

Table Of Contents

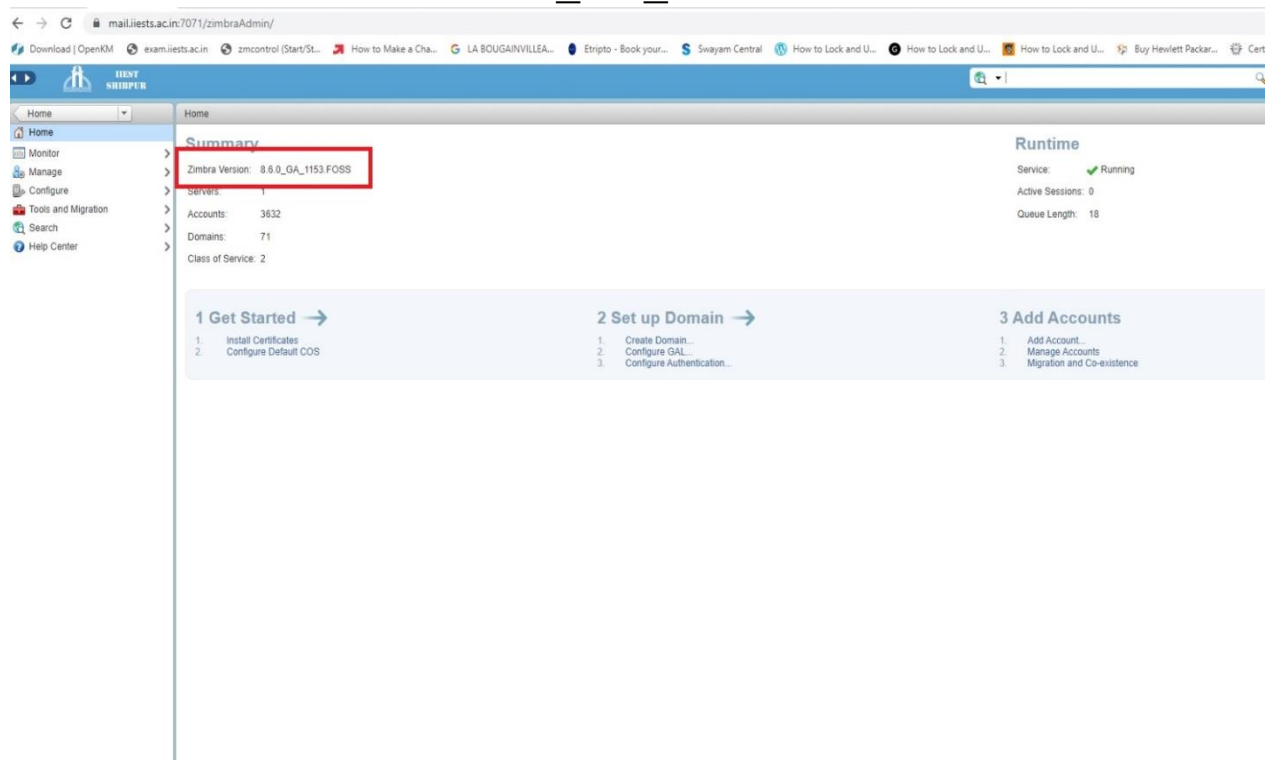
Table of Contents

OS Version in Old Live server was – CentOS 6.5	2
1.1 Zimbra Version – 8.6.0_GA_1153.FOSS	3
1.2 Total No of Servers – 1.....	3
1.3 Total No of Accounts – 3632.....	4
1.4 No of domains – 71	4
1.5 SSL – Expires on Oct 29, 2023. By Sectigo Limited.....	5
1.6 Data – 2.3 TB	6
Installation of OS RHEL 8.7:.....	7
Installation & Configuration of Zimbra	12
1.1 Prerequisites :-.....	12
1.2 DNS Configuration:	12
1.3 Other Host Configurations	15
Zimbra Installation	16
3.1 Log onto the Administration Console	29
Zimbra Migration	30
Installing DRBD on both the nodes :	35
Configuration of Spam Filtering	40
1.1 Outright Blocking With Postfix DNS Protocol Checks	40
1.2 Outright Blocking of Bad Sending Servers	40
1.3 Outright Blocking of Certain Attachments.....	40
1.4 Enforcing a match between FROM address and sasl username.....	42
1.5 Tuning SpamTag and SpamKill	43
1.6 Cbpolicy webui activated, and it's authentication implemented.	44

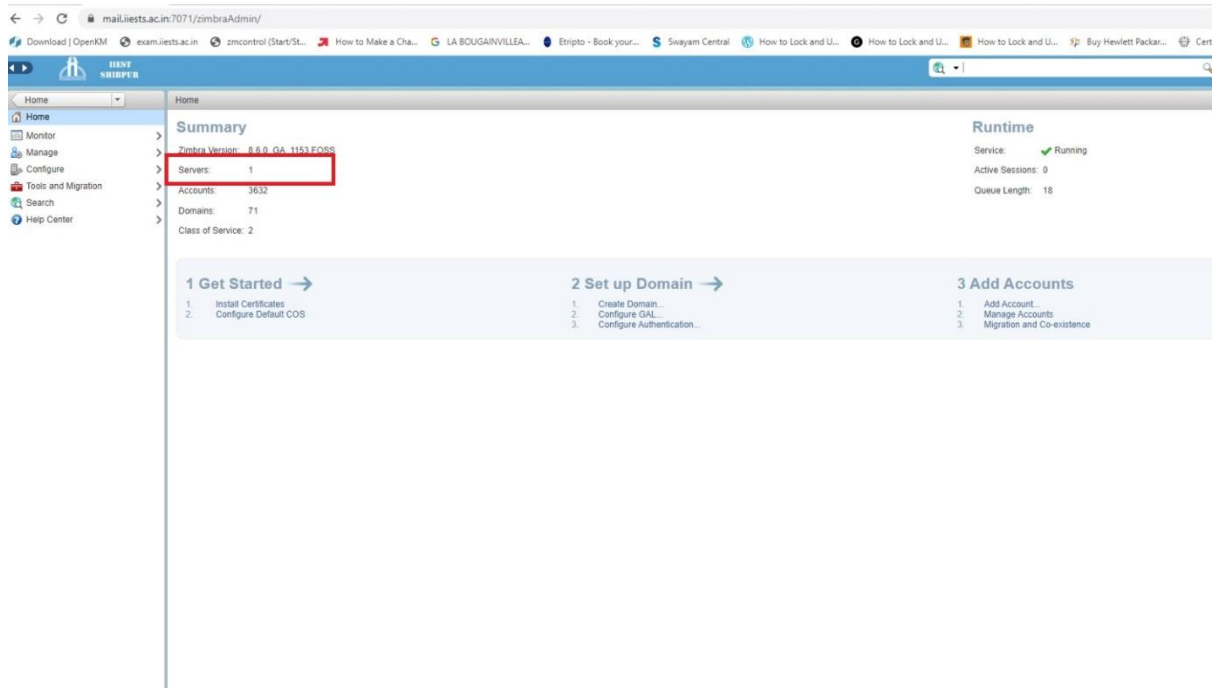
OS Version in Old Live server was – CentOS 6.5

```
delta@10.1.0.77:22 - Bitvise xterm - delta@zimbra:~  
[root@zimbra ~]# cat /etc/centos-release  
CentOS release 6.5 (Final)  
[root@zimbra ~]#
```

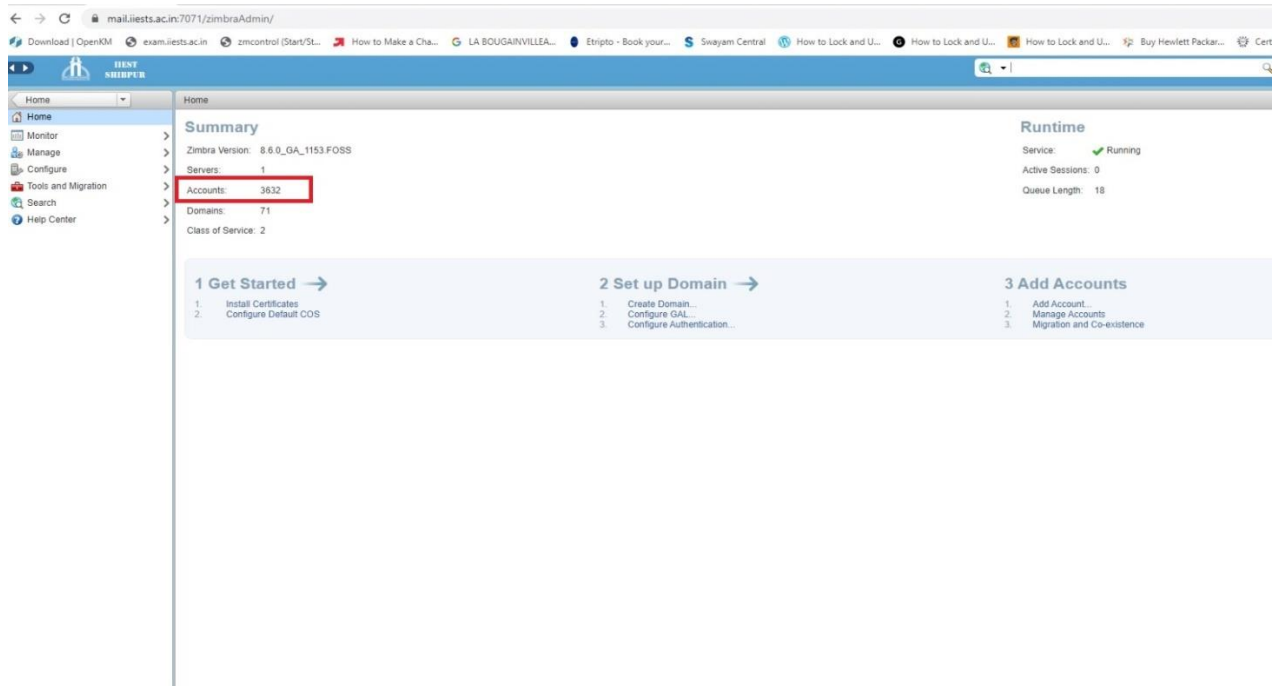
1.1 Zimbra Version – 8.6.0_GA_1153.FOSS



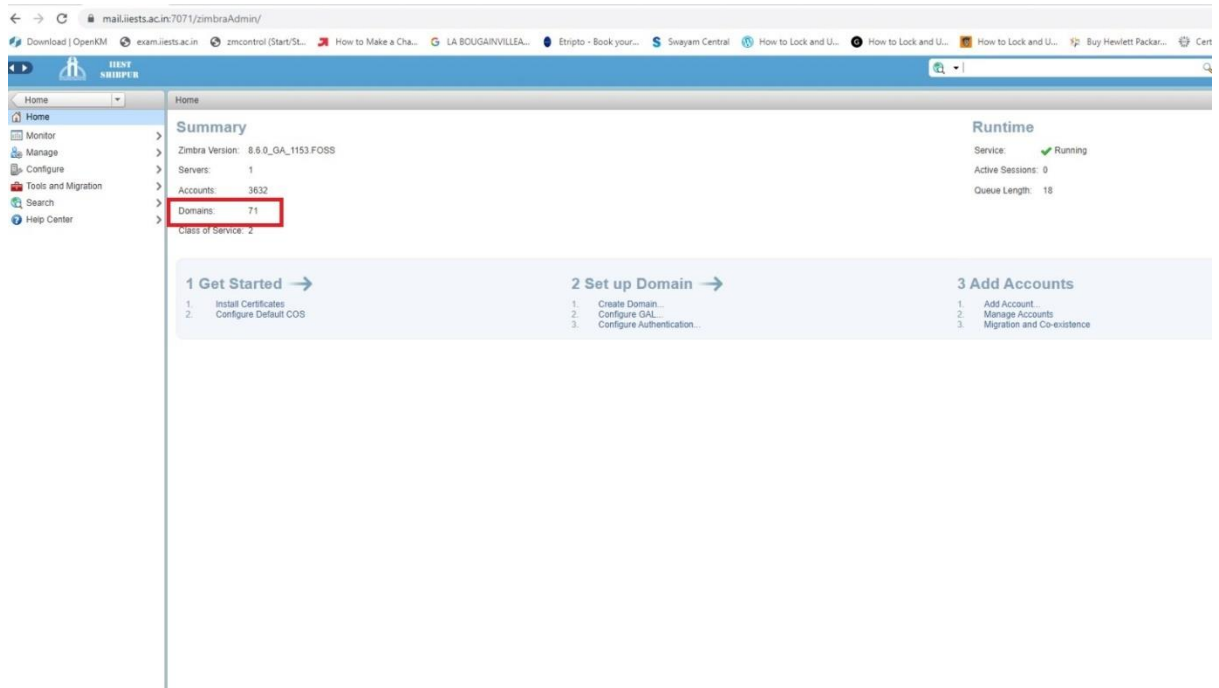
1.2 Total No of Servers – 1



1.3 Total No of Accounts – 3632



1.4 No of domains – 71



1.5 SSL – Expires on Oct 29, 2023. By Sectigo Limited.

General

Details

Issued To

Common Name (CN)	*.iiests.ac.in
Organization (O)	<Not Part Of Certificate>
Organizational Unit (OU)	<Not Part Of Certificate>

