

Network Design & Management (IE 3010) 3rd Year, 1st Semester

Assignment

Mail Server/Client Management

Submitted to
Sri Lanka Institute of Information Technology

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Declaration

I certify that this report does not incorporate without acknowledgement, any material previously submitted for a degree or diploma in any university, and to the best of my knowledge and belief it does not contain any material previously published or written by another person, except where due reference is made in text.

Installing & configuring DHCP

➤ Installing DHCP in centos

#yum install -y dhcp

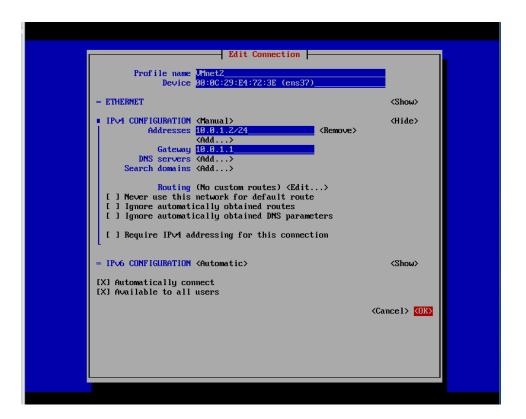


Figure 1

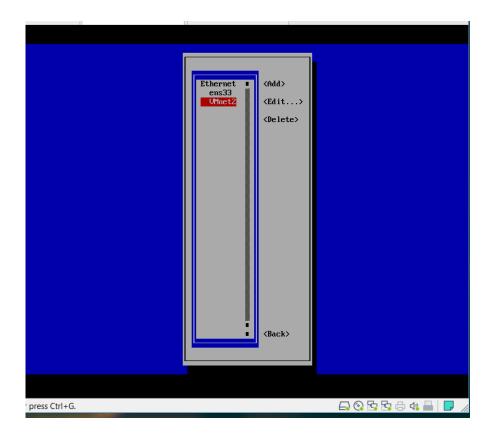


Figure 2

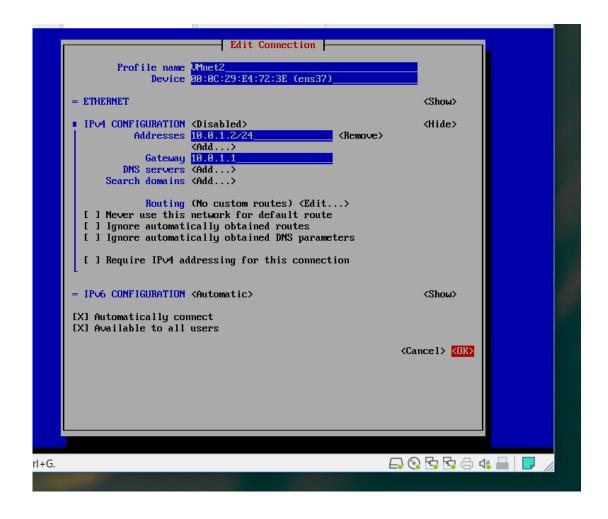


Figure 3

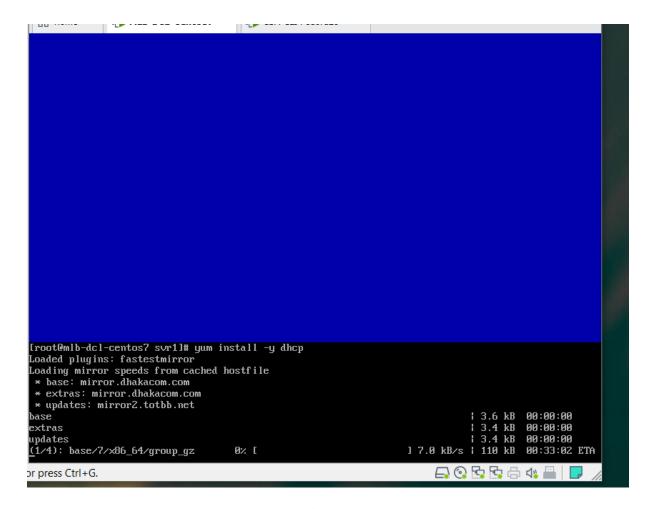


Figure 4

➤ Configuring DHCP settings

Now need to mention the interface details, which is going to be the DHCP interface

That for edit file /etc/sysconfig/dhcpd

vi/etc/sysconfig/dhcpd

Now assign the network interface

To do that DHCPDARGS

DHCPDARGS=ens33

After that save and close the file.

