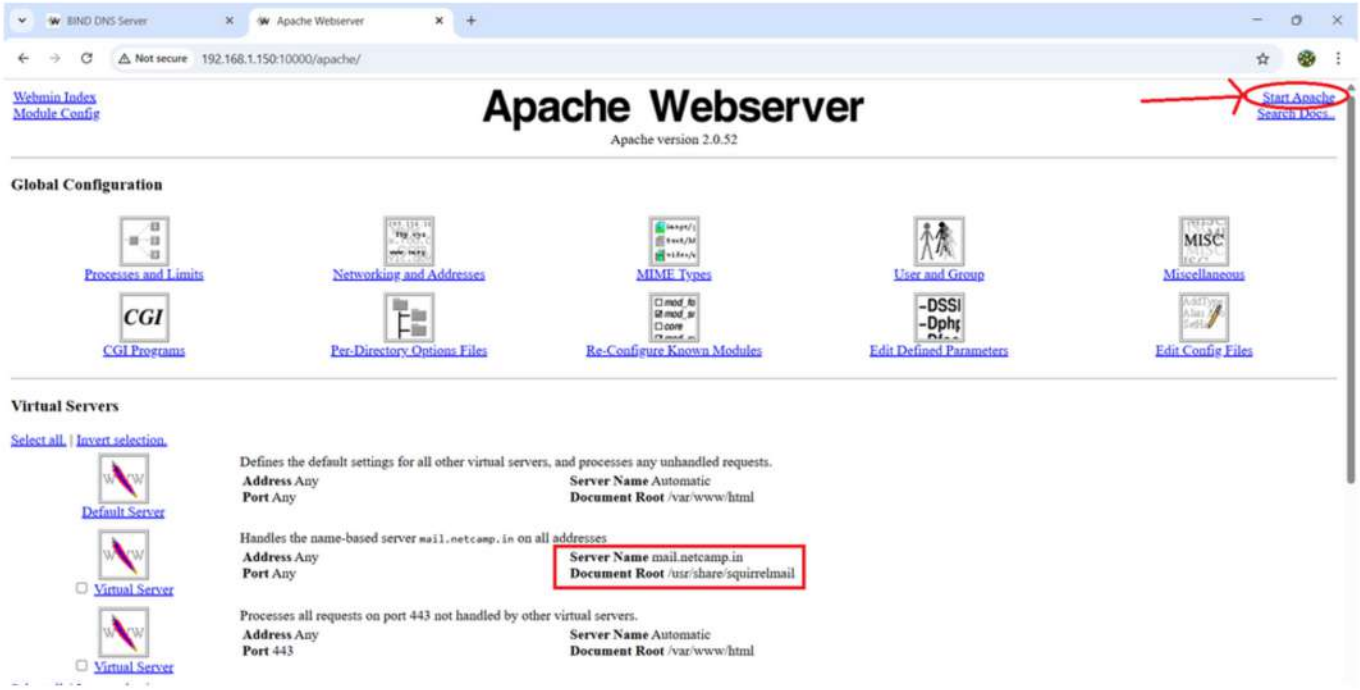
6.Provide the hostname and DNS servers, save and then return to network configuration

