Quick and Easy NAS Using FreeNAS

NetAdmin Tools.com

FreeNAS is a very compact and free (as in BSD) CIFS, NFS, and FTP server with RAID 0, 1, 5 support, and a web administration GUI. Believe it or not the whole install is 16 megs. To install, grab the ISO image, burn it to a CD, and boot from it:

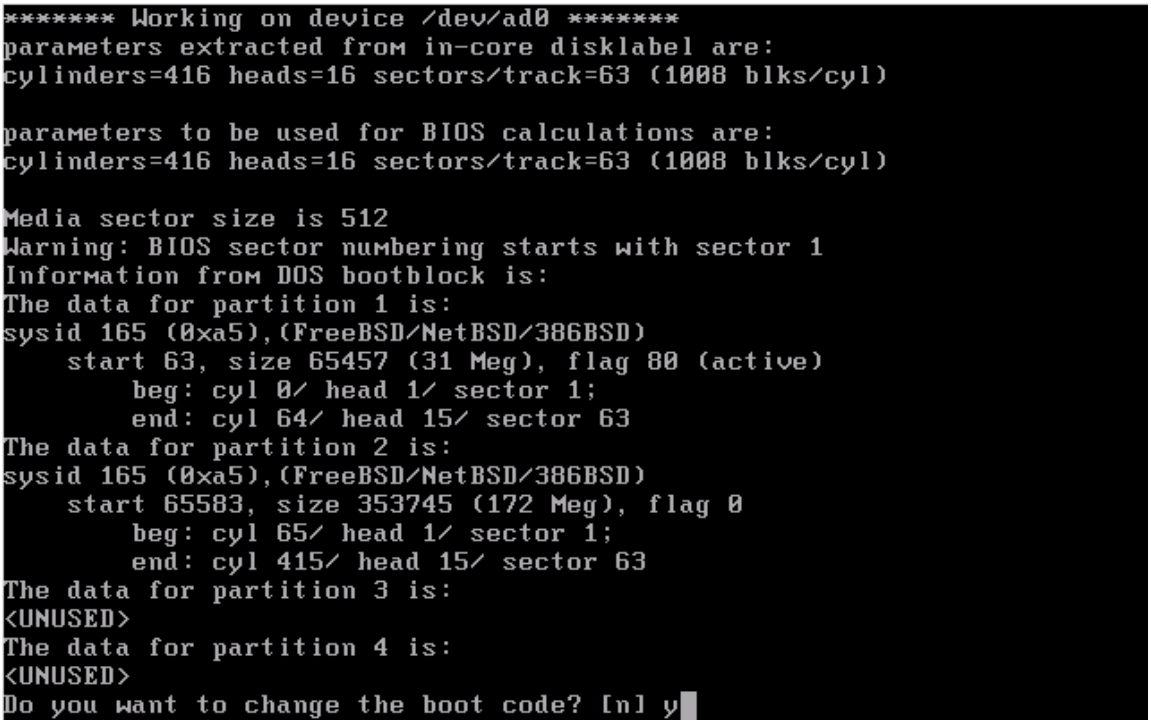
Install to your HDD using option 7. We also used the option 2 for the install so that we create 2 UFS partitions. Make sure you can delete all of the information on your hard disk or any other data device hooked up to your system, since this procedure will mess with your boot partitions and records, as well as install an operating system. Enter the detected CDROM device:

```
7) Install on HD/CF/USB Key
8) Shell

Enter a number: 7


FreeNAS Install
***********************
1) Install on HD, CF or USB key: Create 1 UFS partition
2) Install on HD: Create 2 UFS partitions (FreeNAS and DATA)
3) Return to main menu

Enter a number: 2
Install FreeNAS on small partition 1 and create partition 2 for DATA

WARNING: It will erase ALL your partitions and data on the destination
e!

WARNING: You can't install FreeNAS if it's allready installed (Use upgr
Web GUI)

Here is the list of detected CDROM:
acd0 (desc: VMware Virtual IDE CDROM Drive/00000001)

Enter the name of the CD-ROM drive:
```