Issued By

Common Name (CN)	Sectigo RSA Domain Validation Secure Server CA
Organization (O)	Sectigo Limited
Organizational Unit (OU)	<Not Part Of Certificate>

Validity Period

Issued On	Monday, October 17, 2022 at 5:30:00 AM
Expires On	Sunday, October 29, 2023 at 5:29:59 AM

Fingerprints

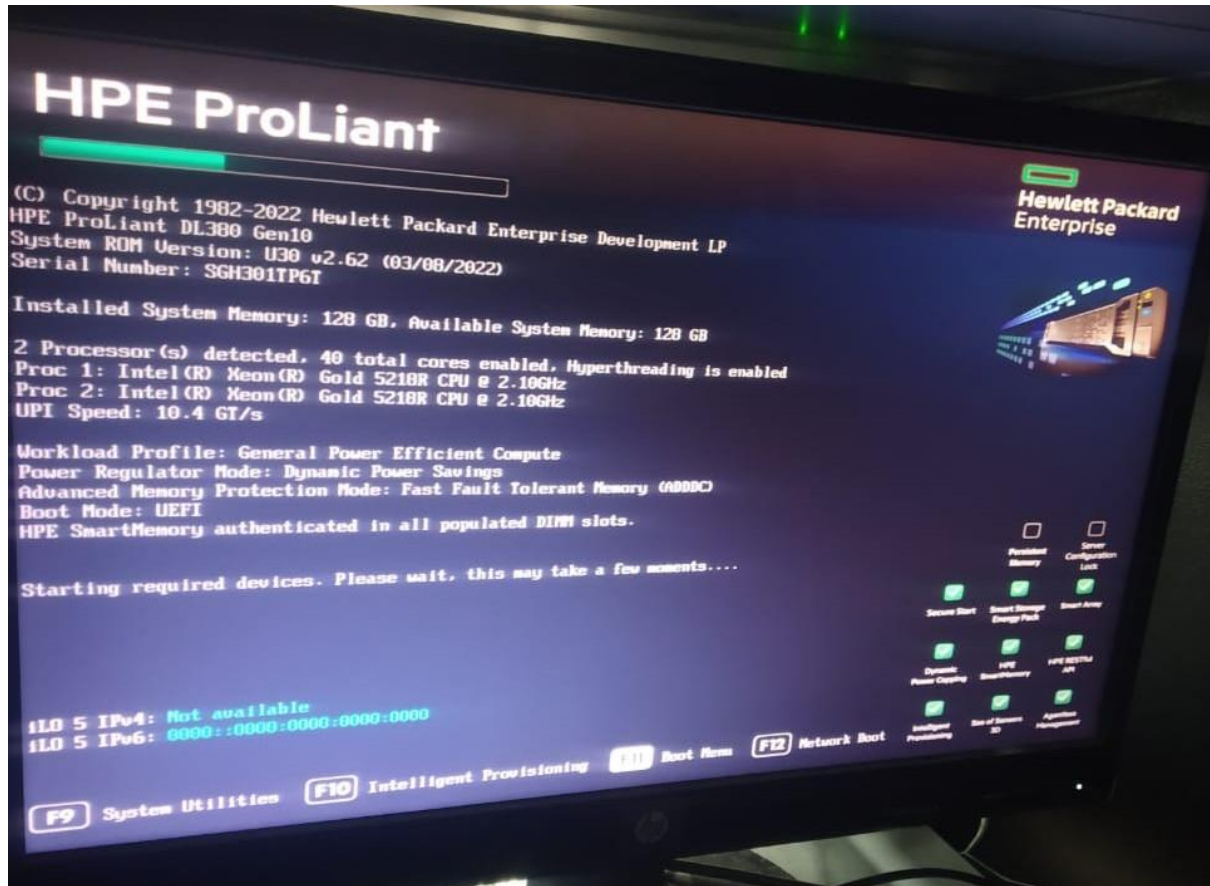
SHA-256 Fingerprint	AE 0E 0E B4 B7 A6 77 D3 C6 E1 AA 5C 15 1C 9F C5 6B 82 CA 51 05 40 0C 18 24 1D 61 8B 5B DC A8 99
SHA-1 Fingerprint	AC 91 08 5B 7E 91 5D 5B FD F5 80 E7 FE A9 EA 66 20 E7 76 E2

1.6 Data – 2.3 TB

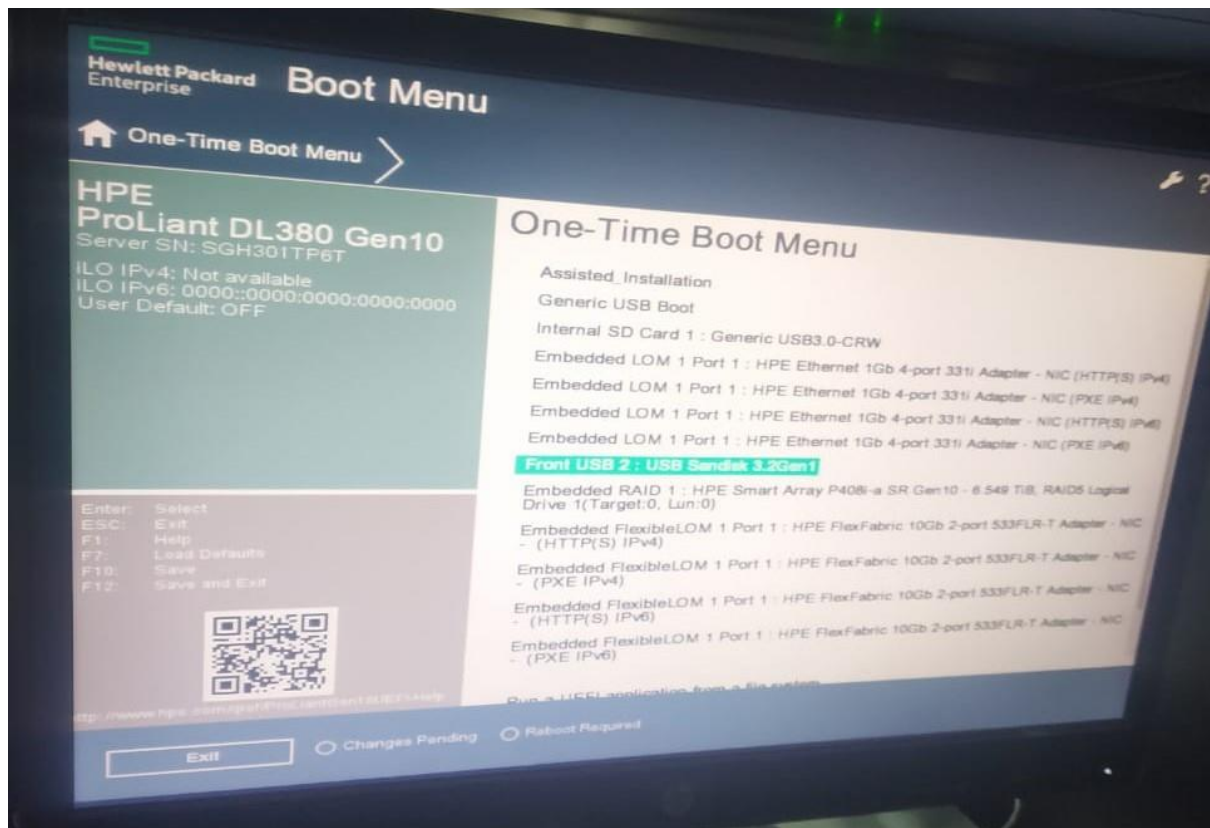
```
delta@10.1.0.77:22 - Bitvise xterm - delta@zimbra:/home/delta
root@zimbra delta]# df -hT
filesystem      Type  Size  Used Avail Use% Mounted on
dev/sda3        ext4  3.6T  2.3T  1.1T  69% /
tmpfs           tmpfs  16G   228K   16G   1% /dev/shm
/dev/sda1       ext4  1008M   90M  868M  10% /boot
[root@zimbra delta]#
```

Installation of OS RHEL 8.7:

- 2.1. Download the RHEL 8.7 ISO image.
- 2.2. Make a bootable pen drive with the ISO image.
- 2.3. Insert the pen drive & boot the server.
- 2.4. Press F11 for Boot Menu