7.Again open webmin, click on server then open Apache webserver

8.Provide all necessary details then click on create now



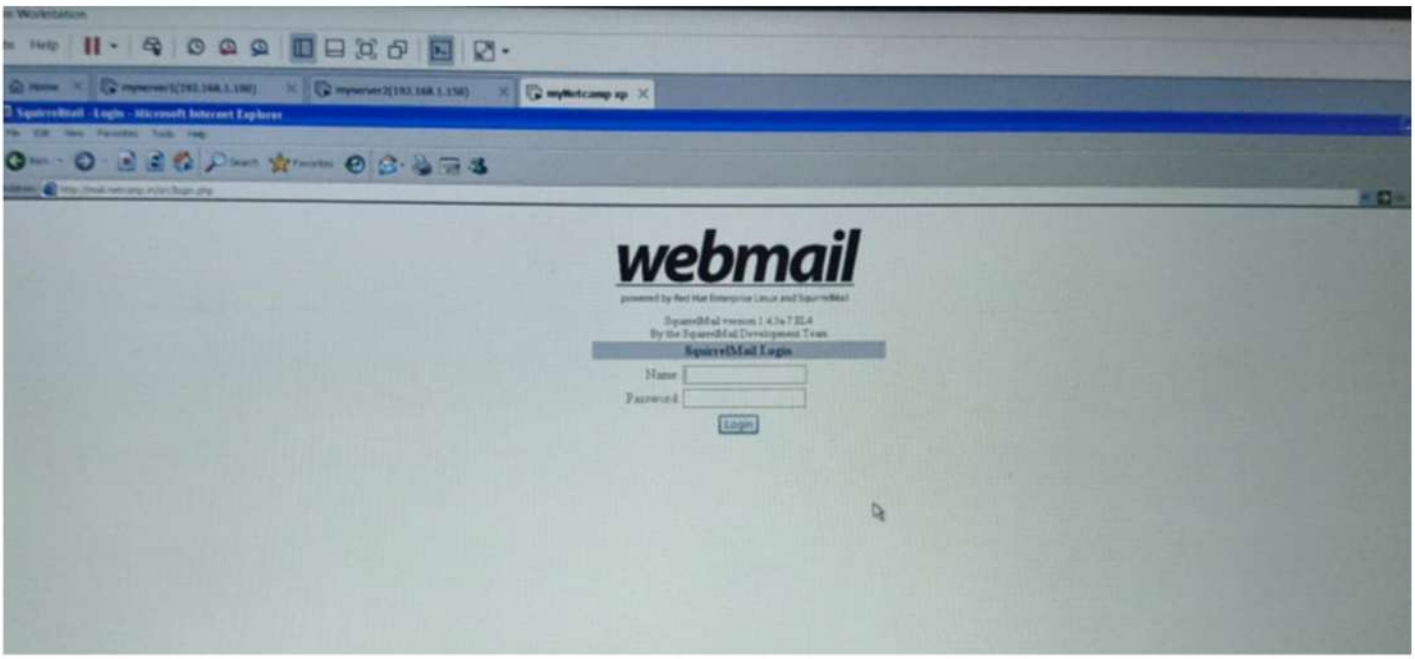
9.Click on start apache



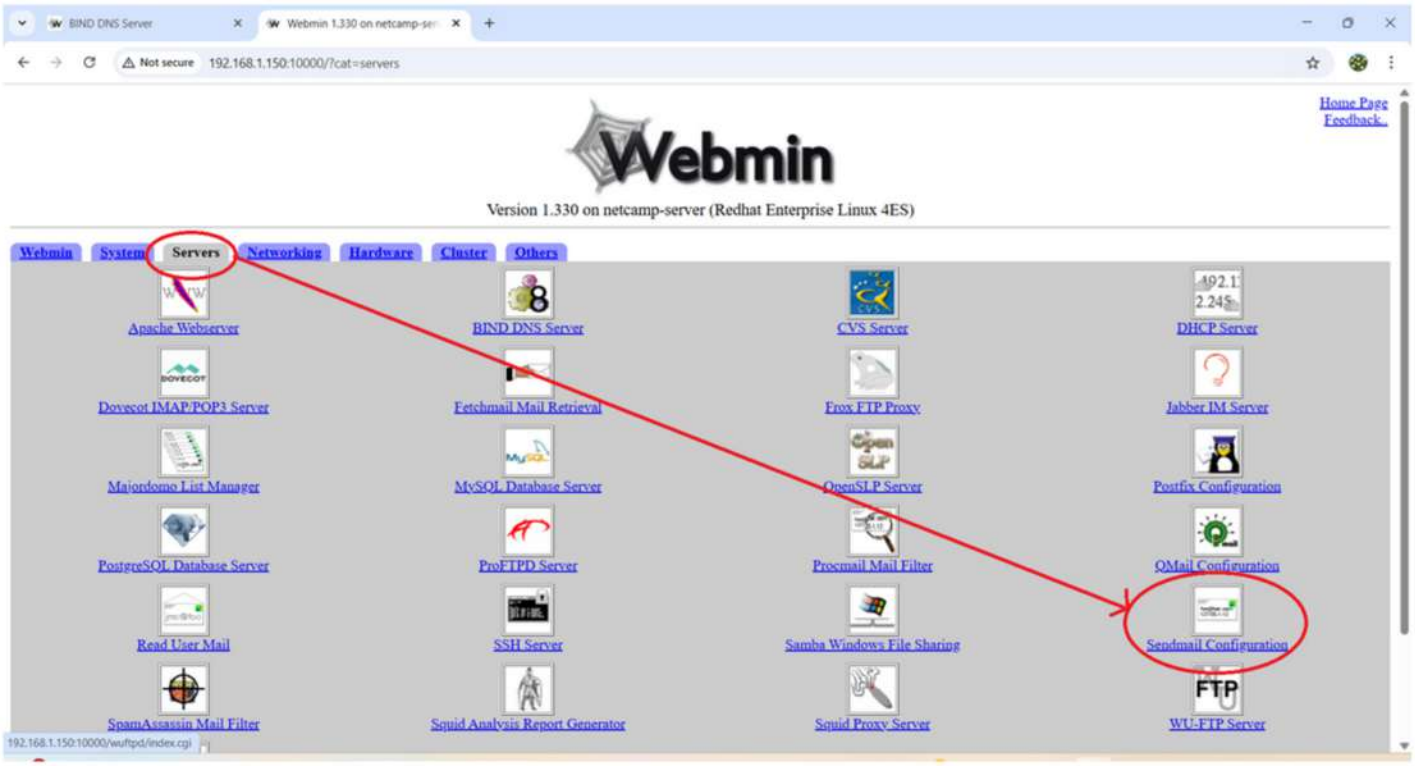
10.Click on apply changes

(Then open server.xp)

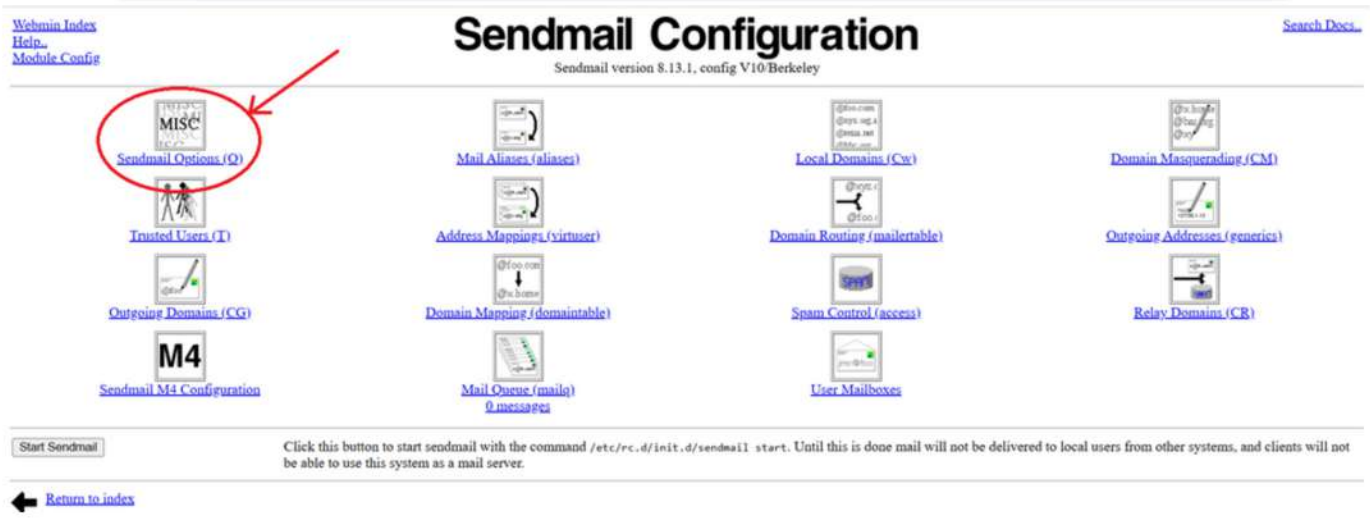
open (double computer symbol) -->properties-->change ip-->DNA=192.168.1.100-->start-->run-->cmd-->ping 1.100 and 1.150-->start-->internet explore-->search mail.netcamp.in



11.Again open the webmin,click on server and then click on sendmail configuration

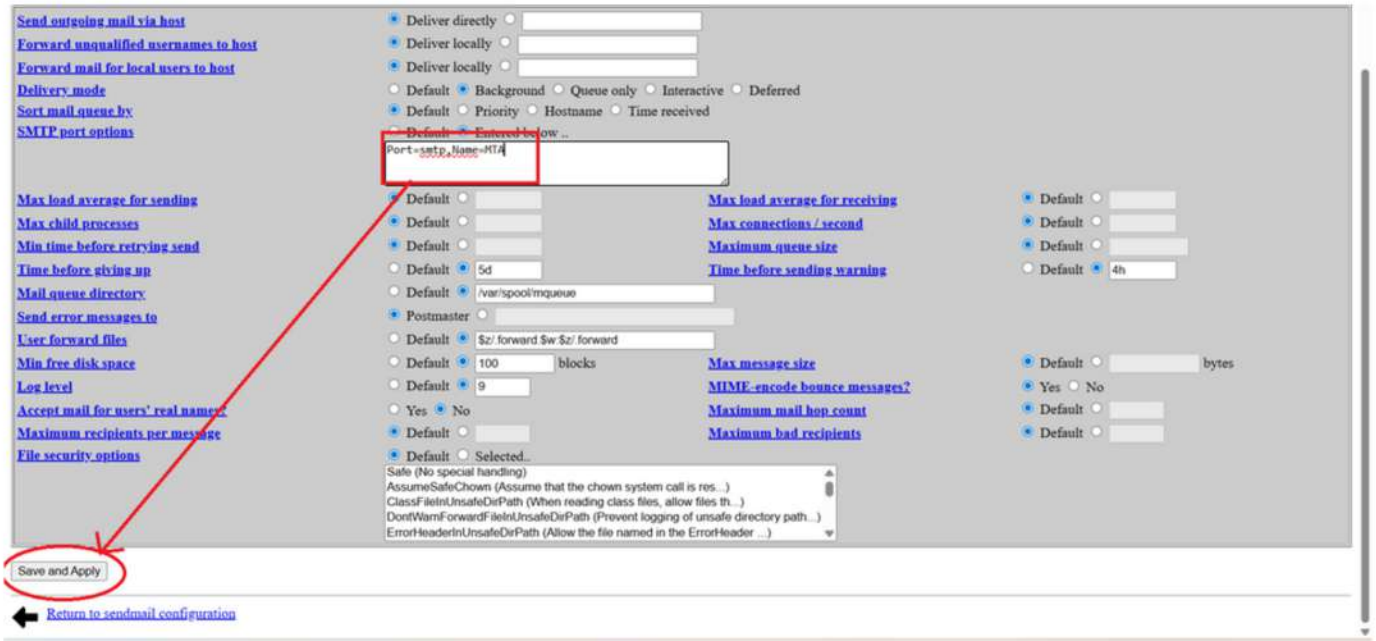


12.For mail send faster click on sendmail options



13.Add netcamp.in and mail.netcamp.in, save and then click on return to sendmail configuration

