How To Samba With openSuse 10.3 And Windows XP

How To Samba With Suse 9.3 And Windows XP and then How To Samba With Suse 10.1 And Windows XP
.Version 2.2
Last edited October 05, 2007

This guide is intended for those using Suse 10.3 and Samba with the firewall (SuSEfirewall2) enabled. It applies to machines in workgroups only, **not domains**. Samba works great out of the box with Suse 10.3 however the firewall adds some complexity to the issue. openSUSE 10.3 has made vast improvements in Samba networking and some of the work is already done for you. This guide was created from my attempts to make accessing all shares and printers on my Windows/Linux network work perfectly. My network is a bit more complicated than the average persons and following these steps I have created a trouble free network (you can see the computers on my network here). I can access every share and print to every printer from any machine. The operating systems on my network are Windows XP Home, Windows XP Pro, Windows XP Media Center Edition, Windows Server 2003, and Suse Professional 10.1. I am not, nor do I pretend to be, a Linux guru. These steps worked for me so I thought I would pass them along. The best place you can go to ask questions on this subject is the Suse Linux Forums. There are many folks there that know more about Linux than I ever will. Some of the steps I'll take here may seem a bit redundant to those familiar with the subject. I've done this so that those not familiar with the subject can see the various tools/options available. Please note, this article will not attempt to show you all the file sharing variables from Windows. If you do not know the basics of Windows networking I suggest you start with the links on my Windows XP page.

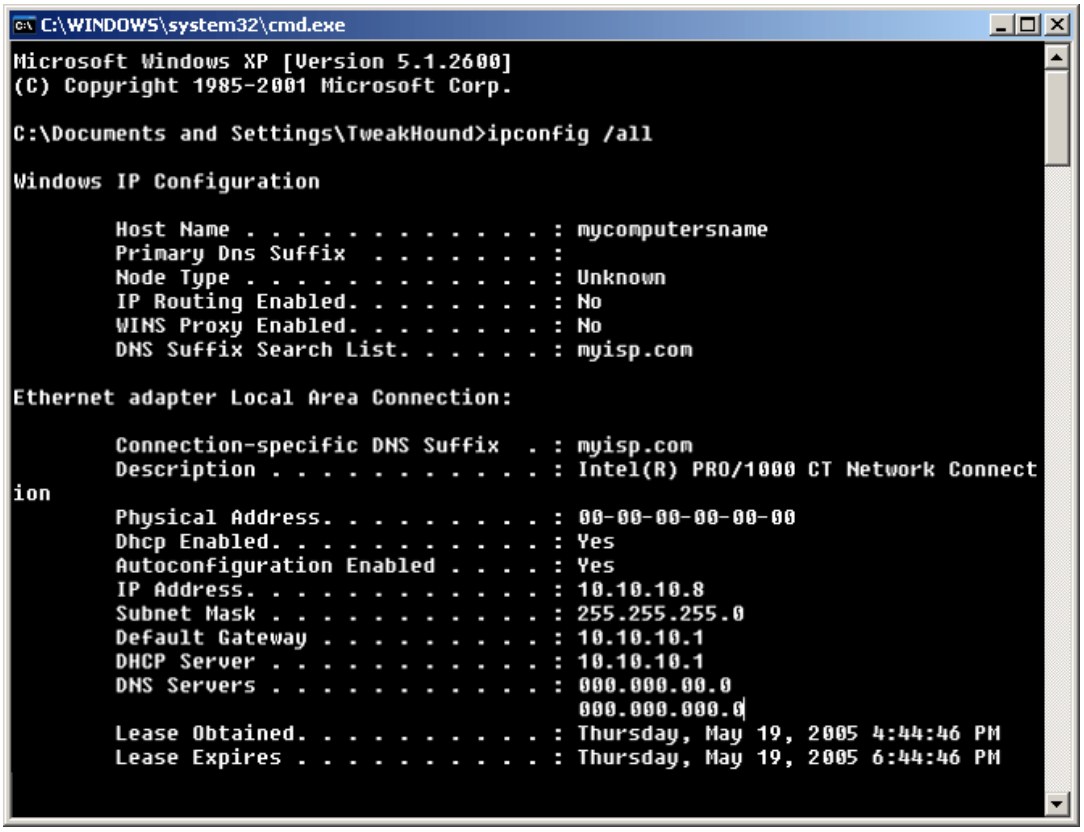
Note- Before we go any further. I've had several comments from folks saying this or that works. Not a single suggestion that has come in has worked. Not a single suggestion has managed to punch a hole through the Suse firewall to allow it to ***fully*** network with XP (not Windows 95 or 98 or whatever insecure Microsoft OS, we're talking Windows XP). Also, this guide is for machines in a workgroup, NOT a domain. As for the suggestion that you allow your Suse box to be a PDC. 1 - Why would you want your PERSONAL computer doing this? 2 - It completely screws up the Windows network from the XP boxes. I watched it happen on my own network.

Updated Note - After following the steps in this guide I can now browse my network in openSUSE 10.3. Way to go openSUSE / Samba guys!

Tip - Due to the way Windows handles browsing I recommend shutting down each box (both Windows & Linux) after you configure it. For best ***browsing*** results you are usually better off booting XP (or higher OS) before Linux, at least initially. Also, depending on your network it may take some time for everything to propagate around the network.

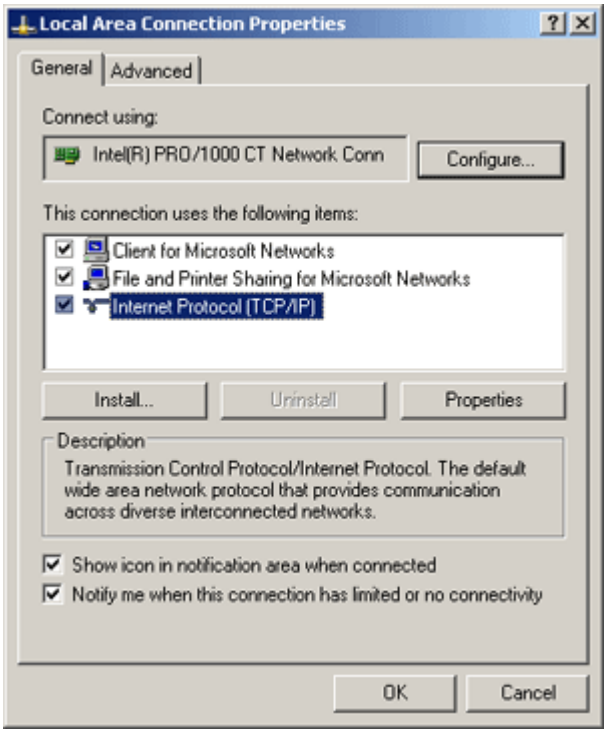
From the Windows XP box
We need to get some info from our Windows box and manually set it's IP Address.

Go to **Start** > **Run** > type **cmd** > press **OK**. At the command prompt type **ipconfig /all**. You'll get the resulting screen, leave it open but be sure to write down the **Host Name** and **IP Address**...

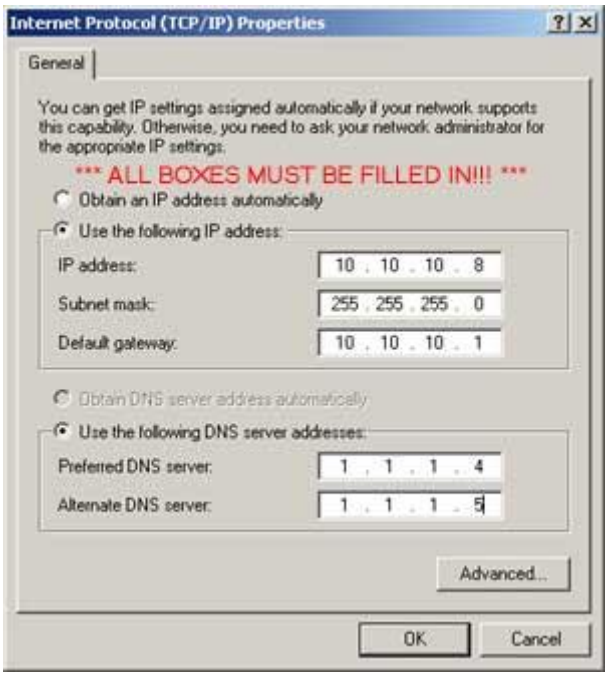


Now *right-click* on **My Network Connections** and choose **Properties**. In the resulting screen *right-click* on the connection you wish to modify and choose **Properties**.

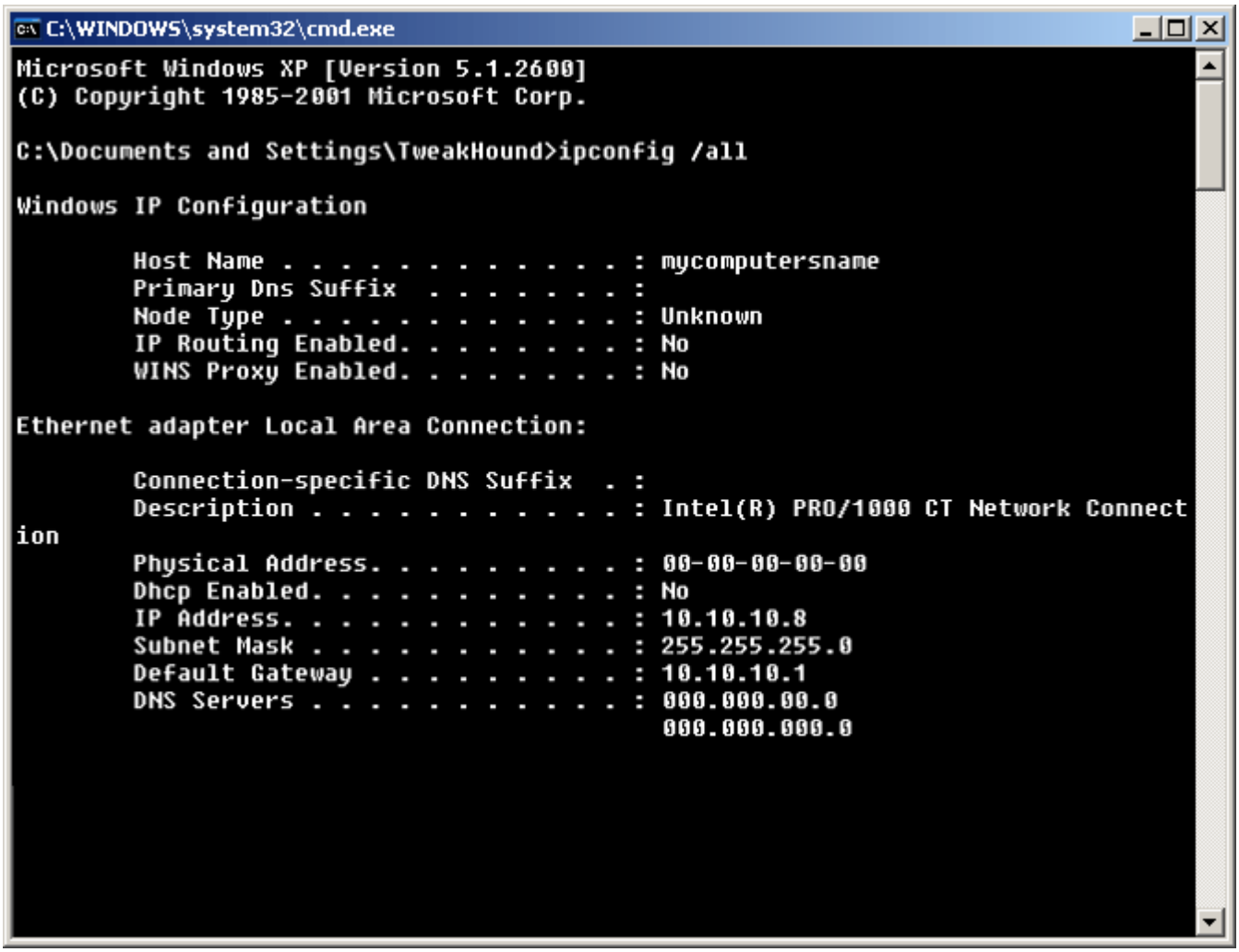
In the resulting screen double-click on Internet Protocol (TCP/IP).



In the resulting window check the button next to **Use the following IP Address**. Now copy all the appropriate information from the command window you opened to the corresponding boxes. Do the same for the boxes under **Use the following DNS server addresses**. Click **OK** when finished and exit out of all the windows.



Again, go to **Start** > **Run** > type **cmd** > press **OK**. At the command prompt type **ipconfig /all**. Your screen should look something like this:

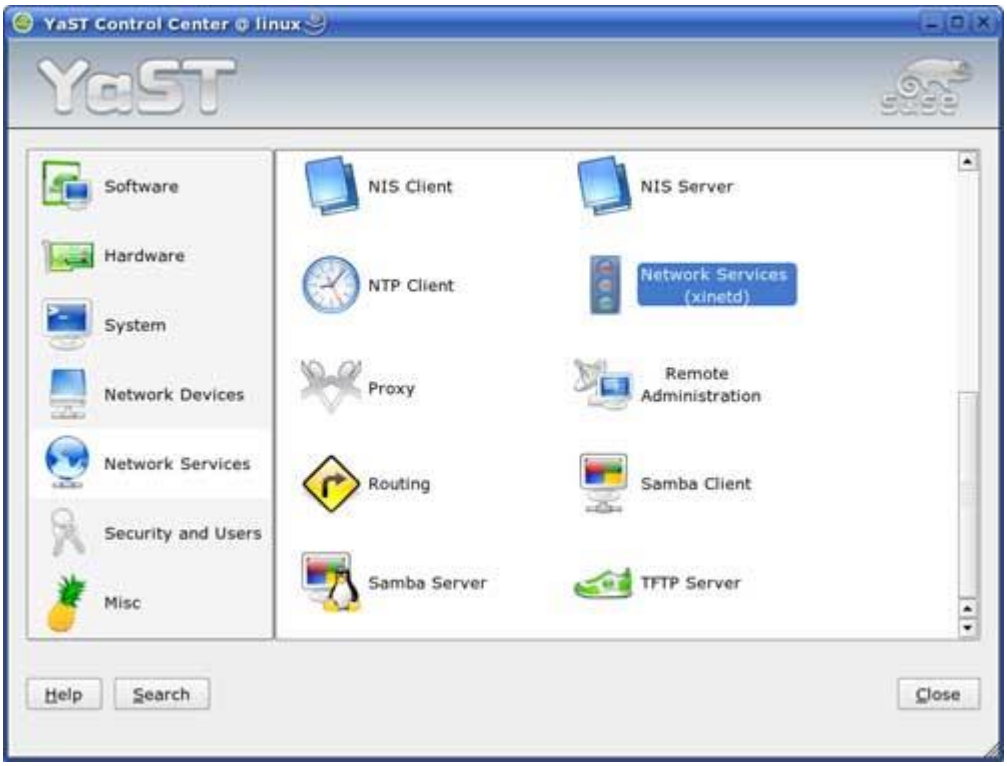


Repeat these steps for all XP boxes. You MUST have file sharing enabled on these boxes for everything to work correctly! Now shut down the Windows box. On to the Suse side of things...