2.5. Select the USB drive and start Installation.



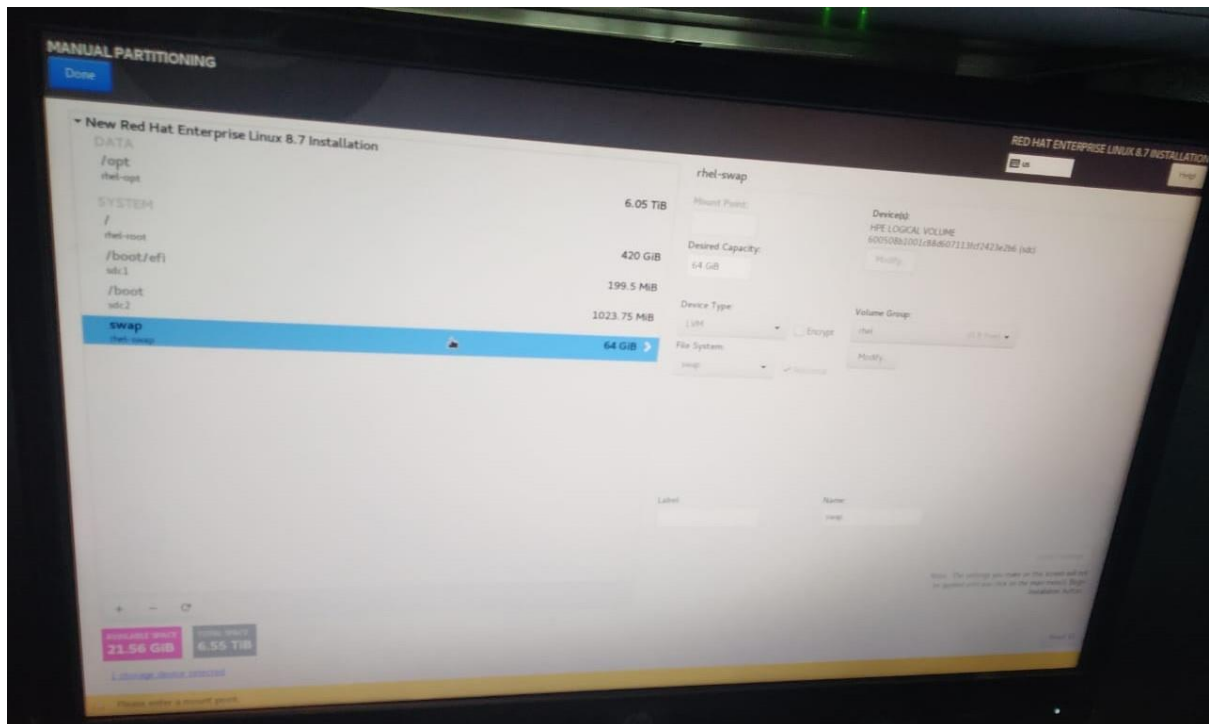
2.6. Partitioning done –

/opt – 6200G

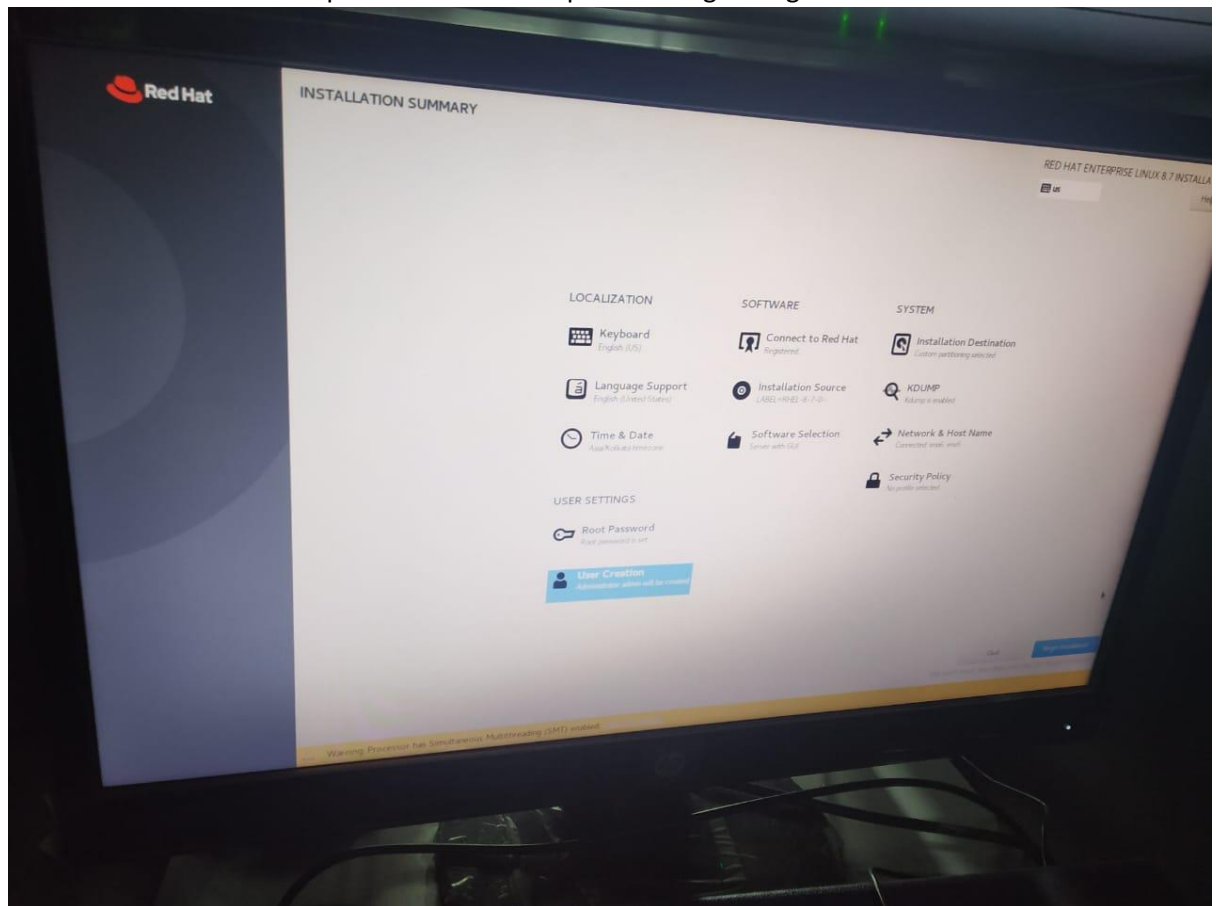
/ - 420G

Swap – 64G

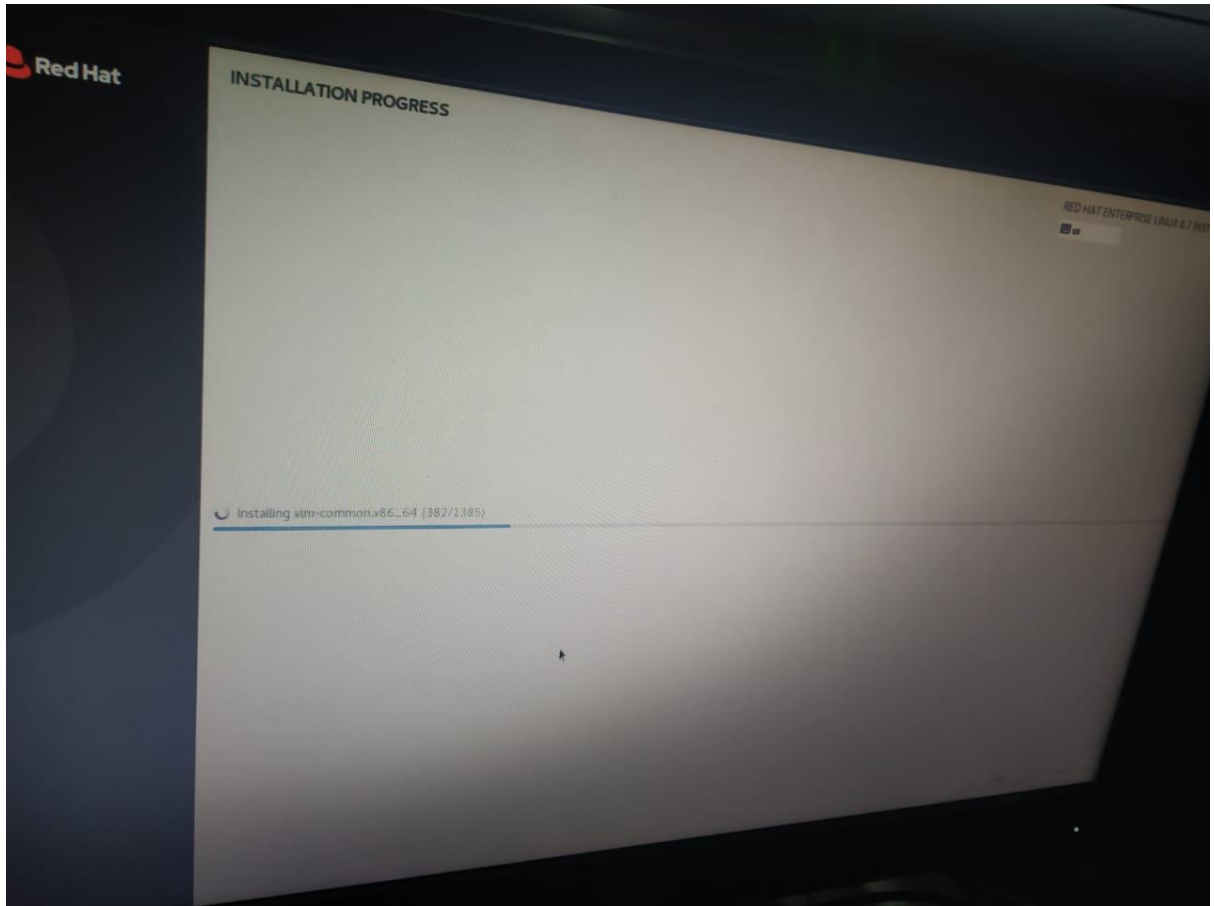
/boot – 1G



2.7. Select Timezone, language, set root and admin account passwords. Login to RedHat account and attach subscription via the subscription manager. Begin installation.



2.8. Complete the installation and reboot.



Installation & Configuration of Zimbra

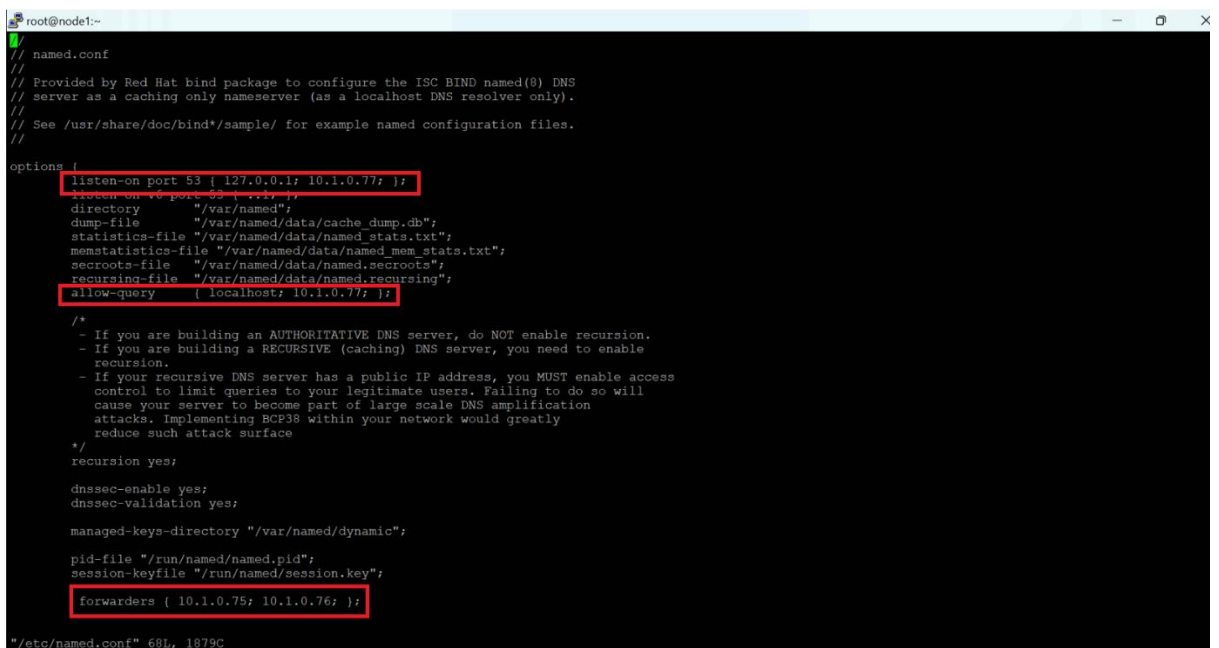
1.1 Prerequisites :-

- Install the following packages - Perl perl-core nmap libidn gmp libaio libstdc++ unzip sysstat wget .
- # yum install perl perl-core nmap libidn gmp libaio libstdc++ unzip sysstat wget

1.2 DNS Configuration:

When you create a domain during the installation process, ZCS checks to see if you have an MX record correctly configured. If it is not, an error is displayed suggesting that the domain name have an MX record configured in DNS.