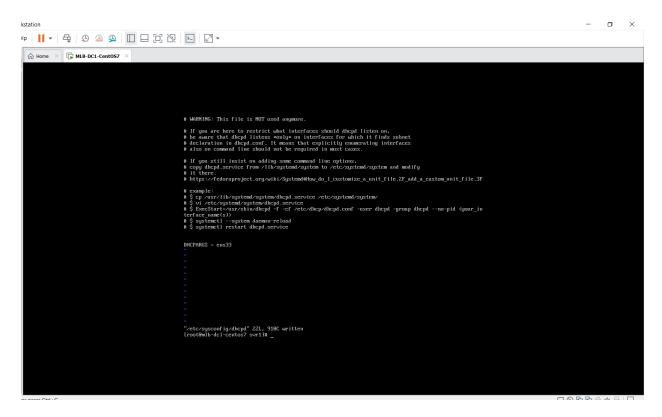


Figure 5

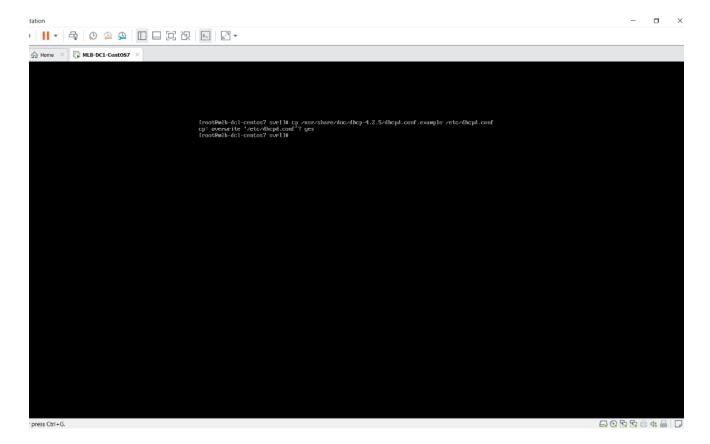


Figure 6

```
| BEF Screen Configuration file. | BEF Screen Configuration file.
```

Figure 7

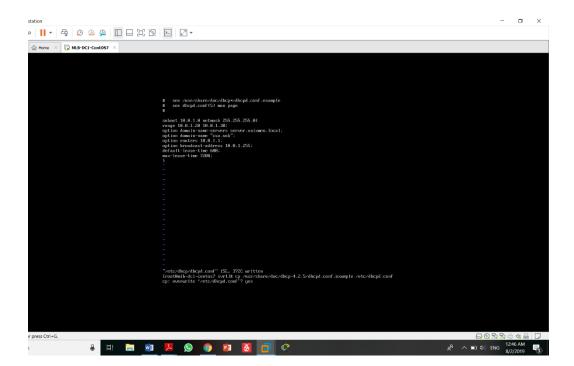


Figure 8

```
DHCP Server Configuration file.
see /usr/share/doc/dhcp*/dhcpd.conf.example
see dhcpd.conf(5) man page
                          ubnet 18.8.1.8 metmask 255.255.255.8(
ange 18.8.1.20 18.8.1.38;
ption domain-name-servers server.unixmen.local;
ption domain-name "cas.sub";
ption routers 18.8.1.1;
ption broadcast-address 18.8.1.255;
efault-lease-time 688;
ax-lease-time 7288;
                          ubnet 192.168.161.0 netmask 255.255.255.0{
nterface ens33;
                          /etc/dhcp/dhcpd.conf" 20L, 437C
Figure 9 or press Ctrl+G.
```