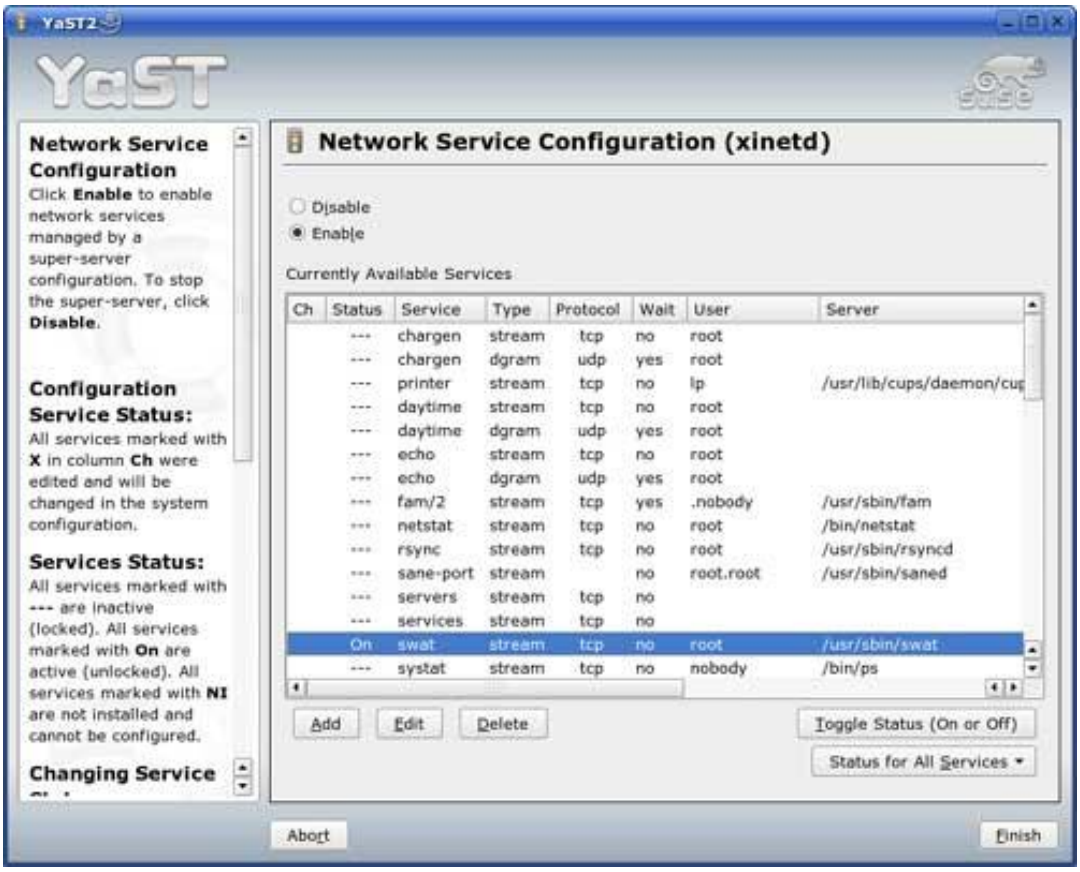
Suse - Initial Configuration

From your Suse box, open **YaST** (type in Root password).

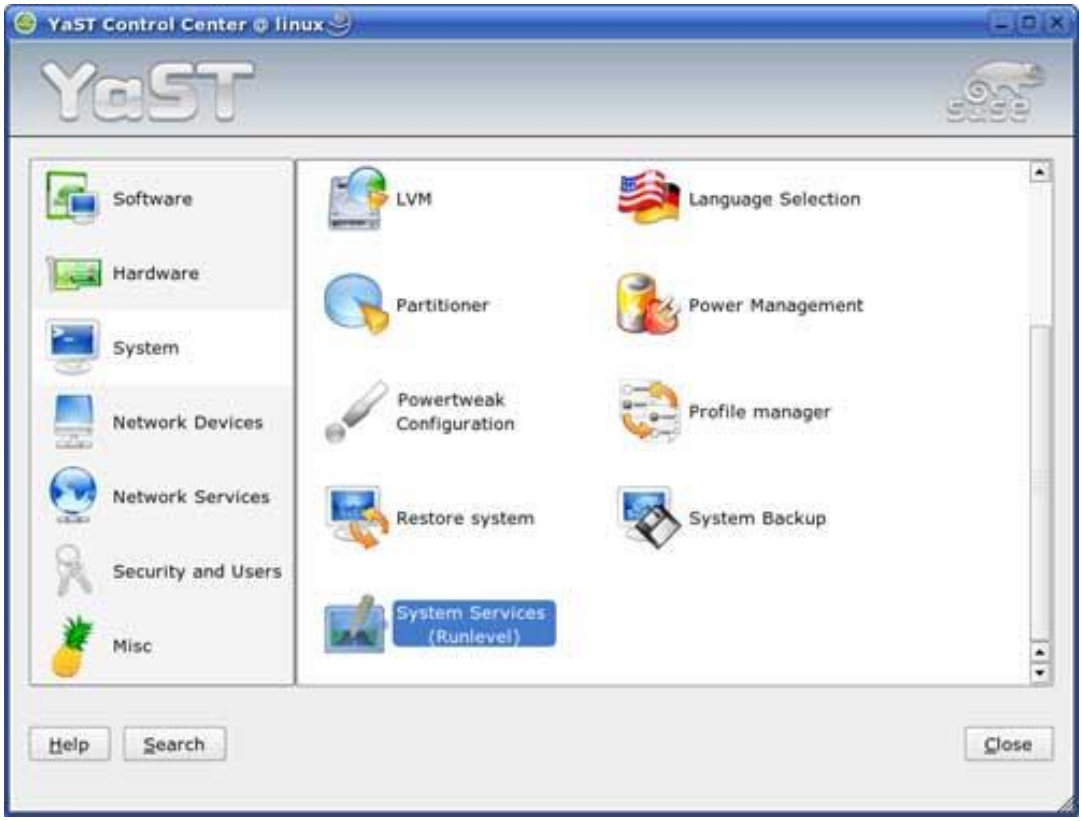
Next go to **Network Services** > **Network Services (xinetd)**



Find the **swat** service, highlight, and click the **Toggle Status (On or Off)** button to toggle on. Then click **Finish**.



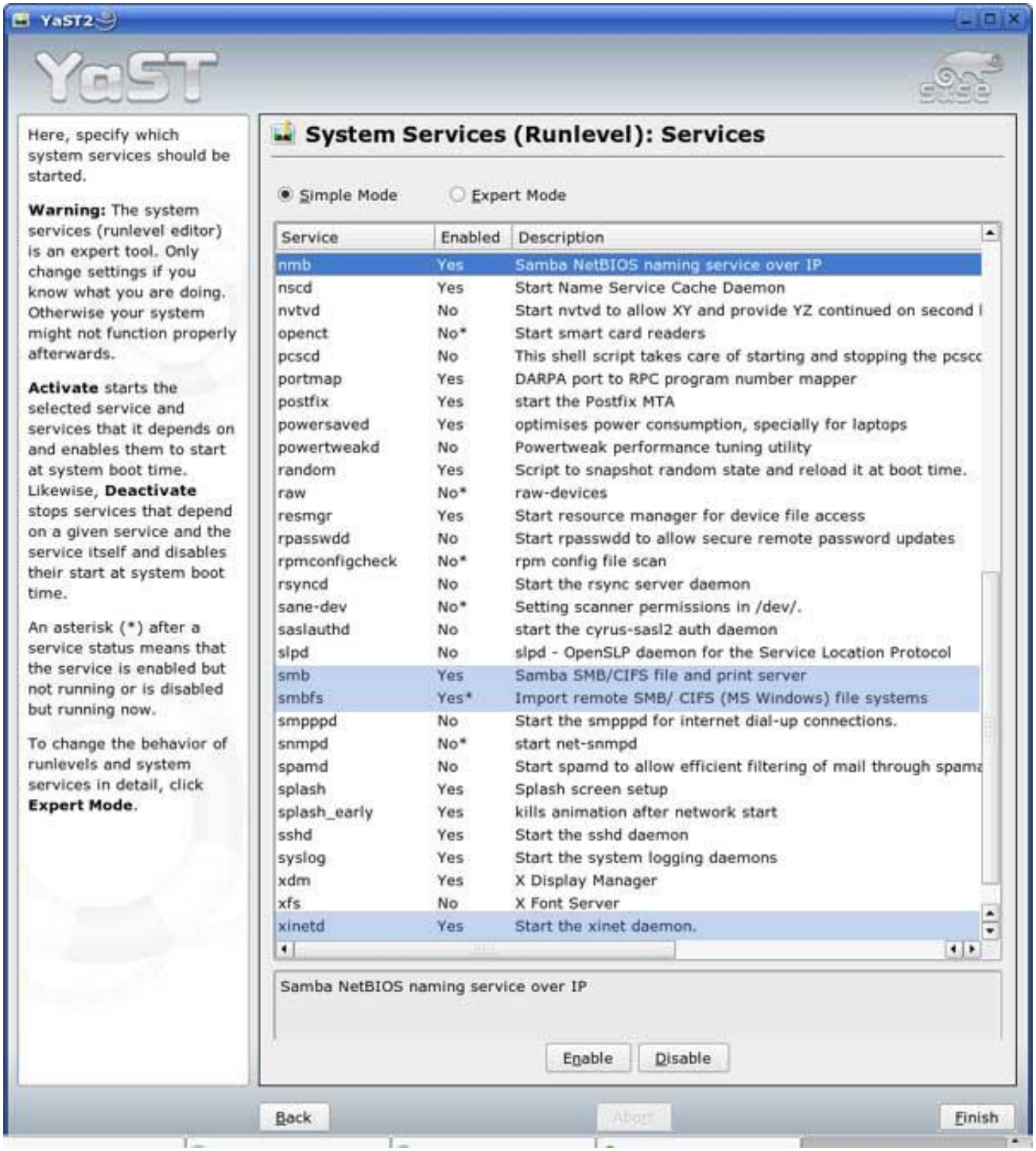
Now back in the YaST Control Center click on **System** then **System Services (Runlevel)**



Highlight and then click the **Enable** button for the following services:

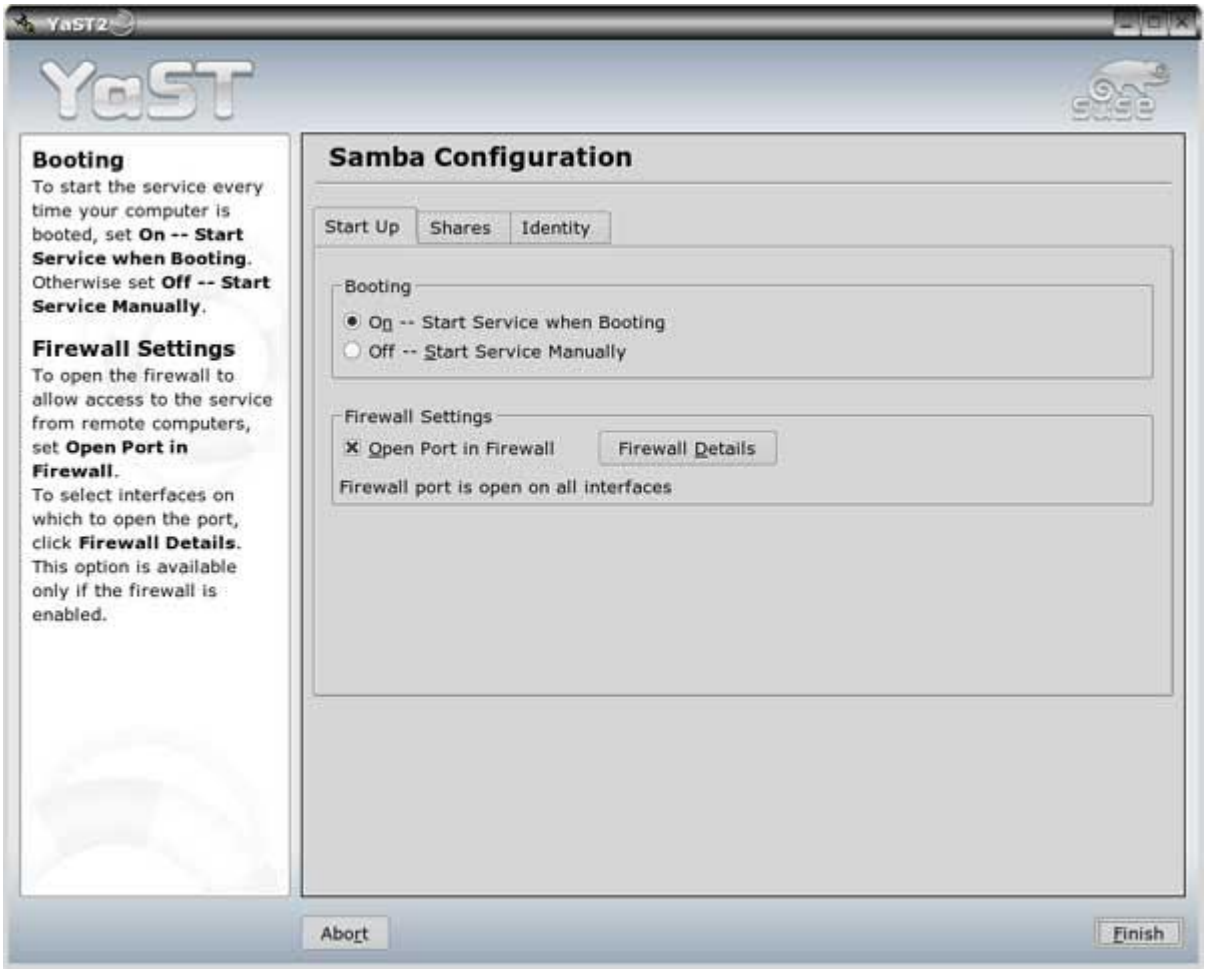
nmb
smb
smbfs
xinetd

Then click **Finish**.

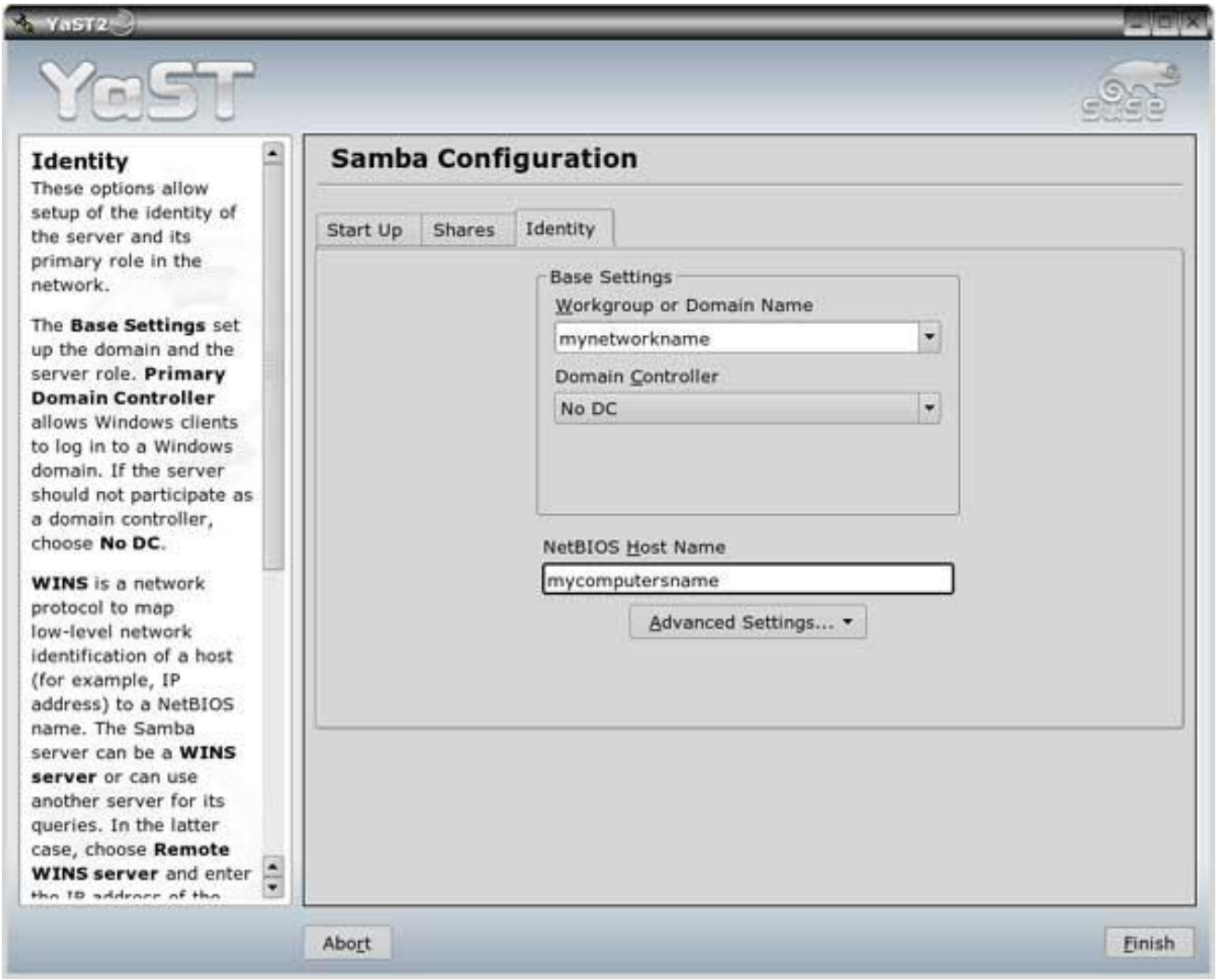


Now back in the YaST Control Center click on **Network Services** then **Samba Server**.