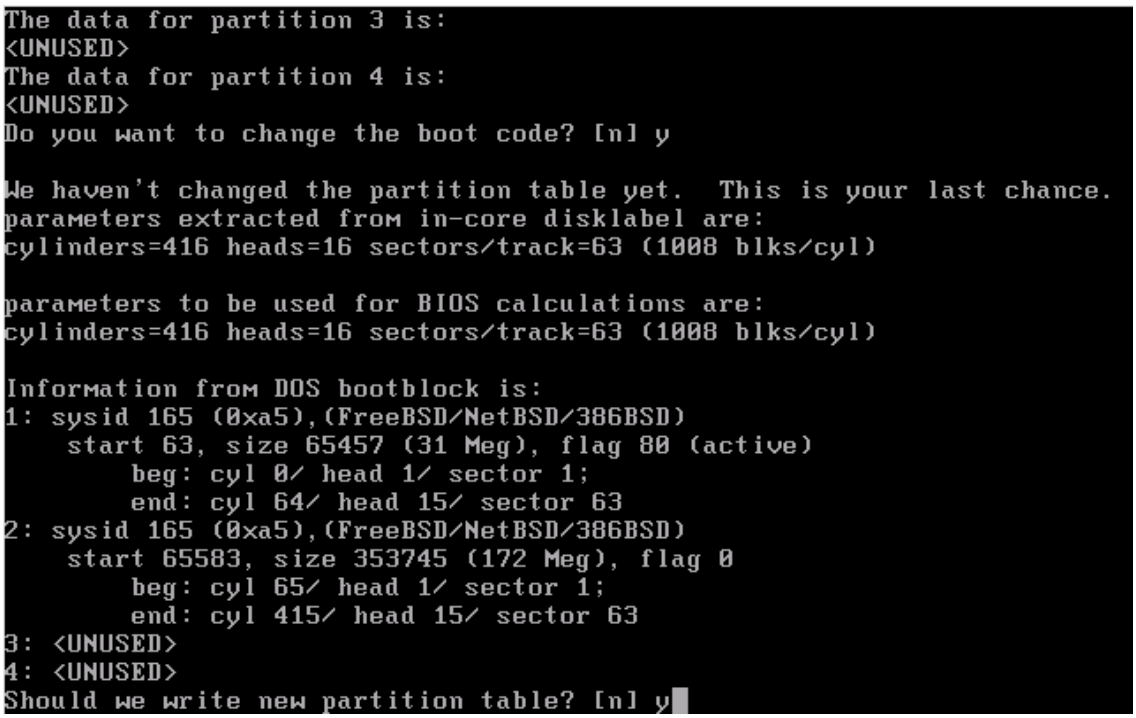
Enter the device name of the hard drive:

```
***********************
1) Install on HD, CF or USB key: Create 1 UFS partition
2) Install on HD: Create 2 UFS partitions (FreeNAS and DATA)
3) Return to main menu

Enter a number: 2
Install FreeNAS on small partition 1 and create partition 2 for DATA

WARNING: It will erase ALL your partitions and data on the destination
e!

WARNING: You can't install FreeNAS if it's allready installed (Use upgr
Web GUI)

Here is the list of detected CDROM:
acd0 (desc: VMware Virtual IDE CDROM Drive/00000001)

Enter the name of the CD-ROM drive: acd0
Here is the list of detected disk:
ad0 (desc: VMware Virtual IDE Hard Drive/00000001)

Enter the name of the Hard Drive: ad0
Answer by "y" to the 2 next questions:
(press a key to continue)
```