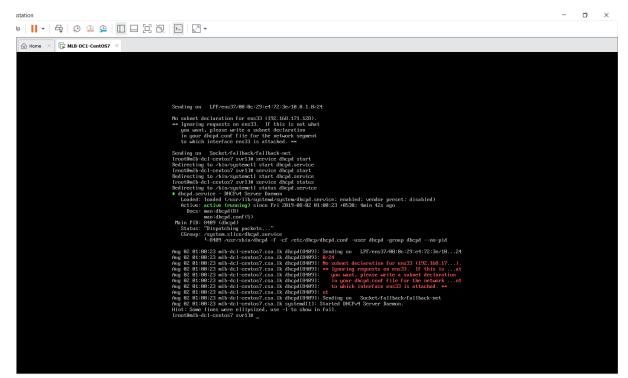


Figure 10

Installing and configuring DNS

In DNS domain names are translated into ip address. Ping command I used to obtain existing internet domains, the ping command is usually used as a simple way to verify that a computer can communicate over the network with another computer or device.

```
(root@cm svell# ping google.lk
PING google.tk (216.58.288.131) 56(91) bytes of data.
64 bytes from mod85:18-in-f3.1e180.met (216.58.288.131): imag_meq-1 ttl=128 time-2302 me
64 bytes from mod85:18-in-f3.1e180.met (216.58.288.131): imag_meq-2 ttl=128 time-2302 me
64 bytes from mod85:18-in-f3.1e180.met (216.58.288.131): imag_meq-2 ttl=128 time-2302 me
64 bytes from mod85:18-in-f3.1e180.met (216.58.288.131): imag_meq-3 ttl=128 time-230 me
64 bytes from mod85:18-in-f3.1e180.met (216.58.288.131): imag_meq-5 ttl=128 time-620 me
64 bytes from mod85:18-in-f3.1e180.met (216.58.288.131): imag_meq-5 ttl=128 time-640 me
64 bytes from mod85:18-in-f3.1e180.met (216.58.288.131): imag_meq-6 ttl=128 time-640 me
64 bytes from mod85:18-in-f3.1e180.met (216.58.288.131): imag_meq-7 ttl=128 time-640 me
64 bytes from mod85:18-in-f3.1e180.met (216.58.288.131): imag_meq-6 ttl=128 time-640 me
64 bytes from mod85:18-in-f3.1e180.met (216.58.288.131): imag_meq-6 ttl=128 time-653 me
64 bytes from mod85:18-in-f3.1e180.met (216.58.288.131): imag_meq-6 ttl=128 time-653 me
64 bytes from mod85:18-in-f3.1e180.met (216.58.288.131): imag_meq-12 ttl=128 time-652 me
64 bytes from mod85:18-in-f3.1e180.met (216.58.288.131): imag_meq-12 ttl=128 time-652 me
64 bytes from mod85:18-in-f3.1e180.met (216.58.288.131): imag_meq-12 ttl=128 time-652 me
64 bytes from mod85:18-in-f3.1e180.met (216.58.288.131): imag_meq-13 ttl=128 time-152 me
64 bytes from mod85:18-in-f3.1e180.met (216.58.288.131): imag_meq-13 ttl=128 time-152 me
64 bytes from mod85:18-in-f3.1e180.met (216.58.288.131): imag_meq-13 ttl=128 time-152 me
64 bytes from mod85:18-in-f3.1e180.met (216.58.288.131): imag_meq-13 ttl=128 time-152 me
64 bytes from mod85:18-in-f3.1e180.met (216.58.288.131): imag_meq-15 ttl=128 time-152 me
64 bytes from mod85:18-in-f3.1e180.met (216.58.288.131): imag_meq-15 ttl=128 time-152 me
64 bytes from mod85:18-in-f3.1e180.met (216.58.288.131): imag_meq-15 ttl=128 time-152 me
64 bytes from mod85:18-in-f3.1e180.met (216.58.288.131): imag_meq-15 ttl=128 time-152 me
65 bytes fr
```

Figure11

Ping command is used with google.lk & yahoo.com & both are successfully

```
| Market from another in (2), 1000 and (2),
```

Figure 12

Before installing DNS, BIND must be installed on centos. Its is done with command \$yum install -y bind*BIND is an open source software that enables you to publish your Domain name system (DNS) information on the Internet and resolve DNS queries for your user.

```
bind-lite-devel | xiii. 14 | 32.9.9.4-74.c17.5.2 | updates | bind-phes11 | xiii. 14 | 32.9.9.4-74.c17.5.2 | updates | bind-phes11-devel | xiii. 14 | 32.9.9.4-74.c17.5.2 | updates | bind-phes11-disset | xiii. 15 | xiii. 16 | xiii. 1
```

Figure 13

After installing BIND, DNS is started

```
Iroot@csa svr11# service named status
Redirecting to /bin/systemct1 status named.service
■ named.service - Berkeley Internet Name Domain (DNS)
■ Loaded: loaded (/usr/lib/systemd/system/named.service; disabled; vendor preset: disabled)
Active: inactive (dead)
Iroot@csa svr11# _
```

Figure 14

Then the status of DNS is checked.

```
[root@csa svri]# service named status named.service

# named.service - Berkeley Internet Name Domain (DNS)
Loaded: loaded (vurr/lib/system/system/named.service; enabled; vendor preset: disabled)
Active: active (running) since Tue 2019-68-86 22:86:93 | ST: 1h 20min ago

| Main PID: 36867 (named) | Main PID: 36867 (named) | Main PID: 36867 / Named | Named | Named | Named | Named |
```

