Netkiller LDAP 手札

netkiller Neo Chan

2009-11-16

文档出处: http://netkiller.sourceforge.net/ | http://netkiller.github.com

文档最近一次更新于 Thu Dec 1 12:51:21 UTC 2011

下面是我多年积累下来的经验总结，整理成文档供大家参考:

Netkiller Architect 手札	Netkiller Linux 手札	Netkiller Developer 手札	Netkiller Database 手札
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Netkiller MySQL 手札	Netkiller LDAP 手札	Netkiller Security 手札	Netkiller Version 手札
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1. 作者简介

主页地址：http://netkiller.sourceforge.net, http://netkiller.github.com/

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IT民工， UNIX like Evangelist, 业余无线电爱好者（呼号：BG7NYT）,户外运动以及摄影爱好者。

《PostgreSQL实用实例参考》，《Postfix 完整解决方案》，《Netkiller Linux 手札》的作者

2001年来深圳进城打工,成为一名外来务工者.

2002年我发现不能埋头苦干,埋头搞技术是不对的,还要学会"做人".

2003年这年最惨,公司拖欠工资16000元,打过两次官司2005才付清.

2004年开始加入分布式计算团队,目前成绩

2004-10月开始玩户外和摄影

2005-6月成为中国无线电运动协会会员

2006年单身生活了这么多年,终于找到归宿.

2007物价上涨,金融危机，休息了4个月（其实是找不到工作）

2008终于找到英文学习方法，，《Netkiller Developer 手札》，《Netkiller Document 手札》

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2009《Netkiller Database 手札》,年底拿到C1驾照

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网易泡泡：很少开

写给火腿:

欢迎无线电爱好者和我QSO,我的QTH在深圳宝安区龙华镇溪山美地12B7CD,设备YAESU FT-50R,FT-60R,FT-7800 144-430双段机,拉杆天线/GP天线 Nagoya MAG-79EL-3W/Yagi

如果这篇文章对你有所帮助,请寄给我一张QSL卡片,qrz.cn or qrz.com or hamcall.net

Personal Amateur Radiostations of P.R.China

ZONE CQ24 ITU44 ShenZhen, China

Best Regards, VY 73! OP. BG7NYT

第 1 章 OpenLDAP server (slapd)

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1. Installation

1.1. CentOS/Redhat

Yum

```
[root@development ~]# yum -y install openldap-servers
[root@development ~]# yum -y install openldap-clients
```

Redhat AS4

```
[root@backup openldap]# rpm -aq |grep openldap
compat-openldap-2.1.30-6.4E
openldap-2.2.13-6.4E
openldap-devel-2.2.13-6.4E
openldap-clients-2.2.13-6.4E
openldap-servers-2.2.13-6.4E
openldap-servers-sql-2.2.13-6.4E
```

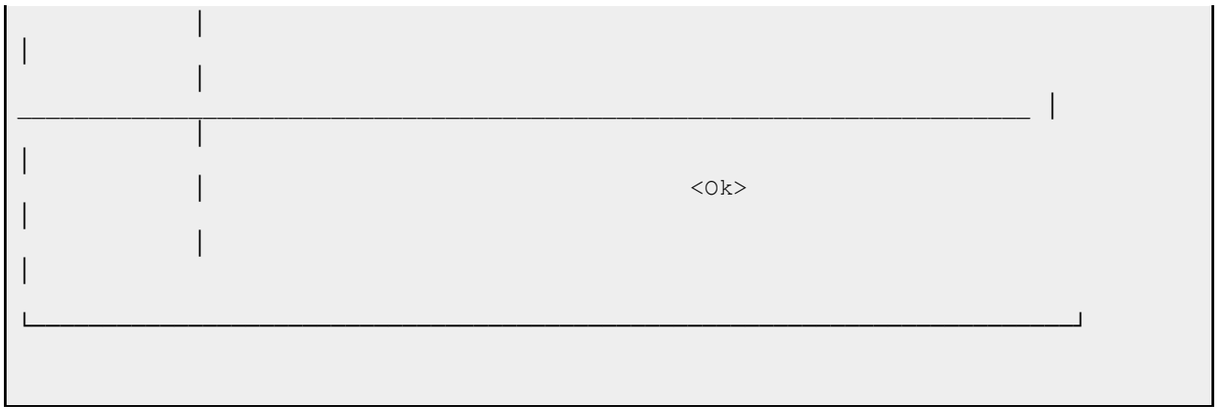
1.2. Debian/Ubuntu

$ sudo apt-get install slapd

```
$ sudo apt-get install slapd
$ sudo apt-get install ldap-utils
```

