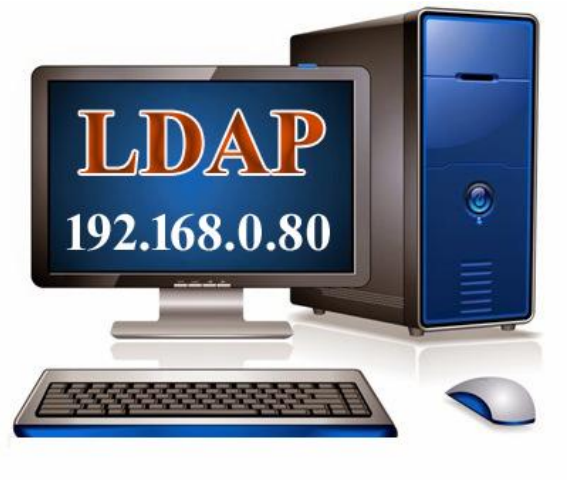
-: OPEN LDAP Configuration :-



ldap.sk.com

client.sk.com

#vi /etc/hostname
ldap.zoom.com
:wq

#vi /etc/hosts
192.168.0.80 ldap.zoom.com ldap
:wq (save & quit)

Steps To Configure:-

1. Install the required ldap packages
2. Create a ldap admin passwd
3. Edit the openldap configuration file
4. Provide teh Monitor Privileges
5. Enable and Start slapd service
6. Configure the ldap Database
7. Create the self-signed certicate
8. Create base objects in openldap
9. Generate a base.ldif file for your domain
10. Create local users
11. Import users into the ldap Database
12. Test the configuration

1) Install required LDAP Packages

```
#  yum install openldap* ldap* migration* nss* -y
```

2) Create LDAP root password

```
# slappasswd

New password:123
Re-enter new password:
{SSHA}OJApYJpEEwEeTJlPwfzAB9beMxzcKvDJ          ( save this encrypted password )
```

3) Edit the LDAP configuration file

```
# cd /etc/openldap/slapd.d/
# ll
drwxr-x---. 3 ldap ldap 4096 Nov 30 14:18 cn=config
-rw-------. 1 ldap ldap  589 Nov 30 14:18 cn=config.ldif

# cd cn=config
# ll
drwxr-x---. 2 ldap ldap  28 Nov 30 14:18 cn=schema
-rw-------. 1 ldap ldap 378 Nov 30 14:18 cn=schema.ldif
-rw-------. 1 ldap ldap 513 Nov 30 14:18 olcDatabase={0}config.ldif
-rw-------. 1 ldap ldap 443 Nov 30 14:18 olcDatabase={-1}frontend.ldif
-rw-------. 1 ldap ldap 562 Nov 30 14:18 olcDatabase={1}monitor.ldif
-rw-------. 1 ldap ldap 609 Nov 30 14:18 olcDatabase={2}hdb.ldif

# vi olcDatabase\=\{2\}hdb.ldif

 1 # AUTO-GENERATED FILE - DO NOT EDIT!! Use ldapmodify.
 2 # CRC32 0b54fdab
 3 dn: olcDatabase={2}hdb
 4 objectClass: olcDatabaseConfig
 5 objectClass: olcHdbConfig
 6 olcDatabase: {2}hdb
 7 olcDbDirectory: /var/lib/ldap
 8 olcSuffix: dc=sk,dc=com
 9 olcRootDN: cn=Manager,dc=sk,dc=com
10 olcDbIndex: objectClass eq,pres
11 olcDbIndex: ou,cn,mail,surname,givenname eq,pres,sub
12 structuralObjectClass: olcHdbConfig
13 entryUUID: 6f0af94e-88c8-1038-9af6-8ff82b078f63
14 creatorsName: cn=config
15 createTimestamp: 20181130084820Z
```


```
16 entryCSN: 20181130084820.862358Z#000000#000#000000
17 modifiersName: cn=config
18 modifyTimestamp: 20181130084820Z
19 olcRootPW: {SSHA}OJApYJpEEwEeTJlPwfzAB9beMxzcKvDJ
20 olcTLSCertificateFile: /etc/pki/tls/certs/skldap.pem
21 olcTLSCertificateKeyFile: /etc/pki/tls/certs/skldapkey.pem
```