- Install dns (bind) packages by below command:
yum install bind bind-chroot bind-utils
- Enable named service on system boot time by below command:
systemctl enable named
- Make the entry of your IP in /etc/named.conf file in the listen-on port line. Also add the IP address in the allow query line.



```
root@node1:~  
// 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.  
options {  
    listen-on port 53 { 127.0.0.1; 10.1.0.77; };  
    listen-on-v6 port 53 { ::1; };  
    directory "/var/named";  
    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";  
    secroots-file "/var/named/data/named.secroots";  
    recursing-file "/var/named/data/named.recursing";  
    allow-query { localhost; 10.1.0.77; };  
    /*  
    - 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;  
    managed-keys-directory "/var/named/dynamic";  
    pid-file "/run/named/named.pid";  
    session-keyfile "/run/named/session.key";  
    forwarders { 10.1.0.76; 10.1.0.76; };  
};  
"/etc/named.conf" 68L, 1879C
```

- Create zone file location configuration for domains.

```
/* https://fedoraproject.org/wiki/Changes/CryptoPolicy */
include "/etc/crypto-policies/back-ends/bind.config";
};

logging {
    channel default_debug {
        file "data/named.run";
        severity dynamic;
    };
};

zone "." IN {
    type hint;
    file "named.ca";
};

zone "iiests.ac.in" IN {
type master;
    file "/var/named/node1.iiests.ac.in.hosts";
};

include "/etc/named.rfc1912.zones";
include "/etc/named.root.key";
█
```

- ```
[root@node1]# vi /var/named/node1.iests.ac.in.hosts
```

[illegible]

### 1.3 Other Host Configurations

- Enter the Zimbra hostname and IP address in `/etc/hosts` file. Also enter the external ldap details in the file.

```
zimbra@node1:~
#27.0.0.1 localhost localhost.localdomain localhost4 localhost4.localdomain4
#1 localhost localhost.localdomain localhost6 localhost6.localdomain6
#01.0.0.77 mail.iiests.ac.in mail
#01.0.0.77 node1.iiests.ac.in node1
#01.0.0.75 ldapmaster.iiests.ac.in ldapmaster
#01.0.0.76 ldapslave.iiests.ac.in ldapslave
#4.139.223.185 mail.iiests.ac.in mail
#4.139.223.185 zimbra.iiests.ac.in zimbra
#115.114.126.196 pdcmal102.incometaxindiaefiling.gov.in
#01.0.0.80 node2.iiests.ac.in node2

"/etc/hosts" [readonly] 10L, 511C
```

- Disable postfix - # systemctl disable postfix
- Make the Selinux permanently disabled –  
[root@node1 ~]# vi /etc/selinux/config



```
root@localhost ~#
Connecting to files.zimbra.com (files.zimbra.com)[108.159.94.213]:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 257588163 (246M) [binary/octet-stream]
Saving to: 'zcs-8.8.15_GA_3953.RHEL8_64.20200629025823.tgz'

zcs-8.8.15_GA_3953.RHEL8_64.20200629025 100%[=====] 245.65M 122KB/s
2023-04-11 15:47:42 (109 MB/s) - 'zcs-8.8.15_GA_3953.RHEL8_64.20200629025823.tgz' saved [257588163/257588163]

root@mail ~]# ls
anaconda-ks.cfg Desktop Documents Downloads Music Pictures Public Templates Videos zcs-8.8.15_GA_3953.RHEL8_64.20200629025823.tgz
root@mail ~]# tar xvfz zcs-8.8.15_GA_3953.RHEL8_64.20200629025823.tgz
zcs-8.8.15_GA_3953.RHEL8_64.20200629025823/
zcs-8.8.15_GA_3953.RHEL8_64.20200629025823/bin/
zcs-8.8.15_GA_3953.RHEL8_64.20200629025823/bin/checkLicense.pl
zcs-8.8.15_GA_3953.RHEL8_64.20200629025823/bin/checkService.pl
zcs-8.8.15_GA_3953.RHEL8_64.20200629025823/bin/get_plat_tag.sh
zcs-8.8.15_GA_3953.RHEL8_64.20200629025823/bin/zmValidateLdap.pl
zcs-8.8.15_GA_3953.RHEL8_64.20200629025823/data/
zcs-8.8.15_GA_3953.RHEL8_64.20200629025823/data/versions-init.sql
zcs-8.8.15_GA_3953.RHEL8_64.20200629025823/docs/
zcs-8.8.15_GA_3953.RHEL8_64.20200629025823/docs/en_US/
zcs-8.8.15_GA_3953.RHEL8_64.20200629025823/docs/en_US/admin.pdf
zcs-8.8.15_GA_3953.RHEL8_64.20200629025823/docs/en_US/Fedora Server Config.pdf
zcs-8.8.15_GA_3953.RHEL8_64.20200629025823/docs/en_US/Import Wizard Outlook.pdf
zcs-8.8.15_GA_3953.RHEL8_64.20200629025823/docs/en_US/Migration Exch Admin.pdf
zcs-8.8.15_GA_3953.RHEL8_64.20200629025823/docs/en_US/MigrationWizard Domino.pdf
zcs-8.8.15_GA_3953.RHEL8_64.20200629025823/docs/en_US/MigrationWizard.pdf
zcs-8.8.15_GA_3953.RHEL8_64.20200629025823/docs/en_US/OSMultiserverinstall.pdf
zcs-8.8.15_GA_3953.RHEL8_64.20200629025823/docs/en_US/quick_start.pdf
zcs-8.8.15_GA_3953.RHEL8_64.20200629025823/docs/en_US/RN2CSO 2005Beta.pdf
zcs-8.8.15_GA_3953.RHEL8_64.20200629025823/docs/en_US/User Instructions for ZCS Import Wizard.pdf
zcs-8.8.15_GA_3953.RHEL8_64.20200629025823/docs/en_US/zimbra iCalendar Migration Guide.pdf
zcs-8.8.15_GA_3953.RHEL8_64.20200629025823/docs/zcl.txt
zcs-8.8.15_GA_3953.RHEL8_64.20200629025823/lib/
zcs-8.8.15_GA_3953.RHEL8_64.20200629025823/lib/jars/
zcs-8.8.15_GA_3953.RHEL8_64.20200629025823/packages/
zcs-8.8.15_GA_3953.RHEL8_64.20200629025823/packages/zimbra-apache-8.8.15_GA_3953.RHEL8_64-20200629025823.x86_64.rpm
zcs-8.8.15_GA_3953.RHEL8_64.20200629025823/packages/zimbra-core-8.8.15_GA_3953.RHEL8_64-20200629025823.x86_64.rpm
zcs-8.8.15_GA_3953.RHEL8_64.20200629025823/packages/zimbra-dnscache-8.8.15_GA_3953.RHEL8_64-20200629025823.x86_64.rpm
zcs-8.8.15_GA_3953.RHEL8_64.20200629025823/packages/zimbra-imapd-8.8.15_GA_3953.RHEL8_64-20200629025823.x86_64.rpm
zcs-8.8.15_GA_3953.RHEL8_64.20200629025823/packages/zimbra-idap-8.8.15_GA_3953.RHEL8_64-20200629025823.x86_64.rpm
```

- Change directory to zcs-8.8.15  
# cd zcs-8.8.15\_GA\_3953.RHEL8\_64.20200629025823

- Execute the installation script –  
# ./install.sh

```
root@localhost:~/zcs-8.8.15_GA_3953.RHEL8_64.20200629025823/
[root@mail ~]# ls
anaconda-ks.cfg Documents Music Public Videos
Desktop Downloads Pictures Templates zcs-8.8.15_GA_3953.RHEL8_64.20200629025823/
[root@mail ~]# cd zcs-8.8.15_GA_3953.RHEL8_64.20200629025823/
[root@mail zcs-8.8.15_GA_3953.RHEL8_64.20200629025823]# ./install.sh
```

```
Operations logged to /tmp/install.log.P4svRxy
Checking for existing installation...
```

```
zimbra-drive...NOT FOUND
zimbra-imapd...NOT FOUND
zimbra-patch...NOT FOUND
zimbra-mta-patch...NOT FOUND
zimbra-proxy-patch...NOT FOUND
zimbra-license-tools...NOT FOUND
zimbra-license-extension...NOT FOUND
zimbra-network-store...NOT FOUND
zimbra-network-modules-ng...NOT FOUND
zimbra-chat...NOT FOUND
zimbra-talk...NOT FOUND
zimbra-ldap...NOT FOUND
zimbra-logger...NOT FOUND
zimbra-mta...NOT FOUND
zimbra-dnscache...NOT FOUND
zimbra-snmp...NOT FOUND
zimbra-store...NOT FOUND
zimbra-apache...NOT FOUND
zimbra-spell...NOT FOUND
zimbra-convertd...NOT FOUND
zimbra-memcached...NOT FOUND
zimbra-proxy...NOT FOUND
zimbra-archiving...NOT FOUND
zimbra-core...NOT FOUND
```

```

PLEASE READ THIS AGREEMENT CAREFULLY BEFORE USING THE SOFTWARE.
SYNACOR, INC. ("SYNACOR") WILL ONLY LICENSE THIS SOFTWARE TO YOU IF YOU
FIRST ACCEPT THE TERMS OF THIS AGREEMENT. BY DOWNLOADING OR INSTALLING
THE SOFTWARE, OR USING THE PRODUCT, YOU ARE CONSENTING TO BE BOUND BY
THIS AGREEMENT. IF YOU DO NOT AGREE TO ALL OF THE TERMS OF THIS
AGREEMENT, THEN DO NOT DOWNLOAD, INSTALL OR USE THE PRODUCT.

```

```
License Terms for this Zimbra Collaboration Suite Software:
https://www.zimbra.com/license/zimbra-public-eula-2-6.html

```

```
Do you agree with the terms of the software license agreement? [N]
```

```
root@localhost:~/zcs #
zimbra-memcached...NOT FOUND
zimbra-proxy...NOT FOUND
zimbra-archiving...NOT FOUND
zimbra-core...NOT FOUND
```

```

PLEASE READ THIS AGREEMENT CAREFULLY BEFORE USING THE SOFTWARE.
SYNACOR, INC. ("SYNACOR") WILL ONLY LICENSE THIS SOFTWARE TO YOU IF YOU
FIRST ACCEPT THE TERMS OF THIS AGREEMENT. BY DOWNLOADING OR INSTALLING
THE SOFTWARE, OR USING THE PRODUCT, YOU ARE CONSENTING TO BE BOUND BY
THIS AGREEMENT. IF YOU DO NOT AGREE TO ALL OF THE TERMS OF THIS
AGREEMENT, THEN DO NOT DOWNLOAD, INSTALL OR USE THE PRODUCT.

```

```
License Terms for this Zimbra Collaboration Suite Software:
https://www.zimbra.com/license/zimbra-public-eula-2-6.html

```

```
Do you agree with the terms of the software license agreement? [N] y
```

```
Use Zimbra's package repository [Y] y
```

```
Importing Zimbra GPG key
```

```
Configuring package repository
```

```
Checking for installable packages
```

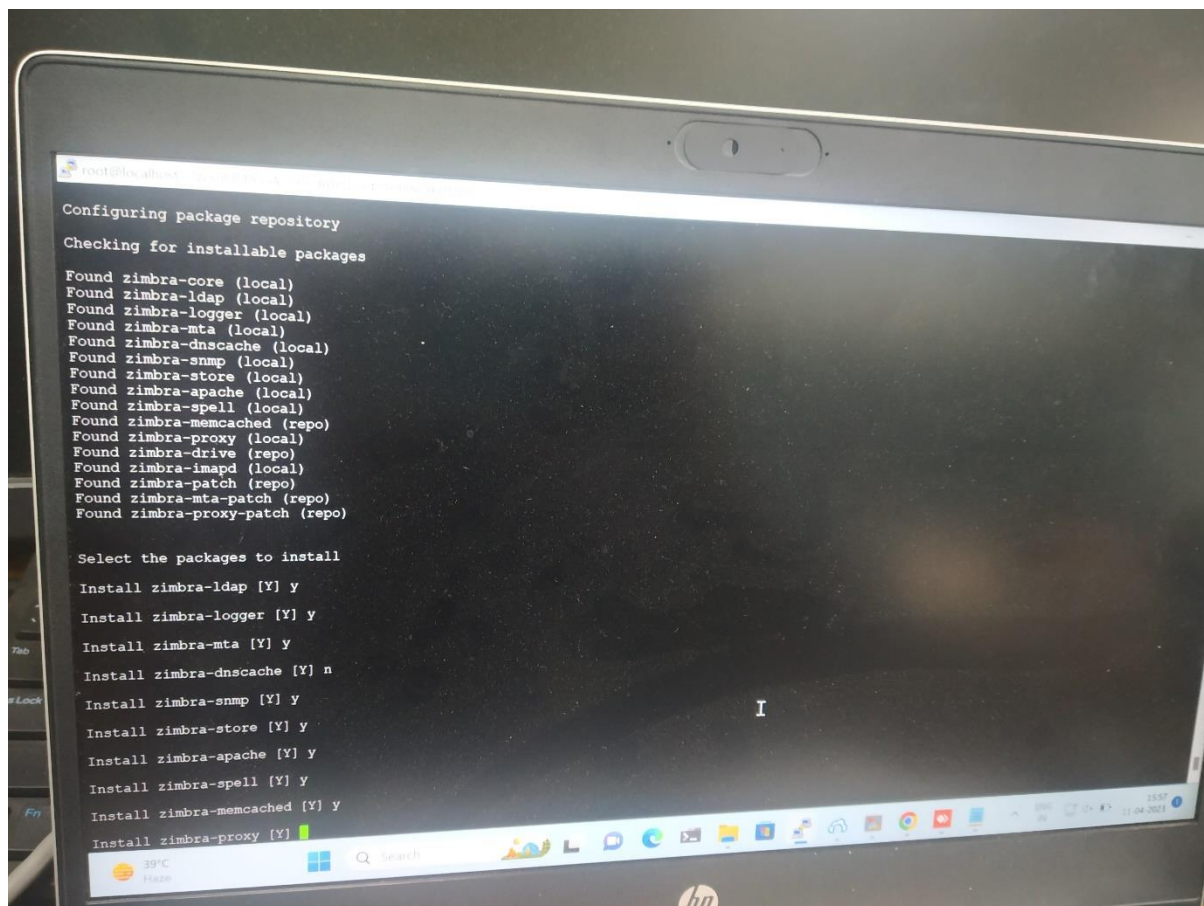
```
Found zimbra-core (local)
Found zimbra-ldap (local)
Found zimbra-logger (local)
Found zimbra-mta (local)
Found zimbra-dnscache (local)
Found zimbra-snmp (local)
Found zimbra-store (local)
Found zimbra-apache (local)
Found zimbra-spell (local)
```

