??:
Windows ????? SMB (Session Message Block protocol, ??? NetBIOS ? LanManager protocol.) ,????????????,?
samba ?? Linux ????? SMB (NetBIOS) ??????????????.????? samba ?? Windows ? Linux ??????????????????.
Windows ? Linux ?? SMB /NMB ????????:

???? SMB(NetBIOS)?!!????????????????.

NetBIOS
??? IBM ????? NetBIOS API(Network Basic Input/Output System Application Program Interface),?? NetBIOS
? 18 ? API ??,?????????????????. ?? NetBIOS ????(broadcasts)?????.?????????(routed).?????????????.NetBIOS
?? session layer protocol(?5?,???)

NetBEUI
??????NetBIOS????,NetBEUI(NetBIOS Extened User Interface),????????????????.NetBEUI ?? data-link layer
protocol (?2?,?????).

SMB(NetBIOS)
Windows NT4.0 ???????(????????),????(wins)...???? NetBIOS over NetBEUI?????.??? NetBIOS ??? over TCP/IP
? Windows 2000 ?????(????????), Linux ? samba server or NETBIOS over IPX(Internetwork Packet
Exchange) ? NT ?? NWLINK

note:
1.???????????,??? Roter ?, Router ??????????.????????????? InterNet ?,???????.
2.NetBEUI ?? data-link layer protocol (?2?,?????)

Samba ?????? http://www.samba.org

RHEL5 - Samba (?) ?? samba ???

???? samba ????,????? /Server ??????? samba ? rpm ???????? yum ???.

```
[root@benjr ~]# rpm -aq | grep samba
samba
samba-common
samba-client
system-config-samba
```

?? samba ? RedHat ??????? /Server ?????????

```
[root@benjr ~]# rpm -ivh samba-common.rpm
[root@benjr ~]# rpm -ivh samba-client.rpm
[root@benjr ~]# rpm -ivh samba.rpm
[root@benjr ~]# rpm -ivh system-config-samba
```

?? samba ????????????

```
[root@benjr ~]# chkconfig smb on
[root@benjr ~]# chkconfig --list smb
smb     0:off 1:on 2:on 3:on 4:on 5:on 6:off
```

???? samba ??

```
[root@benjr ~]# service smb start
Starting SMB services:          [ OK ]
Starting NMB services:          [ OK ]
```

RHEL 5 ??? **#system-config-samba** ???????????? samba ???,??????????????? samba ???? /etc/samba/ smb.conf ,???????? samba ????.

```
[root@benjr ~]# cat /etc/samba/smb.conf
#====================== Global Settings ======================================
[global]
   workgroup = mygroup
   server string = Samba Server Version %v
   netbios name = benjr
   security = user
   passdb backend = tdbsam
#====================== Share Definitions=================================
[homes]
   comment = Home Directories
   browseable = no
   writeable = yes
```

```
;   valid users = %S
;   valid users = MYDOMAIN\%S

[printers]
    comment = All Printers
    path = /var/spool/samba
    browseable = no
;   guest ok = no
;   writeable = no
    printable = yes
```

?????????????
1.[global] ??????? samba ?????
??? [global] ? security ???????????,samba 3.X ????????????
2.[share] ????????????????

/etc/samba/ ?? ?????

```
[root@benjr ~]# ll /etc/samba/
total 52
-rw-r--r-- 1 root root    20 Apr  3  2008 lmhosts
-rw------- 1 root root  4096 Apr 12 06:59 passdb.tdb
-rw------- 1 root root  8192 Apr 12 06:59 secrets.tdb
-rw-r--r-- 1 root root 10043 Apr 14 03:37 smb.conf
-rw-r--r-- 1 root root    97 Apr  3  2008 smbusers
```

1."/etc/samba/lmhosts" ?? NetBIOS name ? IP ?????
2."/etc/samba/passdb.tdb" ??????? samba server ?????????????
3."/etc/samba/secrets.tdb" ?? samba ????
4."/etc/samba/smb.conf" samba ????
5."/etc/samba/smbusers" UNIX name ? samb name ?????

