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SAMBA (Domaincontroller) Server For Small Workgroups With Ubuntu 7.10

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This is a detailed description about setting up an **Ubuntu** based server (Ubuntu 7.10) to act as file- and printserver for Windows(tm) workstations in small workgroups. This howto uses the tdb backend for SAMBA to store passwords and account information. This is suitable for workgroups for up to 250 users and is easier to set up than an LDAP backend.

Installed Software:

- Samba as domaincontroller
- CUPS
- Foomatic printer drivers

I want to say first that this is not the only way of setting up such a system. There are many ways of achieving this goal but this is the way I take. I do not issue any guarantee that this will work for you!

Requirements

To install such a system you will need the following:

- An Ubuntu server install CD (available here: **http://www.ubuntu.com/download/**)
- An internet connection since I will describe a network installation in this document.

Enable The root User

Now I can log in with the username "administrator" and password I entered above. I will enable the root user first for ease of installation. You can disable it later if you want.

```
sudo
passwd root

su
```

Now we are logged in as root user.

Hint: This step is optional, if you dont want to enable the root user for security reasons, plese run the command "sudo su" to switch to root without enabling the root user to log in directly.

Configure The Network

The Ubuntu installer has configured our system to get its network settings via DHCP, we will change that now because a server should have a static IP address. Edit `/etc/network/interfaces` and adjust it to your needs (in this example setup I will use the IP address `192.168.0.100`):

```
vi /etc/network/interfaces
```

```
# This file describes the network interfaces available on your system
# and how to activate them. For more information, see interfaces(5).

# The loopback network interface
auto lo
iface lo inet loopback

# This is a list of hotpluggable network interfaces.
# They will be activated automatically by the hotplug subsystem.
mapping hotplug
        script grep
```



```
    map eth0

# The primary network interface
auto eth0
iface eth0 inet static
    address 192.168.0.100
    netmask 255.255.255.0
    network 192.168.0.0
    broadcast 192.168.0.255
    gateway 192.168.0.1
```

Then restart your network:

```
/etc/init.d/networking
restart
```

Edit */etc/hosts* and add your new IP addresses:

```
vi /etc/hosts
```

```
127.0.0.1       localhost.localdomain   localhost       server1
192.168.0.100   server1.example.com     server1


# The following lines are desirable for IPv6 capable hosts
::1     ip6-localhost ip6-loopback
fe00::0 ip6-localnet
ff00::0 ip6-mcastprefix
ff02::1 ip6-allnodes
```

```
ff02::2 ip6-allrouters
ff02::3 ip6-allhosts
```

Setting The Hostname

```
echo server1.example.com
> /etc/hostname
```

/etc/init.d/hostname.sh
echo '192.168.0.100 server1.example.com' >> /etc/hosts

Install SSH Daemon

```
apt-get install ssh
openssh-server
```

The Next Steps...

Now you can log in to your server with an SSH client like PuTTY (***http://www.chiark.greenend.org.uk/~sgtatham/putty/***). Its easier to follow this howto if you connect to your server with PuTTY and copy and paste the commands. If you want to edit config files on the server, you can use command line editors like vi, pico or joe or use a program like WinSCP (***http://winscp.net/eng/docs/lang:en***) to edit the files over your SSH connection in a Windows client.

Quota

```
apt-get install quota
```

Edit `/etc/fstab` to look like this (I added `,usrquota,grpquota` to the partitions with the mount point `/`):

```
vi /etc/fstab
```

```
# /etc/fstab: static file system information.
#
# <file system> <mount point>   <type>  <options>       <dump>  <pass>
proc            /proc           proc    defaults        0       0
# /dev/sda1
UUID=226d9304-88ca-44c0-a3e3-d1ad26cfc084 /               ext3    defaults,errors=remount-ro,usrquota,grpquota 0       1
# /dev/sda5
UUID=d824ce36-04b8-4870-83f4-f1a5037c2de4 none            swap    sw              0       0
/dev/hdc        /media/cdrom0   udf,iso9660 user,noauto     0       0
/dev/           /media/floppy0  auto    rw,user,noauto  0       0
```

Then run:

```
touch /quota.user /quota.group

chmod 600 /quota.*

mount -o remount /

quotacheck -avugm

quotaon -avug
```

You will get a error like this when you run the command `quotacheck -avugm` the first time.

```
quotacheck: WARNING - Quotafile //quota.user was probably truncated. Cannot save quota settings...
quotacheck: WARNING - Quotafile //quota.group was probably truncated. Cannot save quota settings...
```

This is normal and nothing to worry about!