Under the **Start Up** tab ensure that **On -- Start Service when Booting** is checked. If you are using the Suse firewall also check **Open Port in Firewall**.



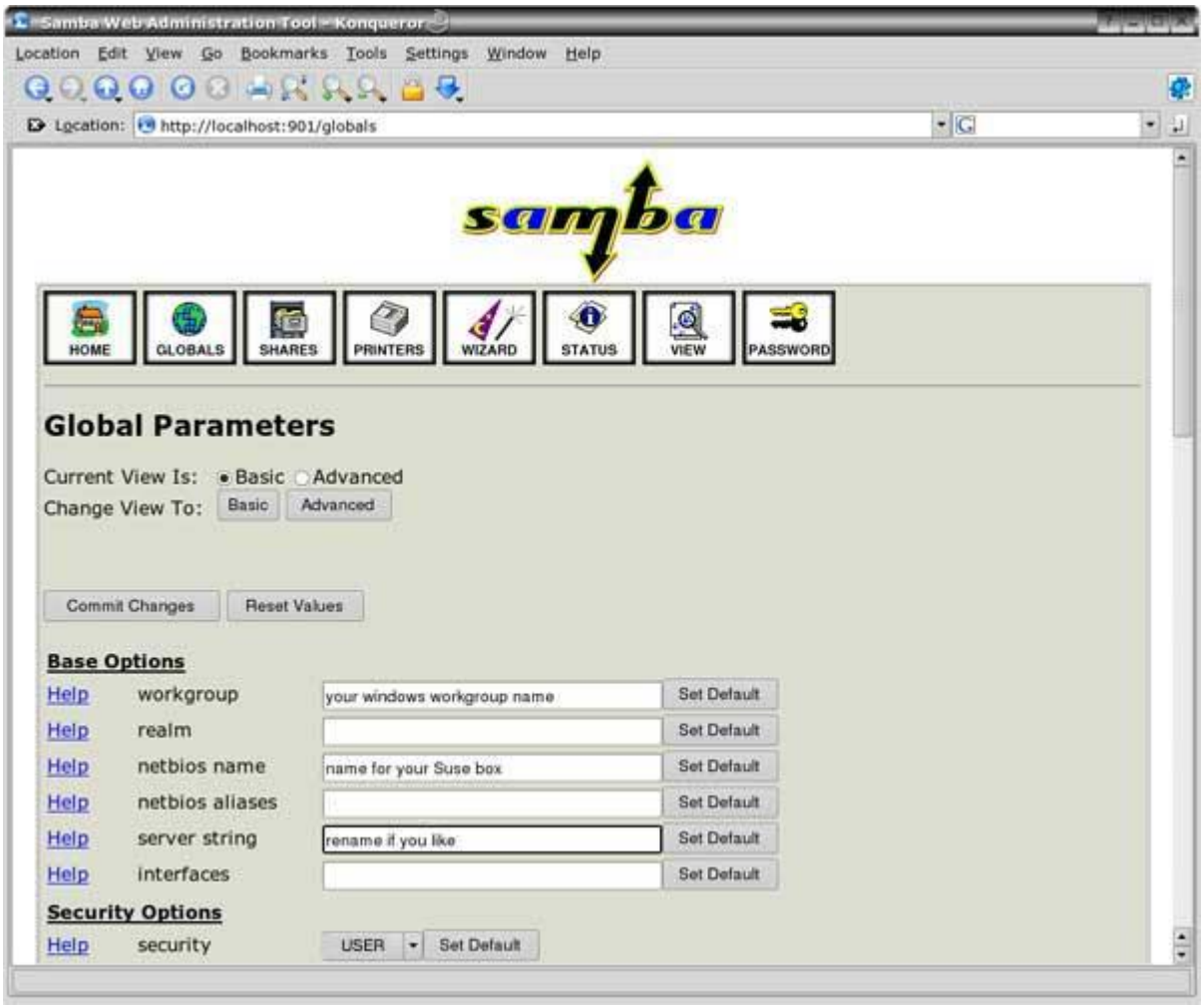
Next click on the **Identity** tab. Fill in your **Workgroup or Domain Name** (the exact same name as your Windows workgroup). Next make sure the box under **Domain Controller** says **NO DC**. Then, in the box **NetBIOS Host Name** enter the name you want for your computer. Click **Finish** when done.



SWAT

Open **Konqueror**. In the address bar type **localhost:901** and press the **Enter** key.
In the resulting screen enter your **root** name and **password** and click **OK**.

Click on the **Globals** icon. Fill in **workgroup** and **netbios name** with the appropriate information if it isn't already there (if you followed the last page it should be). Optionally you can change the name of the **server string**. Next, in the **Security Options** section change the **security** option to **USER.**

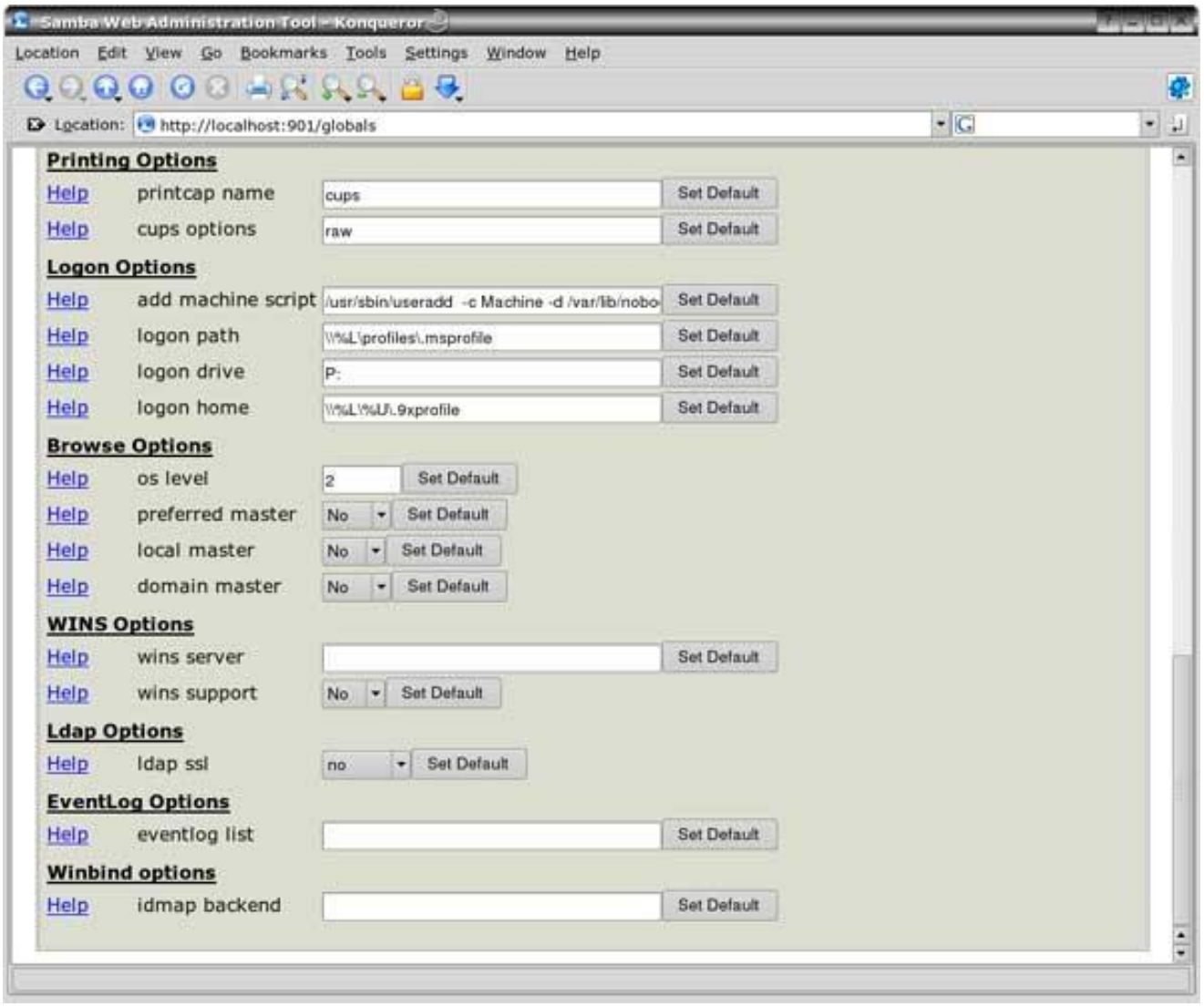


This next step will keep network browsing from your Windows boxes from getting hosed.
Scroll down until you see the section **Browse Options**.

Change the **OS level** to **2**.
Change the option for **preferred master**, l**ocal master**, and **domain master** to **No**.
Scroll back to the top and click the **Commit Changes** button.
Although not visible in these screen shots I have added all computers in my network to the **hosts allow** line.
While there are various options to add your entire network you would most likely add it as follows (pick the appropriate network number).

10.10.10.0/255.255.255.0
192.168.0.0/255.255.255.0

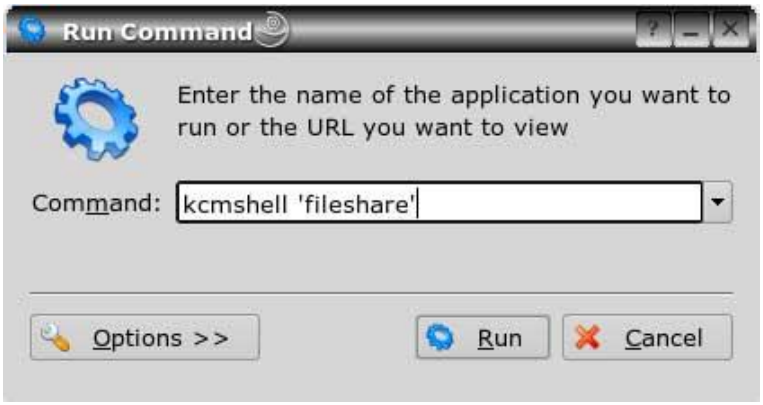
You can use the **hosts deny** box to remove a machines or networks access.



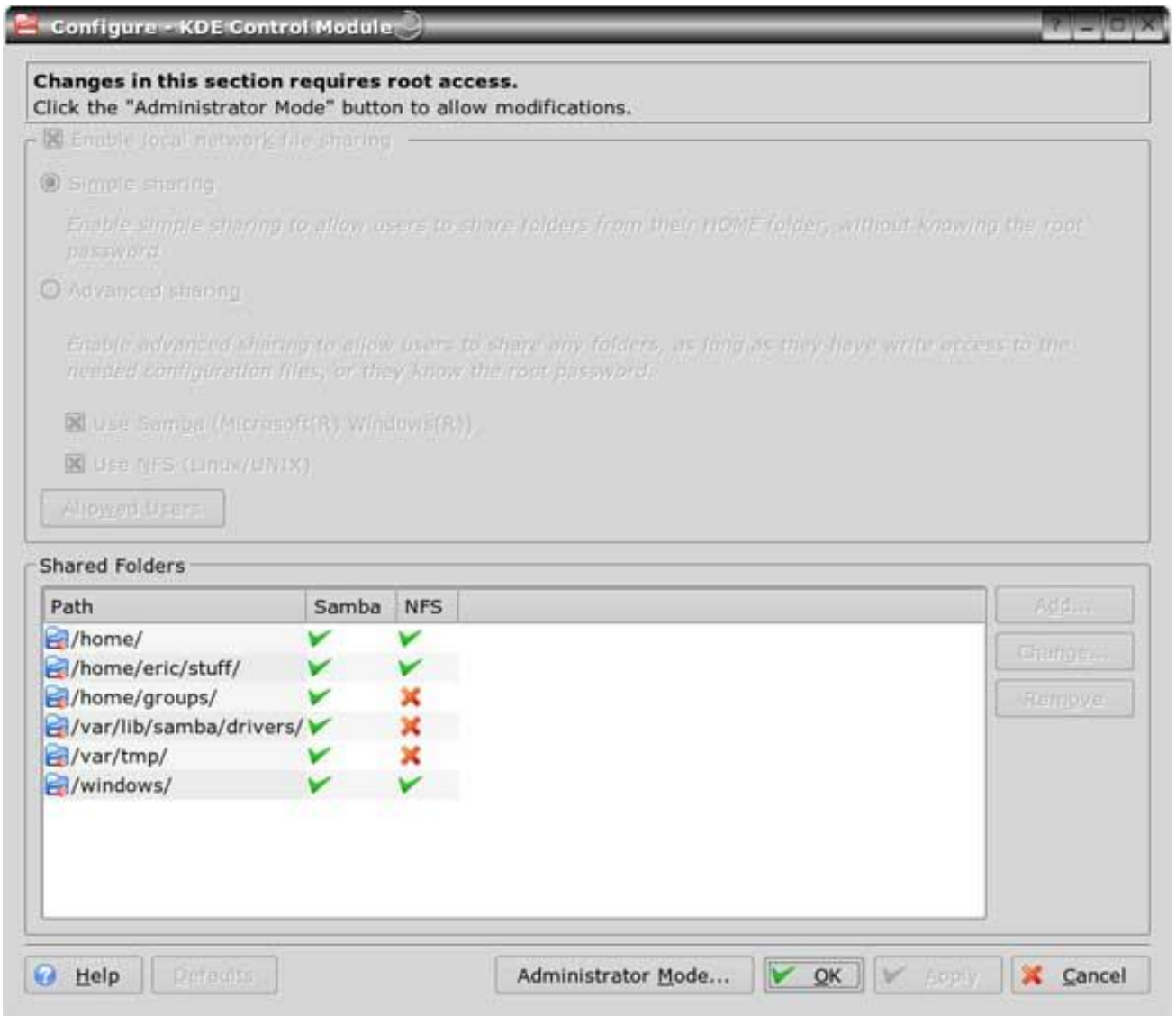
Setting up shares

Why am I not using SWAT for this? 2 reasons. The first is to expose you to another of the many tools within Suse to configure things. The second is that this method contains more options than using SWAT.

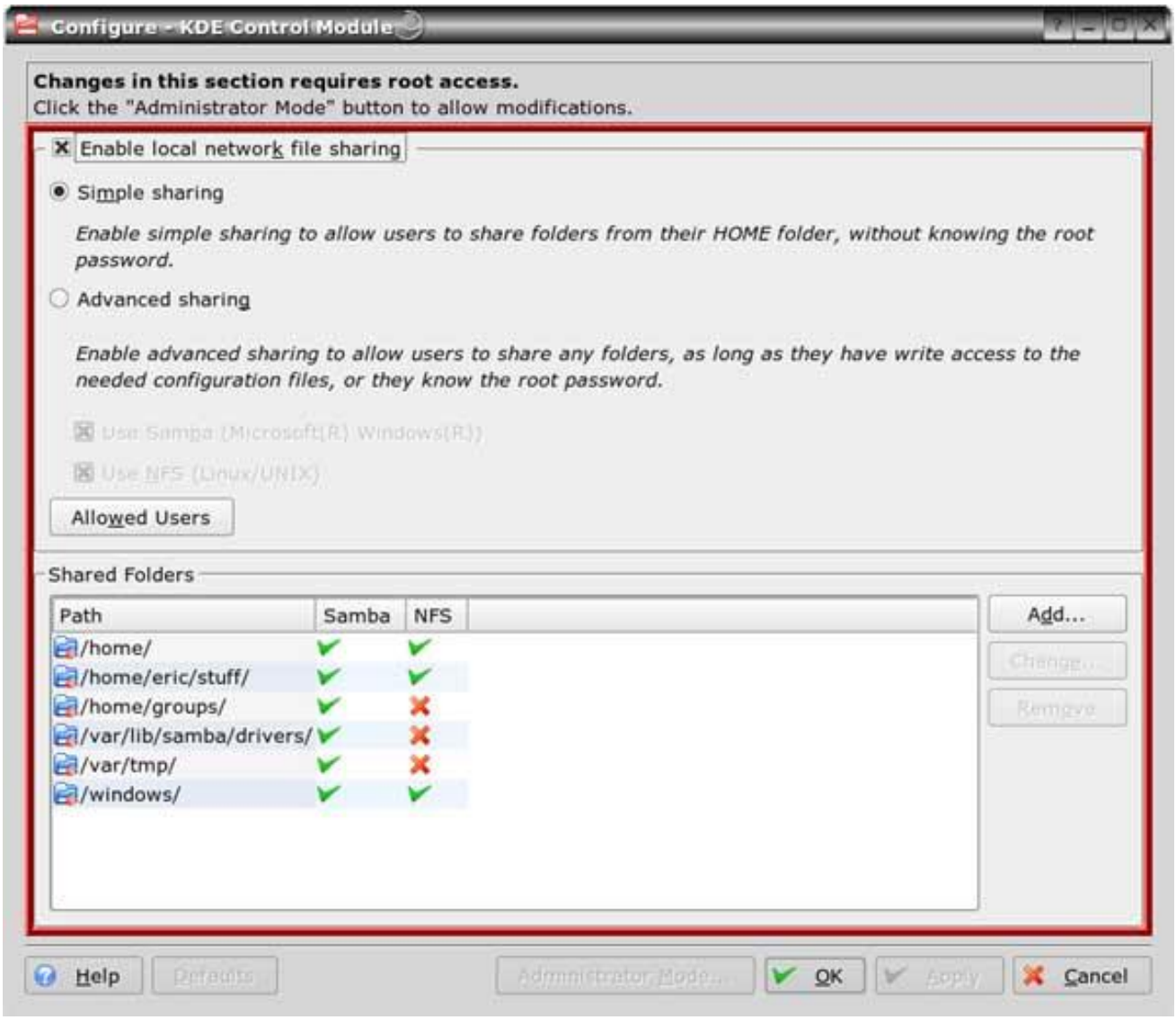
Press the **Alt + F2** keys. In the resulting windows type **kcmshell 'fileshare'** exactly as you see it here.
(This is the same as right-clicking on a share, choosing Share, Configure File Sharing)



In the resulting window click the **Administrator Mode** button then enter your **root password**.