Figure 15

The check the configurations in configuration file.

```
named.conf
   Provided by Red Hat bind package to configure the ISC BIND named(8) DNS
   server as a caching only nameserver (as a localhost DNS resolver only).
   See /usr/share/doc/bind*/sample/ for example named configuration files.
 arphi See the BIND Administrator's Reference Manual (ARM) for details about the
 // configuration located in /usr/share/doc/bind-(version)/BV9ARM.html
options {
           listen-on port 53 { 127.0.0.1; };
           listen-on-V6 port 53 { ::1; };
directory "/var/named";
           directory
                                 "/var/named/data/cache_dump.db";
           dump-file
           dump-file "/var/named/data/cache_dump.db";
statistics-file "/var/named/data/named_stats.txt";
memstatistics-file "/var/named/data/named_mem_stats.txt";
recursing-file "/var/named/data/named.recursing";
secroots-file "/var/named/data/named.secroots";
                                  { localhost; };
           allow-query

    If you are building an AUTHORITATIVE DNS server, do NOT enable recursion.
    If you are building a RECURSIVE (caching) DNS server, you need to enable

               recursion.
            - If your recursive DNS server has a public IP address, you MUST enable access
               control to limit queries to your legitimate users. Failing to do so will cause your server to become part of large scale DNS amplification attacks. Implementing BCP38 within your network would greatly
               reduce such attack surface
           recursion yes;
           dnssec-enable yes;
           dnssec-validation yes;
 /etc/named.conf" 61L, 1808C
                                                                                            le or press Ctrl+G.
```

Figure 16

Then Dig command is used to query DNS in Linux. Is used for querying DNS server for various DNS record and useful in troubleshooting DNS problems, dig command can be used to perform different types of DNS lookups in Linux

```
control to limit queries to your legitimate users. Failing to do so will cause your server to become part of large scale DNS amplification attacks. Implementing BCP38 within your network would greatly
              reduce such attack surface
          recursion yes:
          dnssec-enable yes;
dnssec-validation yes;
"/etc/named.conf" 61L, 1808C written
[root0csa svr1]# systemctl enable named
Created symlink from /etc/systemd/system/multi-user.target.wants/named.service to /usr/lib/sys
ustem/named.service.
[root@csa svr1]# systemctl start named
[root@csa s∪r1]# dig masterdns.csa.lk
  <<>> DiG 9.9.4-RedHat-9.9.4-74.e17_6.2 <<>> masterdns.csa.1k
 ; global options: *cmd
 : Got answer:
 : ->>HEADER<<- opcode: QUERY, status: NXDOMAIN, id: 612
; flags: qr rd ra; QUERY: 1, ANSWER: 0, AUTHORITY: 1, ADDITIONAL: 1
 : OPT PSEUDOSECTION:
 EDNS: version: 0, flags:; MBZ: 0005 , udp: 4096; QUESTION SECTION:
masterdns.csa.lk.
                                           IΝ
: AUTHORITY SECTION:
csa.lk.
                                                     SOA
                                                                ns1.neumaveit.co. chrisk.neumave-technology.co
9072400 86400 7200 3600000 86400
; Query time: 725 msec
; SERVER: 192.168.5.2#53(192.168.5.2)
   WHEN: Tue Aug 06 22:20:11 IST 2019
   MSG SIZE roud: 126
[root@csa svr1]#
```

Figure 17

```
:: OPT PSDBOSECTION:
: IRBS: vers los: 8, flggs:: MBZ: 8885 , adp: 4896
:: QUESTION SECTION:
:maxterdus.csa.lk. IN A
:: AUTHORITY SECTION:
:CS.lk. SIN SON msl.newwavelt.co. chrisk.newwave-technology.com, 281
:: Query tlue: 725 mecc
:: SERRER: 192.169.5, 2855(192.160.5.2)
:: MBD: The Rug 66 2223811 187 2819
:: MBD: The Rug 66 2223812 187 2819
:: Gobbal options: *cmat
:: Optional strend
:: Op
```