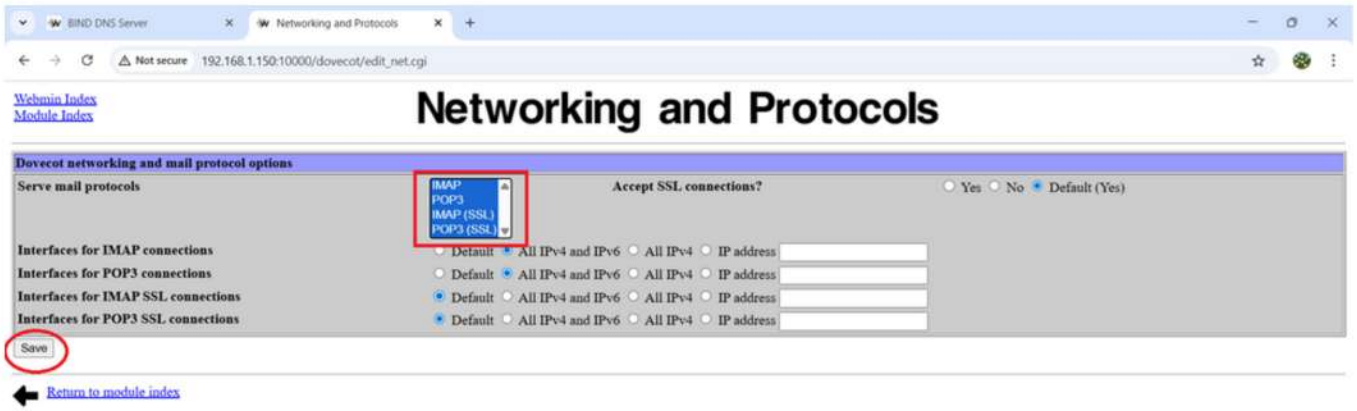
14.Cut (addr=127.0.0.1) then click on save and apply



15.Again open webmin,clicl on server then click on dovecot imap/POP3 server

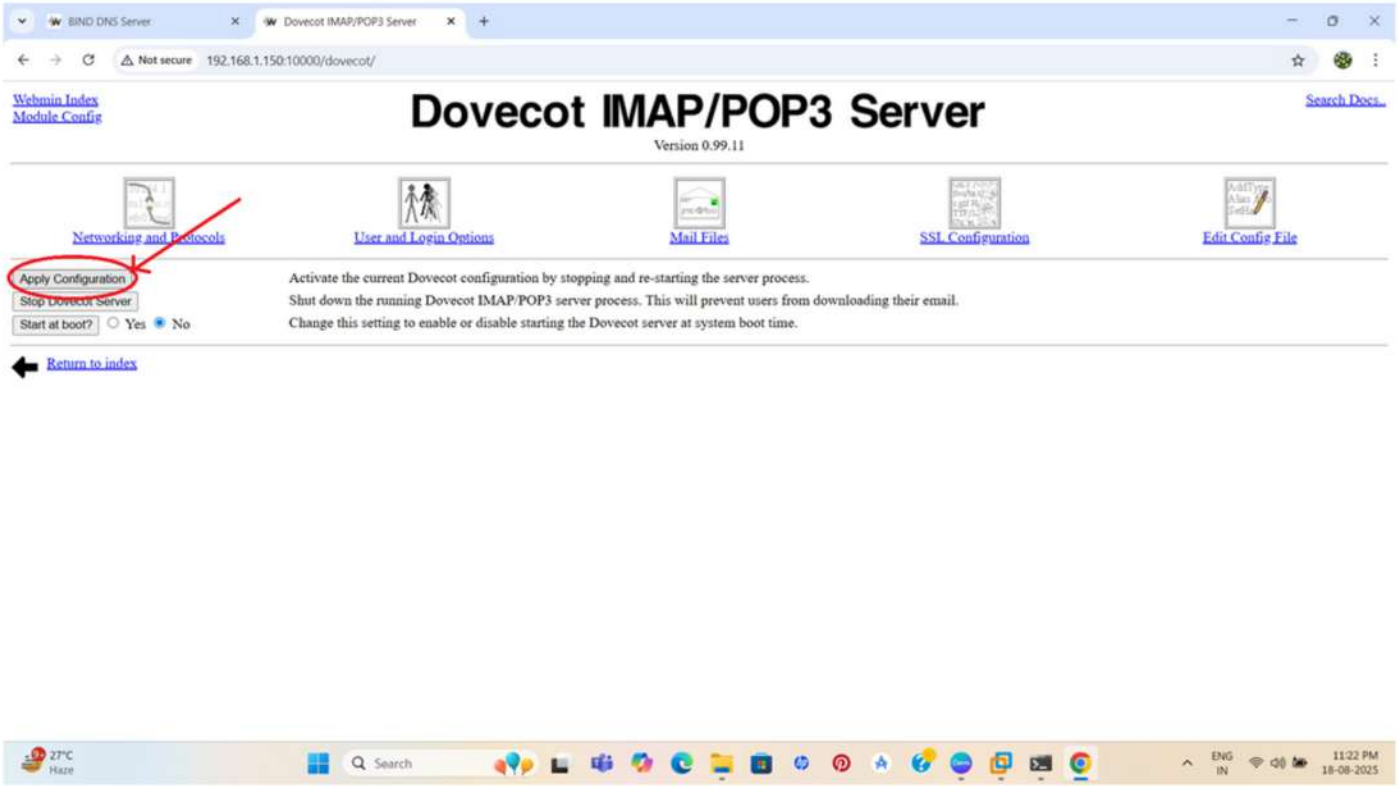
16.Click on networking and protocols

17.Select all 4 protocols, click on save



18.Click on start dovecot server

19.Click on apply configuration



DHCP Server

DHCP connection:-

A DHCP server (Dynamic Host Configuration Protocol server) is a network service that automatically assigns IP addresses and other network configuration parameters (like subnet mask, default gateway, and DNS servers) to devices (clients) on a network. This helps devices communicate with each other on IP networks without requiring manual setup.

Why it's important:

Without DHCP , every device on a network would need to be manually configured with:

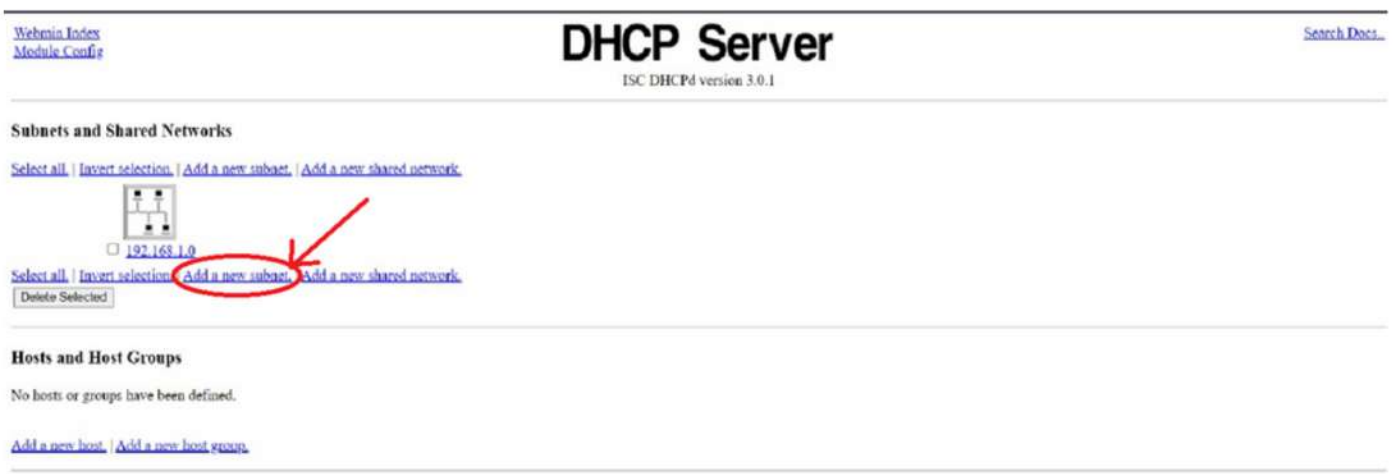
- A unique IP address
- Subnet mask
- Default gateway
- DNS servers

This is impractical for large or dynamic networks (like in offices, homes, or schools)

