# Beginning Samba

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## Samba

Samba is an Open Source/Free Software suite that has, since 1992, provided file and print services to all manner of SMB/CIFS clients, including the numerous versions of Microsoft Windows operating systems. Samba is freely available under the GNU General Public License.

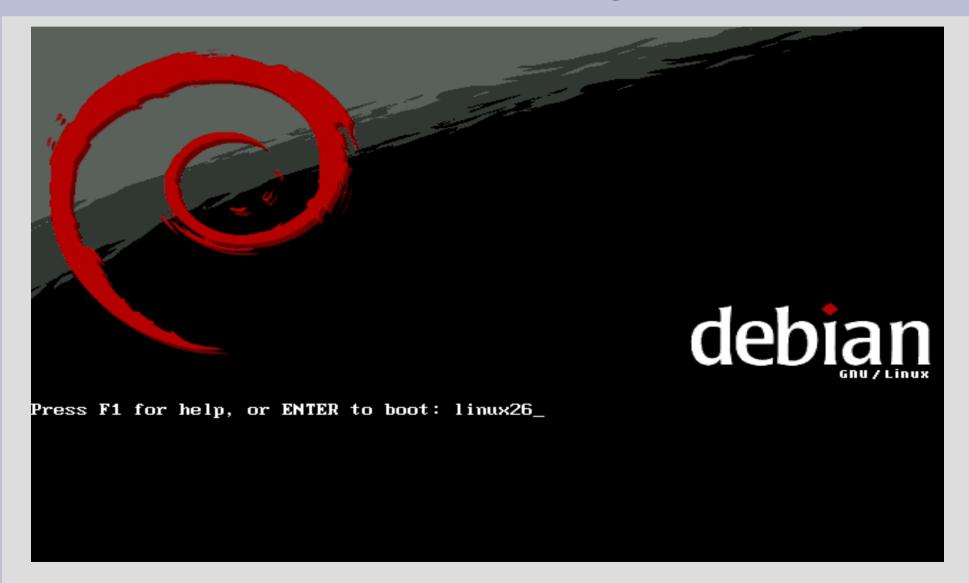
From samba.org

## **Getting Samba to Work**

- Install Debian Stable
- Install Samba and smbclient
- Configure Samba
- Add users
- Connect from Windows client

## Installing Debian Stable

netboot iso image



### Hostname

[!] Configure the network Please enter the hostname for this system. The hostname is a single word that identifies your system to the network. If you don't know what your hostname should be, consult your network administrator. If you are setting up your own home network, you can make something up here. Hostname: <Go Back>

## **Domain**

[!] Configure the network

The domain name is the part of your Internet address to the right of your host name. It is often something that ends in .com, .net, .edu, or .org. If you are setting up a home network, you can make something up, but make sure you use the same domain name on all your computers.

Domain name:

localdomain.

## **Partitioning**

[!!] Partition disks

This installer can guide you through partitioning a disk for use by Debian, or if you prefer, you can do it manually. If you do choose to use the guided partitioning tool, you will still have a chance later to see the results, customise it, and even undo the partitioning if you do not like it.

Partitioning method:

Erase entire disk: SCSI1 (0,0,0) (sda) – 1.1 GB VMware, VMware Vi Manually edit partition table

## Scheme

[!] Partition disks

The disk can be partitioned using one of several different schemes. If you are unsure, choose the first one.

Partitioning scheme:

All files in one partition (recommended for new users)
Desktop machine

Multi-user workstation

## Partitions / swap & /home

#### [!!] Partition disks

This is an overview of your currently configured partitions and mount points. Select a partition to modify its settings (file system, mount point, etc.), a free space to create partitions, or a device to initialise its partition table.

```
Configure software RAID
Configure the Logical Volume Manager
Guided partitioning
Help on partitioning
```

```
SCSI1 (0,0,0) (sda) — 2.1 GB VMware, VMware Virtual S
#1 primary 115.1 MB & 蔥 ext3 /usr
#5 logical 871.8 MB 蔥 ext3 /var
#6 logical 279.6 MB 蔥 ext3 /var
#7 logical 123.3 MB 蔥 swap swap
#8 logical 57.5 MB 蔥 ext3 /tmp
#9 logical 699.1 MB 蔥 ext3 /home
```