Admin password/Confirm password

```
                ┌──────────────────────────────┤  正在设定 slapd
├──────────────────────────────┐
                │  Please enter the password for the admin entry in your LDAP
directory.  │
                │
│
                │ Admin password:
│
```



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2. Configure

过程 1.1. Configure Openldap

1. 配置/etc/ldap.conf

```
#
# LDAP Defaults
#

# See ldap.conf(5) for details
# This file should be world readable but not world writable.

#BASE   dc=example, dc=com
#URI    ldap://ldap.example.com ldap://ldap-master.example.com:666

#SIZELIMIT      12
#TIMELIMIT      15
#DEREF          never
HOST 127.0.0.1
BASE dc=bg7nyt,dc=cn
TLS_CACERTDIR /etc/openldap/cacerts
```

2. 配置/etc/slapd.conf

```
suffix          "dc=bg7nyt,dc=cn"
rootdn          "cn=Manager,dc=bg7nyt,dc=cn"
rootpw          {crypt}ijFYNcSNctBYg
```

rootpw 默认是 secret

crypt 密码产生很简单，很多语言里都有crypt(key,salt)函数，不过最简单的办法是，使用UNIX Shadow 密码，使用apache的htpasswd生成

如果你想使用更复杂的加密算法，可以参考我的另一篇文章《信息安全与加密》

3. ldap 脚本

service ldap {start|stop|restart|status|condrestart}

or

/etc/init.d/ldap {start|stop|restart|status|condrestart}

```
[root@backup openldap]# service ldap
Usage: /etc/init.d/ldap {start|stop|restart|status|condrestart}
[root@backup openldap]# service ldap start
Checking configuration files for : config file testing succeeded
Starting slapd:                                            [  OK  ]
[root@backup openldap]# service ldap restart
Stopping slapd:                                            [  OK  ]
Checking configuration files for slapd: config file testing succeeded
Starting slapd:                                            [  OK  ]
[root@backup openldap]# service ldap stop
Stopping slapd:                                            [  OK  ]
[root@backup openldap]#
```

reconfigure

```
sudo dpkg-reconfigure slapd
```

3. 基本操作

3.1. base-dn

建立基本DN

例 1.1. base-dn.ldif

```
dn: dc=bg7nyt,dc=cn
objectclass: dcObject
objectclass: organization
o:bg7nyt.net
dc: bg7nyt
description:Top level of directory

dn: cn=Manager,dc=bg7nyt,dc=cn
objectclass: organizationalRole
cn: Manager

dn: cn=admin,dc=bg7nyt,dc=cn
objectclass: organizationalRole
cn: admin

dn: cn=root,dc=bg7nyt,dc=cn
objectclass: organizationalRole
cn: root
```

ldapadd -x -D "cn=root,dc=bg7nyt,dc=cn" -W -f base-dn.ldif

3.2. Add

添加条目

```
[chenjingfeng@backup ldap]$ ldapadd -x -D "cn=root,dc=bg7nyt,dc=cn" -W -f base-
dn.ldif
Enter LDAP Password:
adding new entry "dc=bg7nyt,dc=cn"

adding new entry "cn=Manager,dc=bg7nyt,dc=cn"

adding new entry "cn=admin,dc=bg7nyt,dc=cn"

adding new entry "cn=root,dc=bg7nyt,dc=cn"
```