??? samba ??????????????? /etc/samba/smbpassword ,???????? samba server ?????????,?????????????????
?:
1.???????,?????????.
2.??? samba server ?????? smbpasswd ?,???? samba server ??????????.
3.smbpasswd ??????????????????.
4.???????????????? samba server ????,

???? RHEL5 ???????????????,?????????????.????? tdbsam(.tdb) ????? Samba ????????,???? LDAP ??????.

1.Plain Text: :
2.smbpasswd : Encrypted Password Database
3.tdbsam:
4.ldapsam:
5.MySQL:

6.XML:

RHEL5 - Samba (?) samba ?????

RHEL 5 ????? **#system-config-samba** ??? samba ????????????????????????:

nmblookup : ?? NetBIOS ???? IP addresses

```
[root@benjr ~]# nmblookup benjr
querying benjr on 192.8.1.255
192.8.1.85 benjr<00>
```

smbstatus : ?? samba server ??????????

```
[root@benjr ~]# smbstatus
Samba version 3.0.28-0.el5.8
PID    Username    Group        Machine
-------------------------------------------------------------------

Service    pid    machine    Connected at
-------------------------------------------------------
share      4600   192.8.1.242  Tue Apr 14 03:47:18 2009

Locked files:
Pid       Uid      DenyMode   Access   R/W      Oplock       SharePath  Name  Time
-----------------------------------------------------------------------------------------------
4600      99       DENY_NONE  0x100001  RDONLY  NONE         /share  .  Tue Apr 14 03:47:18
2009
```

testparm : ??????????????????? /etc/samba/smb.conf ???,Samba ??????? testparm ????? /etc/samba/smb.conf ???????,????????.

```
[root@benjr ~]# testparm /etc/samba/smb.conf
Load smb config files from /etc/samba/smb.conf
Processing section "[homes]"
Processing section "[printers]"
Loaded services file OK.
Press enter to see a dump of your service definitions
.....................?...........................
```

??????????? samba server ????

```
[root@benjr ~]# testparm /etc/samba/smb.conf 192.13.9.9
```

smbclient : ?? samba server ????????

```
[root@benjr ~]# smbclient -L benjr
Password:
```

```
Domain=[MYGROUP] OS=[Unix] Server=[Samba 3.0.28-0.el5.8]
    Sharename     Type      Comment
    ---------     ----      -------
    share         Disk
    IPC$          IPC       IPC Service (Samba Server Version 3.0.28-0.el5.8)
Domain=[MYGROUP] OS=[Unix] Server=[Samba 3.0.28-0.el5.8]

    Server            Comment
    ---------         -------
    BENJR             Samba Server Version 3.0.28-0.el5.8

    Workgroup         Master
    ---------         -------
    MYGROUP
```

"mount or smbmount" : mount smaba ???? share ??

```
[root@unsvr root]# mount -t smbfs  //benjr/share  /mnt
Password:
[root@unsvr root]# smbmount  //benjr/share  /mnountpoint
Password:
```

RHEL5 - Samba (?) ???(iptables)

?? samba Server ????24????????,???????????????????????,??????????,?????? port ???,????????.?? iptables(firewall) ? SElinux ????? Samba ???????.??????????????? iptables(firewall) ? SElinux.?Linux?????? iptables.?? RHEL5 ?? iptables ?????.????:

```
[root@benjr ~]#system-config-securitylevel
```

????: ???????????????(iptables)?????????.
??????????? port ??,?????? port ??? SMB /NMB ??????????????.?????????????????????????.???????**NetBIOS (UDP ports 137 and 138, TCP ports 139) ? TCP port 445 for SMB file sharing without NetBIOS**.