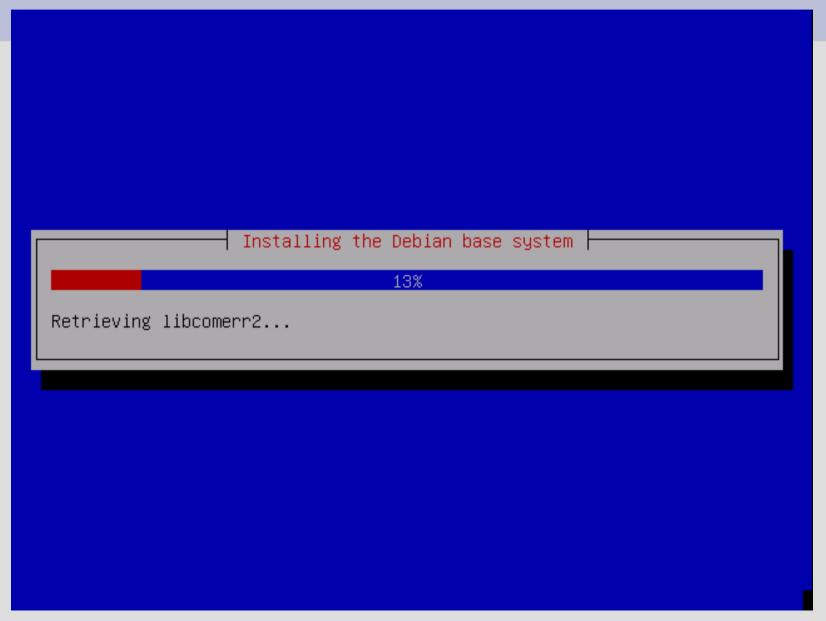
<u>Undo changes to partitions</u>

<u>Finish partitioning and write changes to disk</u>

## Write Changes to Disk

```
[!!] Partition disks
If you continue, the changes listed below will be written to the
disks.
WARNING: This will destroy all data on any partitions you have
removed as well as on the partitions that are going to be formatted.
The partition tables of the following devices are changed:
   SCSI1 (0,0,0) (sda)
The following partitions are going to be formatted:
   partition #1 of SCSI1 (0,0,0) (sda) as ext3
   partition #5 of SCSI1 (0,0,0) (sda) as ext3
   partition #6 of SCSI1 (0,0,0) (sda) as ext3
   partition #7 of SCSI1 (0,0,0) (sda) as swap
   partition #8 of SCSI1 (0,0,0) (sda) as ext3
   partition #9 of SCSI1 (0,0,0) (sda) as ext3
Write the changes to disks?
    <Go Back>
                                                    <Yes>
                                                             <No>
```

# Installing Base System



### **GRUB Boot Loader**

[!] Install the GRUB boot loader on a hard disk

It seems that this installation of Debian is the only operating system on this computer. If so, it should be safe to install the GRUB boot loader to the master boot record of your first hard drive.

Warning: If the installer failed to detect another operating system that is present on your computer, modifying the master boot record will make that operating system temporarily unbootable, though GRUB can be manually configured later to boot it.

Install the GRUB boot loader to the master boot record?

<Go Back>



<No>

## **Install Complete!**

[!!] Finish the installation

Installation complete

Installation is complete, so it is time to boot into your new Debian system. Make sure to remove the installation media (CD–ROM, floppies), so that your system boots from the disk to which Debian was installed.

<Go Back>

<Continue>

# **Booting New System**

GNU GRUB version 0.95 (638K lower / 260032K upper memory)

Debian GNU/Linux, kernel 2.6.8-3-386 (recovery mode)

Use the  $\uparrow$  and  $\downarrow$  keys to select which entry is highlighted. Press enter to boot the selected OS, 'e' to edit the commands before booting, or 'c' for a command-line.

# Setting Up New System

Debian Configuration

Debian base system configuration

Welcome to your new Debian system!

This program will now walk you through the process of setting up your newly installed system. It will start with the basics -- time zone selection, setting a root password and adding a user, and then progress to installing additional software to tune this new Debian system to your needs.



# **Time Zone Configuration**

Debian Configuration

Time zone configuration

Unix system clocks are generally set to GMT ("Greenwich Mean Time", also known as "Universal Coordinated Time", or UTC). The operating system knows your time zone and converts system time into the local time. You can specify whether the hardware clock is set to either GMT (recommended for a Linux-only system) or local time (which may be more convenient for a system that also runs other operating systems or an off-the-shelf PC).

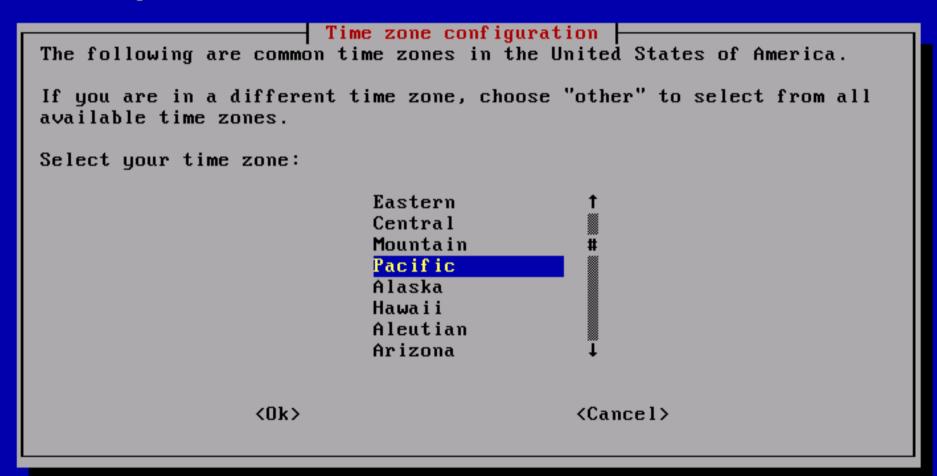
The hardware clock says the time is now Sat 13 Jan 2007 09:43:17 PM UTC.

Is the hardware clock set to GMT?

<Yes>

<No>>

## **Pick Your Time Zone**



## **Root Password**

### Debian Configuration

#### Configuring passwd

You need to set a password for 'root', the system administrative account. A malicious or unqualified user with root access can have disastrous results, so you should take care to choose a root password that is not easy to guess. It should not be a word found in the dictionary, or a word that could be easily associated with you, like your middle name. A good password will contain a mixture of letters, numbers and punctuation and will be changed at regular intervals. The root password is changed by running the 'passwd' program as root.

Note that you will not be able to see the password as you type it.