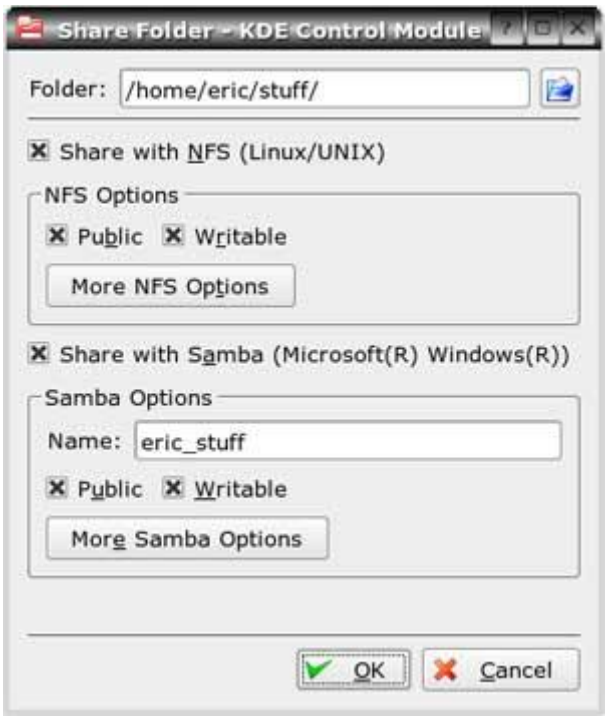


Click **Add** to create a new share or highlight an existing share and click **Change**. Whenever you make a change you must click the Apply and/or OK buttons for the change to take.

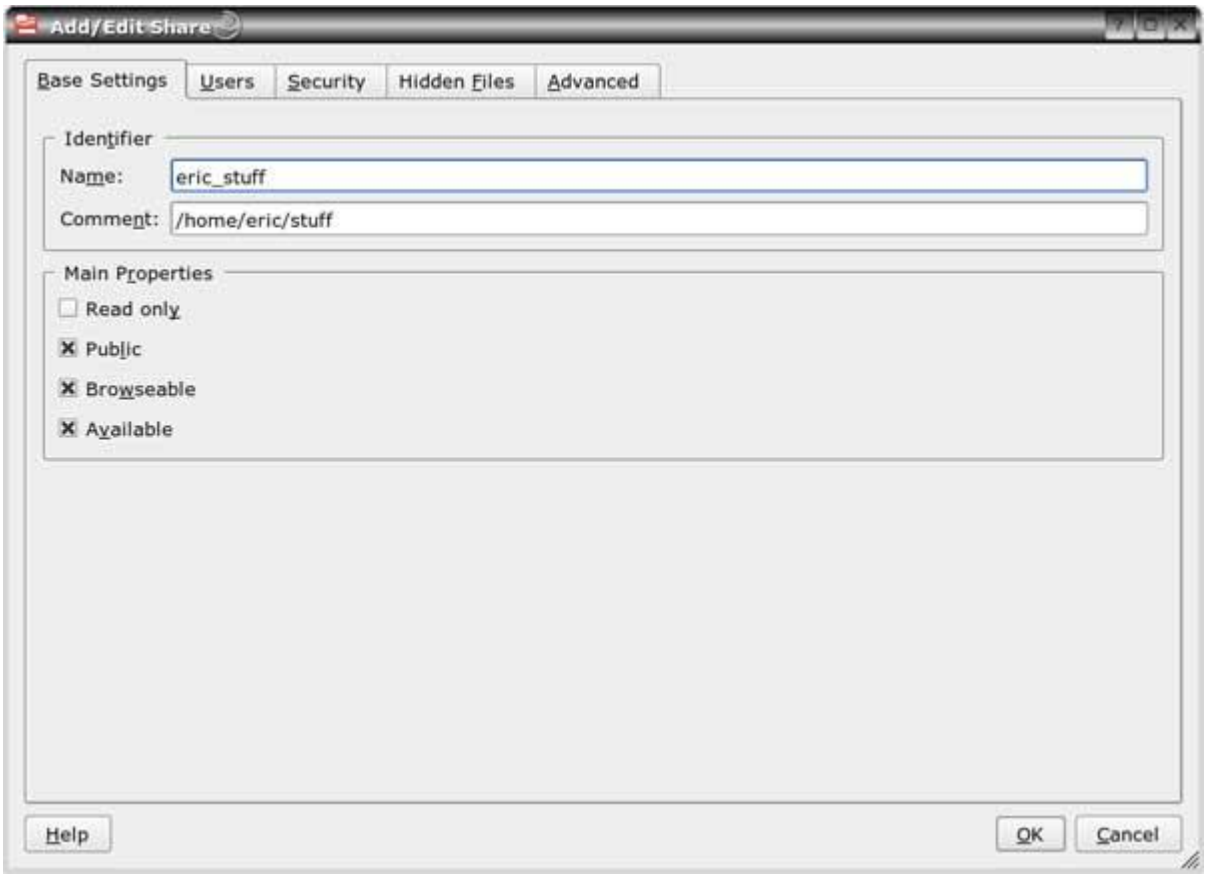


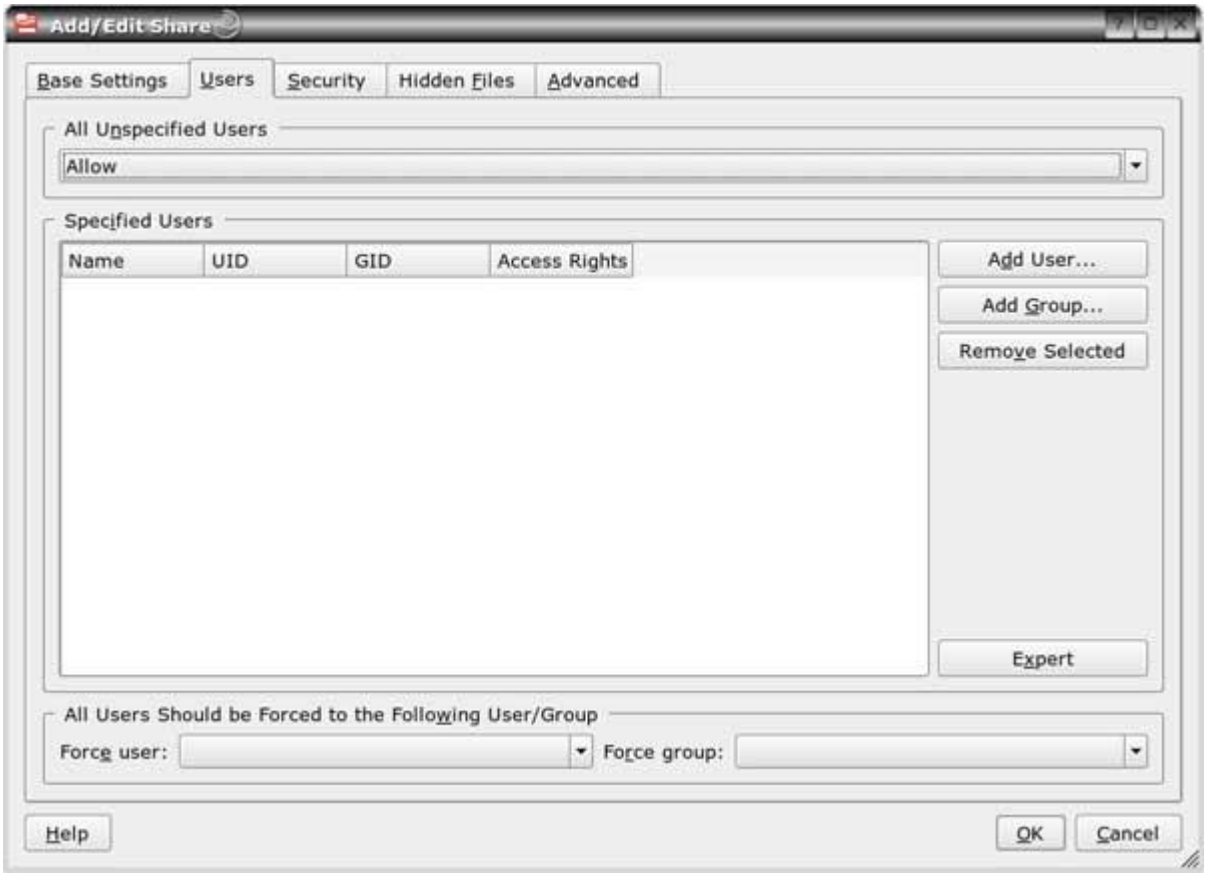
Clicking the **Allowed Users** button gives you the following options:

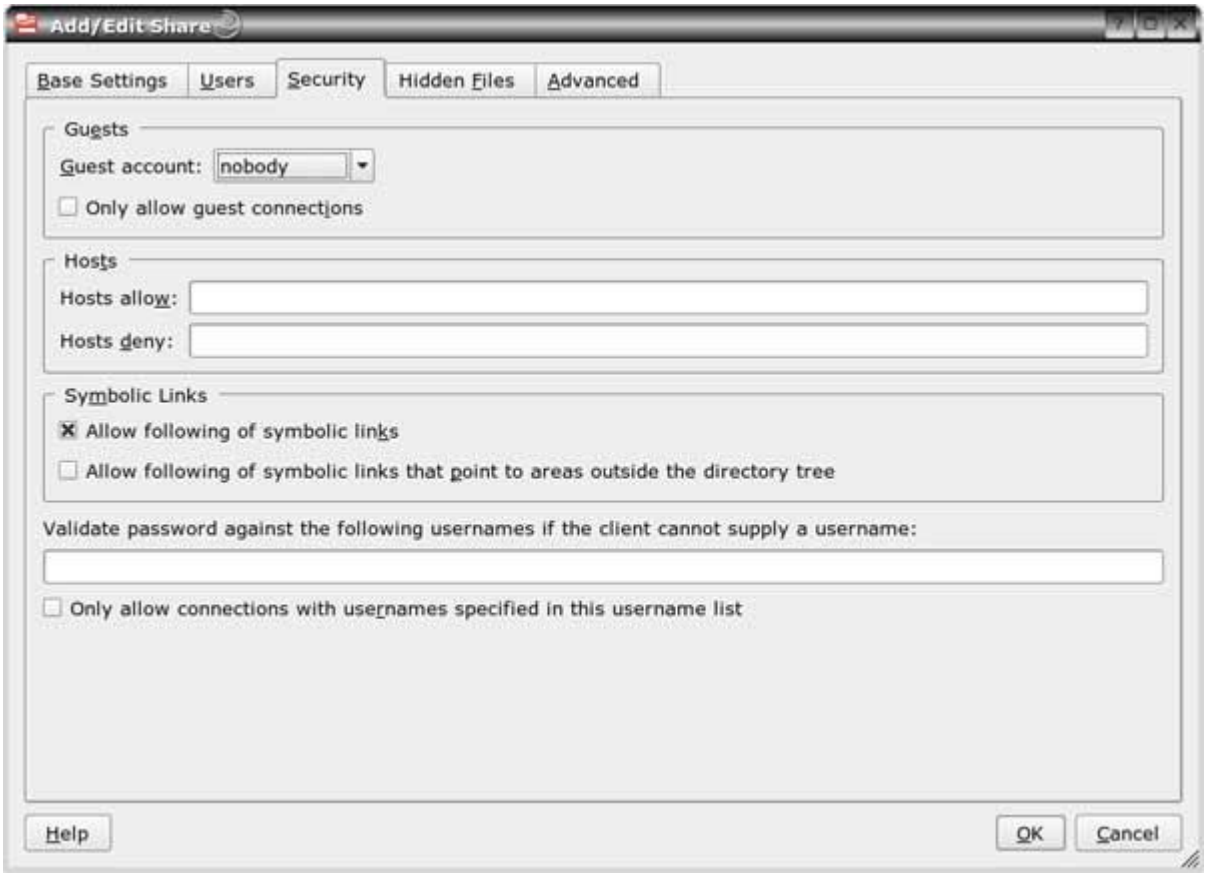
By clicking **Add** or **Change** you get the following screen where you can set your options. Please note that the NFS options aren't necessary for sharing with Windows or other Linux boxes that use Samba.