????????? SSH ????????? Text mode ????.

```
[root@benjr ~]#system-config-securitylevel-tui
```

?????????,???????????.???????? /etc/sysconfig/iptables

```
[root@benjr ~]# cat /etc/sysconfig/iptables
# Firewall configuration written by system-config-securitylevel
# Manual customization of this file is not recommended.
*filter
:INPUT ACCEPT [0:0]
:FORWARD ACCEPT [0:0]
:OUTPUT ACCEPT [0:0]
:RH-Firewall-1-INPUT - [0:0]
-A INPUT -j RH-Firewall-1-INPUT
-A FORWARD -j RH-Firewall-1-INPUT
-A RH-Firewall-1-INPUT -i lo -j ACCEPT
-A RH-Firewall-1-INPUT -i ppp0 -j ACCEPT
-A RH-Firewall-1-INPUT -i eth0 -j ACCEPT
-A RH-Firewall-1-INPUT -p icmp --icmp-type any -j ACCEPT
-A RH-Firewall-1-INPUT -p 50 -j ACCEPT
-A RH-Firewall-1-INPUT -p 51 -j ACCEPT
-A RH-Firewall-1-INPUT -p udp --dport 5353 -d 224.0.0.251 -j ACCEPT
-A RH-Firewall-1-INPUT -p udp -m udp --dport 631 -j ACCEPT
-A RH-Firewall-1-INPUT -m state --state ESTABLISHED,RELATED -j ACCEPT
-A RH-Firewall-1-INPUT -m state --state NEW -m udp -p udp --dport 137 -j ACCEPT
-A RH-Firewall-1-INPUT -m state --state NEW -m udp -p udp --dport 138 -j ACCEPT
-A RH-Firewall-1-INPUT -m state --state NEW -m tcp -p tcp --dport 139 -j ACCEPT
-A RH-Firewall-1-INPUT -m state --state NEW -m tcp -p tcp --dport 445 -j ACCEPT
-A RH-Firewall-1-INPUT -j REJECT --reject-with icmp-host-prohibited
COMMIT
```

??:

?????? samba ????? port.

-A RH-Firewall-1-INPUT -m state --state NEW -m udp -p udp --dport 137 -j ACCEPT
-A RH-Firewall-1-INPUT -m state --state NEW -m udp -p udp --dport 138 -j ACCEPT
-A RH-Firewall-1-INPUT -m state --state NEW -m tcp -p tcp --dport 139 -j ACCEPT
-A RH-Firewall-1-INPUT -m state --state NEW -m tcp -p tcp --dport 445 -j ACCEPT
????????? iptables ,????????,?????????? iptables .

> **[root@benjr ~]#chkconfig iptables on**

??????????????????????? iptables ??.

> **[root@benjr ~]#service iptables start**
> **Starting httpd [OK]**

???? iptables ??????

> **[root@benjr ~]#/sbin/service iptables save**
> **#???????? /etc/sysconfig/iptables**

RHEL5 - Samba (?) ???????
?? RHEL5 ??? samba ??? 3.X,? samba 3.X ??????????????

?????????????????? samba server ????????? Windows ????

1.Share Level Security : ??????????

security = share

2.User Level Security : ???? samba server ?????,??????????

security = user

3.Server Security : ????? Windows NT/2000/2003 ? samba server ?????

encrypt passwords = Yes

security = server

password server = "NetBIOS_name_of_a_DC"

4.Domain Security Mode : ?????? Windows AD (Domain ? mixed mode)??? Windows NT 4 ??

workgroup = "name_of_NT_domain"

security = domain

5.ADS Security Mode : ?????? Windows AD ??(Domain ? native mode)

realm = your.kerberos.REALM

security = ADS

ads server = your.kerberos.server

RHEL5 - Samba (?) Share ?????

???? Share Level Security : ??????????,?????????????????.?? X-windows ??? #system-config-samba ?? "Authentication Mode" ? Share.