39°C  
Haze



Search





root@localhost:~/zcs 8.8 15 GA 3953101118 64.20200629025823

Found zimbra-core (local)  
Found zimbra-ldap (local)  
Found zimbra-logger (local)  
Found zimbra-mta (local)  
Found zimbra-dnscache (local)  
Found zimbra-snmp (local)  
Found zimbra-store (local)  
Found zimbra-apache (local)  
Found zimbra-spell (local)  
Found zimbra-memcached (repo)  
Found zimbra-proxy (local)  
Found zimbra-drive (repo)  
Found zimbra-imapd (local)  
Found zimbra-patch (repo)  
Found zimbra-mta-patch (repo)  
Found zimbra-proxy-patch (repo)

Select the packages to install

Install zimbra-ldap [Y] y

Install zimbra-logger [Y] y

Install zimbra-mta [Y] y

Install zimbra-dnscache [Y] n

Install zimbra-snmp [Y] y

Install zimbra-store [Y] y

Install zimbra-apache [Y] y

Install zimbra-spell [Y] y

Install zimbra-memcached [Y] y

Install zimbra-proxy [Y] y

Install zimbra-drive [Y] y

Install zimbra-imapd (BETA - for evaluation only) [N] 



39°C  
Haze



Q Search





root@flls:~# rpm -q --whatprovides \$(cat /etc/zimbra/zimbra-release)

zimbra-jetty-distribution  
zimbra-store-components  
zimbra-apache-components  
zimbra-spell-components  
zimbra-memcached  
zimbra-proxy-components  
...done

Installing local packages (26):

zimbra-common-core-jar  
zimbra-common-core-libs  
zimbra-common-mbox-conf  
zimbra-common-mbox-conf-attrs  
zimbra-common-mbox-conf-msgs  
zimbra-common-mbox-conf-rights  
zimbra-common-mbox-db  
zimbra-common-mbox-docs  
zimbra-common-mbox-native-lib  
zimbra-timezone-data  
zimbra-core  
zimbra-ldap  
zimbra-logger  
zimbra-mta  
zimbra-snmp  
zimbra-mbox-admin-console-war  
zimbra-mbox-conf  
zimbra-mbox-war  
zimbra-mbox-service  
zimbra-mbox-store-libs  
zimbra-mbox-webclient-war  
zimbra-store  
zimbra-apache  
zimbra-spell  
zimbra-proxy  
zimbra-imapd  
...done

Installing extra packages (5):

zimbra-drive  
zimbra-patch  
zimbra-mta-patch  
zimbra-proxy-patch  
zimbra-chat  
...



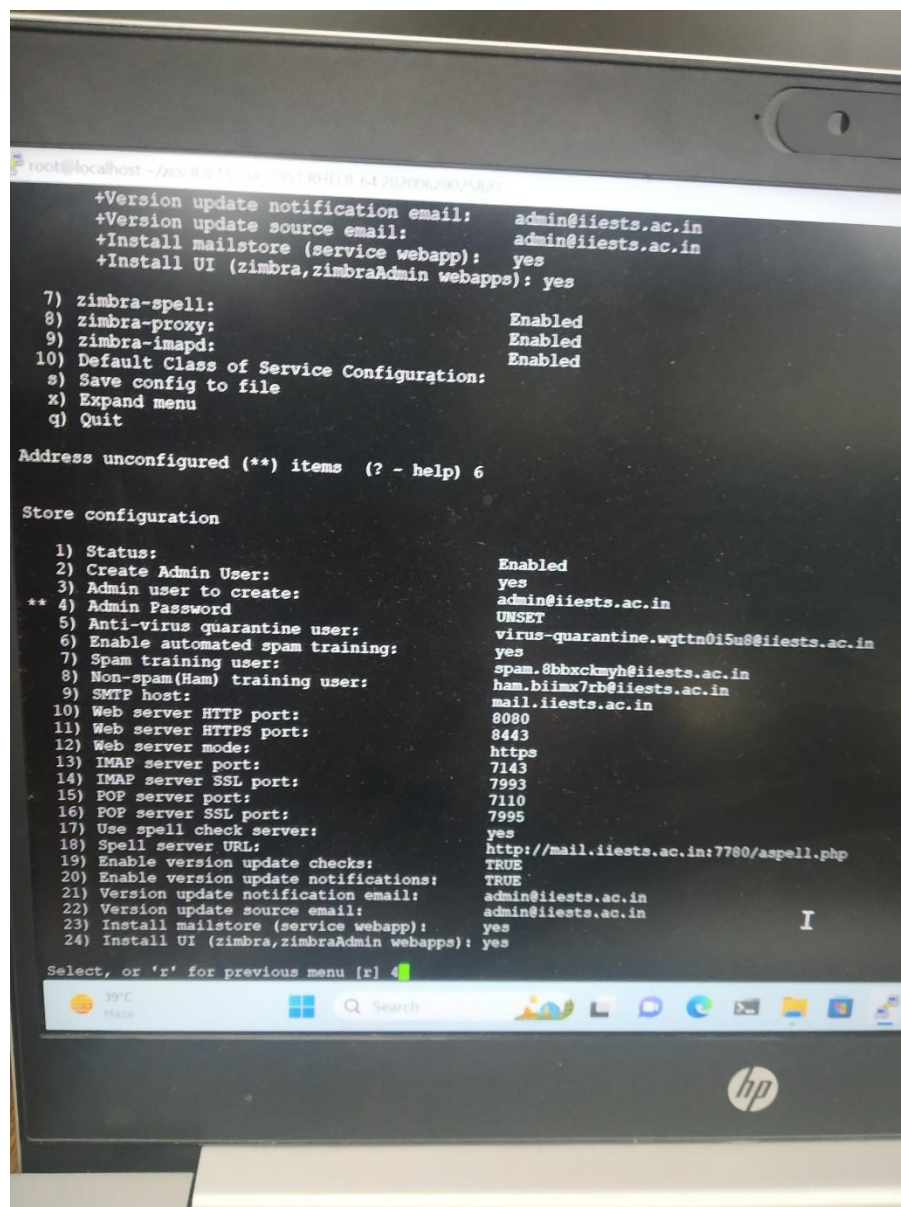
39°C  
Hazy



Q Search



Press 4 to set admin password



```

root@localhost:~# ./zimbra-install.sh
+Install mailstore (service webapp): yes
+Install UI (zimbra,zimbraAdmin webapps): yes

7) zimbra-spell:
8) zimbra-proxy: Enabled
9) zimbra-imapd: Enabled
10) Default Class of Service Configuration: Enabled
s) Save config to file
x) Expand menu
q) Quit

Address unconfigured (**) items (? - help) 6

Store configuration

1) Status: Enabled
2) Create Admin User: yes
3) Admin user to create: admin@iiests.ac.in
** 4) Admin Password: UNSET
5) Anti-virus quarantine user: virus-quarantine.wgtn015u8@iiests.ac.in
6) Enable automated spam training: yes
7) Spam training user: spam.8bbxckmyh@iiests.ac.in
8) Non-spam(Ham) training user: ham.biimx7rb@iiests.ac.in
9) SMTP host: mail.iiests.ac.in
10) Web server HTTP port: 8080
11) Web server HTTPS port: 8443
12) Web server mode: https
13) IMAP server port: 7143
14) IMAP server SSL port: 7993
15) POP server port: 7110
16) POP server SSL port: 7995
17) Use spell check server: yes
18) Spell server URL: http://mail.iiests.ac.in:7700/aspell.php
19) Enable version update checks: TRUE
20) Enable version update notifications: TRUE
21) Version update notification email: admin@iiests.ac.in
22) Version update source email: admin@iiests.ac.in
23) Install mailstore (service webapp): yes
24) Install UI (zimbra,zimbraAdmin webapps): yes

Select, or 'r' for previous menu [r] 4

Password for admin@iiests.ac.in (min 6 characters): [1x5Djfe2]

```



39°C  
Haze



Search



root@localhost:~/zcs-8.8.15-GA-195.1.1R1118-64.20200629025021

```
4) Admin Password: set
5) Anti-virus quarantine user: virus-quarantine.wqttn0i5u8@ii
6) Enable automated spam training: yes
7) Spam training user: spam.8bbxckmyh@iiests.ac.in
8) Non-spam(Ham) training user: ham.biimx7rb@iiests.ac.in
9) SMTP host: mail.iiests.ac.in
10) Web server HTTP port: 8080
11) Web server HTTPS port: 8443
12) Web server mode: https
13) IMAP server port: 7143
14) IMAP server SSL port: 7993
15) POP server port: 7110
16) POP server SSL port: 7995
17) Use spell check server: yes
18) Spell server URL: http://mail.iiests.ac.in:7780/asp
19) Enable version update checks: TRUE
20) Enable version update notifications: TRUE
21) Version update notification email: admin@iiests.ac.in
22) Version update source email: admin@iiests.ac.in
23) Install mailstore (service webapp): yes
24) Install UI (zimbra,zimbraAdmin webapps): yes
```

Select, or 'r' for previous menu [r] r

Main menu

```
1) Common Configuration:
2) zimbra-ldap: Enabled
3) zimbra-logger: Enabled
4) zimbra-mta: Enabled
5) zimbra-snmp: Enabled
6) zimbra-store: Enabled
7) zimbra-spell: Enabled
8) zimbra-proxy: Enabled
9) zimbra-imapd: Enabled
10) Default Class of Service Configuration:
 s) Save config to file
 x) Expand menu
 q) Quit
```

\*\*\* CONFIGURATION COMPLETE - press 'a' to apply  
Select from menu, or press 'a' to apply config (? - help) a  
Save configuration data to a file? [Yes] yes  
Save config in file: [/opt/zimbra/config.i23380]

19°C Home Search



root@localhost:~/zcs-8.8.15\_GA\_3953.RHEL8\_64.20200629025823

- 1) Common Configuration:
- 2) zimbra-ldap: Enabled
- 3) zimbra-logger: Enabled
- 4) zimbra-mta: Enabled
- 5) zimbra-snmp: Enabled
- 6) zimbra-store: Enabled
- 7) zimbra-spell: Enabled
- 8) zimbra-proxy: Enabled
- 9) zimbra-ldap: Enabled
- 10) Default Class of Service Configuration: Enabled
- s) Save config to file
- x) Expand menu
- q) Quit

\*\*\* CONFIGURATION COMPLETE - press 'a' to apply  
Select from menu, or press 'a' to apply config (? - help) a  
Save configuration data to a file? [Yes] yes  
Save config in file: [/opt/zimbra/config.123380]  
Saving config in /opt/zimbra/config.123380...done.  
The system will be modified - continue? [No] yes  
Operations logged to /tmp/zmsetup.20230411-161025.log  
Setting local config values...done.  
Initializing core config...Setting up CA...done.  
Deploying CA to /opt/zimbra/conf/ca ...done.  
Creating SSL zimbra-ldap certificate...done.  
Creating new zimbra-store SSL certificate...done.  
Creating new zimbra-ldap SSL certificate...done.  
Creating new zimbra-mta SSL certificate...done.  
Creating new zimbra-proxy SSL certificate...done.  
Installing mailboxd SSL certificates...done.  
Installing ldapd SSL certificates...done.  
Installing MTA SSL certificates...done.  
Installing LDAP SSL certificate...done.  
Installing Proxy SSL certificate...done.  
Initializing ldap...done.  
Setting replication password...done.  
Setting Postfix password...done.  
Setting amavis password...done.  
Setting nginx password...done.  
Setting BES searcher password...done.  
Creating server entry for mail.iests.ac.in...done.  
Setting Zimbra IP Mode...done.  
Saving CA in ldap...