Root password:

\*\*\*

<0k>

<Cancel>

## **New User**

Configuring passwd  A user account will be created for you to use instead of the root account for non-administrative activities.				
Enter a full name for the new user:				
M Maki				
<0k>	<cancel></cancel>			

## New username

Select a username for the new account. Your first name is a reasonable choice. The username should start with a lower-case letter, which can be followed by any combination of numbers and more lower-case letters.  Enter a username for your account:				
<0k>	<cancel></cancel>			

## **User Password**

Configuring passwd A good password will contain a mixture of letters, numbers and punctuation and will be changed at regular intervals.  Enter a password for the new user:			
****	<(	Cancel>	

# **Apt Configuration**



## **Add Apt Source**

Debian Configuration

Apt configuration

The Debian package management tool, apt, is now configured, and can install 177 packages. However, you may want to add another source to apt, so it can download packages from more than one location.

Add another apt source?



<No>>

## FTP Apt Source

```
Apt configuration
Please choose the method apt (the Debian package management tool) should
use to access the Debian archive.
For example if you have a Debian cd, select "cdrom", while if you plan
to install via a Debian mirror, choose "ftp" or "http".
Archive access method for apt:
                        cdrom
                        http
                        ftp
                        filesystem
                        edit sources list by hand
                   <Nk>
                                               <Cancel>
```

## **Choose Mirror**

### Debian Configuration Apt configuration Select the Debian mirror apt should use. You should select a mirror that is close to you on the net. Choose the Debian mirror to use: mirrors.xmission.com ftp.lug.udel.edu ftp.keystealth.org debian.midco.net mirrors.usc.edu lug.mtu.edu gladiator.real-time.com ftp.tomstroubleshooting.com www.wustl.edu debian.fifi.org <Cancel> <0k>

# **Getting Package Lists**

```
Testing apt sources...
Get:1 ftp://mirrors.usc.edu stable/main Packages [4535kB]
Get:2 ftp://mirrors.usc.edu stable/main Release [95B]
Fetched 4535kB in 12s (374kB/s)
Reading Package Lists... Done
Get:1 ftp://mirrors.usc.edu stable/main Sources [1322kB]
22% [1 Sources 294756/1322kB 22%]_
```

## Do Not Choose Any Software

Debian Configuration

Debian software selection

At the moment, only the core of Debian is installed. To tune the installation to your needs, you can choose to install one or more of the following predefined collections of software. Experienced users may prefer to select packages manually.

Choose software to install:

- 1 Desktop environment
- 1 Web server
- [ ] Print server
- 1 DNS server
- [ ] File server
- [ ] Mail server
- [ ] SQL database
- [ ] manual package selection



## **Download Packages**

```
Get:45 ftp://mirrors.usc.edu stable/main gcc 4:3.3.5-3 [4906B]
Get:46 ftp://mirrors.usc.edu stable/main linux-kernel-headers 2.5.999-test7-bk-1
7 [1377kB]
Get:47 ftp://mirrors.usc.edu stable/main libc6-dev 2.3.2.ds1-22sarge4 [2535kB]
Get:48 ftp://mirrors.usc.edu stable/main libstdc++5-3.3-dev 1:3.3.5-13 [775kB]
Get:49 ftp://mirrors.usc.edu stable/main g++-3.3 1:3.3.5-13 [1779kB]
Get:50 ftp://mirrors.usc.edu stable/main g++ 4:3.3.5-3 [1398B]
Get:51 ftp://mirrors.usc.edu stable/main gdb 6.3-6 [2768kB]
Get:52 ftp://mirrors.usc.edu stable/main gnu-efi 3.0a-4 [103kB]
Get:53 ftp://mirrors.usc.edu stable/main libreadline5 5.0-10 [156kB]
Get:54 ftp://mirrors.usc.edu stable/main ibritish 3.1.20.0-4 [417kB]
Get:55 ftp://mirrors.usc.edu stable/main ispell 3.1.20.0-4 [161kB]
Get:56 ftp://mirrors.usc.edu stable/main iamerican 3.1.20.0-4 [418kB]
Get:57 ftp://mirrors.usc.edu stable/main less 382-1 [102kB]
Get:58 ftp://mirrors.usc.edu stable/main libevent1 1.0b-1.1 [16.7kB]
Get:59 ftp://mirrors.usc.edu stable/main libgc1 1:6.4-1 [115kB]
Get:60 ftp://mirrors.usc.edu stable/main libgpmg1 1.19.6-19sarge1 [49.4kB]
Get:61 ftp://mirrors.usc.edu stable/main libident 0.22-3 [14.3kB]
Get:62 ftp://mirrors.usc.edu stable/main libidn11 0.5.13-1.0 [106kB]
Get:63 ftp://mirrors.usc.edu stable/main libkrb53 1.3.6-2sarge3 [349kB]
Get:64 ftp://mirrors.usc.edu stable/main libnfsidmap1 0.8-1 [15.0kB]
Get:65 ftp://mirrors.usc.edu stable/main libnss-db 2.2-6.3 [21.1kB]
Get:66 ftp://mirrors.usc.edu stable/main lpr 1:2003.09.23-7 [117kB]
Get:67 ftp://mirrors.usc.edu stable/main lsof 4.74.dfsg.3-2 [335kB]
87% [67 lsof 270100/335kB 80%]
                                                                    176kB/s 34s
```