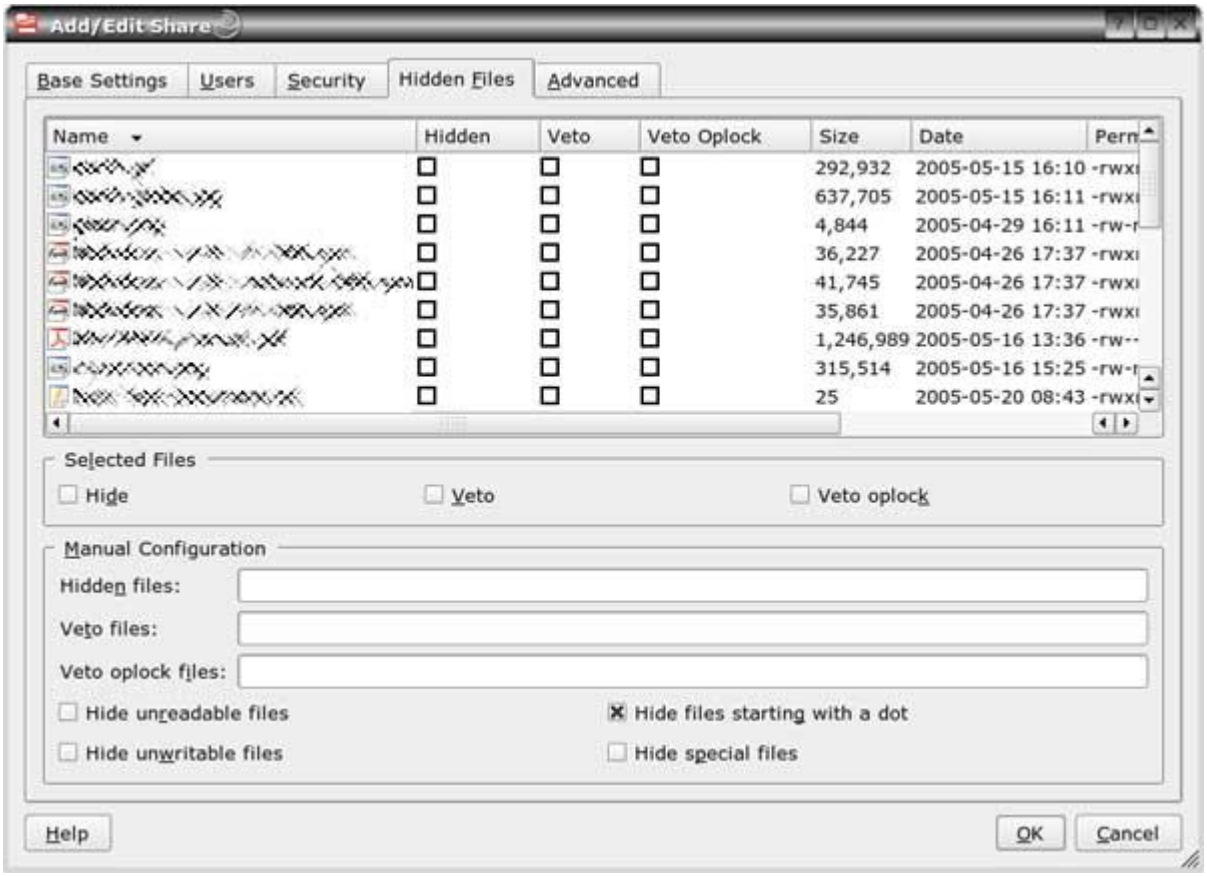


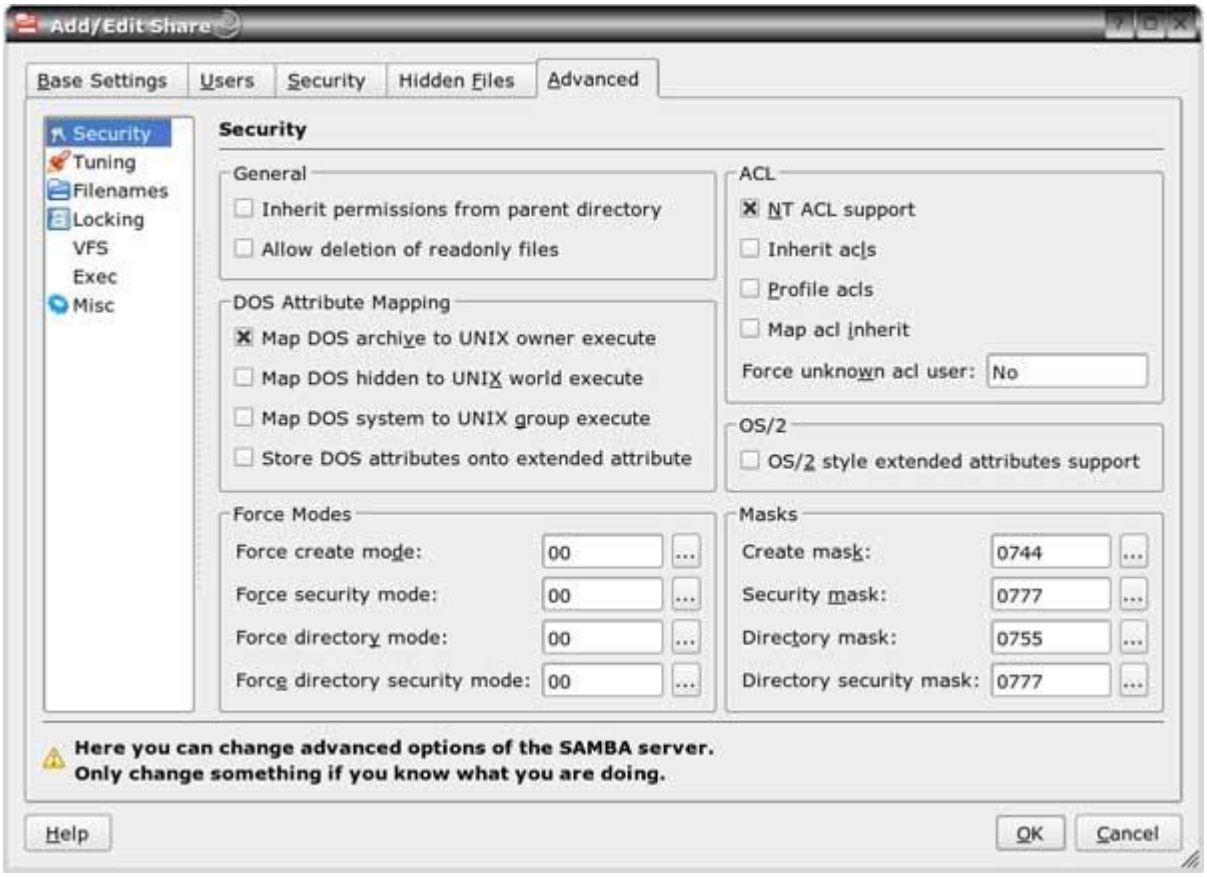
Clicking the **More Samba Options** button gives you the following wealth of options. Be VERY careful when changing any options other than the ones under the Base Settings and Users tabs!




Add/Edit Share
Base Settings
Users
Security
Hidden Files
Advanced
All Unspecified Users
Allow
Specified Users
Name
UID
GID
Access Rights
Add User...
Add Group...
Remove Selected
Expert
All Users Should be Forced to the Following User/Group
Force user:
Force group:
Help
OK
Cancel


Add/Edit Share
Base Settings
Users
Security
Hidden Files
Advanced
Guests
Guest account:
nobody
Only allow guest connections
Hosts
Hosts allow:
Hosts deny:
Symbolic Links
Allow following of symbolic links
Allow following of symbolic links that point to areas outside the directory tree
Validate password against the following usernames if the client cannot supply a username:
Only allow connections with usernames specified in this username list
Help
OK
Cancel

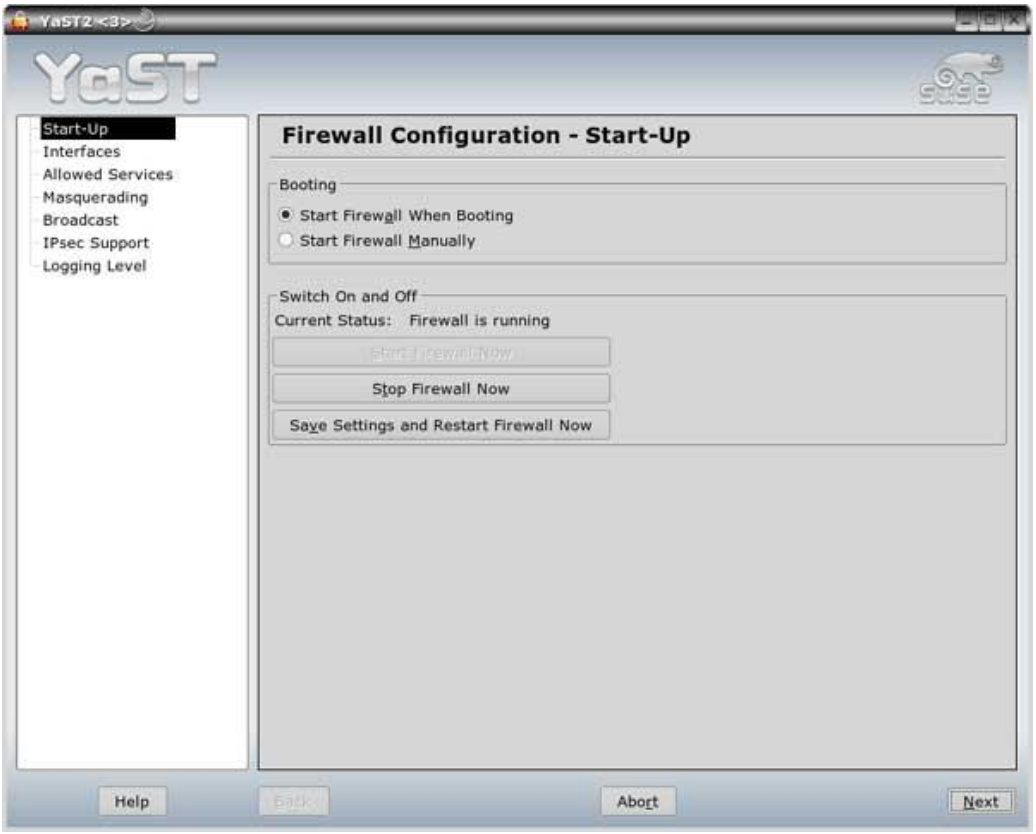

Add/Edit Share
Base Settings
Users
Security
Hidden Files
Advanced
Name
Hidden
Veto
Veto Oplock
Size
Date
Perm
292,932 2005-05-15 16:10 -rwx
637,705 2005-05-15 16:11 -rwx
4,844 2005-04-29 16:11 -rw-
36,227 2005-04-26 17:37 -rwx
41,745 2005-04-26 17:37 -rwx
35,861 2005-04-26 17:37 -rwx
1,246,989 2005-05-16 13:36 -rw--
315,514 2005-05-16 15:25 -rw-
25 2005-05-20 08:43 -rwx
Selected Files
Hide
Veto
Veto oplock
Manual Configuration
Hidden files:
Veto files:
Veto oplock files:
Hide unreadable files
Hide files starting with a dot
Hide unwritable files
Hide special files
Help
OK
Cancel


Add/Edit Share
Base Settings
Users
Security
Hidden Files
Advanced
Security
Tuning
Filenames
Locking
VFS
Exec
Misc
Security
General
Inherit permissions from parent directory
Allow deletion of readonly files
DOS Attribute Mapping
Map DOS archive to UNIX owner execute
Map DOS hidden to UNIX world execute
Map DOS system to UNIX group execute
Store DOS attributes onto extended attribute
ACL
NT ACL support
Inherit acls
Profile acls
Map acl inherit
Force unknown acl user:
No
OS/2
OS/2 style extended attributes support
Force Modes
Force create mode:
00
Force security mode:
00
Force directory mode:
00
Force directory security mode:
00
Masks
Create mask:
0744
Security mask:
0777
Directory mask:
0755
Directory security mask:
0777
Here you can change advanced options of the SAMBA server.
Only change something if you know what you are doing.
Help
OK
Cancel

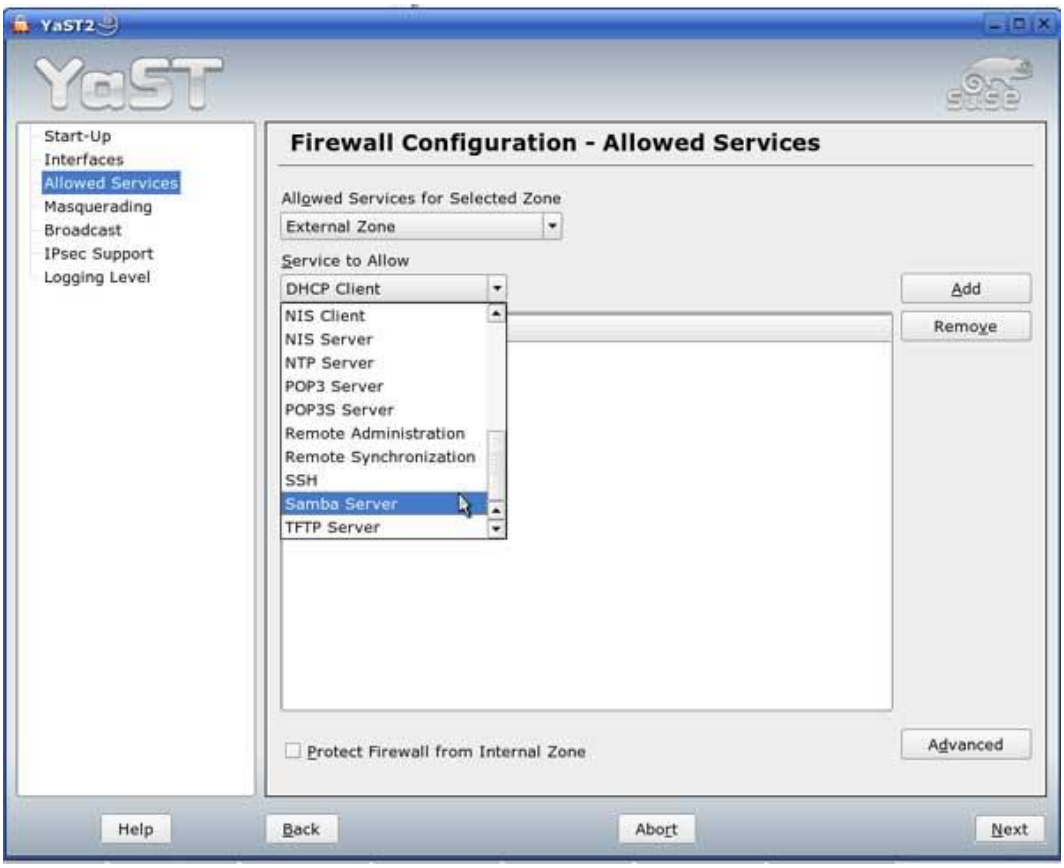
Now we have several steps to take to make sure we can Samba to and from your Suse box through the firewall.

Open **YaST**. Click on **Security and Users** > **Firewall**.

In the **Start-Up** section ensure the **Start Firewall When Booting** option is checked.

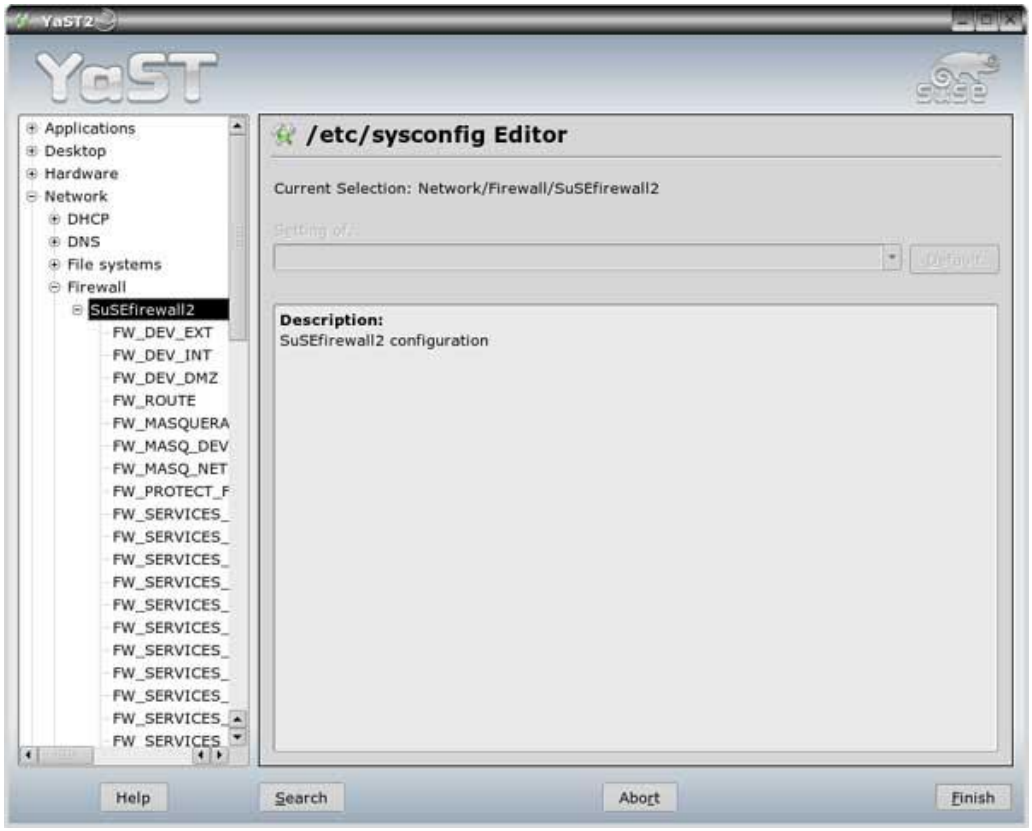


Click on the **Allowed Services** tab.
Under Service to Allow choose **Samba Server** then click **Add**.
When finished click **Next** and the **Accept**.
When finished go back to the **Start-Up** section and click **Save Settings and Restart Firewall Now**.