4) Provide the monitoring previliges

```
# vi olcDatabase\=\{1\}monitor.ldif
```

```
 1 # AUTO-GENERATED FILE - DO NOT EDIT!! Use ldapmodify.
 2 # CRC32 943a8fce
 3 dn: olcDatabase={1}monitor
 4 objectClass: olcDatabaseConfig
 5 olcDatabase: {1}monitor
 6 olcAccess: {0}to * by dn.base="gidNumber=0+uidNumber=0,cn=peercred,cn=extern
   al,cn=auth" read by dn.base="cn=Manager,dc=sk,dc=com" read by * none
 7 structuralObjectClass: olcDatabaseConfig
 8 entryUUID: 2b38d534-8976-1038-8f28-eb4532db35b8
 9 creatorsName: cn=config
10 createTimestamp: 20181201053159Z
11 entryCSN: 20181201053159.508773Z#000000#000#000000
12 modifiersName: cn=config
13 modifyTimestamp: 20181201053159Z
```

4.1) verify the configuratiion

```
# slaptest -u
```

```
5c01026d ldif_read_file: checksum error on
"/etc/openldap/slapd.d/cn=config/olcDatabase={1}monitor.ldif"
5c01026d ldif_read_file: checksum error on
"/etc/openldap/slapd.d/cn=config/olcDatabase={2}hdb.ldif"
config file testing succeeded
```

5) start & enable the service

```
# systemctl start slapd
# systemctl enable slapd
```

```
Created symlink from /etc/systemd/system/multi-user.target.wants/slapd.service to
/usr/lib/systemd/system/slapd.service.
```

6) configure the LDAP database

cp /usr/share/openldap-servers/DB_CONFIG.example /var/lib/ldap/DB_CONFIG

Add the fallowing schemas

ldapadd -Y EXTERNAL -H ldapi:/// -f /etc/openldap/schema/cosine.ldif
ldapadd -Y EXTERNAL -H ldapi:/// -f /etc/openldap/schema/nis.ldif
ldapadd -Y EXTERNAL -H ldapi:/// -f /etc/openldap/schema/inetorgperson.ldif

7) Create self-signed certificates

openssl req -new -x509 -nodes -out /etc/pki/tls/certs/skldap.pem -keyout /etc/pki/tls/certs/skldapkey.pem -days 365

Generating a 2048 bit RSA private key
....+++
.....+++
writing new private key to '/etc/pki/tls/certs/skldapkey.pem'

You are about to be asked to enter information that will be incorporated
into your certificate request.
What you are about to enter is what is called a Distinguished Name or a DN.
There are quite a few fields but you can leave some blank
For some fields there will be a default value,
If you enter '.', the field will be left blank.

Country Name (2 letter code) [XX]:IN
State or Province Name (full name) []:TS
Locality Name (eg, city) [Default City]:HYD
Organization Name (eg, company) [Default Company Ltd]:sk
Organizational Unit Name (eg, section) []:DCOPS
Common Name (eg, your name or your server's hostname) []:ldap.sk.com
Email Address []:root@sk.com

7.1) Verify the created Certificates under the location /etc/pki/tls/certs/

ll /etc/pki/tls/certs

-rw-r--r--. 1 root root 1704 Nov 30 15:16 /etc/pki/tls/certs/skldapkey.pem
-rw-r--r--. 1 root root 1367 Nov 30 15:16 /etc/pki/tls/certs/skldap.pem

8) Create base objects in openldap


```
# cd /usr/share/migrationtools
# ll
-rwxr-xr-x. 1 root root  2652 Dec 29  2013 migrate_aliases.pl
-rwxr-xr-x. 1 root root  2950 Dec 29  2013 migrate_all_netinfo_offline.sh
-rwxr-xr-x. 1 root root  2946 Dec 29  2013 migrate_all_netinfo_online.sh
-rwxr-xr-x. 1 root root  3011 Dec 29  2013 migrate_all_nis_offline.sh
-rwxr-xr-x. 1 root root  3006 Dec 29  2013 migrate_all_nis_online.sh
-rwxr-xr-x. 1 root root  3164 Dec 29  2013 migrate_all_nisplus_offline.sh
-rwxr-xr-x. 1 root root  3146 Dec 29  2013 migrate_all_nisplus_online.sh
-rwxr-xr-x. 1 root root  5267 Dec 29  2013 migrate_all_offline.sh
-rwxr-xr-x. 1 root root  7468 Dec 29  2013 migrate_all_online.sh
-rwxr-xr-x. 1 root root  3278 Dec 29  2013 migrate_automount.pl
-rwxr-xr-x. 1 root root  2608 Dec 29  2013 migrate_base.pl
-rw-r--r--. 1 root root  8880 Dec 29  2013 migrate_common.ph
-rwxr-xr-x. 1 root root  2952 Dec 29  2013 migrate_fstab.pl
-rwxr-xr-x. 1 root root  2714 Dec 29  2013 migrate_group.pl
-rwxr-xr-x. 1 root root  3087 Dec 29  2013 migrate_hosts.pl
-rwxr-xr-x. 1 root root  2856 Dec 29  2013 migrate_netgroup_byhost.pl
-rwxr-xr-x. 1 root root  2856 Dec 29  2013 migrate_netgroup_byuser.pl
-rwxr-xr-x. 1 root root  3879 Dec 29  2013 migrate_netgroup.pl
-rwxr-xr-x. 1 root root  2840 Dec 29  2013 migrate_networks.pl
-rwxr-xr-x. 1 root root  5635 Dec 29  2013 migrate_passwd.pl
-rwxr-xr-x. 1 root root  2428 Dec 29  2013 migrate_profile.pl
-rwxr-xr-x. 1 root root  2873 Dec 29  2013 migrate_protocols.pl
-rwxr-xr-x. 1 root root  2854 Dec 29  2013 migrate_rpc.pl
-rwxr-xr-x. 1 root root 11465 Dec 29  2013 migrate_services.pl
-rwxr-xr-x. 1 root root  3419 Dec 29  2013 migrate_slapd_conf.pl

# vi migrate_common.ph

71 $DEFAULT_MAIL_DOMAIN = "sk.com";
74 $DEFAULT_BASE = "dc=sk,dc=com";

90 $EXTENDED_SCHEMA = 1;
```