# **Unpacking Packages**

```
Selecting previously deselected package binutils.
Unpacking binutils (from .../binutils_2.15-6_i386.deb) ...
Selecting previously deselected package m4.
Unpacking m4 (from .../archives/m4 1.4.2-1 i386.deb) ...
Selecting previously deselected package bison.
Unpacking bison (from .../bison 1%3a1.875d-1 i386.deb) ...
Selecting previously deselected package cpp-3.3.
Unpacking cpp-3.3 (from .../cpp-3.3 3.3.5-13 i386.deb) ...
Selecting previously deselected package cpp.
Unpacking cpp (from .../cpp 3.3.5-3 i386.deb) ...
Selecting previously deselected package dc.
Unpacking dc (from .../archives/dc_1.06-15_i386.deb) ...
Selecting previously deselected package perl-modules.
Unpacking perl-modules (from .../perl-modules_5.8.4-8sarge5_all.deb) ...
Selecting previously deselected package perl.
Unpacking perl (from .../perl_5.8.4-8sarge5_i386.deb) ...
Selecting previously deselected package dictionaries-common.
Unpacking dictionaries-common (from .../dictionaries-common 0.25.12 all.deb) ...
Selecting previously deselected package liblwres1.
Unpacking liblwres1 (from .../liblwres1_1%3a9.2.4-1sarge1_i386.deb) ...
Selecting previously deselected package dnsutils.
Unpacking dnsutils (from .../dnsutils 1%3a9.2.4-1sarge1 i386.deb) ...
Selecting previously deselected package doc-debian.
Unpacking doc-debian (from .../doc-debian 3.1 all.deb) ...
```

# **Configure Exim Mail**

### Debian Configuration

Configuring Exim v4 (exim4-config)

Select the configuration type that best meets your needs.

Systems with dynamic IP addresses, including dialup systems, should generally be configured to send outgoing mail to another machine, called a "smart host" for delivery. You can choose to receive mail on such a system; or to have no local mail delivery, except mail for root and postmaster.

General type of mail configuration:

internet site; mail is sent and received directly using SMTP mail sent by smarthost; received via SMTP or fetchmail mail sent by smarthost; no local mail

local delivery only; not on a network

manually convert from handcrafted Exim v3 configuration no configuration at this time

<Ok> <Cancel>

## **Root Mail Receipient**

Debian Configuration

Root and postmaster mail recipient:

mmaki

<0k>

<Cancel>

## System Complete

Debian Configuration

Debian base system configuration

Thank you for choosing Debian!

Setup of your Debian system is complete. You may now login at the login: prompt.

If you want to revisit this setup process at a later date, just run the base-config program.



# Login to New System

```
Debian GNU/Linux 3.1 samba tty1
samba login: mmaki
Password: _
```

# su - (su - root)

```
mmaki@samba:~$ su -
Password:
samba:~#
```

# apt-get update

```
mmaki@samba: "$ su -
Password:
samba: "# apt-get update
Hit ftp://mirrors.usc.edu stable/main Packages
Hit ftp://mirrors.usc.edu stable/main Release
Hit ftp://mirrors.usc.edu stable/main Sources
Hit http://security.debian.org stable/updates/main Packages
Hit http://security.debian.org stable/updates/main Release
Hit http://security.debian.org stable/updates/contrib Packages
Hit ftp://mirrors.usc.edu stable/main Release
Hit http://security.debian.org stable/updates/contrib Release
Reading Package Lists... Done
samba: "#
```

# apt-get upgrade

```
samba:~# apt-get upgrade
Reading Package Lists... Done
Building Dependency Tree... Done
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
samba:~#
```

## apt-get install samba smbclient

```
samba:"# apt-get install samba smbclient
Reading Package Lists... Done
Building Dependency Tree... Done
The following extra packages will be installed:
  libcupsys2-gnutls10 samba-common
Suggested packages:
  samba-doc smbfs
The following NEW packages will be installed:
  libcupsys2-gnutls10 samba samba-common smbclient
0 upgraded, 4 newly installed, 0 to remove and 0 not upgraded.
Need to get 7102kB of archives.
After unpacking 17.8MB of additional disk space will be used.
Do you want to continue? [Y/n]
```

## Dependencies Installed

```
samba:~# apt-get install samba smbclient
Reading Package Lists... Done
Building Dependency Tree... Done
The following extra packages will be installed:
  libcupsys2-gnutls10 samba-common
Suggested packages:
 samba-doc smbfs
The following NEW packages will be installed:
  libcupsys2-gnutls10 samba samba-common smbclient
0 upgraded, 4 newly installed, 0 to remove and 0 not upgraded.
Need to get 7102kB of archives.
After unpacking 17.8MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 ftp://mirrors.usc.edu stable/main libcupsys2-gnutls10 1.1.23-10sarge1 [75.
2kB]
Get:2 ftp://mirrors.usc.edu stable/main samba-common 3.0.14a-3sarge2 [1984kB]
Get:3 ftp://mirrors.usc.edu stable/main samba 3.0.14a-3sarge2 [2514kB]
Get:4 ftp://mirrors.usc.edu stable/main smbclient 3.0.14a-3sarge2 [2529kB]
87% [4 smbclient 1645420/2529kB 65%]
                                                                     99.1kB/s 8s
```

# Workgroup/Domain Name

Debian Configuration

This controls what workgroup your server will appear to be in when queried by clients. Note that this parameter also controls the Domain name used with the security=domain setting.
Workgroup/Domain Name?
home
<0k>

## **Password Encryption**

Debian Configuration

Samba Server

Recent Windows clients communicate with SMB servers using encrypted passwords. If you want to use clear text passwords you will need to change a parameter in your Windows registry. It is recommended that you use encrypted passwords. If you do, make sure you have a valid /etc/samba/smbpasswd file and that you set passwords in there for each user using the smbpasswd command.