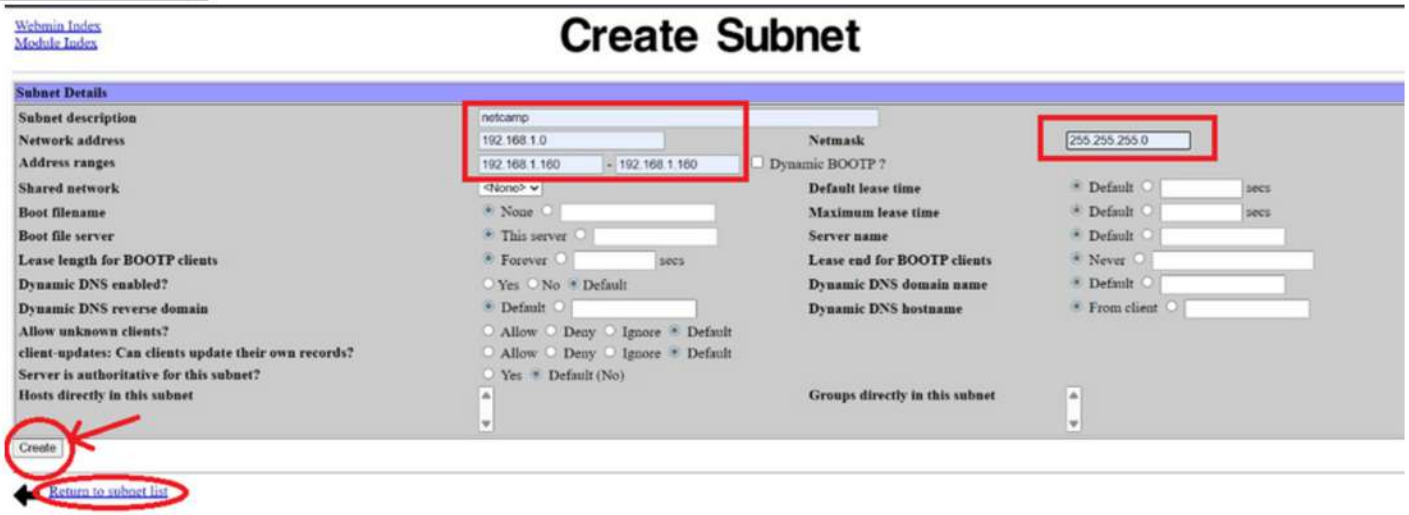
1.Click on server

2.Then click on DHCP server

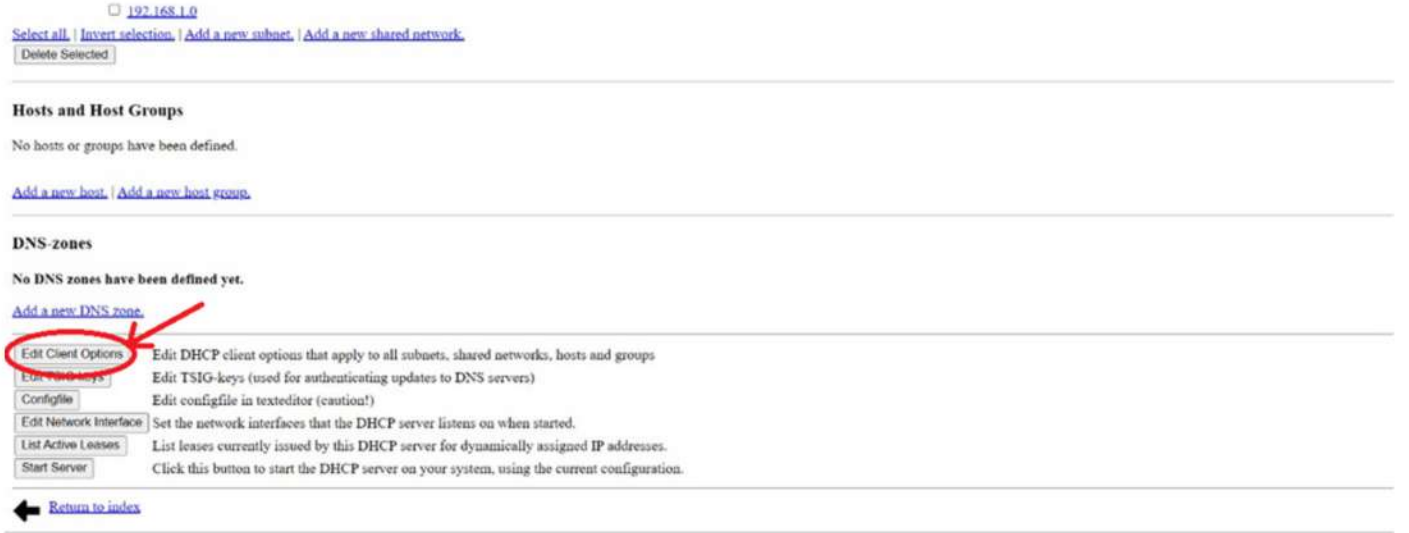
3.Click on add a new subnet



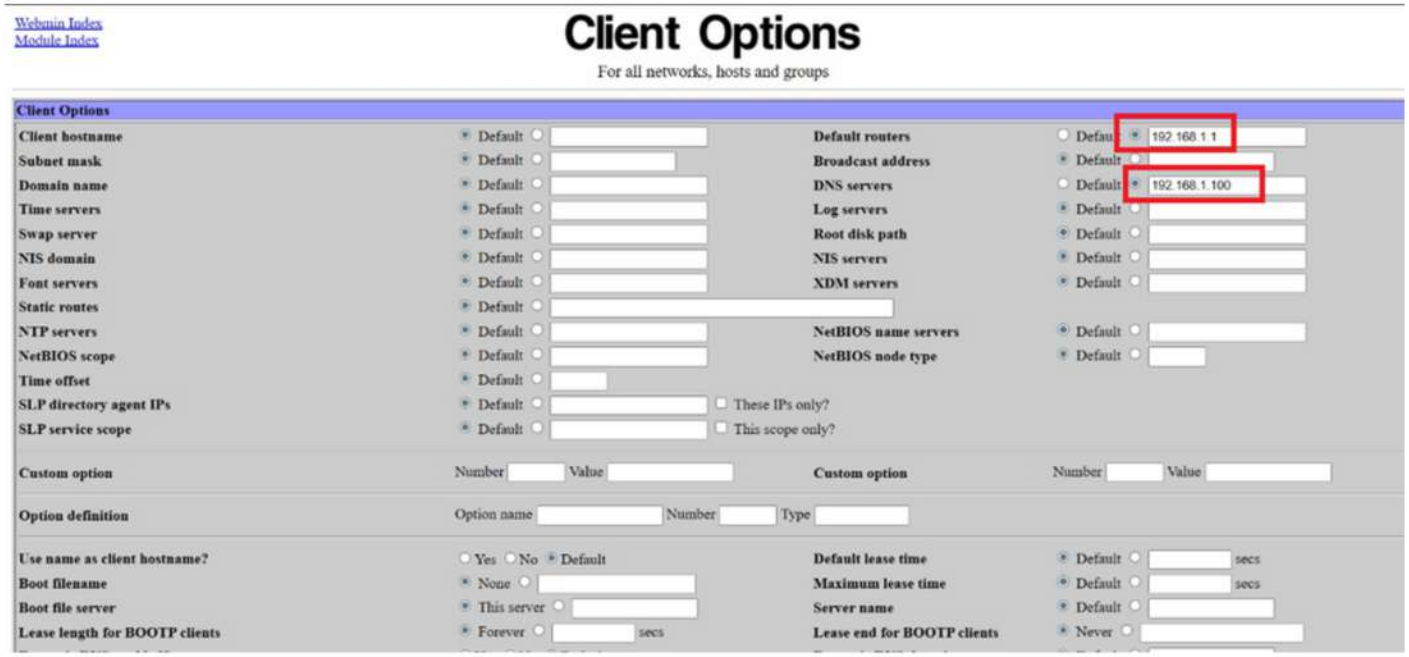
4.Provide all necessary details, create, and then return to subnet list