SAMBA Server

```
apt-get install libcupsys2 samba samba-common samba-doc smbclient winbind cupsys-common
```

Edit `/etc/samba/smb.conf` that it looks like this:

```
vi /etc/samba/smb.conf
```

```
[global]
   workgroup = MYWORKGROUP
   netbios name = SERVER1
   server string = %h server (Samba, Ubuntu)



   passdb backend = tdbsam
   security = user
   username map = /etc/samba/smbusers
   name resolve order = wins bcast hosts
   domain logons = yes
   preferred master = yes
   wins support = yes

   # Set CUPS for printing
   load printers = yes
   printcap name = CUPS
   printing = CUPS
```

```
  # Default logon
  logon drive = H:
  logon script = scripts/logon.bat
  logon path = \\server1\profile\%U



  # Useradd scripts
  # add user script = /usr/sbin/adduser --quiet --disabled-password --gecos "" %u
  add user script = /usr/sbin/useradd -m '%u' -g users -G users
  delete user script = /usr/sbin/userdel -r %u
  add group script = /usr/sbin/groupadd %g
  delete group script = /usr/sbin/groupdel %g
  add user to group script = /usr/sbin/usernod -G %g %u
  add machine script = /usr/sbin/useradd -s /bin/false/ -d /var/lib/nobody %u
  idmap uid = 15000-20000
  idmap gid = 15000-20000
  template shell = /bin/bash



  # sync smb passwords woth linux passwords
  passwd program = /usr/bin/passwd %u
  passwd chat = *Enter\snew\sUNIX\spassword:* %n\n *Retype\snew\sUNIX\spassword:* %n\n *password\supdated\ssuccessfully* .
  passwd chat debug = yes
  unix password sync = yes

  # set the loglevel
  log level = 3

[public]
  browseable = yes
  public = yes
```



```
[homes]
   comment = Home
   valid users = %S
   read only = no
   browsable = no


[printers]
   comment = All Printers
   path = /var/spool/samba
   printable = yes
   public = no
   writable = no
   create mode = 0700

[print$]
   comment = Printer Drivers
   path = /var/lib/samba/printers
   browseable = yes
   read only = yes
   guest ok = no
   write list = root, @smbadmin



[netlogon]
   comment = Network Logon Service
   path = /home/samba/netlogon
   admin users = Administrator
   valid users = %U
   read only = no
   guest ok = yes
   writable = no
```

```
  share modes = no


[profile]
  comment = User profiles
  path = /home/samba/profiles
  valid users = %U
  create mode = 0600
  directory mode = 0700
  writable = yes
  browsable = no
  guest ok = no
```

Create the directories for domain logons and profiles:

```
mkdir /home/samba

mkdir /home/samba/netlogon

mkdir /home/samba/profiles


chmod 777 /var/spool/samba/


chown -R root:users /home/samba/

chmod -R 771 /home/samba/
```

Now we restart Samba:

```
/etc/init.d/samba restart
```

Edit */etc/nsswitch.conf*. Change the line:

```
vi /etc/nsswitch.conf
```

```
hosts: files dns
```

to:

```
hosts: files wins dns
```

Add all computersof your workgroup in the */etc/hosts* file on the server.

```
vi /etc/hosts
```

```
192.168.0.100 server1 server1.example.com
192.168.0.110 workstation1
192.168.0.111 workstation2
192.168.0.112 workstation3
192.168.0.113 workstation4
```

Add the root user to the SAMBA password database. The root user (alias: Administrator) will be our domain Administrator. This account is needed to add new computers to the SAMBA domain.

```
smbpasswd -a root
```

Create the file*/etc/samba/smbusers*and add the line by executing:

```
echo "root = Administrator"
> /etc/samba/smbusers
```

This will allow us to use the common Windows username "Administrator" as an alias for the Linux root user.