查看条目

```
[chenjingfeng@backup ldap]$ ldapsearch -x -b 'dc=bg7nyt,dc=cn' '(objectclass=*)'
# extended LDIF
#
# LDAPv3
# base <dc=bg7nyt,dc=cn> with scope sub
# filter: (objectclass=*)
# requesting: ALL
#

# bg7nyt.cn
dn: dc=bg7nyt,dc=cn
```

```
objectClass: dcObject
objectClass: organization
o: bg7nyt.net
dc: bg7nyt
description: Top level of directory

# Manager, bg7nyt.cn
dn: cn=Manager,dc=bg7nyt,dc=cn
objectClass: organizationalRole
cn: Manager

# admin, bg7nyt.cn
dn: cn=admin,dc=bg7nyt,dc=cn
objectClass: organizationalRole
cn: admin

# root, bg7nyt.cn
dn: cn=root,dc=bg7nyt,dc=cn
objectClass: organizationalRole
cn: root

# search result
search: 2
result: 0 Success

# numResponses: 5
# numEntries: 4
```

3.3. Search

3.4. Modify

3.5. Delete

删除条目

```
ldapdelete -x -D "cn=root,dc=bg7nyt,dc=cn" -W "dc=bg7nyt,dc=cn"
```

3.6. Search

搜索条目

dn条目

```
ldapsearch -x -b '' -s base '(objectclass=*)' namingContexts
```

结果

```
# extended LDIF
#
# LDAPv3
# base <> with scope base
# filter: (objectclass=*)
# requesting: namingContexts
#

#
dn:
namingContexts: dc=bg7nyt,dc=cn

# search result
search: 2
result: 0 Success

# numResponses: 2
# numEntries: 1
```

```
ldapsearch -x -b 'dc=bg7nyt,dc=cn'
```

3.7. Organization Unit

建立组织单元

例 1.2. ou.ldif

```
dn: ou=address,dc=bg7nyt,dc=cn
ou: address
objectClass: organizationalUnit

dn: cn=neo, ou=address, dc=bg7nyt,dc=cn
objectClass: person
cn: neo
sn: neo

dn: cn=netkiller, ou=address, dc=bg7nyt,dc=cn
objectClass: person
objectClass: inetOrgPerson
cn: netkiller
sn: netkiller
mail: openunix@163.com

dn: cn=bg7nyt, ou=address, dc=bg7nyt,dc=cn
objectClass: person
cn: bg7nyt
sn: bg7nyt
```

建立ou

```
[chenjingfeng@backup ldap]$ ldapadd -x -D "cn=root,dc=bg7nyt,dc=cn" -W -f ou.ldif
Enter LDAP Password:
adding new entry "ou=address,dc=bg7nyt,dc=cn"

adding new entry "cn=neo, ou=address, dc=bg7nyt,dc=cn"

adding new entry "cn=netkiller, ou=address, dc=bg7nyt,dc=cn"

adding new entry "cn=bg7nyt, ou=address, dc=bg7nyt,dc=cn"
```

删除ou

```
[chenjingfeng@backup ldap]$ ldapdelete -x -D "cn=root,dc=bg7nyt,dc=cn" -W
"ou=address,dc=bg7nyt,dc=cn"
Enter LDAP Password:
```

第 2 章 Replication

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1. Primary
2. Secondary

1. Primary

过程 2.1. Primary configure

1. installation

```
neo@master:~$ sudo apt-get install slapd ldap-utils
```

2. slapd.conf

```
neo@master:~$ vi /etc/ldap/slapd.conf
suffix          "dc=example,dc=org"
replogfile      /var/lib/ldap/replog
syncrepl        rid=001
                provider=ldap://192.168.245.131:389/
                binddn="cn=admin,dc=example,dc=org"
                bindmethod=simple
                credentials=chen
                searchbase="dc=example,dc=org"
                type=refreshAndPersist
                retry="5 5 300 5"
```

3. initial entries base dn

```
neo@master:~$ cat base-dn.ldif

dn: dc=example,dc=org
objectclass: dcObject
objectclass: organization
o:example.org
dc: example
description:Top level of directory

dn: cn=Manager,dc=example,dc=org
objectclass: organizationalRole
cn: Manager

dn: cn=admin,dc=example,dc=org
objectclass: organizationalRole
cn: admin

dn: cn=root,dc=example,dc=org
objectclass: organizationalRole
cn: root
```