5.Click on edit client optins



6. Provide all necessary details, save



Webmin Index
Module Index

Error

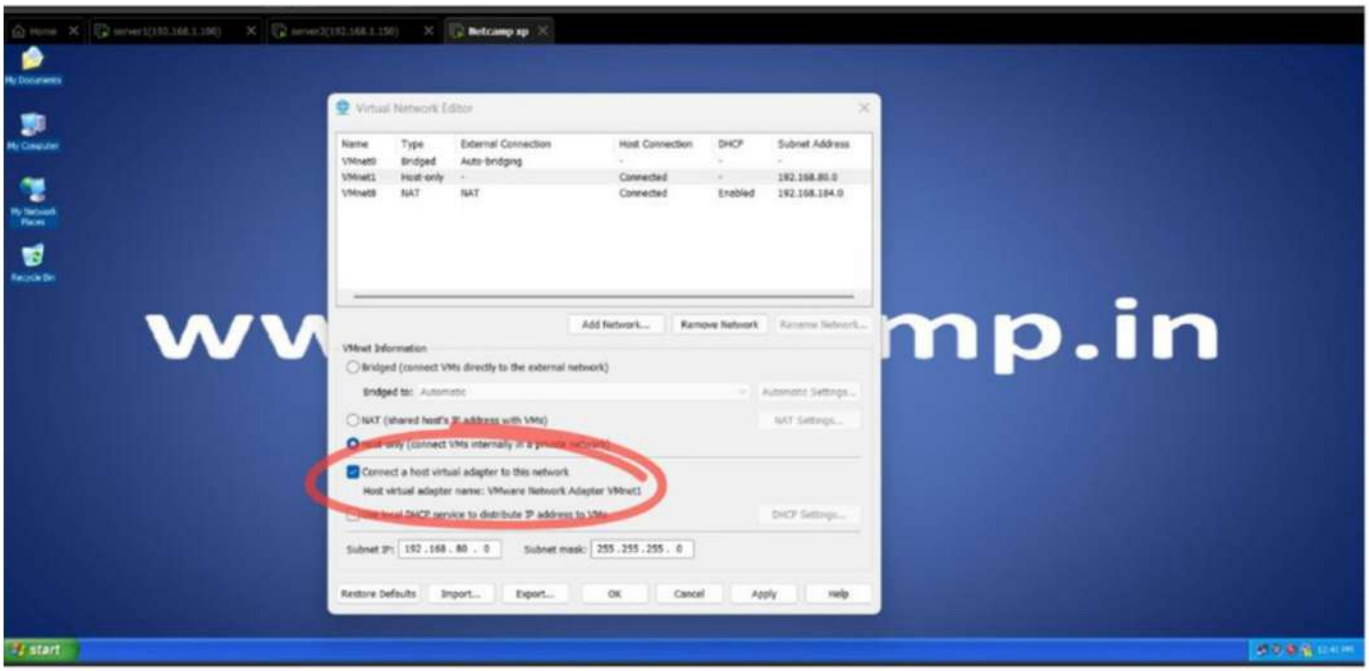
Failed to start dhcpd :

```
Starting dhcpd: Internet Systems Consortium DHCP Server V3.0.1
Copyright 2004 Internet Systems Consortium.
All rights reserved.
For info, please visit http://www.isc.org/sw/dhcp/

** You must add a ddns-update-style statement to /etc/dhcpd.conf.
   To get the same behaviour as in 3.0pl1 and previous
   versions, add a line that says "ddns-update-style ad-hoc;"
   Please read the dhcpd.conf manual page for more information. **

If you did not get this software from ftp.isc.org, please
get the latest from ftp.isc.org and install that before
requesting help.

If you did get this software from ftp.isc.org and have not
yet read the README, please read it before requesting help.
If you intend to request help from the dhcp-server@isc.org
mailing list, please read the section on the README about
submitting bug reports and requests for help.

Please do not under any circumstances send requests for
help directly to the authors of this software - please
send them to the appropriate mailing list as described in
the README file.

exiting.
[FAILED]
```

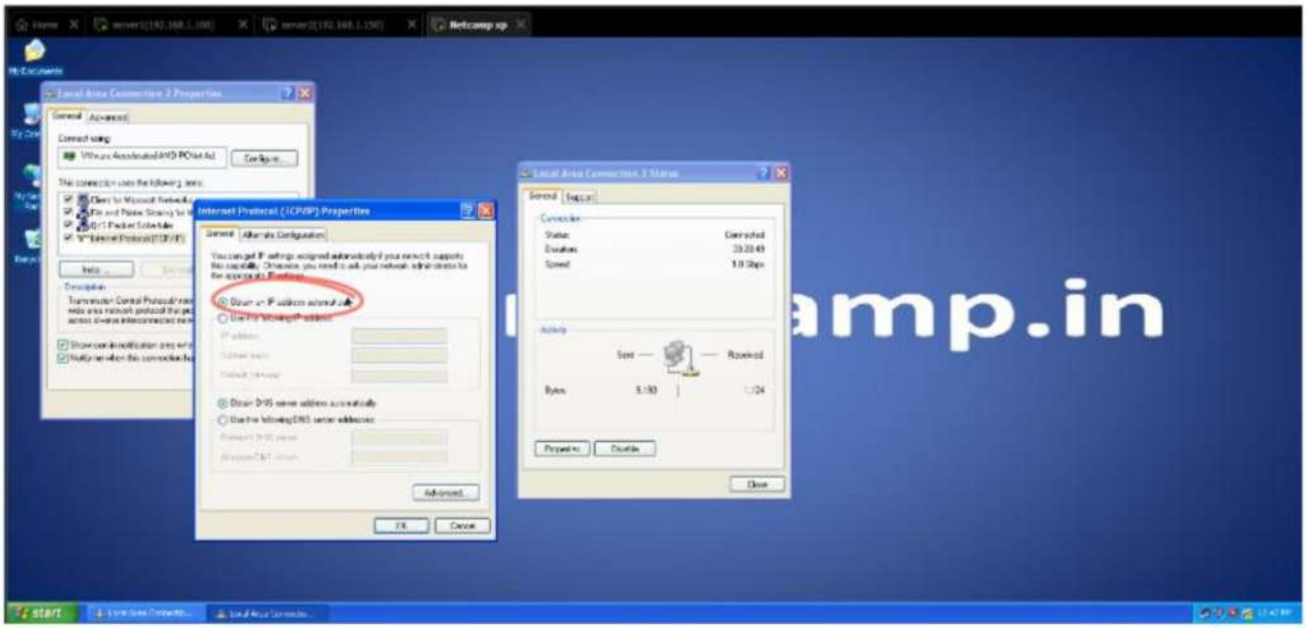
Return to previous page

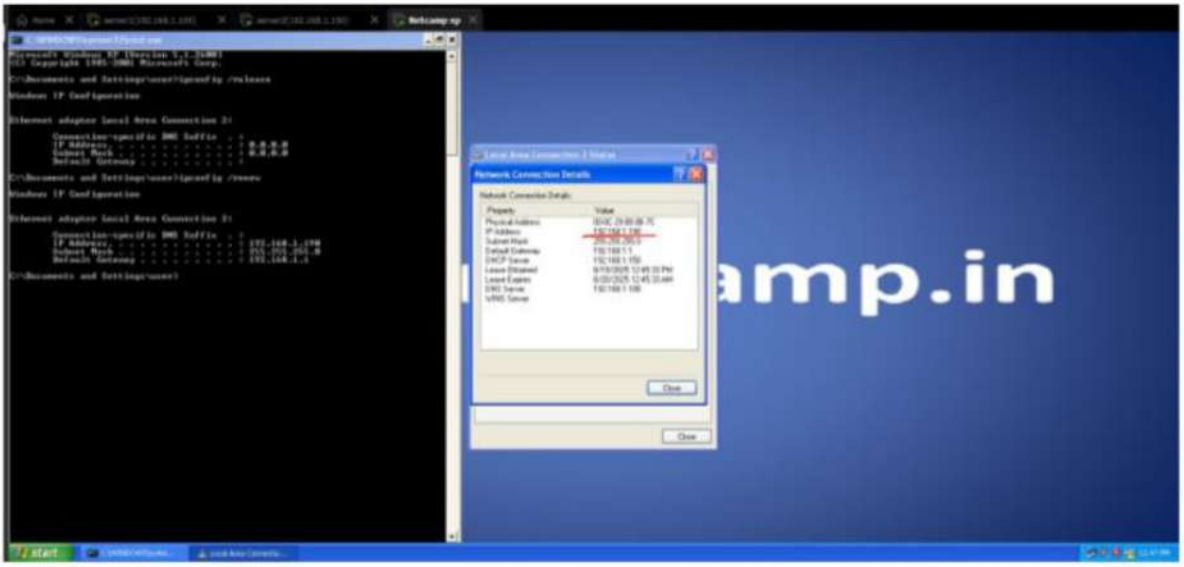
To debug error>connect telnet with ip 192.168.1.100>then add command ipconfig/release,ipconfig /renew>check on list>local area>

using command–dhcpd.conf(configuration file for DNCP server)and vi dhcpd.conf(command to open and edit that file using the vi text editor).>start server.



after connecting to host ,we have to obtain an IP address automatically





Not secure 192.168.1.150:10000/dhcpd/list_leases.cgi?