Figure 18

```
:: OPT PSEUDOSECTION:
; EDNS: Version: 0, flags:; MBZ: 0005 , udp: 4096
;; QUESTION SECTION:
google.com.
                                       IN
:: ANSWER SECTION:
google.com.
                                       IH
                                                          216.58.197.78
;; Query time: 40 msec
;; SERVER: 192.168.5.2#53(192.168.5.2)
;; WHEN: Tue Aug 06 22:30:22 IST 2019
;; MSG SIZE rowd: 55
[root@csa svr1]# dig @8.8.8.8 google.com
  <>>> DiG 9.9.4-RedHat-9.9.4-74.e17_6.2 <<>> @8.8.8.8 google.com
 (1 server found)
 ; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 37145
;; flags: qr rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 1
:: OPT PSEUDOSECTION:
EDMS: version: 0, flags:; udp: 512
 ; QUESTION SECTION:
                                       IН
google.com.
:: ANSWER SECTION:
google.com.
                             46
                                       IN
                                                 A
                                                          172.217.163.110
;; Query time: 100 msec
;; SERVER: 8.8.8.8#53(8.8.8.8)
;; WHEN: Tue Aug 06 22:30:42 IST 2019
;; MSG SIZE rowd: 55
[root@csa svr1]# _
```

Figure 19

Configure Zimbra Mail server

Connect Lan and Internet connected Interface and check connection using ping 8.8.8.8 .

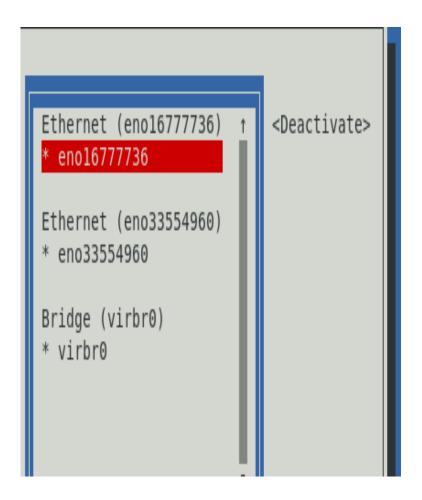


Figure 20

Install Packages using Yum -y install << pckage-name _space_ package-name>>

[root@localhost Desktop]# yum -y install unzip net-tools sysstat openssh-clients perl-core libaio nmap-ncat libstdc++.so.6
Loaded plugins: fastestmirror, langpacks
Loading mirror speeds from cached hostfile
* base: centos-hn.viettelidc.com.vn
* extras: centos.mirror.net.in
* updates: centos.mirror.net.in
Package net-tools-2.0-0.17.20131004git.el7.x86_64 already installed and latest version
Package libaio-0.3.109-13.el7.x86_64 already installed and latest version
Package 2:nmap-ncat-6.40-7.el7.x86_64 already installed and latest version
Resolving Dependencies

Figure 21

Disable SEL inux mode Temper

```
[root@localhost Desktop]# yum -y install unzip net-tools sysstat openssh-clients perl-core libaio nmap-ncat libstdc++.so.6
Loaded plugins: fastestmirror, langpacks
Loading mirror speeds from cached hostfile

* base: centos-hn.viettelidc.com.vn

* extras: centos.mirror.net.in

* updates: centos.mirror.net.in

Package net-tools-2.0-0.17.20131004git.el7.x86_64 already installed and latest version

Package libaio-0.3.109-13.el7.x86_64 already installed and latest version

Package 2:nmap-ncat-6.40-7.el7.x86_64 already installed and latest version

Resolving Dependencies
```

Figure 22

Remove Centos default MTA (postfix) using Yum disable postfix [disable if its enabled] & Yum remove postfix

After that go to the $\underline{\text{https://www.zimbra.com/downloads/zimbra-desktop/}}$ & download Zimbra tar package

Download folder and copy that package to that your floder ,after that open terminal and go to the local and extract that package

Go inside the package and extract location and run install.sh file

```
[root@localhost Desktop]# ls
zcs-8.6.0_GA_1153.RHEL7_64.20141215151110 zcs-8.6.0_GA_1153.RHEL7_64.20141215151110.tgz
[root@localhost Desktop]# cd zcs-8.6.0_GA_1153.RHEL7_64.20141215151110]# ls
bin data docs install.sh packages readme_binary_en_US.txt readme_source_en_US.txt README.txt util
[root@localhost zcs-8.6.0_GA_1153.RHEL7_64.20141215151110]# ./install.sh
Operations logged to /tmp/install.log.62282
```

Operations logged to /tmp/install.log.62282 Checking for existing installation...