Use password encryption?



<No>>

#### smb.conf to use WINS <No>

Debian Configuration

Samba Ser∨er

If your computer gets IP address information from a DHCP server on the network, the DHCP server may also provide information about WINS servers ("NetBIOS name servers") present on the network. This requires a change to your smb.conf file so that DHCP-provided WINS settings will automatically be read from /etc/samba/dhcp.conf.

You must have the dhcp3-client package installed to take advantage of this feature.

Modify smb.conf to use WINS settings from DHCP?

<Yes>



#### Run Samba as Daemons

Debian Configuration

Samba Server -

The Samba daemon smbd can run as a normal daemon or from inetd. Running as a daemon is the recommended approach.

How do you want to run Samba?

daemons inetd

<0k>

#### **Create Samba Passwd Database**

Debian Configuration

Samba Server

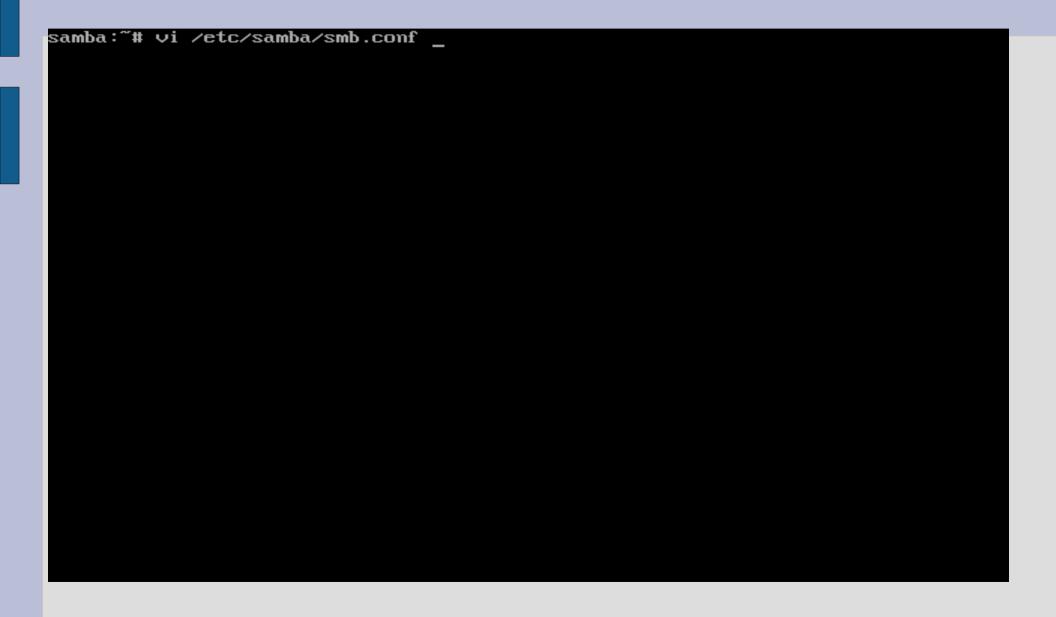
To be compatible with the defaults in most versions of Windows, Samba must be configured to use encrypted passwords. This requires user passwords to be stored in a file separate from /etc/passwd. This file can be created automatically, but the passwords must be added manually (by you or the user) by running smbpasswd, and you must arrange to keep it up-to-date in the future. If you do not create it, you will have to reconfigure samba (and probably your client machines) to use plaintext passwords. See /usr/share/doc/samba-doc/htmldocs/ENCRYPTION.html from the samba-doc package for more details.

Create samba password database, /var/lib/samba/passdb.tdb?



<No>>

### View smb.conf



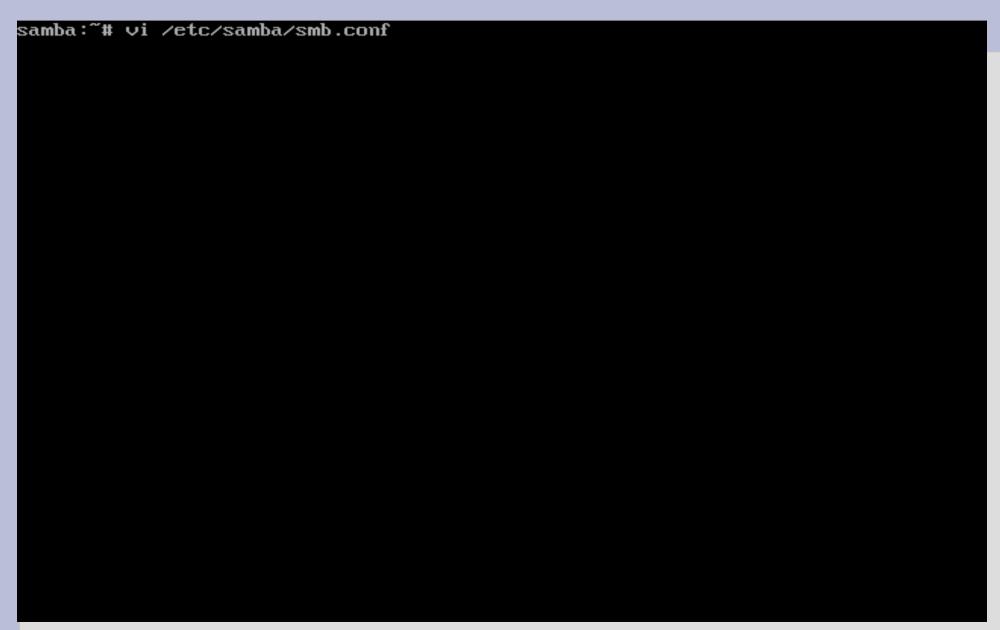
# Sample Configuration

```
Sample configuration file for the Samba suite for Debian GNU/Linux.
 This is the main Samba configuration file. You should read the
 smb.conf(5) manual page in order to understand the options listed
 here. Samba has a huge number of configurable options most of which
 are not shown in this example
 Any line which starts with a ; (semi-colon) or a # (hash)
 is a comment and is ignored. In this example we will use a #
 for commentary and a ; for parts of the config file that you
 may wish to enable
 NOTE: Whenever you modify this file you should run the command
 "testparm" to check that you have not many any basic syntactic
 errors.
[global]
## Browsing/Identification ###
# Change this to the workgroup/NT-domain name your Samba server will part of
  workgroup =
# server string is the equivalent of the NT Description field
/etc/samba/smb.conf
```