39°C  
Haze



Search



## Installing Zimlets

```
root@localhost:~/zcs-8.8.15/bin# ./install.sh --domain=mail.iiests.ac.in --port=8080
Setting zimbraFeatureTasksEnabled=TRUE...done.
Setting zimbraFeatureBriefcasesEnabled=TRUE...done.
Checking current setting of zimbraReverseProxyAvailableLookupTargets
Querying LDAP for other mailstores
Searching LDAP for reverseProxyLookupTargets...done.
Adding mail.iiests.ac.in to zimbraReverseProxyAvailableLookupTargets
Updating zimbraLDAPSchemaVersion to version '1649766200'
Setting TimeZone Preference...done.
Disabling strict server name enforcement on mail.iiests.ac.in...done.
Initializing mta config...done.
Setting services on mail.iiests.ac.in...done.
Adding mail.iiests.ac.in to zimbraMailHostPool in default COS...done.
Creating domain iiests.ac.in...done.
Setting default domain name...done.
Creating domain iiests.ac.in...already exists.
Creating admin account admin@iiests.ac.in...done.
Creating root alias...done.
Creating postmaster alias...done.
Creating user spam.8bbxckmyh@iiests.ac.in...done.
Creating user ham.biimx7rb@iiests.ac.in...done.
Creating user virus-quarantine.wqttn0i5u8@iiests.ac.in...done.
Setting spam training and Anti-virus quarantine accounts...done.
Initializing store sql database...done.
Setting zimbraSmtphostname for mail.iiests.ac.in...done.
Configuring SNMP...done.
Setting up syslog.conf...done.
Enabling IMAP protocol for zimbra-imapd service...done.
Enabling IMAPS protocol for zimbra-imapd service...done.
Setting java options...done.
Starting servers...done.
Enabling jetty logging...done.
Installing common zimlets...
 com_zimbra_webex...done.
 com_zimbra_cert_manager...done.
 com_zimbra_attachmail...done.
 com_zimbra_url...done.
 com_zimbra_srchhighlighter...done.
 com_zimbra_bulkprovision...done.
 com_zimbra_adminversioncheck...done.
 com_zimbra_viewmail...done.
 com_zextras_chat_open...done.
 com_zimbra_mailarchive...done.
 com_zimbra_date...done.
 com_zimbra_attachcontacts...
```

Installation completed.

```
root@localhost:~/zcs-8.8.15_GA_3953_RHEL8_64/20200629025823
Enabling IMAPS protocol for zimbra-imapd service...done.
Setting java options...done.
Starting servers...done.
Enabling jetty logging...done.
Installing common zimlets...
 com_zimbra_webex...done.
 com_zimbra_cert_manager...done.
 com_zimbra_attachmail...done.
 com_zimbra_url...done.
 com_zimbra_srchhighlighter...done.
 com_zimbra_bulkprovision...done.
 com_zimbra_adminversioncheck...done.
 com_zimbra_viewmail...done.
 com_zextras_chat_open...done.
 com_zimbra_mailarchive...done.
 com_zimbra_date...done.
 com_zimbra_attachcontacts...done.
 com_zimbra_email...done.
 com_zimbra_phone...done.
 com_zimbra_proxy_config...done.
 com_zimbra_clientuploader...done.
 com_zimbra_tooltip...done.
 com_zextras_drive_open...done.
 com_zimbra_ymemoticons...done.
Finished installing common zimlets.
Restarting mailboxd...done.
Creating galsync account for default domain...done.

You have the option of notifying Zimbra of your installation.
This helps us to track the uptake of the Zimbra Collaboration Server.
The only information that will be transmitted is:
 The VERSION of zcs installed (8.8.15_GA_3953_RHEL8_64)
 The ADMIN EMAIL ADDRESS created (admin@iiests.ac.in)

Notify Zimbra of your installation? [Yes] no
Notification skipped
Checking if the NG started running...done.
Setting up zimbra crontab...done.

Moving /tmp/zmsetup.20230411-161025.log to /opt/zimbra/log

Configuration complete - press return to exit
```

### 3.1 Log onto the Administration Console

Open any of your favorite web browser and access the zimbra web administration console with your 10.1.0.77 or hostname and supply the credentials.

<https://mail.iiests.ac.in:7071>

<https://10.1.0.77:7071>

# Zimbra Migration

4.1 Make sure that the hostname, admin user and password, ldap password and mysql password are set same as the old server.

## 4.2 Preparing the Old Server –

1. Create an LDAP dump directory. As root, type

- a. `mkdir /backup`
- b. `chown zimbra:zimbra /backup`

2. Backup the LDAP data, as zimbra, type  
`/opt/zimbra/libexec/zmslapcat /backup`

3. Export MySQL data. Before you start, make sure that `/backup` is large enough to hold all the data. Depending on the original database size, this can be very large. If you have large configuration, you may want to run this command with `nohup` so that the session does not terminate. Type

```
/opt/zimbra/common/bin/mysqldump -f -S /opt/zimbra/data/tmp/mysql/mysql.sock \
-u zimbra --password=`zmlocalconfig -s -m nokey \
zimbra_mysql_password` --all-databases --single-transaction \
> /backup/mysql.sql
```

## 4.3 Preparing the New Server

1. LDAP data import on new server –

As Zimbra

```
Stop ldap – $ ldap stop
Cleanup the old database and move it to a new location
$ cd /opt/Zimbra/data/ldap
$ mv mdb mdb.old
```

Create the new directory structure –

```
$ mkdir -p mdb/db
```

Import the data –

```
$ /opt/Zimbra/libexec/zmslapadd /backup/ldap.bak
```

```
[zimbra@node1 ~]$ /opt/zimbra/libexec/zmslapadd /tmp/ldap.bak
100.00% eta none elapsed none fast!
Closing DB...
[zimbra@node1 ~]$
```

2. Mysql import –

```
$ mysql.server start [start mysql]
$ mysql -f zimbra < /backup/mysql.sql
$ mysql.server stop
```

3. Edit `/opt/zimbra/conf/localconfig.xml` to update the following password values to the values from the localconfig.xml file on the old server:

Mysql passwords :

- `zimbra_mysql_password`
- `mysql_root_password`

LDAP password values:

- `ldap_amavis_password`
- `ldap_nginx_password`
- `ldap_postfix_password`
- `ldap_replication_password`
- `ldap_root_password`
- `zimbra_ldap_password`

4. Moving the email store and index:

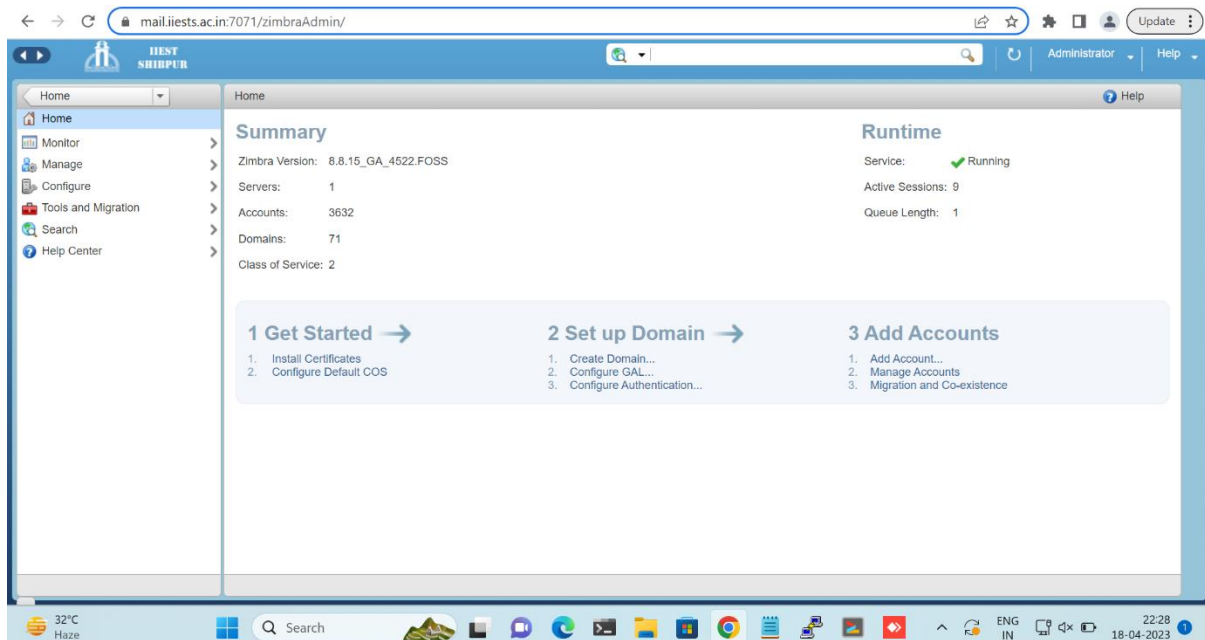
Rsync the `/opt/Zimbra/store/*` and `/opt/Zimbra/index/*`

#### 4.4 Stop Zimbra on old live server .

#### 4.5 On New server

- Assign the IP to the new server. Add the external ldap, and public IPs in the `/etc/hosts` file.
- Change the IP in the `named.conf` and forward zone file.
- Sync both transport files and postmap it.