Webmin Index
Module Index

DHCP Leases

31 IP addresses available, 1 allocated (3 %)

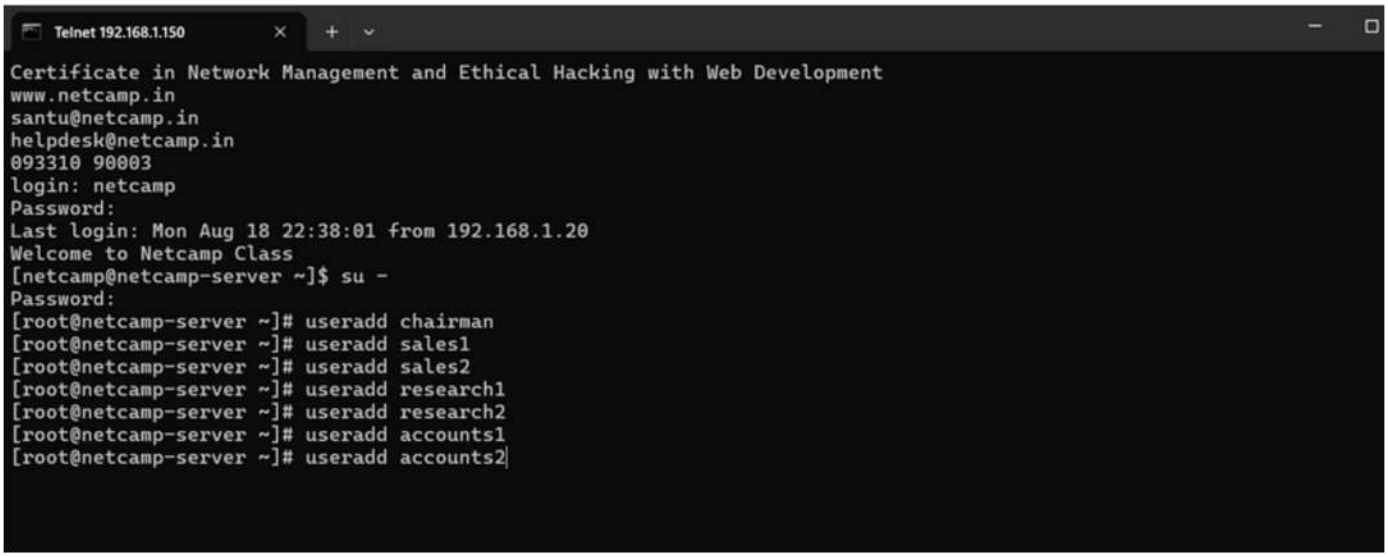
IP Address	Ethernet	Hostname	Start Date	End Date
192.168.1.190	00:0c:29:80:0b:7c	ws1	2025/08/15 07:02:59	2025/08/15 19:02:59

Click on a lease IP address from the list above to delete it.

List all active and expired leases

Return to network and host list

Open command prompt



Set the password for all the users(passwd chairman, sales 1, sales 2, research 1, research 2, accounts 1, accounts 2)

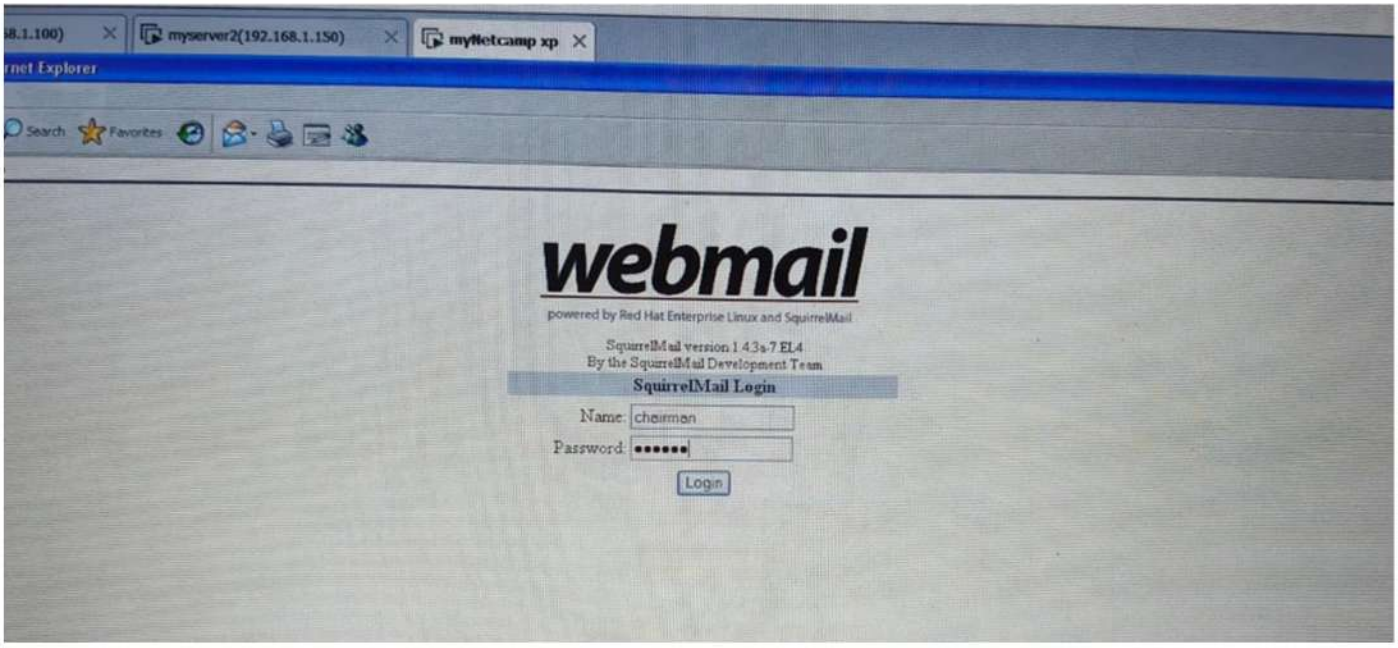
Common data folder for user (only departmental access – only the department people can read and write on the same)

/departmentname/data
Common driver folder for the user (only departmental access – only access (r-x)
but they can't write on the same)
/departmentname/driver
chairman will have full access on these folder called data and driver.

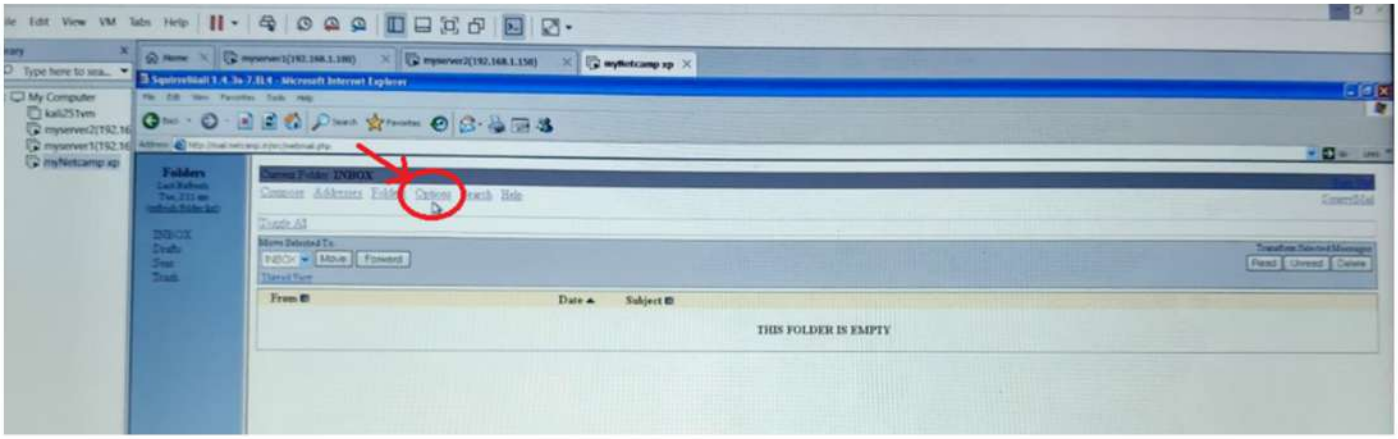
Please design and implement the same.