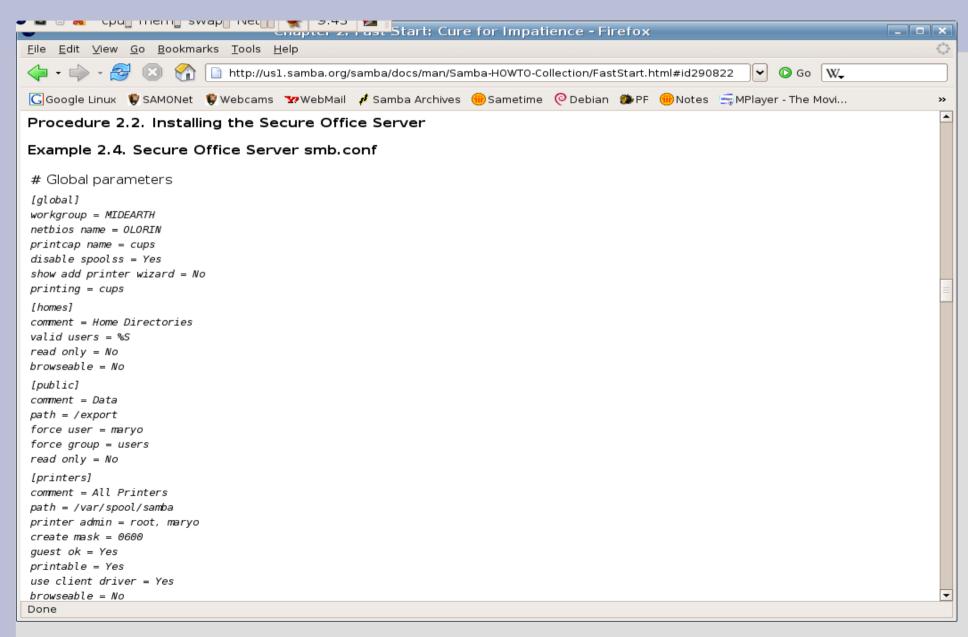
# **Move Sample Configuration**

```
samba:~# mv /etc/samba/smb.conf /etc/samba/smb.conf.orig
samba:~# _
```

### **Creat New smb.conf**



### **From Samba Docs**



### smb.conf

```
[global]
  workgroup = OFFICE
[homes]
 valid users = %S
 read only = No
  browseable = No
[public]
  path = /home/public
 force user = mmaki
  force group = users
  read only = No
/etc/samba/smb.conf: unmodified: line 1
```

## testparm

```
samba:~# testparm
Load smb config files from /etc/samba/smb.conf
Processing section "[homes]"
Processing section "[public]"
Loaded services file OK.
Server role: ROLE_STANDALONE
Press enter to see a dump of your service definitions
# Global parameters
[global]
        workgroup = OFFICE
[homes]
        valid users = 2S
        read only = No
        browseable = No
[public]
        path = /home/public
        force user = mmaki
        force group = users
        read only = No
samba:~# _
```

#### **Add Samba Users**

```
samba:~# smbpasswd -a mmaki
New SMB password:
Retype new SMB password:
startsmbfilepwent_internal: file /etc/samba/smbpasswd did not exist. File succes
sfully created.
Added user mmaki.
samba:~# _
```

### Add User and Samba User

```
samba:~# useradd -m -g staff -p pass jdoe
samba:~# smbpasswd -a_jdoe
New SMB password:
Retype new SMB password:
Added user jdoe.
samba:~# smbpasswd -a mmaki
New SMB password:
Retype new SMB password:
Added user mmaki.
samba:~#_
```

### **Restart Samba**

```
samba:~# /etc/init.d/samba restart
Stopping Samba daemons: nmbd smbd.
Starting Samba daemons: nmbd smbd.
samba:~#
```

### **Create Public Directory**

```
samba:~# mkdir /home/public
samba:~# chown mmaki:users /home/public/
samba:~# ls -l /home/
total 15
drwxr-xr-x 2 joe
                   users 1024 Feb 4 20:37 joe
drwxr-xr-x 2 root root 12288 Feb 4 12:16 lost+found
drwxr-xr-x 2 mmaki mmaki 1024 Feb 4 20:21 mmaki
drwxr-sr-x 2 mmaki users 1024 Feb 7 20:55 public
samba:~#
```