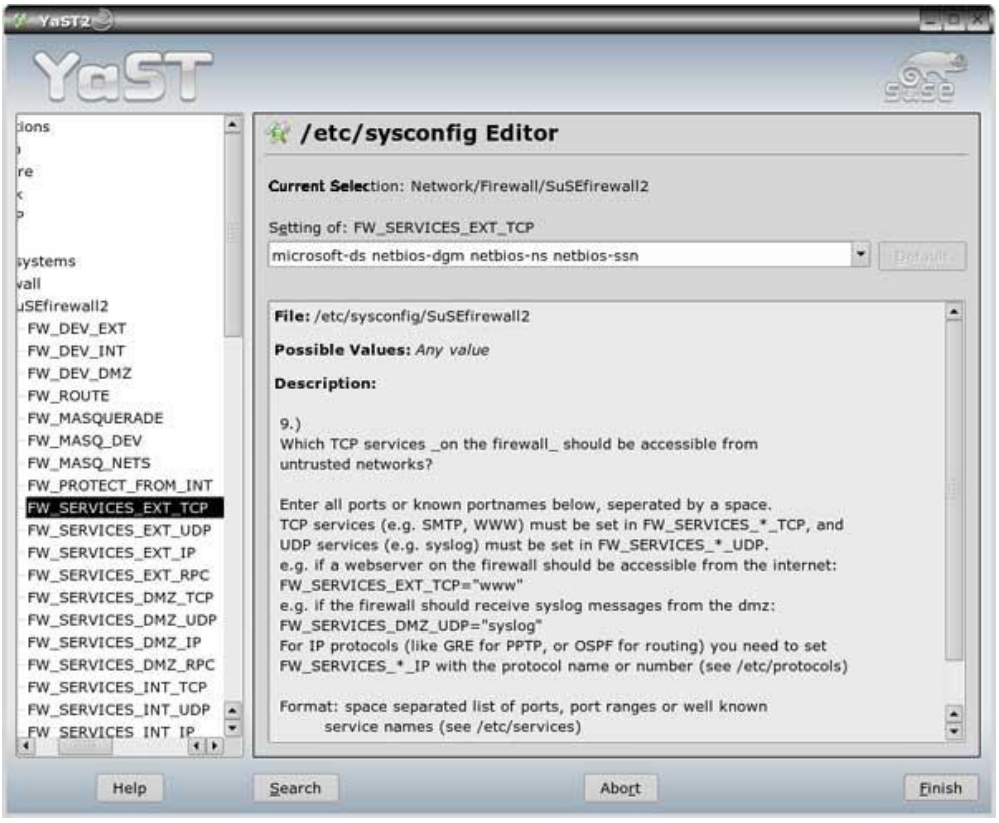
Now go back to **YaST**. Go to **System** > **/etc/sysconfig Editor**.

Go to the following section: **Network** > **Firewall** > **SuSEfirewall2**.

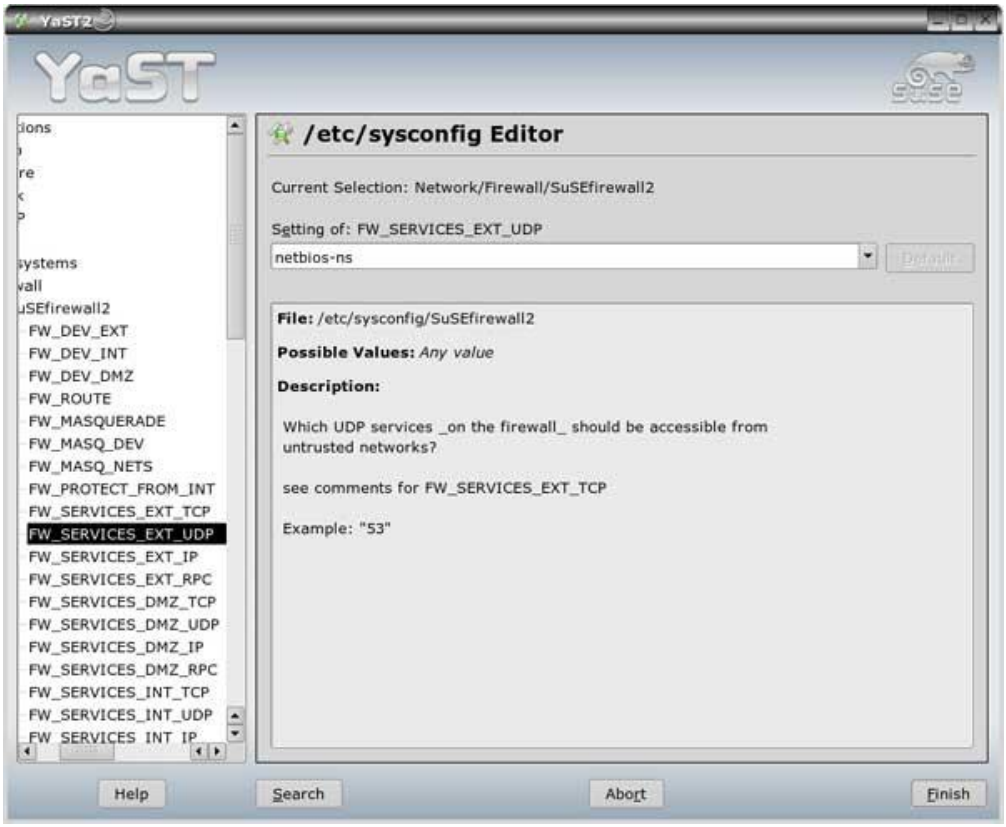


Scroll down to **FW_SERVICES_EXT_TCP**. If everything went right in the preceding section it should look like the screen below. If not then add the following in the **Setting of: FW_SERVICES_EXT_TCP** box:

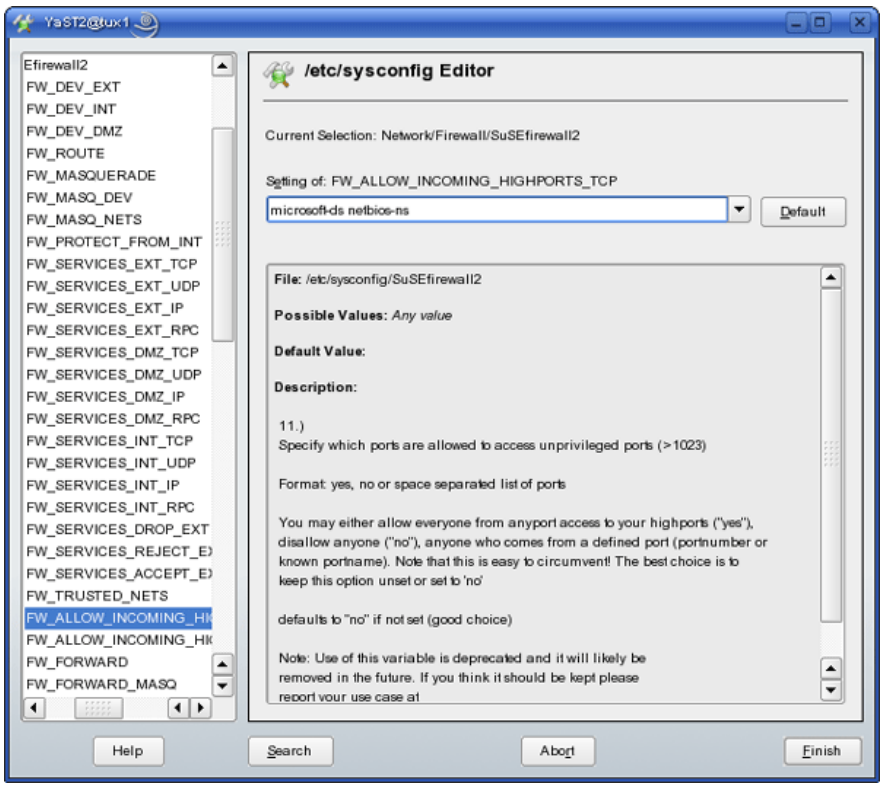
microsoft-ds netbios-dgm netbios-ns netbios-ssn



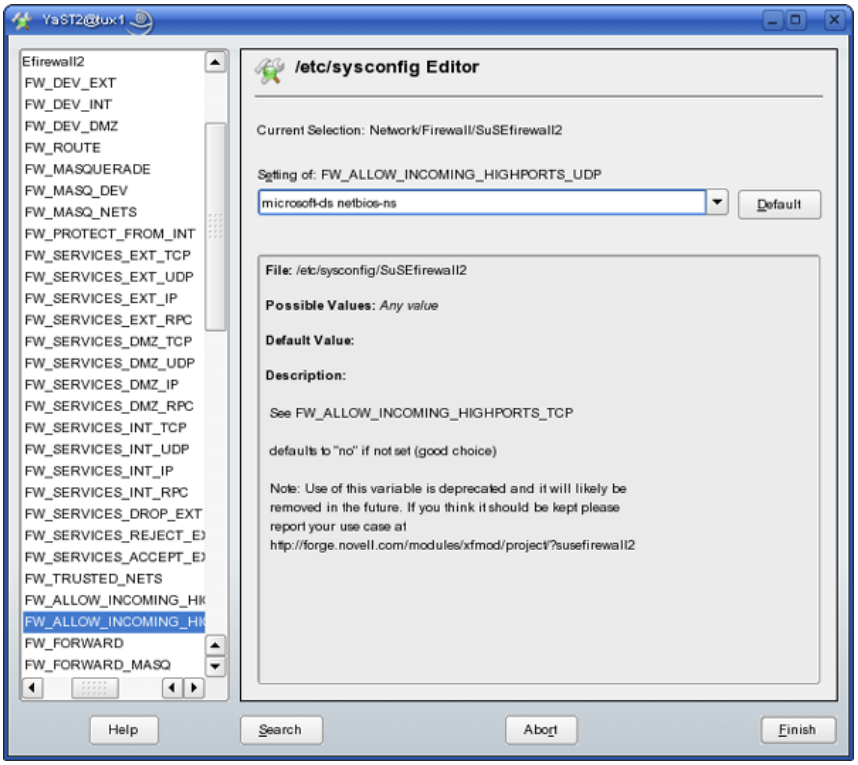
Next go to **FW_SERVICES_EXT_UDP** (directly below the last one).
In the box **Setting of: FW_SERVICES_EXT_UDP** ensure that **netbios-ns** is there.
If not then add it. When done click **Finish**.



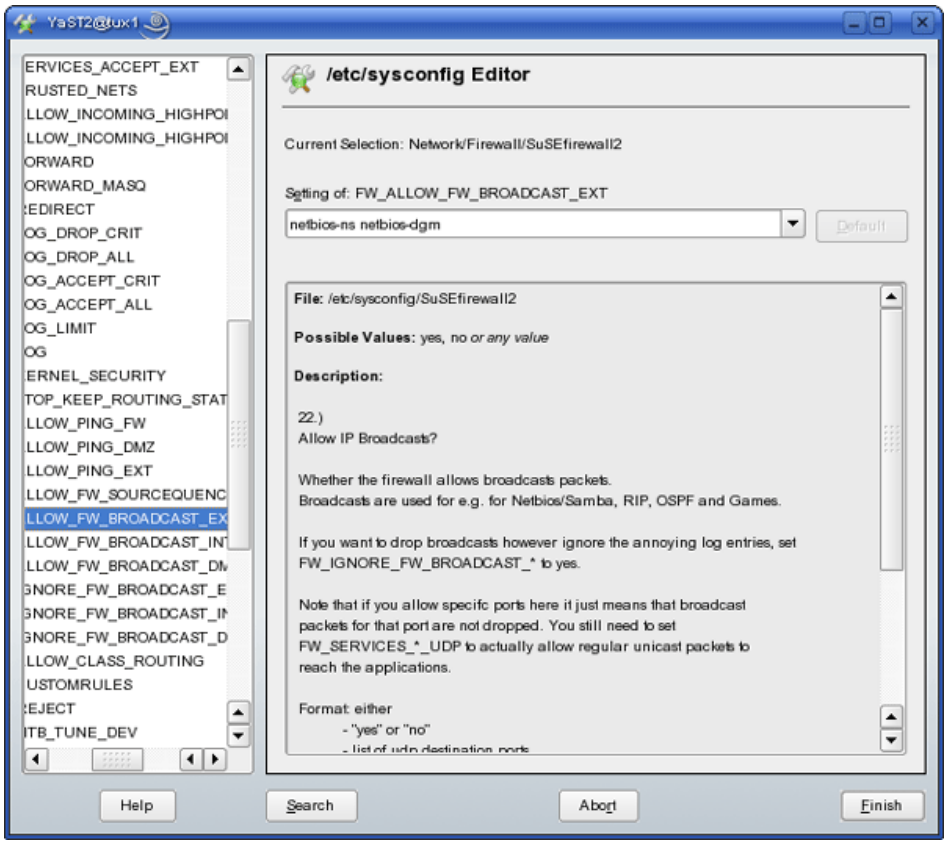
Next go to **FW_ALLOW_INCOMING_HIGHPORTS_TCP** (a little further down the list than the last entry).
In the box **Setting of: FW_ALLOW_INCOMING_HIGHPORTS_TCP** enter **microsoft-ds netbios-ns**.



Next go to **FW_ALLOW_INCOMING_HIGHPORTS_UDP** (next line down).
In the box **Setting of: FW_ALLOW_INCOMING_HIGHPORTS_UDP** enter **microsoft-ds netbios-ns**.



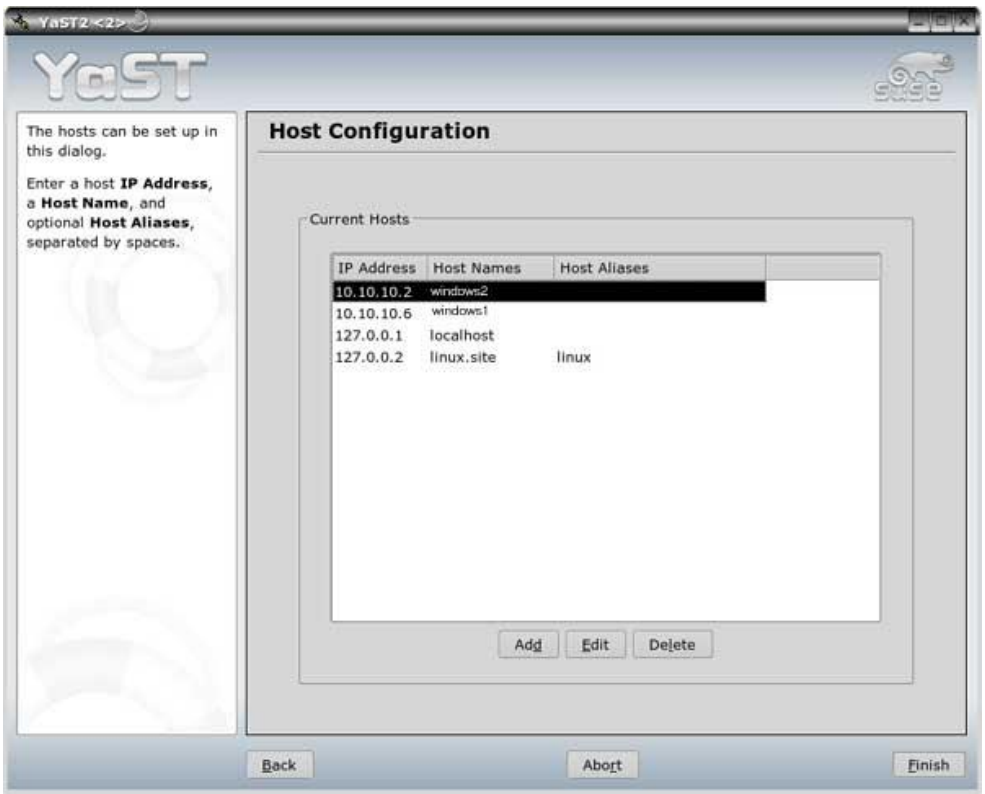
One more! Go to **FW_ALLOW_FW_BROADCAST_EXT** (a little further down the list than the last entry).
In the box **Setting of: FW_ALLOW_FW_BROADCAST_EXT** you have 2 options, you can enter **yes** or **netbios-ns netbios-dgm** .
Click **Finish**.



Now the Services are set up and the holes are punched through the firewall. However, now we need to add the ability to access the Windows boxes through the firewall. To do this we'll need to tell Suse how to find them. Computers generally use numbers for things not names (especially for networking). Humans on the other hand prefer names. We'll tell Suse the name of the Windows machines and then give it the address so it can find it.

Open YaST > Network Services > Host Names.

In the resulting windows click Add.



Now, depending on your network you can do 1of 2 things.

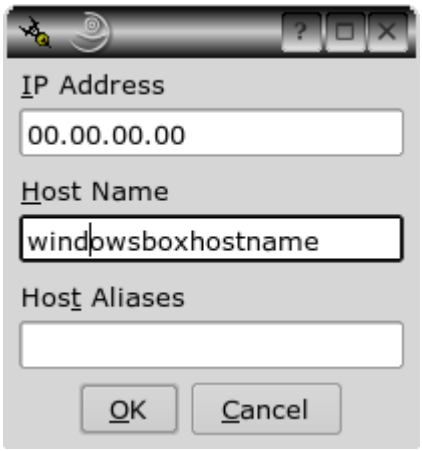
First try this:
Enter the IP Address Range and Host Name of the Windows workgroup and click OK (see page one of this guide if you don't know that info).
Your networks IP Address Range should be either **10.10.10.0** or **192.168.0.0**.

Reboot, at this point you should be able to browse your Windows network with the firewall enabled.

You should now be able to use Konqueror using the following syntax:
smb:*//windowsworkgroupname*

If not try the next step.

