[Tutorial: Setting Up Samba 3.x](http://www.osnews.com/story/6684/Tutorial_Setting_Up_Samba_3_x)

posted by [Brian Snipes](mailto:bsnipes@NOSPAM.dni-online.com) on Sat 10th Apr 2004 07:28 UTC

IconRecently I got the opportunity to setup a new lab for a small school. The server runs Linux and the workstations run WindowsXP. There are 3 levels of access on the workstations (admin, teacher, and student) and security on the workstations is based on Windows policies applied at logon.

**admin** - full access to workstation

**teacher** - almost full access to workstation - minus certain control panel functions

**student** - lockdown city - no network browsing, no software installation, no control panel

Workstations are joined to the Samba domain and function the same way they would in a Windows server based domain.

I will detail the steps to get a Samba lab up and running plus some caveats you may encounter.

**Install Samba**

This step is very distribution specific. Make sure you that the version you install is at least version 3.x and not 2.x.

**Create Your Base Users And Groups**

groupadd admins  
groupadd teachers  
groupadd students  
useradd -m -s /bin/false -c "Samba Admin" -G admins administrator  
useradd -m -s /bin/false -c "Samba Generic Teacher" -G teachers teacher  
useradd -m -s /bin/false -c "Samba Generic Student" -G students student  
smbpasswd -a administrator  
smbpasswd -a teacher  
smbpasswd -a student

**Setup A Basic Config**

a. Determine your NETBIOS server name and domain name In my example I use FS1 as the server name and 'IDOM' as the domain name. Make sure that neither contains spaces and avoiding any punctuation marks is preferable.

b. Create your share directories and permissions

mkdir /home/samba  
mkdir /home/samba/netlogon  
mkdir /home/samba/teachers  
mkdir /home/samba/software  
chgrp teachers /home/samba/teachers  
chgrp admins /home/samba/software  
chmod 775 /home/samba/teachers  
chmod 775 /home/samba/software

c. Example config

[global]  
netbios name = FS1  
workgroup = IDOM  
passdb backend = smbpasswd  
os level = 33  
preferred master = yes  
domain master = yes  
local master = yes  
security = user  
domain logons = yes  
#logon path = \\%N\profiles\%u  
logon path =  
#logon drive = H:  
#logon home = \\homeserver\%u\winprofile  
logon script = logon.bat  
add machine script = /usr/sbin/useradd -d /dev/null -g 100 -s /bin/false -M %u  
# username map = /etc/samba/smbusers  
admin users = @admins  
printer admin = @admins  
printing = cups  
load printers = yes  
printcap name = /etc/printcap  
# print command = lp -c -d%p -oraw; rm %s  
print command = lpr -l %s  
# prevent mp3 files from being stored on the server  
veto files = /\*.mp3/\*.divx/\*.eml/  
  
[homes]  
comment = Home Directories  
valid users = %S  
browseable = No  
read only = No  
create mask = 0640  
directory mask = 0750  
  
[netlogon]  
path = /home/samba/netlogon  
read only = yes  
write list = @admins  
read list = @admins, @teachers, @students  
  
[profiles]  
path = /var/lib/samba/profiles  
read only = no  
create mask = 0600  
directory mask = 0700  
  
[printers]  
comment = All Printers  
path = /var/tmp  
create mask = 0666  
printable = Yes  
guest ok = Yes  
browseable = No  
  
[print$]  
comment = Printer Drivers  
path = /var/lib/samba/drivers  
write list = @admins, root  
force group = admins  
create mask = 0664  
directory mask = 0775  
  
[teachers]  
comment = Shared area for teachers  
path = /home/samba/teachers  
valid users = @teachers  
read list = @teachers  
write list = @teachers  
force group = teachers  
read only = No  
create mask = 0774  
directory mask = 0775  
  
[software]  
comment = storage area for software and drivers  
path = /home/samba/software  
valid users = @teachers, @admins  
admin users = @admins  
read list = @teachers, @admins  
write list = @admins  
force group = admins  
read only = No  
create mask = 0774  
directory mask = 0775

**Mapping Groups**

You need to map your unix groups to the domain groups using the 'net' command. The 'net' command is relatively new to Samba. To view a list of the commands available type 'net view' at the console.

net groupmap modify ntgroup="Domain Admins" unixgroup=admins  
net groupmap modify ntgroup="Domain Users" unixgroup=users  
net groupmap add ntgroup="Teachers" unixgroup=teachers  
net groupmap add ntgroup="Students" unixgroup=students

**The Login Script**

Setup a login script named '*logon.bat*' in the */home/samba/netlogon* directory. This script **MUST** be in DOS format meaning that it must have a CRLF at the end of each line as opposed to the Linux LF only way. It is easiest to do the logon script in Notepad and put it in a share on the server, then use the 'mv' command to move it to the */home/samba/netlogon* dir.

Oddly enough, Microsoft doesn't include an 'if member of group' in the login script processor so you need to download a DOS 'ifmember.exe' executable and place it in the netlogon share manually in order to perform mappings based on group membership. You can download it from [here](http://www.microsoft.com/windows2000/techinfo/reskit/tools/new/ifmember-o.asp) . This login script also syncs the workstation time to the server time.

TITLE Domain Login script  
net time \\FS1 /set /y  
net use h: /home  
net use g: \\FS1\apps  
  
:a  
%logonserver%\netlogon\ifmember "teachers"  
if not errorlevel 1 goto quit  
net use f: \\fs1\teachers  
goto quit  
  
:quit

**Workstation Policies**

Policies allow an administrator to 'lock down' a workstation. For instance, with policies the adminstrator and teachers can have access on the workstations to change control panel settings and add new programs while students can be denied access to the control panel, display settings, command prompt, etc.

Use 'poledit.exe' to create an 'ntconfig.pol' permissions file and place it in the \\server\netlogon share. This file will contain the permissions for the 'Domain Admins', 'Teachers', and 'Students' groups. Poledit.exe is available from the NT Resource Kit ( from http://www.microsoft.com ) but in order to support XP workstations, custom control files (called ADM files) need to be downloaded and loaded into the Poledit utility. The custom ADM files can be downloaded from - <http://www.snipes.org/admfiles.zip> .

**Importing Workstations**

In order to import the Windows 2000/XP workstations into your new Samba domain, you MUST run add the following registry entries into the workstation. The easiest way is to save the following text as a file called '*samba.reg*' and then double-click to run it from the workstation.

Windows Registry Editor Version 5.00  
  
[HKEY\_LOCAL\_MACHINE\SYSTEM\CurrentControlSet\Services\Netlogon\Parameters]  
"requiresignorseal"=dword:00000000

After rebooting, right-click on the 'My Computer' icon and choose properties. On the resulting screen change the computer from Workgroup to Domain and enter an administrator username and password (ie. a user that is in the 'Domain Admins' group). You will be thanked for joining and you will be told to reboot.

**Finishing Thoughts**

Setting up Samba can be a very interesting adventure but well worth the effort. Once the basics are understood, a new lab can be setup in just a couple of hours and should require very little maintenance. There are many online references for Samba. I suggest going to your closest Samba mirror via <http://www.samba.org> and looking at the documentation section for further info.

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