#### smbclient check

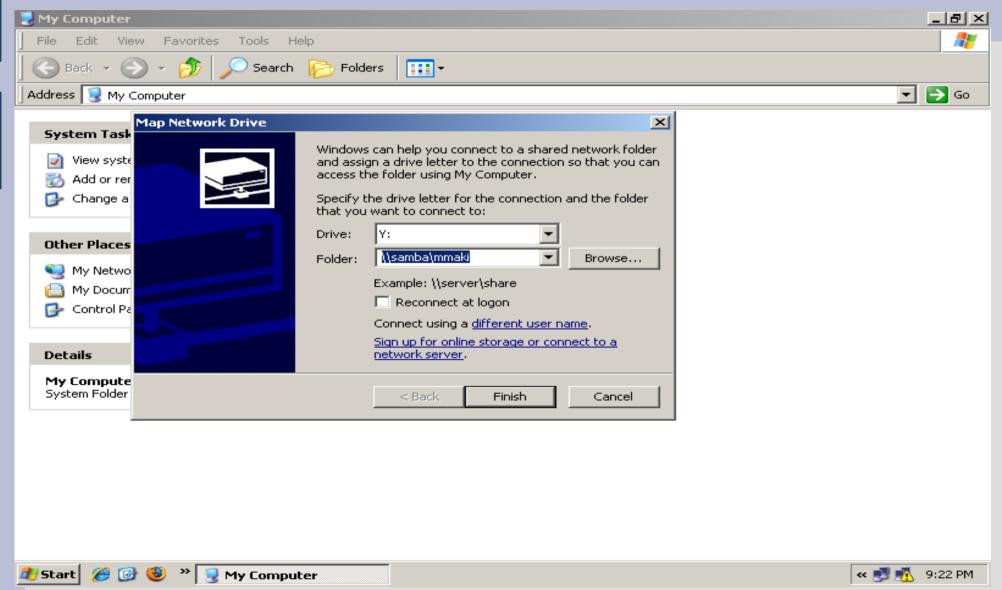
```
samba:~# smbclient -L localhost -Uz
Domain=[OFFICE] OS=[Unix] Server=[Samba 3.0.14a-Debian]
       Sharename
                                Comment
                      Type
       public
                      Disk
       IPC$
                      IPC
                                IPC Service (Samba 3.0.14a-Debian)
                       IPC
       ADMINS
                                IPC Service (Samba 3.0.14a-Debian)
Domain=[OFFICE] OS=[Unix] Server=[Samba 3.0.14a-Debian]
                           Comment
       Server
       Samba
                           Samba 3.0.14a-Debian
       Workgroup
                           Master
       OFFICE
                           SAMBA
```

samba:~#

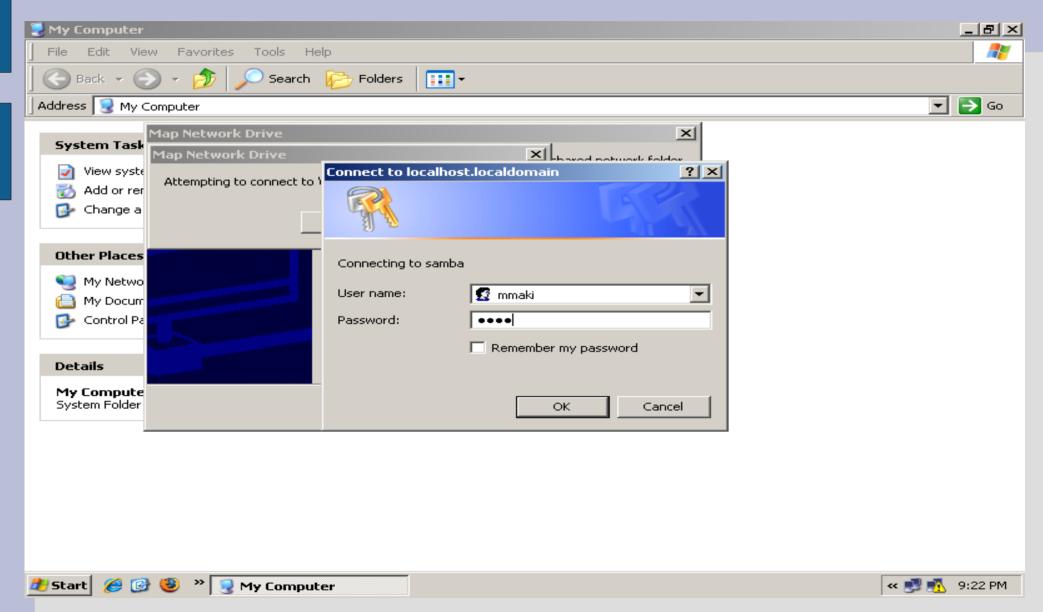
#### nmbd & smbd Processes

```
193 ?
               S
                      И:ИИ [kseriod]
 214 ?
                      0:00 [scsi eh 0]
 222 ?
               S
                      0:00 [khubd]
               S
 291 ?
                      0:00 [pciehpd event]
               S
 293 ?
                      0:00 [shpchpd event]
               S
                      0:00 [kjournald]
 323 ?
 570 ?
               S
                      0:00 [kjournald]
 1376 ?
               Ss
                      0:00 dhclient -e -pf /var/run/dhclient.eth0.pid -lf /var/r
 1381 ?
                      0:00 /sbin/portmap
               Ss
                      0:00 /sbin/susload
 1715 ?
               Ss
 1718 ?
               Ss
                      0:00 /sbin/klogd
                      0:00 /usr/sbin/exim4 -bd -q30m
 1753 ?
               ss
1757 ?
                      0:00 /usr/sbin/lpd -s
               Ss
 1765 ?
               Ss
                      0:00 /usr/sbin/inetd
 1771 ?
               Ss
                      0:00 /usr/sbin/sshd
 1777 ?
               Ss
                      0:00 /sbin/rpc.statd
                      0:00 /usr/sbin/atd
1795 ?
               Ss
1798 ?
               Ss
                      0:00 /usr/shin/cron
 1807 ttu1
                      0:00 -bash
               Ss
 1809 ttu2
                      0:00 /sbin/getty 38400 tty2
               Ss+
1810 ttu3
               Ss+
                      0:00 /sbin/getty 38400 tty3
 1811 ttu4
                      0:00 /sbin/getty 38400 tty4
               Ss+
                      0:00 /sbin/getty 38400 tty5
 1812 ttu5
               Ss+
                      0:00 /sbin/getty 38400 tty6
 1813 ttu6
               Ss+
               S
                      0:01 -su
1884 ttu1
2126 ?
                      0:00 /usr/sbin/nmbd -D
               Ss
2128 ?
               Ss
                      0:00 /usr/sbin/smbd -D
2129 ?
               S
                      0:00 /usr/sbin/smbd -D
2197 tty1
               R+
                      0:00 ps ax
samba:~#
```