USER LOGIN IN WEBMIN

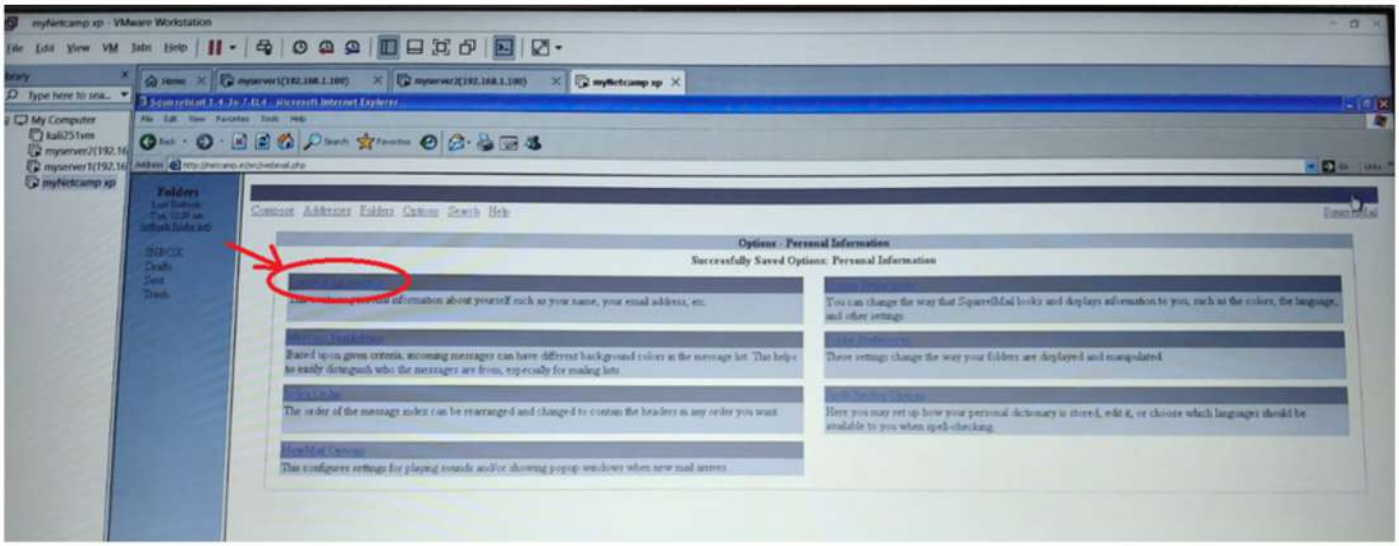
1.Login as user and enter the password



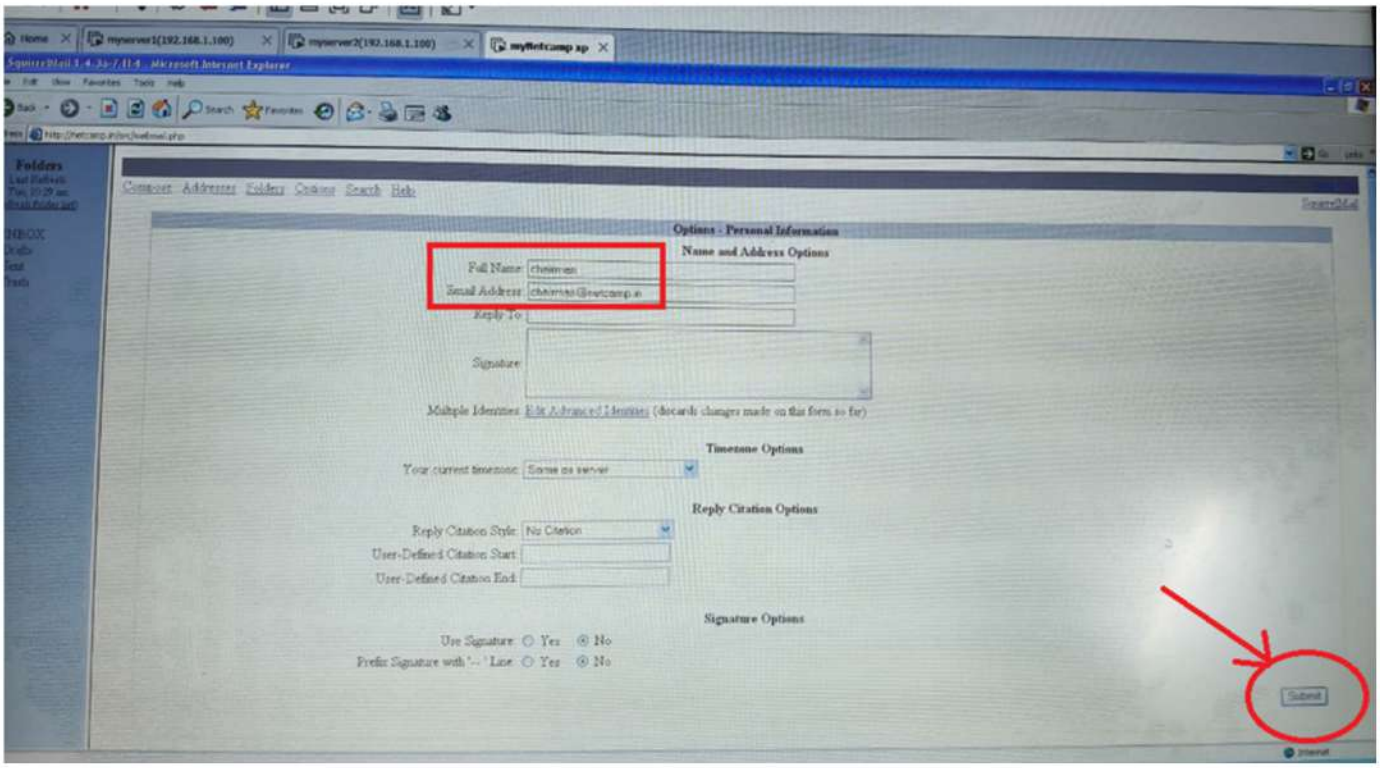
2.After login click on options



3.Click on personal details



4.Provide the name and email address and then click on submit

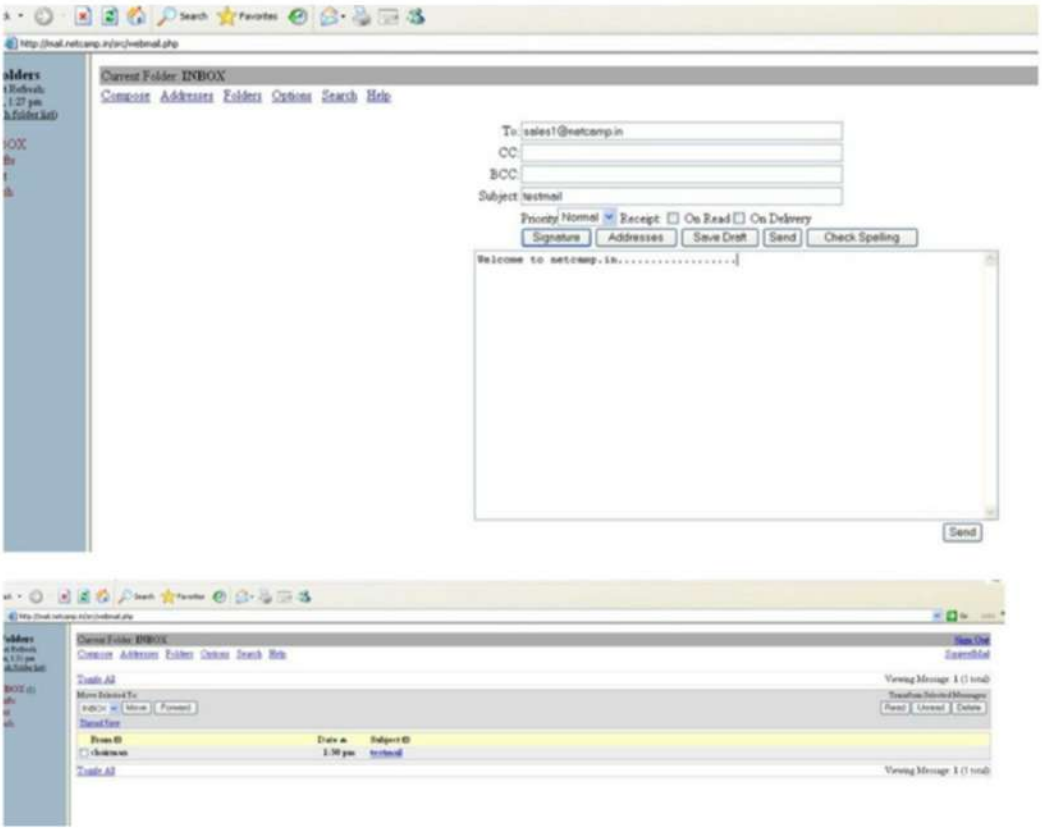


Then follow the same steps for respective users and set name and email address for each.

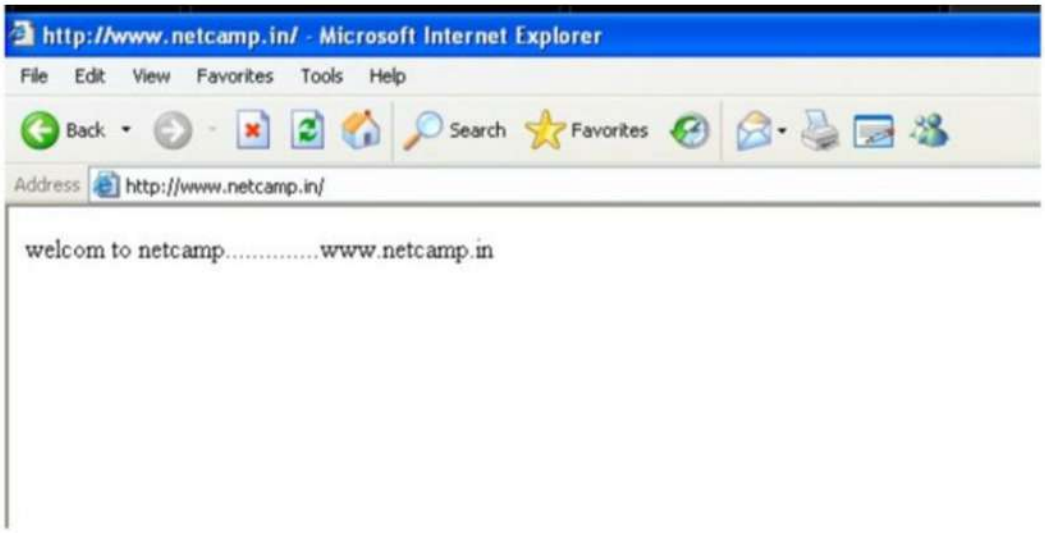
- **sales1 :-sales1@netcamp.in**
- **sales2 :-sales2@netcamp.in**
- **research1 :-research1@netcamp.in**
- **research2 :-research2@netcamp.in**
- **accounts1 :-accounts1@netcamp.in**
- **accounts2 :-accounts2@netcamp.in**

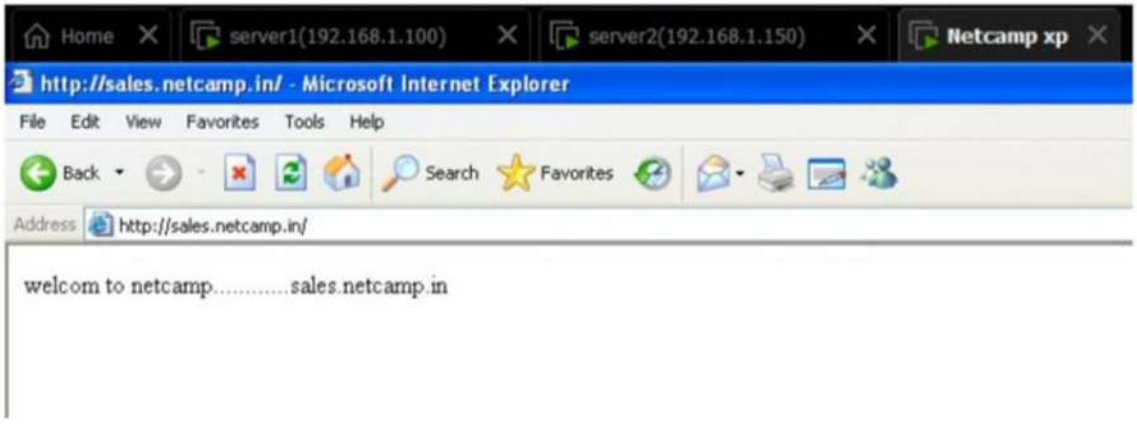
Result and output observation

chairman sends a mail to sales 1(client server



>>subdomain web server inside client server





File Server

```
[root@netcamp-server ~]# cd /
[root@netcamp-server /]# mkdir sales
[root@netcamp-server /]# ls -ld sales
drwxr-xr-x  2 root root 4096 Aug 18 20:50 sales
[root@netcamp-server /]# cd sales
[root@netcamp-server sales]# mkdir data driver
[root@netcamp-server sales]# ls -l
total 8
drwxr-xr-x  2 root root 4096 Aug 18 20:50 data
drwxr-xr-x  2 root root 4096 Aug 18 20:50 driver
```

- Make a sales folder and under that make data driver files and check the permission.

```
[root@netcamp-server sales]# chmod 757 data
[root@netcamp-server sales]# chmod 755 driver
[root@netcamp-server sales]# ls -l
total 8
drwxr-xrwx  2 root root 4096 Aug 18 20:50 data