Enter the IP Address and Host Name of the Windows box and click OK (see page one of this guide if you don't know that info). When you've added all the Windows machines click Finish.

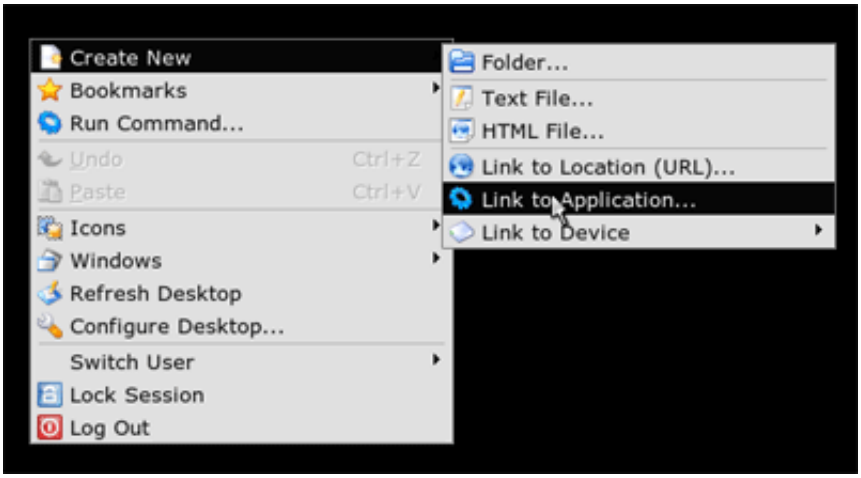


You should now be able to use Konqueror using the following syntax:
smb:*//windowsboxhostname*

Firewall Shortcuts

If for some reason everything you've done up to now can't cut through the firewall for browsing your windows network, or for one reason or another you want the ability to quickly stop and start the firewall, read on.
I like the extra security of the Suse firewall so I made myself a couple of shortcuts that allow me to quickly disable the firewall, browse the network (or whatever), then restart the firewall.

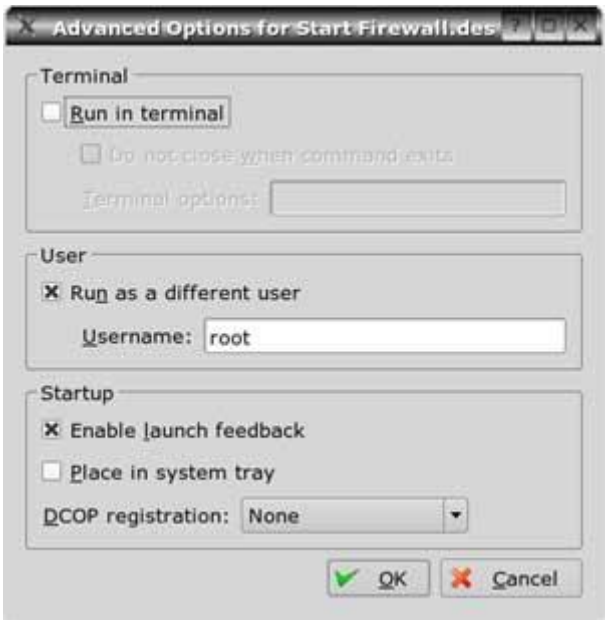
Right-click on the desktop and choose **Create New** > **Link to Application**.



Label it **Start Firewall**. Clicking the picture next to the box will allow you to choose an icon.

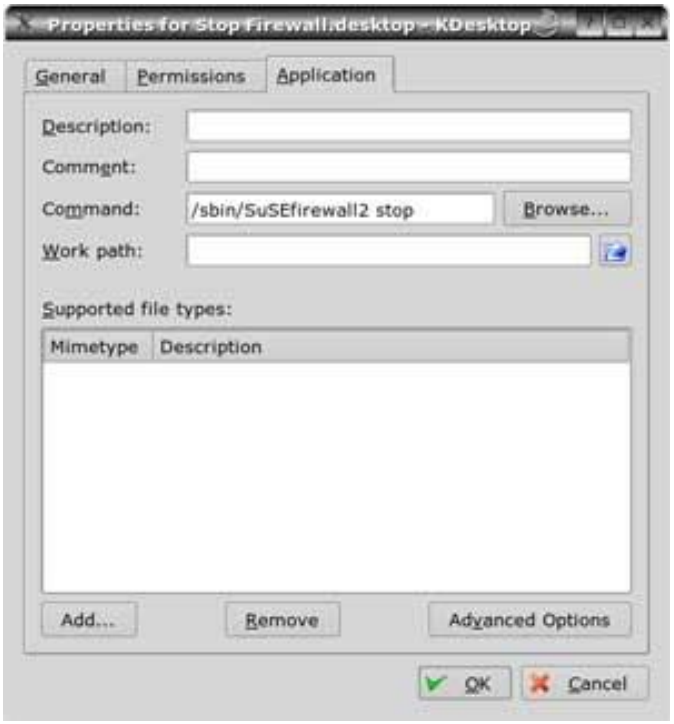
Click the **Application** tab. In the **Command:** box enter **/sbin/SuSEfirewall2** start EXACTLY as it is here. Copy and paste this text if necessary.

Now click on the **Advanced Options** button. Check **Run as different user** and in the **Username** box type **root**. Click **OK** when finished.

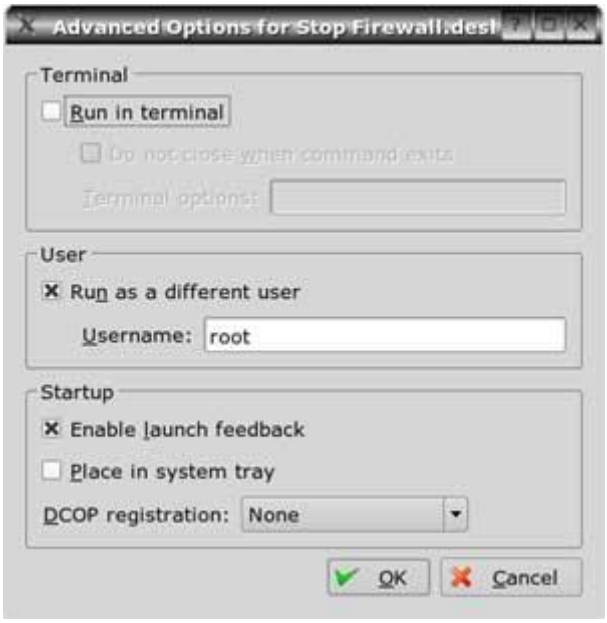


This time repeat the steps above but label the icon **Stop Firewall**.
If you like, here is the icon I made for it (save it to your home directory then browse to it to add it).

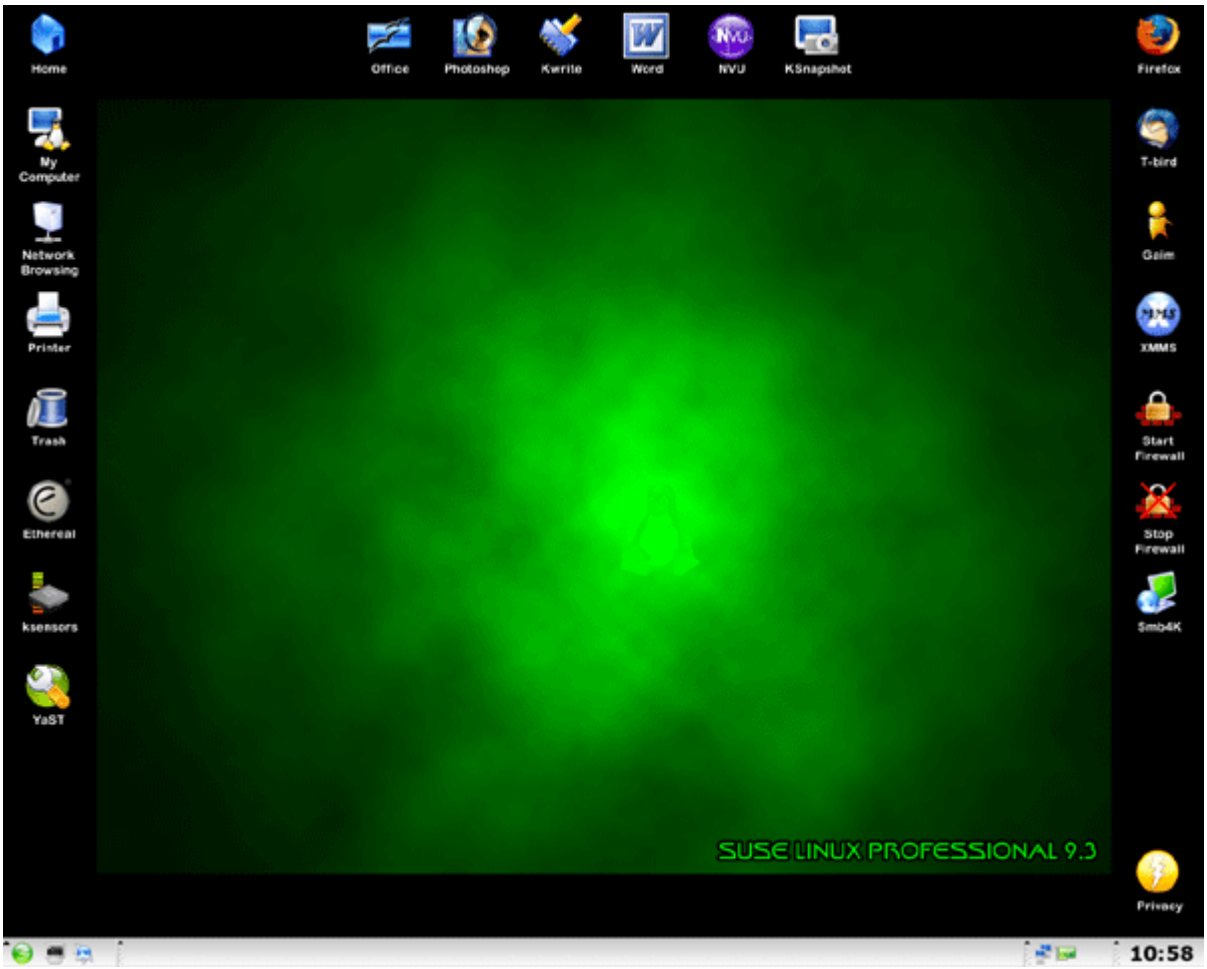
In the **Command:** box enter **/sbin/SuSEfirewall2 stop** EXACTLY as it is here. Copy and paste this text if necessary.



Now click on the **Advanced Options** button. Check **Run as different user** and in the **Username** box type **root**. Click **OK** when finished.



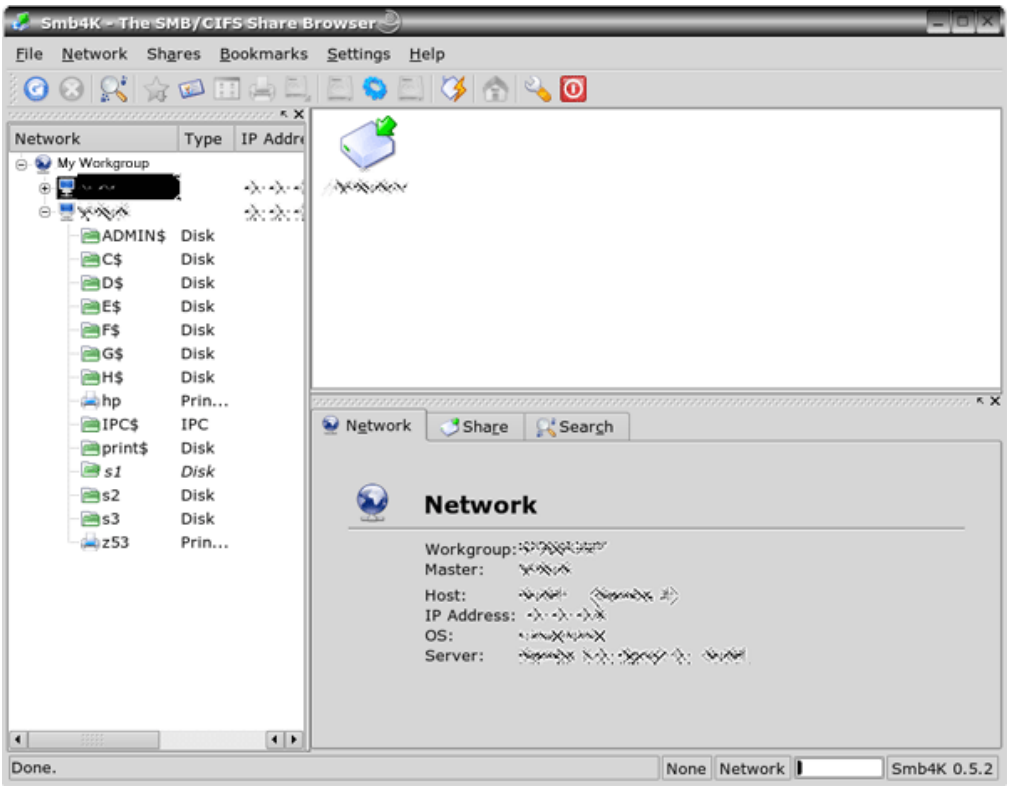
What it looks like on my desktop.



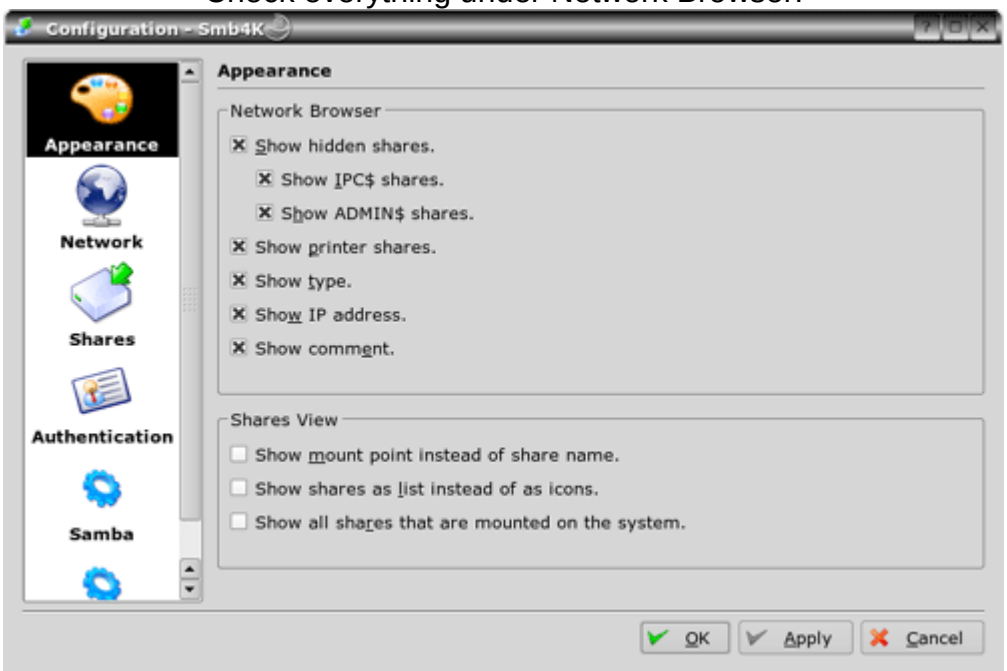
Smb4k

Smb4k isn't necessary for browsing or accessing shares but it does make things a tad easier and offers more options (well, at least they are easier to get to) than using Konqueror. I won't do a lot of explaining here. I think you can figure it out from the screen shots.
You can find SMB4K here:
ftp://ftp.gwdg.de/pub/linux/misc/suser-guru/rpm/packages/Network/smb4k/

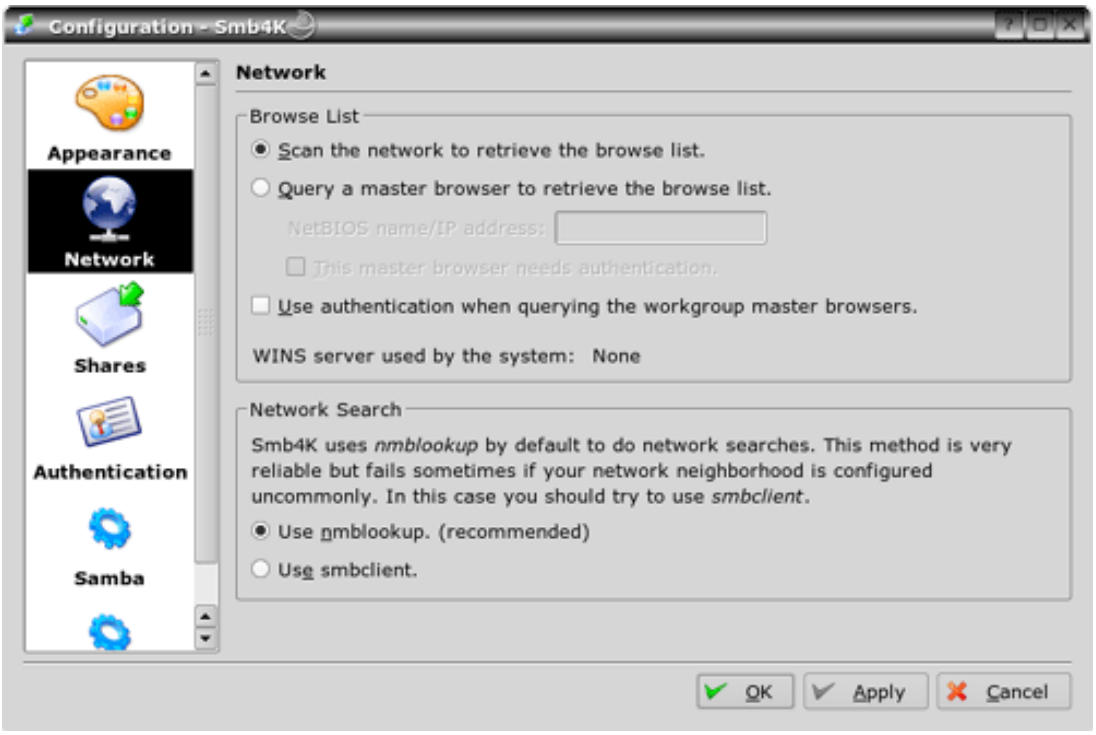
This first screen of SMB4K shows one of my Windows shares. And yes, I can access those "hidden" (cough...snork...gag) shares.