?? #system-config-samba ???????,???????? samba ???? /etc/samba/smb.conf ,???????? share ????? samba ?? ????????.

```
[root@benjr ~]# vi /etc/samba/smb.conf
[global]
  workgroup = MYGROUP
  netbios name = benjr
  security = share
```

1.???????????? security = share
2.netbios name ??????,??? Windows ?????,?????? netbios name ? samba ????? hostname ?????.

??????? samb ????????????????,????????? Linux ????????.???? Windows ??????.

?????????????????? /share ????,?????(#mkdir /share).?????????????(#chmod -R 777 /share),????????
????,??????????????? Linux ????????.??? #system-config-samba

?? Add Share ????????,?? samba ?????????????? Access ????? "Allow access to everyone".? Basic ????? Share name ?????????,?????????.?????????,?????????????????? "writable" ??????(Guest User) ???????.????????? ??? samba ???? /etc/samba/smb.conf ??????.

```
[root@benjr ~]# vi /etc/samba/smb.conf
=========================== Share Definitions ============================
[tmp]
  comment = Temporary file space
  path = /tmp
  read only = no
  public = yes
[share]
  path = share
  public = yes
  writable = yes
```

[share] ??????? , path = /share ????? Linux ???,writable ?????????????.
Linux client ????????
I.smbclient ?? samba server ????????

```
[root@benjr ~]# smbclient -L benjr
Password:
Domain=[MYGROUP] OS=[Unix] Server=[Samba 3.0.28-0.el5.8]
```

```
      Sharename     Type     Comment
      ---------     ----     -------
      share         Disk
      IPC$          IPC      IPC Service (Samba Server Version 3.0.28-0.el5.8)
Domain=[MYGROUP] OS=[Unix] Server=[Samba 3.0.28-0.el5.8]

      Server          Comment
      ---------       -------
      BENJR           Samba Server Version 3.0.28-0.el5.8

      Workgroup       Master
      ---------       -------
      MYGROUP
```

??? passwd ??????,??? enter ?????
II."mount or smbmount" mount smaba ???? share ??

```
[root@unsvr root]# mount -t smbfs  //benjr/share  /mnt
Password:
[root@unsvr root]# smbmount  //benjr/share  /mnountpoint
Password:
```

??? passwd ??????,??? enter ?????,?????????smaba ??????.

Windows client ????????
???????????,??? ??/?? ??? IP ??????(netbios name),????? samba server ??????,????????? samba server ??????
?.

RHEL5 - Samba (?) ?? samba User

? samba server security ? user ??????????? samba server ?????.???????????????????.?????????????? /etc/
samba/smbpasswd,RHEL5 ???????????? passdb.tdb .

```
[root@benjr ~]# cat /etc/samba/smb.conf
# ----------------------- Standalone Server Options -----------------------
#
# Security can be set to user, share(deprecated) or server(deprecated)
#
# Backend to store user information in. New installations should
# use either tdbsam or ldapsam. smbpasswd is available for backwards
# compatibility. tdbsam requires no further configuration.
    security = user
    passdb backend = tdbsam
```

????????????????????????? Linux ???,??????????.??????? "Bob" ? "John"

```
[root@benjr ~]# adduser bob
```

```
[root@benjr ~]# adduser john
[root@benjr ~]# passwd bob
Changing password for user bob.
New UNIX password:
Retype new UNIX password:
passwd: all authentication tokens updated successfully.
[root@benjr ~]# passwd john
Changing password for user john.
New UNIX password:
Retype new UNIX password:
passwd: all authentication tokens updated successfully.
```

??????? system-config-samba ?????,??? #system-config-samba ?,?? Preferences / Samba Users ????? "Add User"

????????????? Linux User ??? Unix Username:??????? bob ? john.Windows Username ???? Unix Username ? ???.