#### 4.6 Zimbra is Live on New server.



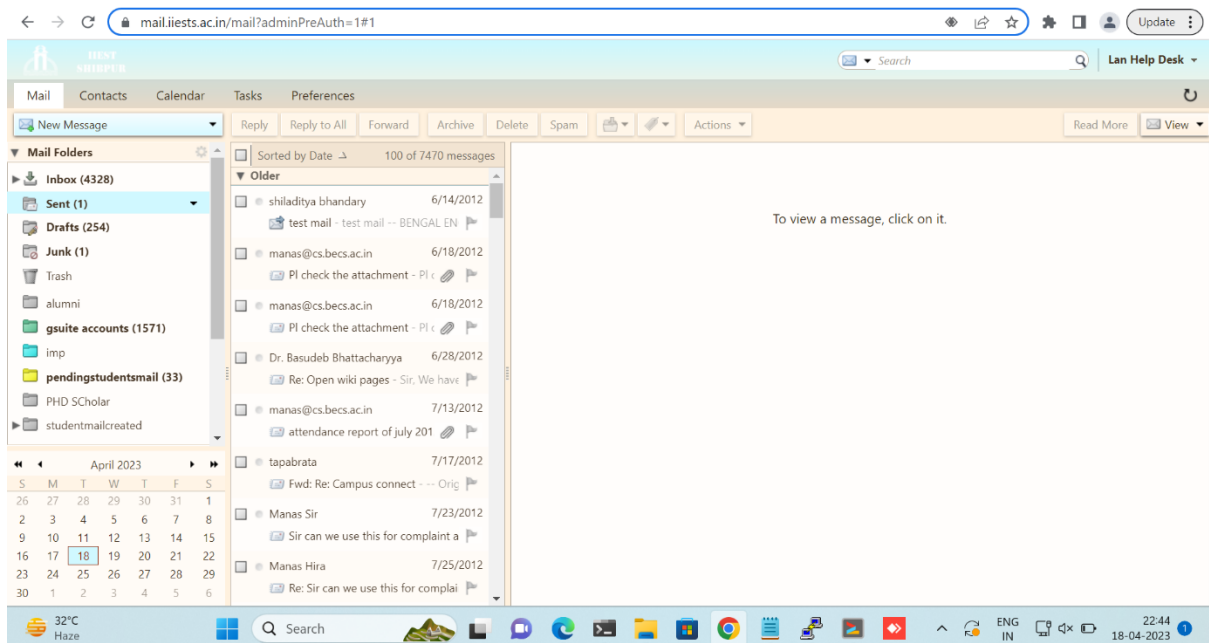
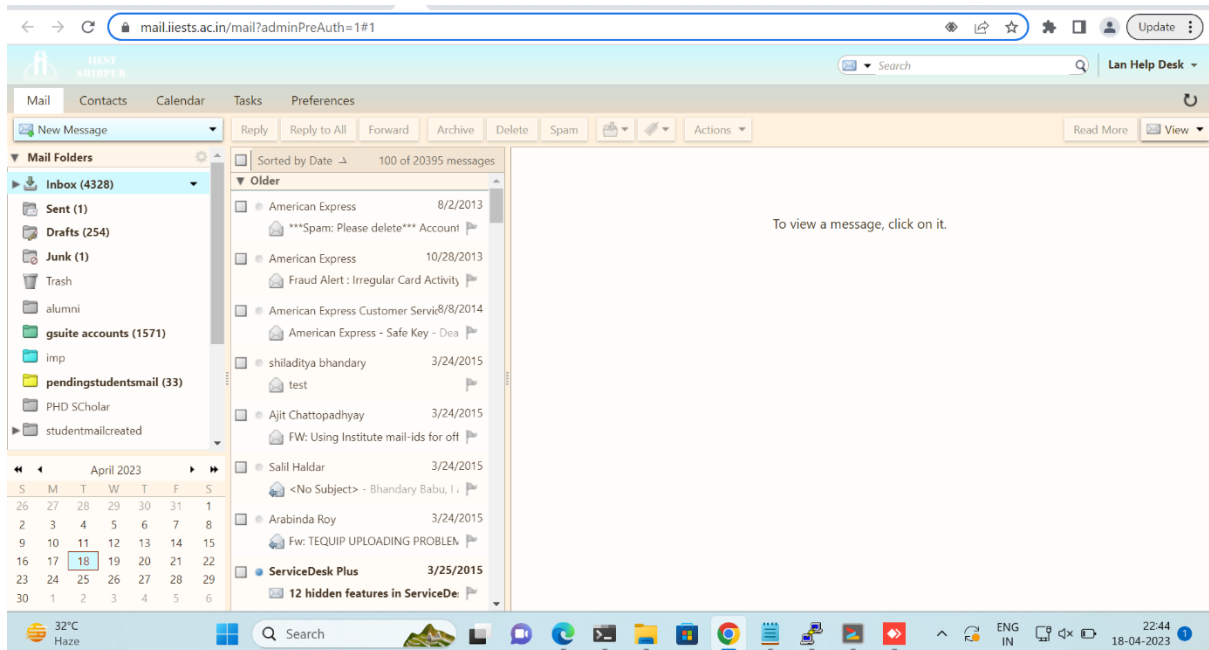
Release 8.8.15\_GA\_3953.RHEL8\_64\_20200629025823 RHEL8\_64 FOSS edition, Patch 8.8.15\_P39.

```
zimbra@node1:~$ zmocontrol -v
Release 8.8.15_GA_3953.RHEL8_64_20200629025823 RHEL8_64 FOSS edition, Patch 8.8.15_P39.
zimbra@node1:~$
```

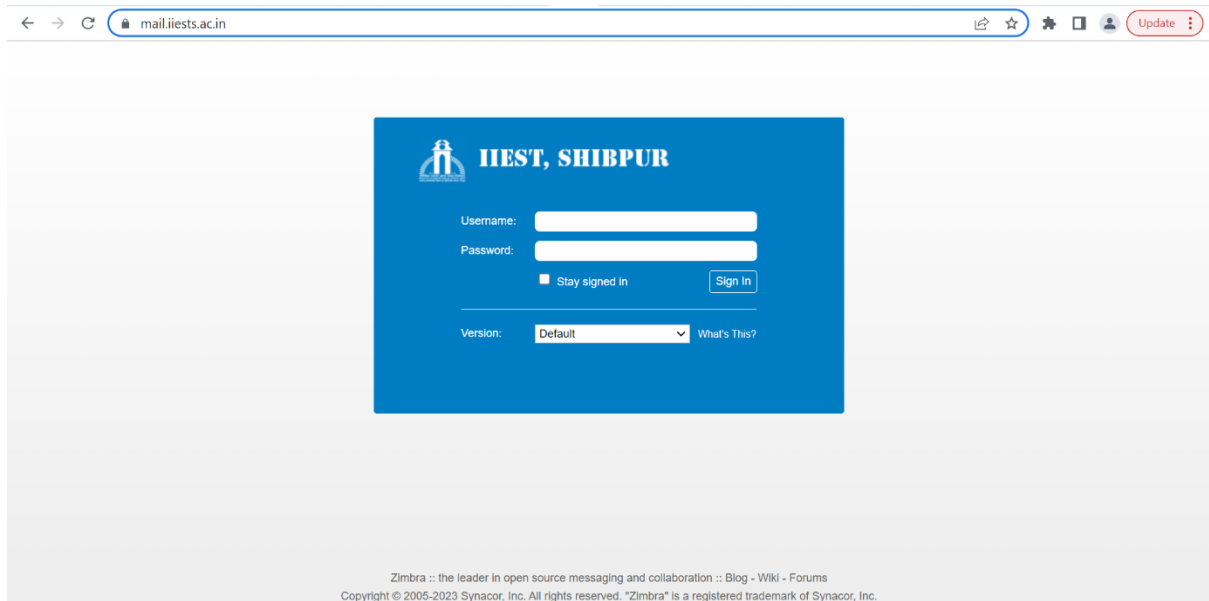
**All the Zimbra services are running**

```
zimbra@node1:~$ zmcontrol status
Host mail.iiests.ac.in
 amavis Running
 antispam Running
 antivirus Running
 cbpolicyd Running
 dnscache Running
 imapd Running
 ldap Running
 logger Running
 mailbox Running
 memcached Running
 mta Running
 opendkim Running
 proxy Running
 service webapp Running
 snmp Running
 spell Running
 stats Running
 zimbra webapp Running
 zimbraAdmin webapp Running
 zimlet webapp Running
 zmconfigd Running
zimbra@node1:~$
```

Emails sent in the year 2012 and received in 2013 successfully migrated to new server.



## Zimbra logo successfully replaced by IEST SHIBPUR Logo



# Installing DRBD on both the nodes :

DRBD (Distributed Replicated Block Device) is a software-based, shared-nothing, replicated storage solution mirroring the content of block devices (hard disks, partitions, logical volumes etc.) between hosts.

DRBD mirrors data:

**in real time:** Replication occurs continuously while applications modify the data on the device.

**transparently:** Applications need not be aware that the data is stored on multiple hosts.

**synchronously:** With synchronous mirroring, applications are notified of write completions after the writes have been carried out on all (connected) hosts.

## Install DRBD 9.0 from ELREPO

To install ELREPO, first you should import the GPG key or else the GPG check will fail later.

```
rpm --import https://www.elrepo.org/RPM-GPG-KEY-elrepo.org
```

Next install the ELPO repo

```
rpm -Uvh https://www.elrepo.org/elrepo-release-8.el8.elrepo.noarch.rpm
```

Once the elpo-release rpm is installed on both the nodes, use dnf to lookup drbd package

```
dnf search drbd
```

```
===== Name &
Summary Matched: drbd
=====

kmod-drbd90.x86_64 : drbd90 kernel module(s)

collectd-drbd.x86_64 : DRBD plugin for collectd

drbd90-utils.x86_64 : Management utilities for DRBD

drbd90-utils-sysvinit.x86_64 : The SysV initscript to manage the DRBD.

drbdlinks.noarch : Program for managing links into a DRBD shared
partition
```

### Install the DRBD 9 packages

```
dnf install kmod-drbd90.x86_64 drbd90-utils.x86_64 -y
```

## 5 Configuring DRBD

- Configure a simple global\_common.conf

```
vi /etc/drbd.d/global_common.conf

global {
 usage-count no;
}
common {
 net {
 protocol C;
 }
}
```

- usage-count :-  
The usage-count no line in the global section skips sending a notice to the DRBD team each time a new version of the software is installed in your system.
- protocol C :-  
The protocol C line tells the DRBD resource to use a fully synchronous replication. This means that local write operations on the node that is functioning as primary are considered completed only after both the local and remote disk writes have been confirmed. Thus, if we run into the loss of a single node, that should not lead to any data loss under normal circumstances, unless both nodes (or their storage subsystems) are irreversibly destroyed at the same time.

### Create DRBD resource :-

```
vi /etc/drbd.d/drbd1.res
```

[illegible]

- By default DRBD uses port between 7788-7790, we have explicitly defined port number as 7789.
- Our DRBD device resource would be /dev/drbd1 i.e. the logical volumes from all the cluster nodes would use /dev/drbd1 to perform Linux disk replication
- Next we must copy the DRBD resource file to all the cluster nodes

- When we installed DRBD earlier, a utility called drbdadm was installed as well, drbdadm is intended to be used for the administration of DRBD resources.
- **Create the meta-data –**  
# drbdadm create-md drbd1

```
[root@node2 ~]# drbdadm create-md drbd1
initializing activity log
initializing bitmap (194 MB) to all zero
Writing meta data...
New drbd meta data block successfully created.
[root@node2 ~]#
```

The first step of Linux Disk Replication in starting and bringing a DRBD resource online is to initialize its metadata

So our DRBD device /dev/drbd1 is ready.

- Repeat the same steps on both the nodes for DRBD configuration.
- Check DRBD Device status
- # drbdadm status drbd1 – It will show as secondary, we will have to force it to make it primary.
- Make the node1 as primary  
# drbdadm primary --force drbd1
- # drbdadm status drbd1 – It will show node1 as primary, but inconsistent as we have not connected and synced the node2 yet.
- Format to ext4 file system  
# mkfs.ext4 /dev/drbd1
- Mount /dev/drbd1 on /opt inside which we have Zimbra installed and configured.  
# mount /dev/drbd1 /opt
- # drbdadm connect all – to connect both the nodes.  
**It will start the syncing from primary to secondary node.**
- # drbdsetup status --statistics --verbose drbd1 – this will show the detailed status and percentage of data synced from primary to secondary node.

```
root@node1:~
node2.iiests.ac.in node-id:1 connection:Connected role:Secondary congested:no ap-in-flight:0 rs-in-flight:8192
volume:0 replication:SyncSource peer-disk:Inconsistent done:0.87 resync-suspended:no
received:0 sent:56631036 out-of-sync:6385748540 pending:4 unacked:0 dbdtl:74.28 eta:83953

[root@node1 ~]# drbdadm status
drbd1 role:Primary
disk:UpToDate
node2.iiests.ac.in role:Secondary congested:no ap-in-flight:0 rs-in-flight:8192
replication:SyncSource peer-disk:Inconsistent done:0.91

[root@node1 ~]# drbdsetup status --statistics --verbose drbd1
drbd1 node-id:0 role:Primary suspended:no force-ls-failures:no
write-ordering:flush
volume:0 minor:1 disk:UpToDate backing dev:/dev/rhel/opt quorum:yes
size:6500972764 read:122184605 written:7695140 al-writes:8157 km-writes:39035 upper-pending:0 lower-pending:0 al-suspended:no blocked:no
node2.iiests.ac.in node-id:1 connection:Connected role:Secondary congested:no ap-in-flight:0 rs-in-flight:2048
volume:0 replication:SyncSource peer-disk:Inconsistent done:0.93 resync-suspended:no
received:0 sent:59951732 out-of-sync:6382428948 pending:1 unacked:0 dbdtl:83.97 eta:74226
```