9) create a base.ldif file for your domain

vi /root/base.ldif

```
 1 dn: dc=sk,dc=com
 2 objectClass: top
 3 objectClass: dcobject
 4 objectClass: organization
 5 o: sk com
 6 dc: sk
 7
 8 dn: cn=Manager,dc=sk,dc=com
 9 objectClass: organizationalRole
10 cn: Manager
11 description: Directory Manager
12
13 dn: ou=People,dc=sk,dc=com
14 objectClass: organizationalUnit
15 ou: People
16
17 dn: ou=Group,dc=sk,dc=com
18 objectClass: organizationalUnit
19 ou: Group
20
```

10) create a local users

```
# useradd user1
# passwd user1
123
123

# useradd user2
# passwd user2
123
123
```

10.1) Filter-out these user from /etc/passwd TO another file

```
# grep ":10[0-9][0-9]" /etc/passwd > /root/passwd
```

10.2) Filter out the user-group's from etc/groups TO another file

```
# grep ":10[0-9][0-9]" /etc/group > /root/group
```

10.3) Now convert the individual users file TO .ldif format

generate a ldif file for users
./migrate_passwd.pl /root/passwd /root/users.ldif

generate a ldif file for groups
./migrate_group.pl /root/group /root/groups.ldif

11) Import users to ldap database

ldapadd -x -W -D "cn=Manager,dc=sk,dc=com" -f /root/base.ldif
Enter LDAP Password: 123

adding new entry "dc=sk,dc=com"
adding new entry "cn=Manager,dc=sk,dc=com"
adding new entry "ou=People,dc=sk,dc=com"
adding new entry "ou=Group,dc=sk,dc=com"

ldapadd -x -W -D "cn=Manager,dc=sk,dc=com" -f /root/users.ldif
Enter LDAP Password: 123

adding new entry "uid=subbu,ou=People,dc=sk,dc=com"
adding new entry "uid=user1,ou=People,dc=sk,dc=com"
adding new entry "uid=user2,ou=People,dc=sk,dc=com"

ldapadd -x -W -D "cn=Manager,dc=sk,dc=com" -f /root/groups.ldif
Enter LDAP Password: 123

adding new entry "cn=subbu,ou=Group,dc=sk,dc=com"
adding new entry "cn=user1,ou=Group,dc=sk,dc=com"
adding new entry "cn=user2,ou=Group,dc=sk,dc=com"

12) Test the configuration

ldapsearch -x cn=user2 -b dc=sk,dc=com

dn: uid=user2,ou=People,dc=sk,dc=com
uid: user2
cn: user2
sn: user2
mail: user2@sk.com
objectClass: person
objectClass: organizationalPerson
objectClass: inetOrgPerson
objectClass: posixAccount
objectClass: top
objectClass: shadowAccount
userPassword::
e2NyeXB0fSQ2JGZ0RldrYUdPJDhZMC5XRC8wRTFwbWxwUUdnaVcxTHk2YUI2bXl
vRVVrMEJLLy5JNlJJLkRhd0xDanZSVWNxWE5aRWUyRFRnTS9GeHBab29qRVNpTk81Qmt1
TDVPMncx
shadowLastChange: 17865
shadowMin: 0
shadowMax: 99999
shadowWarning: 7
loginShell: /bin/bash
uidNumber: 1002
gidNumber: 1002
homeDirectory: /home/user2