???? #pdbedit -au ??????.

```
[root@benjr ~]# pdbedit -au bob
new password:
retype new password:
Unix username:      bob
NT username:
Account Flags:      [U       ]
User SID:         S-1-5-21-1634407166-380897321-584037179-1001
Primary Group SID:   S-1-5-21-1634407166-380897321-584037179-513
Full Name:
Home Directory:     \\benjr\bob
HomeDir Drive:
Logon Script:
Profile Path:       \\benjr\bob\profile
Domain:           BENJR
Account desc:
Workstations:
Munged dial:
Logon time:        0
Logoff time:       never
Kickoff time:      never
Password last set:  Fri, 17 Apr 2009 03:38:39 CST
Password can change: Fri, 17 Apr 2009 03:38:39 CST
Password must change: never
```

```
Last bad password   : 0
Bad password count  : 0
Logon hours         : FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
[root@benjr ~]# pdbedit -au john
new password:
retype new password:
Unix username:       john
NT username:
Account Flags:       [U        ]
User SID:            S-1-5-21-1634407166-380897321-584037179-1002
Primary Group SID:   S-1-5-21-1634407166-380897321-584037179-513
Full Name:
Home Directory:      \\benjr\john
HomeDir Drive:
Logon Script:
Profile Path:        \\benjr\john\profile
Domain:              BENJR
Account desc:
Workstations:
Munged dial:
Logon time:          0
Logoff time:         never
Kickoff time:        never
Password last set:   Fri, 17 Apr 2009 03:38:51 CST
Password can change: Fri, 17 Apr 2009 03:38:51 CST
Password must change: never
Last bad password   : 0
Bad password count  : 0
Logon hours         : FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
```

#pdbedit ???? -L ????????? samba ????.

```
[root@benjr ~]# pdbedit -L
john:501:
bob:500:
```

note:
?????? RedHat ??????????????,?????? system-config-samba ????????,??!!????????.???????????????(An account for this user already exists. Please try again).

?!!!!???????!!???????? #pdbedit -L ?????????,??????,??? system-config-samba ???? /etc/samba/smbpasswd ? ?????????,????? RHEL5 ??????????????? passdb.tdb ,?????? RHEL5.2 ??????,??? RHEL5.3 ???.???? RHEL5.2 ?? ??????????? system-config-samba-1.2.40 ???????,????????.

https://bugzilla.redhat.com/show_bug.cgi?id=236557

RHEL5 - Samba (?) ????
???????????????????????????,??????? Linux ?????.

1.? Bob ?? Samba Server ??????????,????????????.?? Share Level Security ??????????????????,?? Bob ??? Samba Server ???????(??????????? Windows ? LDAP ???,??????).

2.? Bob ????????????,??? Samba Server ??????????????????.

3.?? Samba ? Bob ???????????,??? Linux ??????????????????? Linux ????????.

Linux ?????????????,?????????????????????,??????? .
#ls -l (ls "list directory contents",-l "use a long listing format")?????????????????.

???????????[????][???][?????]
?? -rw-r--r-- [????]?????????????,??????,????? rwx ,??????????????????.

??? User ??????????????????,????????[???].
??? Group??????????????????,????????[?????].
??? Other ??[??????]??????.

???????? rwx ,?????? rwx ?????????????
I. ?????:
??(r):??cat????
??(w):??cp,move?????
???(x):??????
II. ?????:
??(r):?????????????????,?????x???.??? ls ???????.
??(w): ??????????????,?????x???.???cp,move,touch??????.
note: ????? w ?????????????? w ???,?????????????.
???(x): ?? cd (change directory)???????

note:????User,group?????,???? User ?.

???????:

```
[root@benjr ~]# mkdir /share
[root@benjr ~]# ll -d /share
drwxr-xr-x 2 root root 4096 Apr 20 08:31 /share
```

???????????????????? rx ????????.????? Bob ???? /share ???????.

1.other ???? w (?) ???.

2.? /share ? user ?? Bob.

3.????(Group),???????????.??? w (?) ???.

???????????????????????? 777.