- After sync completion both the nodes are displayed as “UpToDate”

```
root@node1:~# drbdsetup status --statistics --verbose drbd1
drbd1 node-id:0 role:Primary suspended:no force-io-failures:no
write-ordering:flush
volume:0 minor:1 disk:UpToDate backing_dev:/dev/rhel/opt quorum:yes
size:6500972764 read:68555049 written:36074952 al-writes:25938 bm-writes:100773 upper-pending:0 lower-pending:0 al-suspended:no blocked:no
node2.i1ests.ac.in node-id:1 connection:Connected role:Secondary congested:no ap-in-flight:0 rs-in-flight:0
volume:0 replication:Established peer-disk:UpToDate resync-suspended:no
received:0 sent:26364052 out-of-sync:0 pending:0 unacked:0

[root@node1 ~]#
```

# Configuration of Spam Filtering

## 1.1 Outright Blocking With Postfix DNS Protocol Checks

```
zmprov mcf +zimbraMtaRestriction reject_non_fqdn_sender
zmprov mcf +zimbraMtaRestriction reject_unknown_sender_domain
zmprov mcf +zimbraMtaRestriction reject_unknown_reverse_client_hostname
```

The “reject\_unknown\_sender\_domain” according to the Postfix documentation, performs some specific checks to ensure the sender’s domain actually exists in public DNS. If the sender’s domain doesn’t exist, the email is not accepted. Similarly, the “reject\_non\_fqdn\_sender” check will reject the email if the MAIL FROM isn’t a properly-formed email address.

```
[zimbra@node1 ~]$
[zimbra@node1 ~]$ zmprov mcf +zimbraMtaRestriction reject_non_fqdn_sender
[zimbra@node1 ~]$ zmprov mcf +zimbraMtaRestriction reject_unknown_sender_domain
[zimbra@node1 ~]$ zmprov mcf +zimbraMtaRestriction reject_unknown_reverse_client_hostname
[zimbra@node1 ~]$
```

## 1.2 Outright Blocking of Bad Sending Servers

Now we start using blocklists within Postfix, and there are two kinds: “RBLs” or left-hand-side blocklists, and RHSBLs or right-hand-side blocklists. RBLs list IP addresses; RHSBLs list domains.

```
zmprov mcf +zimbraMtaRestriction "reject_rbl_client b.barracudacentral.org"
```

Here, we use a free block list from Barracuda.

```
[zimbra@node1 ~]$
[zimbra@node1 ~]$ zmprov mcf +zimbraMtaRestriction "reject_rbl_client b.barracudacentral.org"
[zimbra@node1 ~]$ zmprov mcf +zimbraMtaBlockedExtension asd
```

## 1.3 Outright Blocking of Certain Attachments

By default, Zimbra does not block what could be dangerous email attachments, like Visual Basic scripts, Windows Registry edits etc. So, we need to block those attachments

```
zmprov mcf +zimbraMtaBlockedExtension asd
zmprov mcf +zimbraMtaBlockedExtension bat
zmprov mcf +zimbraMtaBlockedExtension cab
zmprov mcf +zimbraMtaBlockedExtension chm
zmprov mcf +zimbraMtaBlockedExtension cmd
zmprov mcf +zimbraMtaBlockedExtension com
zmprov mcf +zimbraMtaBlockedExtension cpl
zmprov mcf +zimbraMtaBlockedExtension cpkgz
```

```
zmprov mcf +zimbraMtaBlockedExtension dll
zmprov mcf +zimbraMtaBlockedExtension do
zmprov mcf +zimbraMtaBlockedExtension exe
zmprov mcf +zimbraMtaBlockedExtension hlp
zmprov mcf +zimbraMtaBlockedExtension hta
zmprov mcf +zimbraMtaBlockedExtension html
zmprov mcf +zimbraMtaBlockedExtension js
zmprov mcf +zimbraMtaBlockedExtension jse
zmprov mcf +zimbraMtaBlockedExtension lnk
zmprov mcf +zimbraMtaBlockedExtension ocx
zmprov mcf +zimbraMtaBlockedExtension pif
zmprov mcf +zimbraMtaBlockedExtension reg
zmprov mcf +zimbraMtaBlockedExtension scr
zmprov mcf +zimbraMtaBlockedExtension shb
zmprov mcf +zimbraMtaBlockedExtension shm
zmprov mcf +zimbraMtaBlockedExtension shs
zmprov mcf +zimbraMtaBlockedExtension shtml
zmprov mcf +zimbraMtaBlockedExtension vbe
zmprov mcf +zimbraMtaBlockedExtension vbs
zmprov mcf +zimbraMtaBlockedExtension vbx
zmprov mcf +zimbraMtaBlockedExtension vxd
zmprov mcf +zimbraMtaBlockedExtension wsf
zmprov mcf +zimbraMtaBlockedExtension wsh
zmprov mcf +zimbraMtaBlockedExtension xl
zmprov mcf zimbraMtaBlockedExtensionWarnAdmin TRUE
zmprov mcf zimbraMtaBlockedExtensionWarnRecipient TRUE
zmprov mcf zimbraVirusBlockEncryptedArchive FALSE
```

```
zimbra@node1:~$ zmprov mcf +zimbraMtaRestriction "reject_rbl_client b.barracudacentral.org"
[zimbra@node1 ~]$ zmprov mcf +zimbraMtaBlockedExtension asd
[zimbra@node1 ~]$ zmprov mcf +zimbraMtaBlockedExtension bat
[zimbra@node1 ~]$ zmprov mcf +zimbraMtaBlockedExtension cab
[zimbra@node1 ~]$ zmprov mcf +zimbraMtaBlockedExtension chm
[zimbra@node1 ~]$ zmprov mcf +zimbraMtaBlockedExtension cmd
[zimbra@node1 ~]$ zmprov mcf +zimbraMtaBlockedExtension com
[zimbra@node1 ~]$ zmprov mcf +zimbraMtaBlockedExtension cpl
[zimbra@node1 ~]$ zmprov mcf +zimbraMtaBlockedExtension cpgz
[zimbra@node1 ~]$ zmprov mcf +zimbraMtaBlockedExtension dll
[zimbra@node1 ~]$ zmprov mcf +zimbraMtaBlockedExtension do
[zimbra@node1 ~]$ zmprov mcf +zimbraMtaBlockedExtension exe
[zimbra@node1 ~]$ zmprov mcf +zimbraMtaBlockedExtension hlp
[zimbra@node1 ~]$ zmprov mcf +zimbraMtaBlockedExtension hta
[zimbra@node1 ~]$ zmprov mcf +zimbraMtaBlockedExtension html
[zimbra@node1 ~]$ zmprov mcf +zimbraMtaBlockedExtension js
[zimbra@node1 ~]$ zmprov mcf +zimbraMtaBlockedExtension jse
[zimbra@node1 ~]$ zmprov mcf +zimbraMtaBlockedExtension lnk
[zimbra@node1 ~]$ zmprov mcf +zimbraMtaBlockedExtension ocx
[zimbra@node1 ~]$ zmprov mcf +zimbraMtaBlockedExtension pif
[zimbra@node1 ~]$ zmprov mcf +zimbraMtaBlockedExtension reg
[zimbra@node1 ~]$ zmprov mcf +zimbraMtaBlockedExtension scr
[zimbra@node1 ~]$ zmprov mcf zimbraMtaBlockedExtensionWarnAdmin TRUE
[zimbra@node1 ~]$ zmprov mcf zimbraMtaBlockedExtensionWarnRecipient TRUE
[zimbra@node1 ~]$ zmprov mcf zimbraVirusBlockEncryptedArchive FALSE
[zimbra@node1 ~]$ zmprov mcf +zimbraMtaBlockedExtension shb
```

```
[zimbra@node1 ~]$ zmprov mcf +zimbraMtaBlockedExtension shm
[zimbra@node1 ~]$ zmprov mcf +zimbraMtaBlockedExtension shs
[zimbra@node1 ~]$ zmprov mcf +zimbraMtaBlockedExtension shtml
[zimbra@node1 ~]$ zmprov mcf +zimbraMtaBlockedExtension vbe
[zimbra@node1 ~]$ zmprov mcf +zimbraMtaBlockedExtension vbs
[zimbra@node1 ~]$ zmprov mcf +zimbraMtaBlockedExtension vbx
[zimbra@node1 ~]$ zmprov mcf +zimbraMtaBlockedExtension vxd
[zimbra@node1 ~]$ zmprov mcf +zimbraMtaBlockedExtension wsf
[zimbra@node1 ~]$ zmprov mcf +zimbraMtaBlockedExtension wsh
[zimbra@node1 ~]$ zmprov mcf +zimbraMtaBlockedExtension xl
[zimbra@node1 ~]$
```

## 1.4 Enforcing a match between FROM address and sasl username

Update zimbraMtaSmtpdRejectUnlistedRecipient & zimbraMtaSmtpdRejectUnlistedSender

```
zmprov mcf zimbraMtaSmtpdRejectUnlistedRecipient yes
zmprov mcf zimbraMtaSmtpdRejectUnlistedSender yes
zmmtactl restart
zmconfigdctl restart
```

Set the zimbraMtaSmtpdSenderLoginMaps portion

```
zmprov mcf zimbraMtaSmtpdSenderLoginMaps proxy:ldap:/opt/zimbra/conf/ldap-slm.cf
+zimbraMtaSmtpdSenderRestrictions reject_authenticated_sender_login_mismatch
```

Edit the file smtpd\_sender\_restrictions

You need to edit the file opt/zimbra/conf/zmconfigd/smtpd\_sender\_restrictions.cf and add after the permit\_mynetworks the line reject\_sender\_login\_mismatch

```
vi /opt/zimbra/conf/zmconfigd/smtpd_sender_restrictions.cf
```

zmconfigd will update the postfix configuration automatically and apply the new rules. Now if an account is hacked, and this is in place, they will not be able to send out emails with different "from" addresses.



zmprov mcf zimbraSpamTagPercent 25

```
zimbra@node1:~
[zimbra@node1 ~]$ zmlocalconfig -e antispam_enable_rule_updates=true
[zimbra@node1 ~]$ zmlocalconfig -e antispam_enable_restarts=true
[zimbra@node1 ~]$ zmprov mcf zimbraSpamKillPercent 75
[zimbra@node1 ~]$ zmprov mcf zimbraSpamTagPercent 25
[zimbra@node1 ~]$
```

## 1.6 Cbpolicy webui activated, and it's authentication implemented.

The screenshot shows a web browser window with the address bar displaying "mail.iests.ac.in:7780/webui/index.php". The page title is "PolicyD Web Administration". On the left is a sidebar menu with the following items: Home, Policies (with sub-items Main and Groups), Access Control (with sub-item Configure), HELO/EHLO Checks (with sub-items Configure, Blacklist, and Whitelist), SPF Checks (with sub-item Configure), Greylisting (with sub-items Configure and Whitelist), Quotas (with sub-item Configure), Accounting (with sub-item Configure), and Amavis Integration. The main content area is titled "Features Supported" and contains a list of features with expandable icons:

- Protocols
  - Bizanga
  - Postfix
- Policies & Policy Groups
  - Define policy groups made up of various combinations of tags.
  - Define and manage policies comprising of ACL's which can include groups.
- Access Control
  - Control access based on policy, eg. Rejecting mail matching a specific policy.
- Amavis Integration
  - Anti-virus checks.
  - Anti-spam checks.
  - Banned filename checks.
  - Email header checks.
  - Message size limits.
  - Blacklist/whitelist senders.
  - Email interception (BCC).
- Greylisting
  - Support for greylisting and masking sender IP addresses.
  - Support for auto-whitelisting and auto-greylisting based on count or count+percentage.
- HELO/EHLO Checks
  - HELO/EHLO randomization prevention
  - Blacklisting of HELO/EHLO's ... those used by your own servers
  - Whitelisting of CIDR's which are known to be braindead
  - Check sending server HELO/EHLO for validity and RFC compliance.
- SPF Checks
  - Check the SPF records of a domain and see if the inbound email is allowed or prohibited.

Sign in

http://mail.iiests.ac.in:7780

Your connection to this site is not private

Username

Password

Sign in

Cancel