drwxr-xr-x  2 root root 4096 Aug 18 20:50 driver
```

- change the permission of data drive files

  Date-(full access_757)

  Driver-> department-read access only_757

(Similarly for research and accounts)

Now we will add grp1 in which we will add chairman,sales1 and sales2

```
[root@netcamp-server sales]# cd /
[root@netcamp-server /]# groupadd grp1
[root@netcamp-server /]# usermod -G grp1 chairman
[root@netcamp-server /]# usermod -G grp1 sales1
[root@netcamp-server /]# usermod -G grp1 sales2
```

```
[root@netcamp-server /]# chgrp grp1 sales
[root@netcamp-server /]# ls -ld sales
drwxr-xr-x  4 root grp1 4096 Aug 18 20:53 sales
```

Now we will add grp2 in which we will add chairman,research1 and research2

```
[root@netcamp-server /]# groupadd grp2
[root@netcamp-server /]# usermod -G grp2 chairman
[root@netcamp-server /]# usermod -G grp2 research1
[root@netcamp-server /]# usermod -G grp2 research2
```

```
[root@netcamp-server /]# chgrp grp2 sales
[root@netcamp-server /]# ls -ld sales
drwxr-xr-x  4 root grp2 4096 Aug 18 20:53 sales
```

Now we will add grp3 in which we will add chairman,accounts1 and accounts2

```
[root@netcamp-server /]# groupadd grp3
[root@netcamp-server /]# usermod -G grp2 chairman
[root@netcamp-server /]# usermod -G grp2 accounts1
[root@netcamp-server /]# usermod -G grp2 accounts2
[root@netcamp-server /]# chgrp grp3 sales
[root@netcamp-server /]# ls -ld sales
drwxr-xr-x  4 root grp3 4096 Aug 18 20:53 sales
```

-------THANK YOU-------