Figure 23

Give all permission to install all packages as "YES"

```
Select the packages to install
Install zimbra-ldap [Y] Y
Install zimbra-logger [Y] Y
Install zimbra-mta [Y] Y
Install zimbra-dnscache [Y] Y
Install zimbra-snmp [Y] Y
Install zimbra-store [Y] Y
Install zimbra-apache [Y] Y
```

Figure 24

Do not change the host name and domain name after that set admin password for Zimbra

```
Address unconfigured (**) items (? - help) 7
Store configuration
  1) Status:
                                               Enabled
   2) Create Admin User:
                                               yes
   3) Admin user to create:
                                               admin@mail.example.com
** 4) Admin Password
                                              UNSET
   5) Anti-virus quarantine user:
                                               v≝us-quarantine.nuavlcsmdg@mail.example.com
   6) Enable automated spam training:
                                               yes
  7) Spam training user:
                                               spam.caaqdqrt@mail.example.com
                                               ham.givs5t6xy@mail.example.com
  8) Non-spam(Ham) training user:
```

Figure 25

Store configuration

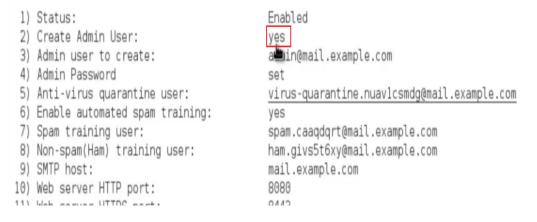


Figure 26

After the Installation go to the admin page of the Zimbra using browser $\frac{\text{https://10.0.1.2:7071}}{\text{decrease}}$ & create user and login to that user using $\frac{\text{https://10.0.1.2}}{\text{https://10.0.1.2}}$



Figure 27

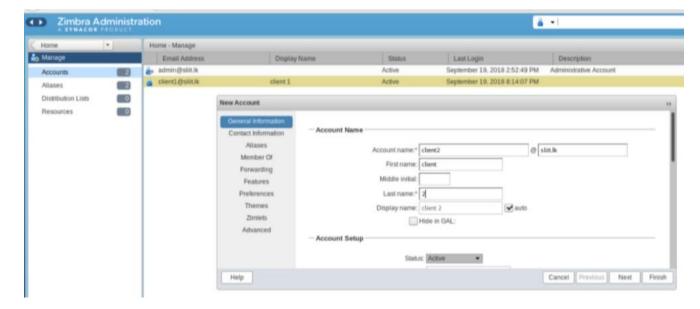


Figure 28

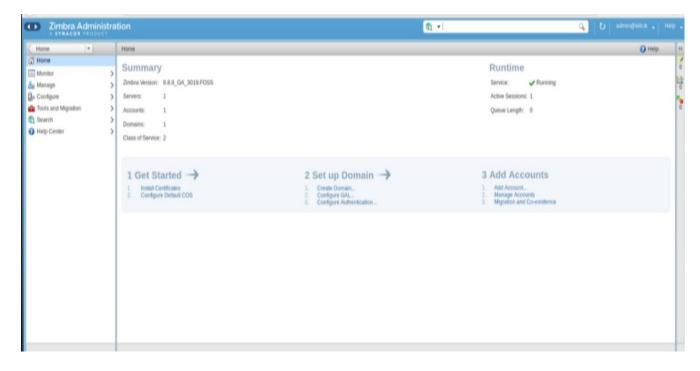


Figure 29

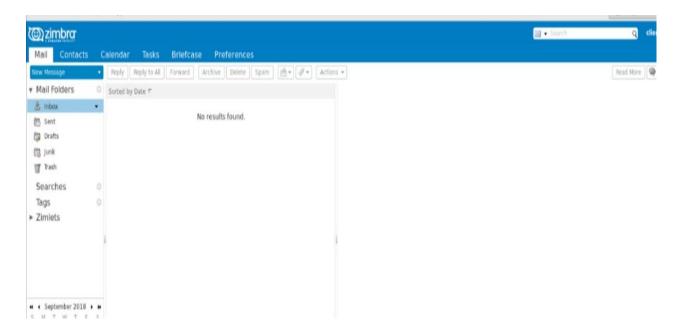


Figure 30

References

- > https://www.tecmint.com/install-dhcp-server-in-centos-rhel-fedora/.
- https://www.itzgeek.com/how-tos/linux/ubuntu-how-tos/install-and-configure-dhcp-server-on-centos-7-ubuntu-14-04.html
- ➤ https://www.digitalocean.com/community/tutorials/how-to-configure-bind-as-a-private-network-dns-server-on-centos-7
- https://www.tecmint.com/install-zimbra-collaboration-suite-on-centos-rhel/