Add initial entries to your directory.

```
neo@master:~$ ldapadd -x -D "cn=admin,dc=example,dc=org" -W -f base-dn.ldif
Enter LDAP Password:
adding new entry "dc=example,dc=org"

adding new entry "cn=Manager,dc=example,dc=org"
```

```
adding new entry "cn=admin,dc=example,dc=org"

adding new entry "cn=root,dc=example,dc=org"
```

check

```
neo@master:~$ ldapsearch -x -b 'dc=example,dc=org' '(objectclass=*)'
# extended LDIF
#
# LDAPv3
# base <dc=example,dc=org> with scope subtree
# filter: (objectclass=*)
# requesting: ALL
#

# example.org
dn: dc=example,dc=org
objectClass: dcObject
objectClass: organization
o: example.org
dc: example
description: Top level of directory

# Manager, example.org
dn: cn=Manager,dc=example,dc=org
objectClass: organizationalRole
cn: Manager

# admin, example.org
dn: cn=admin,dc=example,dc=org
objectClass: organizationalRole
cn: admin

# root, example.org
dn: cn=root,dc=example,dc=org
objectClass: organizationalRole
cn: root

# search result
search: 2
result: 0 Success

# numResponses: 5
# numEntries: 4
```

4. Export the database of the master using slapcat. Then copy master.ldif to the slave using scp or other tools.

```
neo@master:~$ sudo slapcat -l master.ldif
```

2. Secondary

过程 2.2. Secondary configure

1. installation

```
neo@slave:~$ sudo apt-get install slapd ldap-utils
```

2. configure

```
neo@master:~$ vi /etc/ldap/slapd.conf
updatedn        cn=admin,dc=example,dc=org
updateref       ldap://master.example.org
```

3. Import the master.ldif using slapadd.

```
neo@slave:~$ sudo slapadd -c -l master.ldif
```

第 3 章 Backup and Restore

backup

```
cp -r /etc/openldap .
CURRENT_DATA=`date '+%m-%d-%y'`
slapcat -l backup_${CURRENT_DATA}_neo_chen.ldif
tar zcvf backup_ldap.tar.gz ldap/
md5sum backup_ldap.tar.gz > backup_ldap.tar.gz.md5
```

restore

ldapadd -x -D "cn=root,dc=bg7nyt,dc=cn" -W -f your.ldif

第 4 章 Active Directory

通过ldapsearch查询Windows Active Directory 是一件很有趣事情。

列出所有员工姓名

```
ldapsearch -x -H ldap://192.168.19.238 -D neo.chen@company.com -w 12345678 -b
'OU=china,DC=company,DC=com'
'(&(objectCategory=person)(objectClass=user)(company=*)(mail=*))'|grep '^name::' |
awk -F ' ' '{print $2}' |base64 --decode | sed 's/)/)\r\n/g'
```

统计员工数目

```
ldapsearch -x -H ldap://192.168.19.238 -D neo.chen@company.com -w 12345678 -b
'OU=china,DC=company,DC=com'
'(&(objectCategory=person)(objectClass=user)(company=*)(mail=*))'|grep '^name::' |
wc -l
```

制作通讯录,或导出邮件列表

```
ldapsearch -x -H ldap://192.168.19.238 -D neo.chen@company.com -w 12345678 -b
'OU=china,DC=company,DC=com'
'(&(objectCategory=person)(objectClass=user)(company=*)(mail=*))'|grep ^mail:|awk
-F ' ' '{print $2}'
```

列出 name mail mobile telephoneNumber

```
ldapsearch -x -H ldap://192.168.19.238 -D neo.chen@company.com -w 12345678 -b
'OU=china,DC=company,DC=com'
'(&(objectCategory=person)(objectClass=user)(name=*)(mail=*))' name mail mobile
telephoneNumber
```

第 5 章 Outlook Address

过程 5.1. Openldap for Outlook Address

1.
2.
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5.

第 6 章 Development

目录

1. Python

1. Python

```
[root@development ~]# yum -y install python-ldap
```