Now I will test if the setup is correct:

```
smbclient -L localhost -U%
```

The output shall look similar to this:

```
Domain=[MYWORKGROUP] OS=[Unix] Server=[Samba 3.0.26a]

        Sharename       Type      Comment
        ---------       ----      -------
        IPC$            IPC       IPC Service (samba server (Samba, Ubuntu))
        netlogon        Disk      Network Logon Service
        print$          Disk      Printer Drivers
Domain=[MYWORKGROUP] OS=[Unix] Server=[Samba 3.0.26a]

        Server               Comment
        ---------            -------
        SERVER1              samba server (Samba, Ubuntu)

        Workgroup            Master
        ---------            -------
        MYWORKGROUP          SERVER1
        WORKGROUP            FILESERVER
```

Set up the default domain groups for windows:

```
net groupmap add ntgroup="Domain Admins" unixgroup="root" type=domain -U root

net groupmap add ntgroup="Domain Users" unixgroup="users" type=domain -U root

net groupmap add ntgroup="Domain Guests" unixgroup="nogroup" type=domain -U root
```

Adding Users To Our SAMBA Domain

Now we will add a user,e.g."tom", to our Samba domain. You will have to add a user like thisfor each user account you want to connect to this SAMBA domain server.

Add the user "tom" with password "secret" to the Samba and Linux user database:

```
net rpc user add tom -U root

net rpc user password tom "secret" -U root

smbpasswd -e tom
```

Adding Shares

Now I will add a share that is accessible by all users:

```
mkdir -p /home/shares/allusers

chown -R root:users /home/shares/allusers/

chmod -R ug+rwx,o+rx-w /home/shares/allusers/
```

At the end of the file */etc/samba/smb.conf* add the following lines:

```
[allusers]
  comment = All Users
  path = /home/shares/allusers
  valid users = @users
  force group = users
  create mask = 0660
  directory mask = 0771
  writable = yes
```

Now we restartSamba:

```
/etc/init.d/samba restart
```

Installing CUPS

```
apt-get install cupsys
cupsys-client cupsys-driver-gimpprint  defoma
fontconfig foomatic-db foomatic-filters libcupsimage2 libexpat1 libfontconfig1
libfreetype6  libjpeg62 libpaper1 libpng12-0  libslp1
libtiff4 patch perl perl-modules ttf-bitstream-vera ucf
```

To get access to the webinterface from my workstation (IP *192.168.0.70*), I will configure CUPS to listen on the server IP and allow access from the IP *192.168.0.70*. You will have to change this IP to suit into your network configuration.

```
vi /etc/cups/cupsd.conf
```

Change the line:

```
Listen localhost:631
```

to:

```
Listen 192.168.0.70:631
```

and:

```
# Restrict access to the admin pages...
  <Location /admin>
Order allow,deny
Allow localhost
</Location>
```

to:

```
# Restrict access to the admin pages...
  <Location /admin>
Order allow,deny
Allow 192.168.0.70
</Location>
```

and restart theCUPS daemon:

```
/etc/init.d/cupsys restart
```

The CUPS webinterface is now accessible with any webbrowserfrom my workstation:

```
http://192.168.0.100:631/
```

Now I can log in to the CUPS interface with username root and my root password.

Please note: If there is no Linux driver available for your printer and you want to use this printer only from your Windows workstations trough SAMBA, you can use the printer manufacturer "RAW" and install the correct driver on your Windows workstation.

If you created a new printer in CUPS, you will have to add it to Samba with the command:

```
cupsaddsmb -a
```

This howto is also available as a VMware virtual machine image for all HowtoForge subscribers.

Links

- ***http://www.ubuntu.com***
- ***http://www.samba.org***
- ***www.cups.org***

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