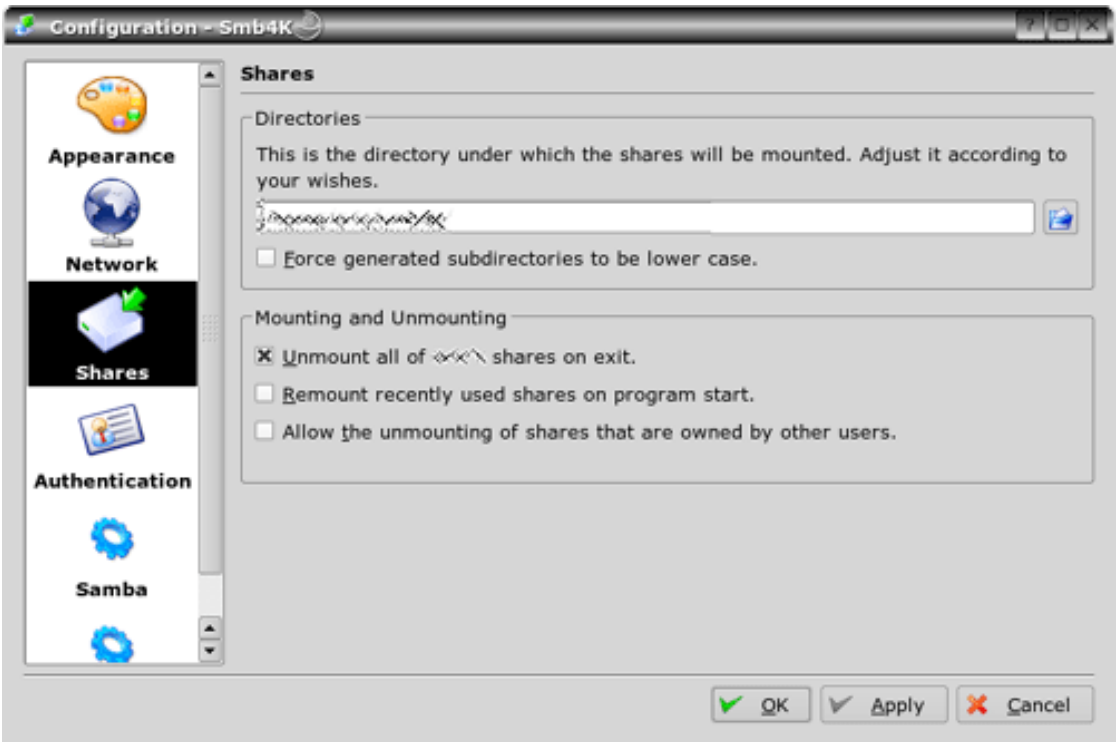
Check everything under Network Browser.



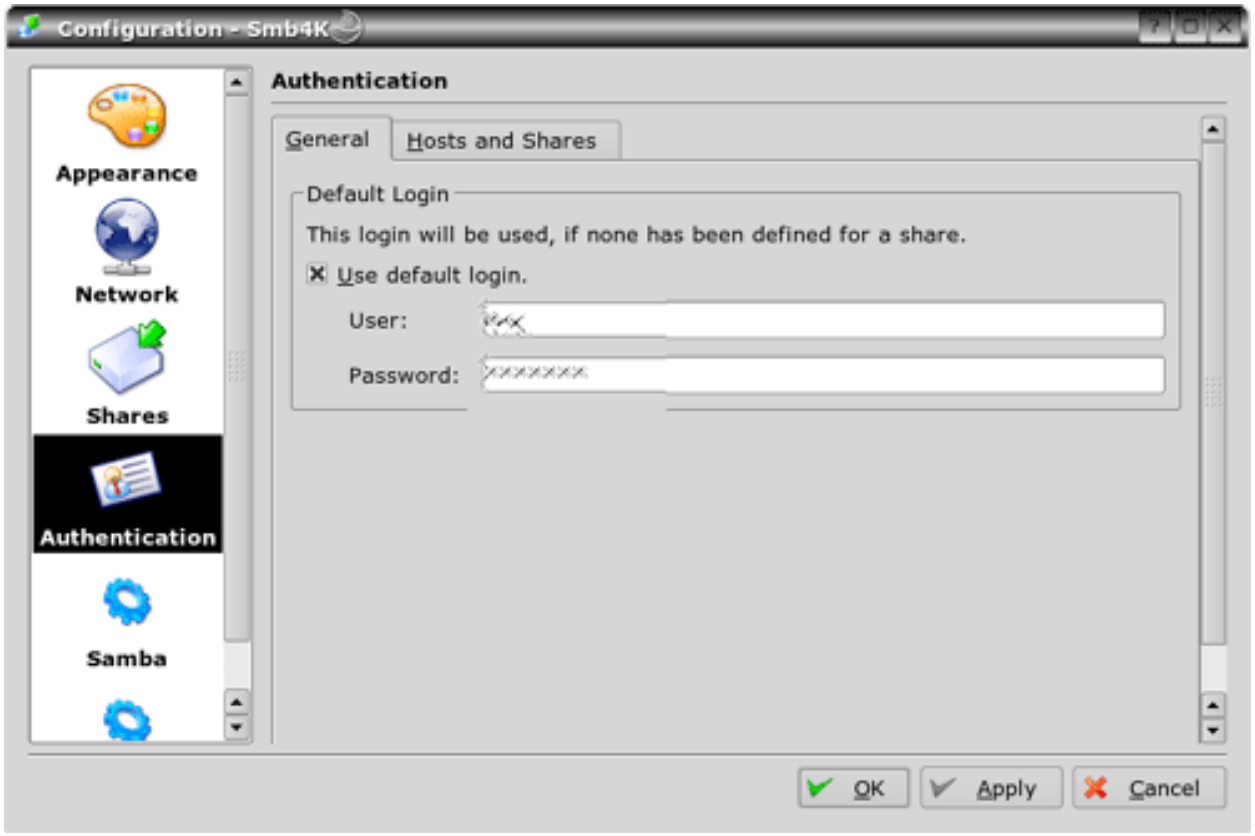
Shouldn't need to change anything here.



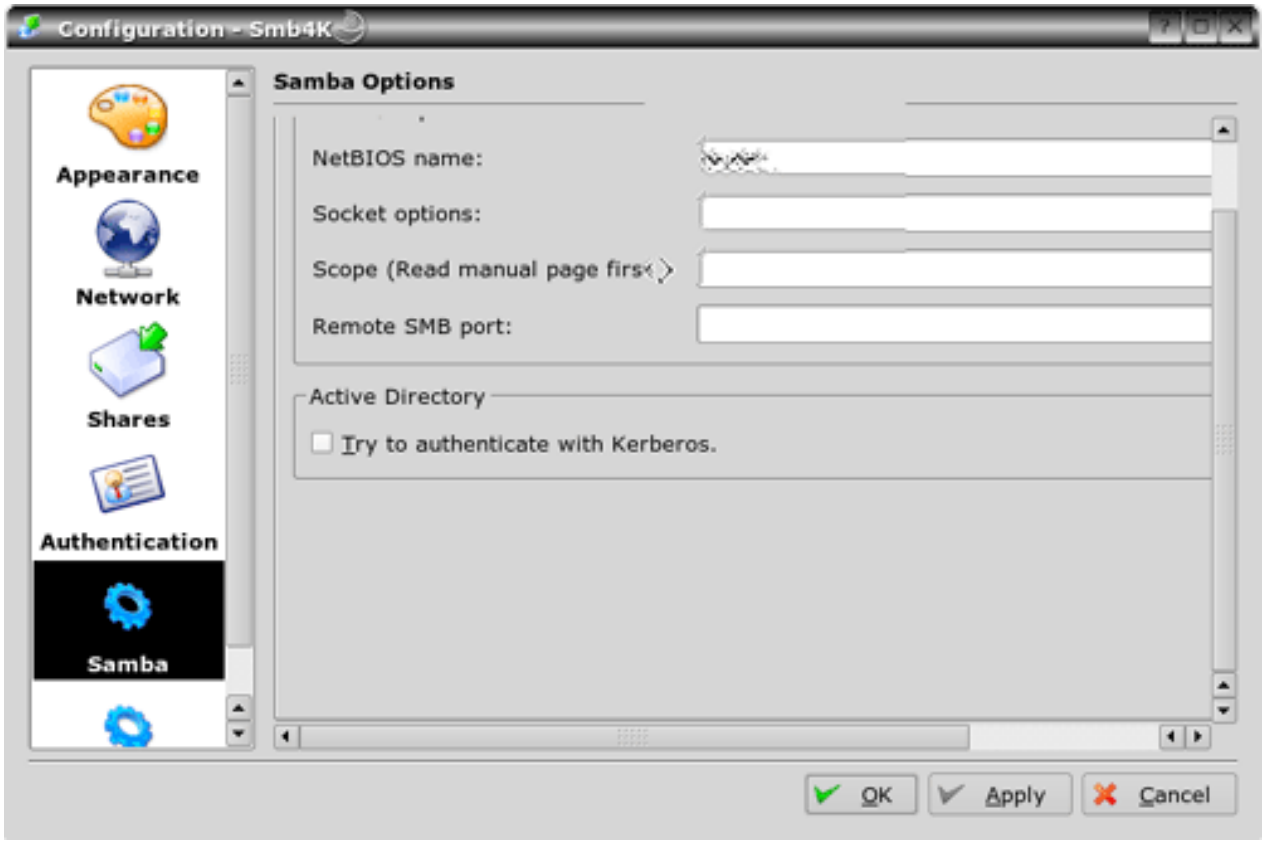
Shouldn't need to change anything here.



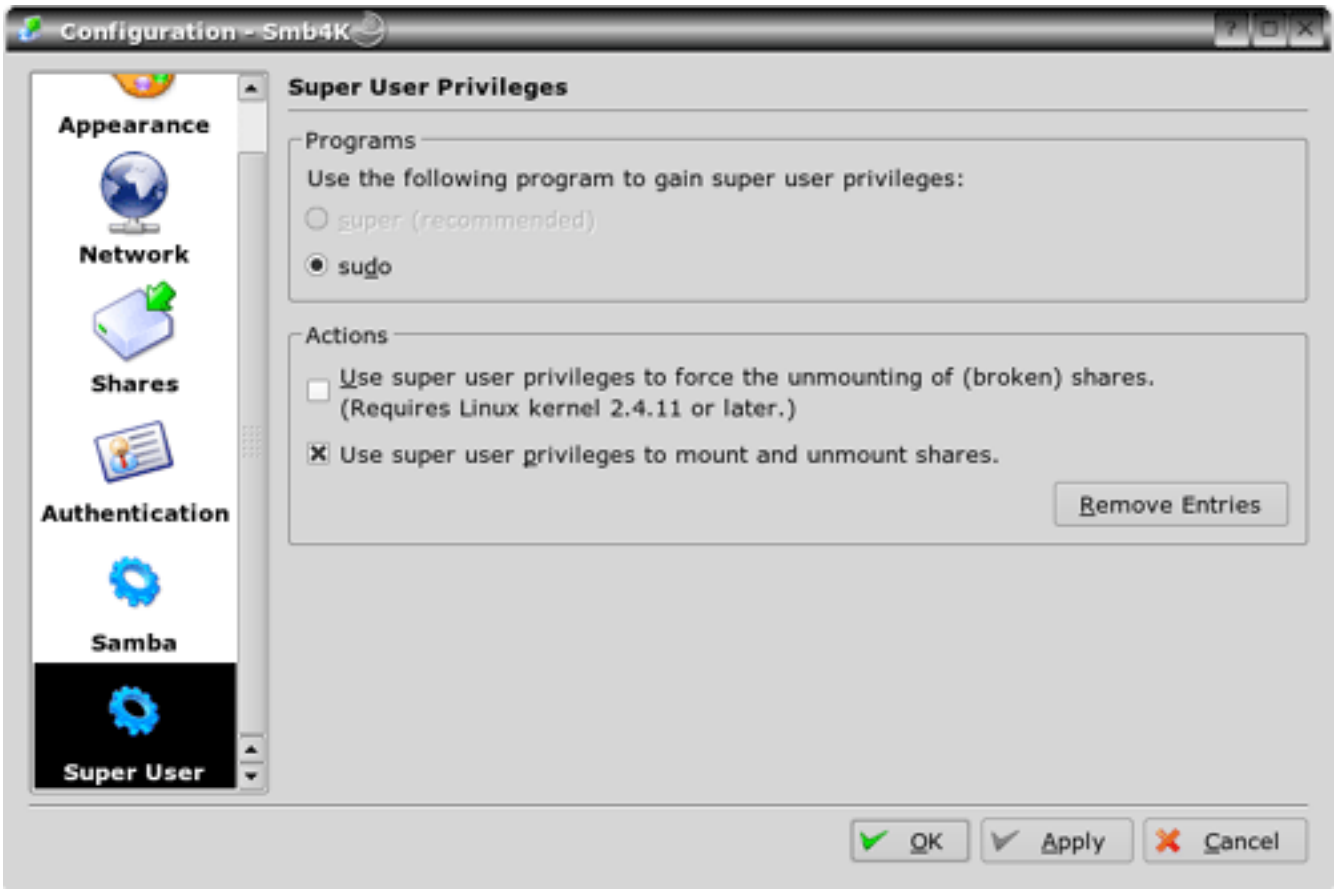
User and password should be EXACTLY same as it is on the Windows box.



Should already be set.



Optional.


Configuration - Smb4K
Appearance
Network
Shares
Authentication
Samba
Super User
Super User Privileges
Programs
Use the following program to gain super user privileges:
super (recommended)
sudo
Actions
Use super user privileges to force the unmounting of (broken) shares.
(Requires Linux kernel 2.4.11 or later.)
Use super user privileges to mount and unmount shares.
Remove Entries
OK
Apply
Cancel

Sources & Links

Questions? The place to go is the Suse Linux Forums. The most important page there? The SEARCH page.
Suse Linux Forums search for "samba" in titles only.

SuSE Samba How To - Animated guide.
See also http://itsyourpc.org/Tutorials/Samba_Printer/shared_printer.html from the same author.

Dumb Question: How to use SMB without turning off the firewall

Suse Linux 9.3 Documentation - Admin and user PDF's.

Official Samba Documentation

Samba Setup Guide for Linux

Samba Configuration - Linux/Windows Connectivity

[Samba] Mini Samba-SuSE Firewall2 HOWTO

Problems accessing shares? You need to have the appropriate permissions:
Getting to Know Linux Security: File Permissions

Samba Setup Guide for Linux (Share Parameters)

Nice guides on Linux file permissions at University of Wisconsin (other good guides there too):
File Permissions Overview
Applications of File Permissions