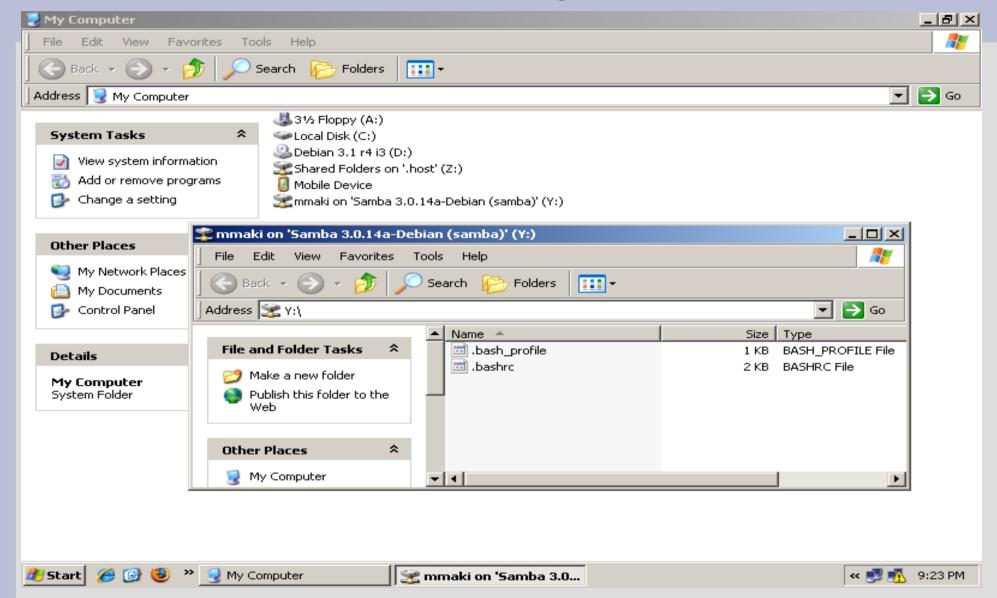
## **Map Home Directory**



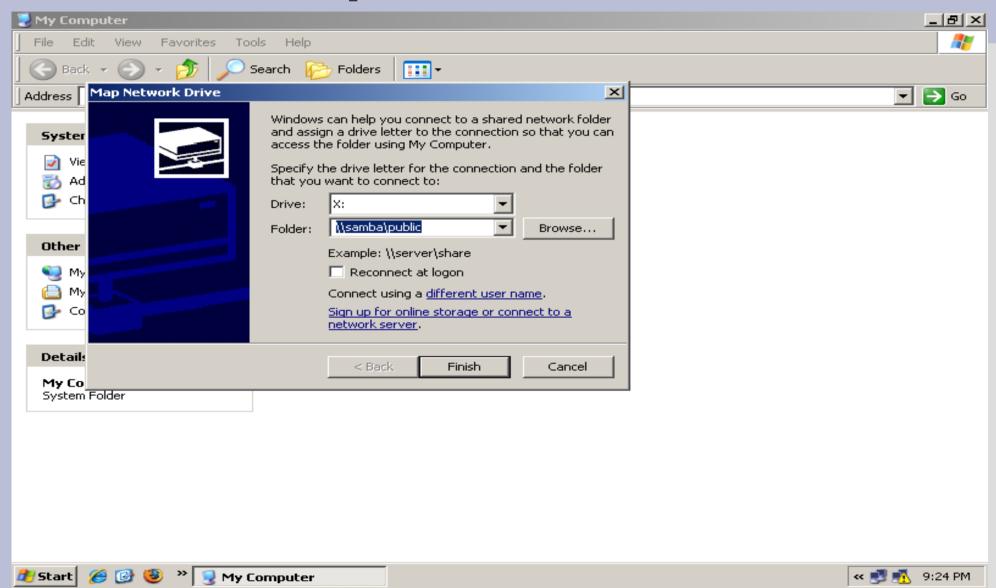
### Samba User Name & Passwd



## **Home Directory Contents**



### **Map Public Share**



### **Public Share Contents**