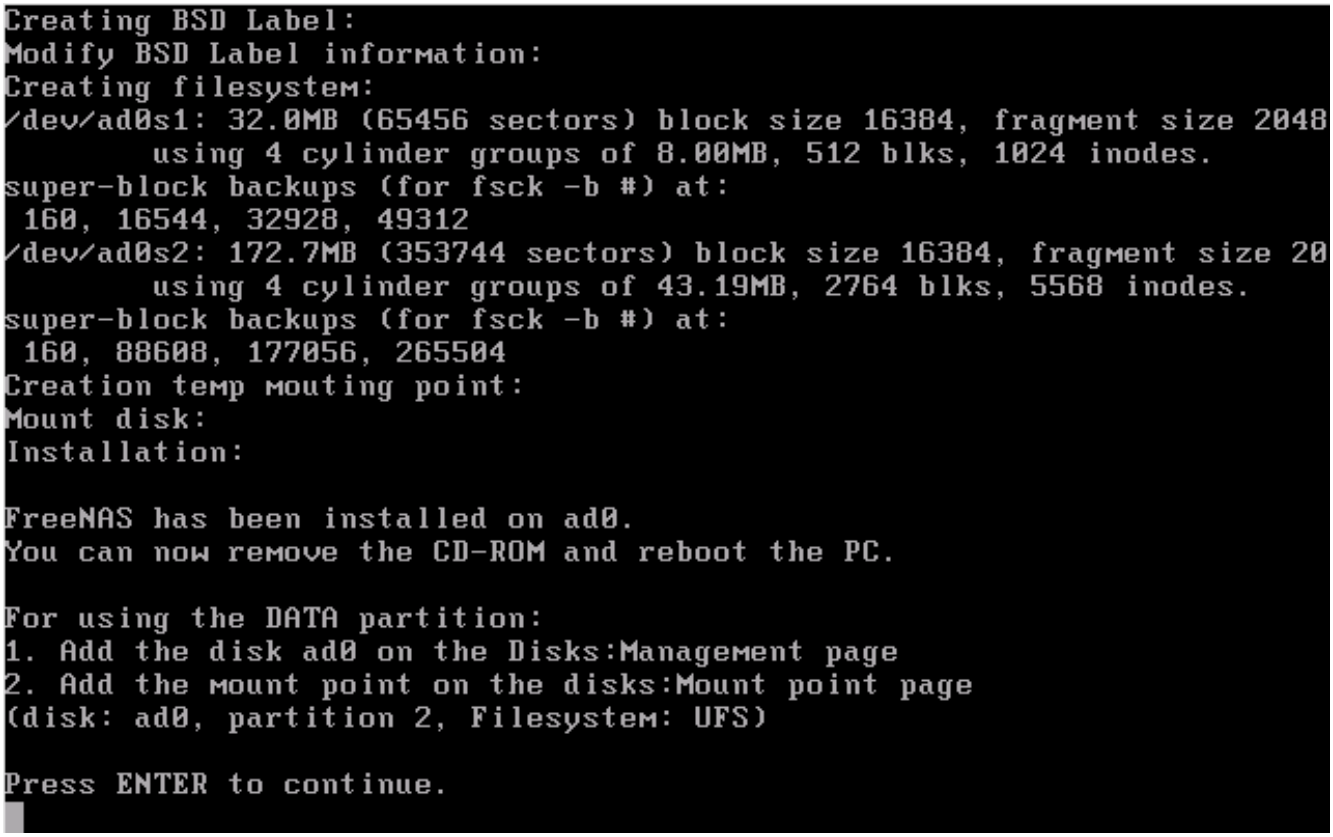
Now, there is a somewhat unhelpful line that says to answer "y" to the next two questions after pressing a key to continue. Well, for us, the only key that moved forward was return. Here is the first question to answer "y" to, but be very careful about continuing, as this is messing around with your partitions and boot records:



Here is the second question that you answer "y" to if you are very confident you don't have any devices you want the data on hooked up to this system:



Now, perhaps you are familiar with the data device names here, and perhaps you trust this installer as well. We aren't, and don't. Not that this isn't a really cool project, it is simply that we wouldn't install this on a system hoping we could be selective about the device. If you are tempted, be careful, OK? The OS is installed now:

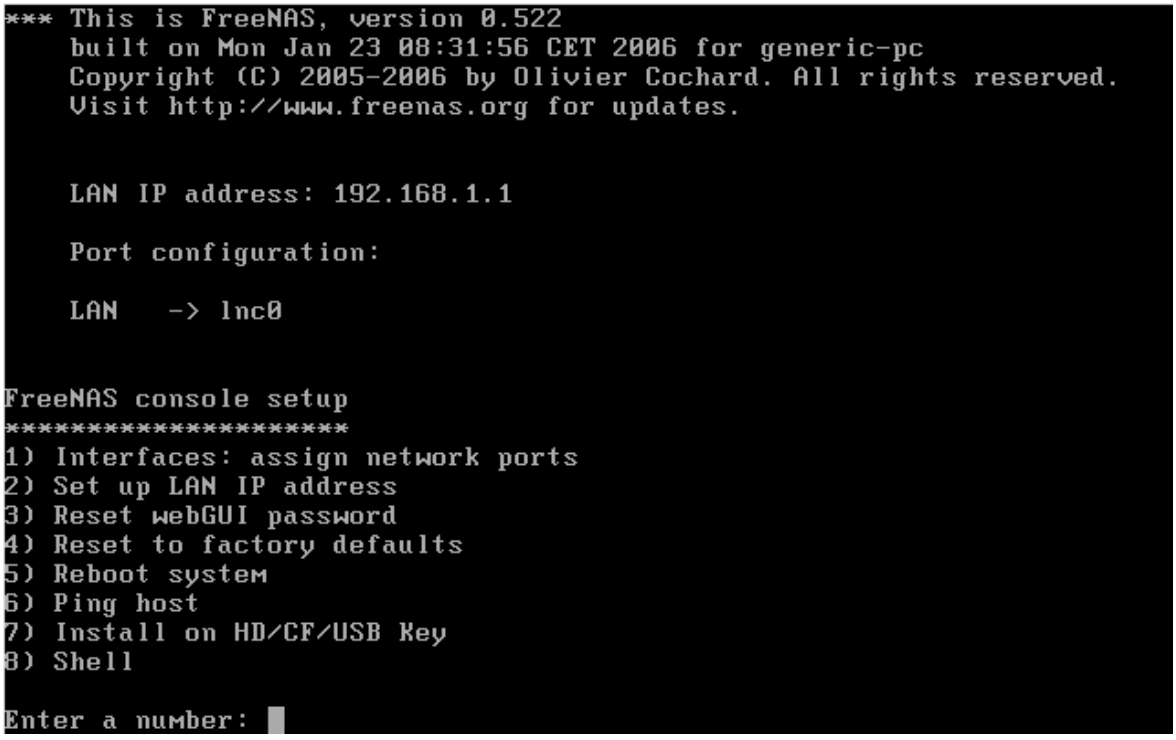


Return to the main menu and reboot:

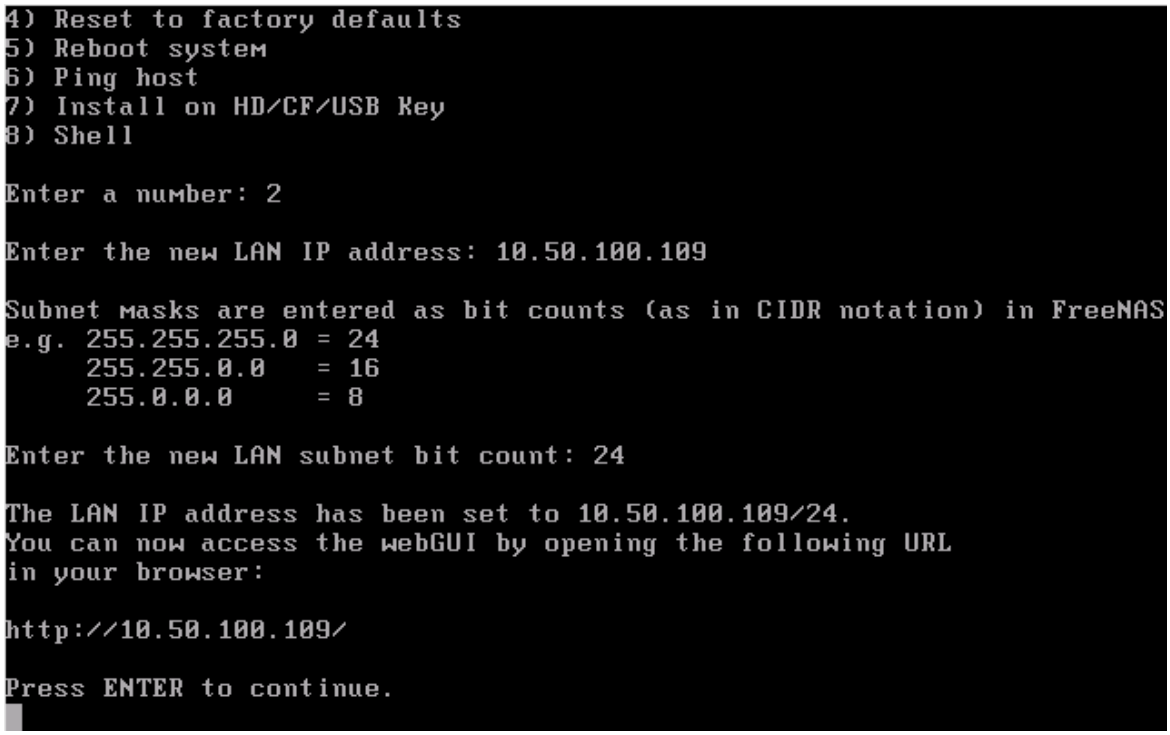
```
Press ENTER to continue.



FreeNAS Install
***********************
1) Install on HD, CF or USB key: Create 1 UFS partition
2) Install on HD: Create 2 UFS partitions (FreeNAS and DATA)
3) Return to main menu

Enter a number: 3


FreeNAS console setup
***********************
1) Interfaces: assign network ports
2) Set up LAN IP address
3) Reset webGUI password
4) Reset to factory defaults
5) Reboot system
6) Ping host
7) Install on HD/CF/USB Key
8) Shell

Enter a number: 5
usb0: <Intel 82371AB/EB (PIIX4) USB controller> on uhci0
usb0: USB revision 1.0
uhub0: Intel UHCI root hub, class 9/0, rev 1.00/1.00, addr 1
uhub0: 2 ports with 2 removable, self powered
pci0: <bridge> at device 7.3 (no driver attached)
pci0: <display, VGA> at device 15.0 (no driver attached)
lnc0: <PCNet/PCI Ethernet adapter> port 0x1080-0x10ff irq 17 at device
ci0
lnc0: Attaching PCNet/PCI Ethernet adapter
lnc0: [GIANT-LOCKED]
lnc0: Ethernet address: 00:0c:29:92:af:86
lnc0: if_start running deferred for Giant
lnc0: PCnet-PCI
pci0: <multimedia, audio> at device 17.0 (no driver attached)
atkbdc0: <Keyboard controller (i8042)> port 0x60,0x64 irq 1 on acpi0
atkbd0: <AT Keyboard> flags 0x1 irq 1 on atkbdc0
kbd0 at atkbd0
atkbd0: [GIANT-LOCKED]
sio0: <16550A-compatible COM port> port 0x3f8-0x3ff irq 4 flags 0x10 on
sio0: type 16550A, console
sio1: <16550A-compatible COM port> port 0x2f8-0x2ff irq 3 on acpi0
sio1: type 16550A
fdc0: <floppy drive controller> port 0x3f0-0x3f5,0x3f7 irq 6 drq 2 on a
fdc0: [FAST]
```

When the system comes up, choose option 1 to select the network interface:

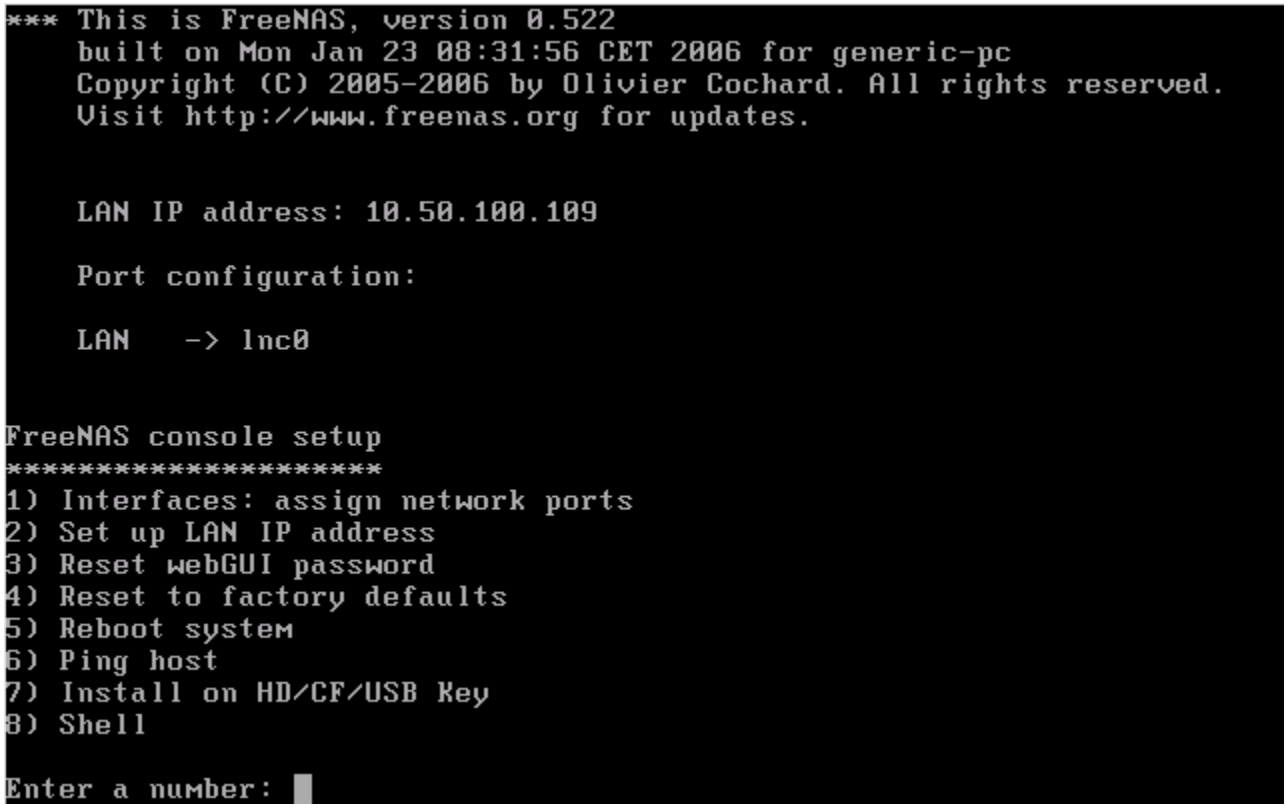
When the system comes back up, it should list the correct interface, as well as the default LAN IP address:



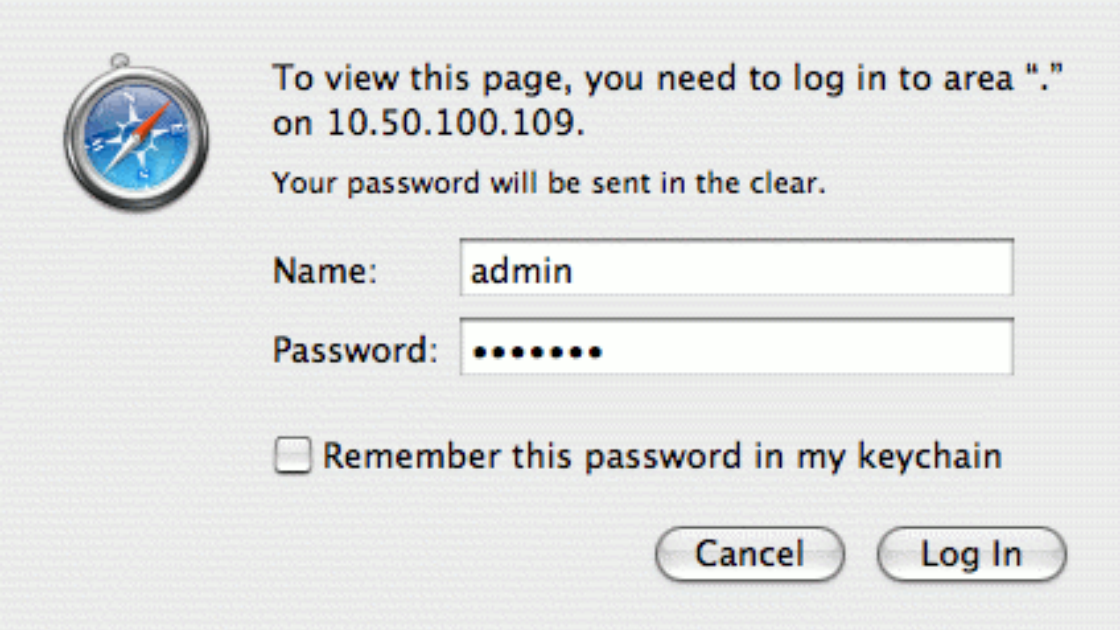
Choose option 2 to set the LAN IP address and subnet mask:



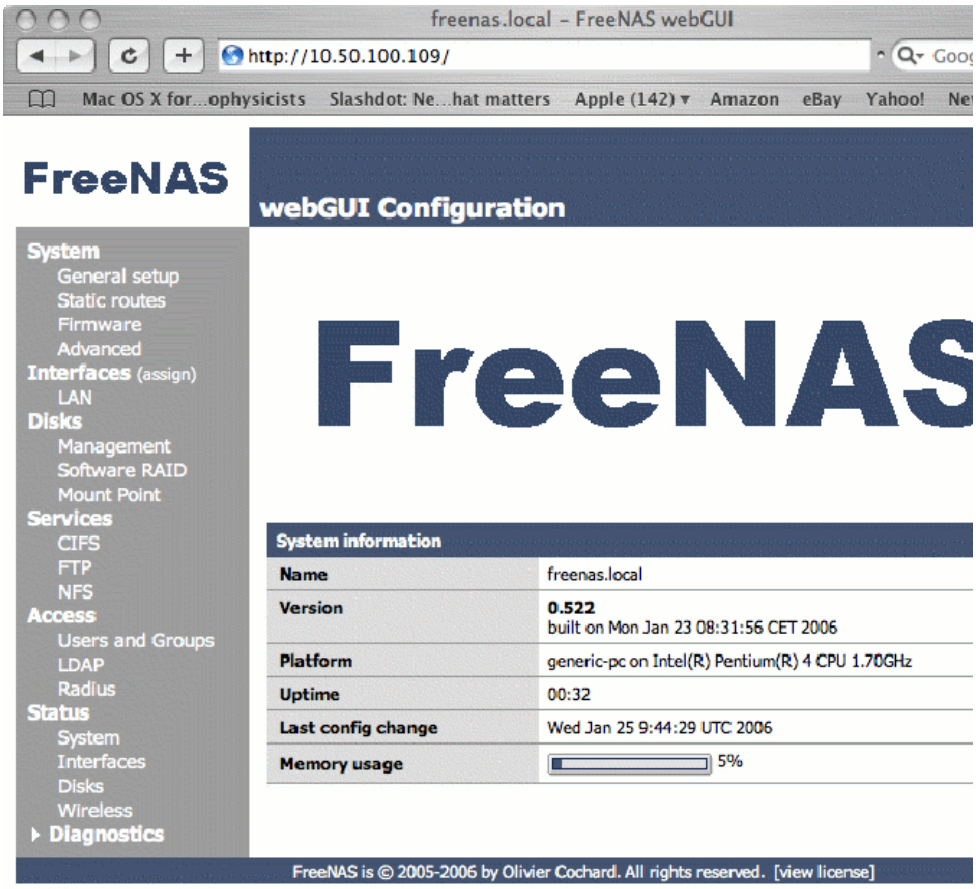
Reboot again to make sure that the correct address and interface shows up on reboot:



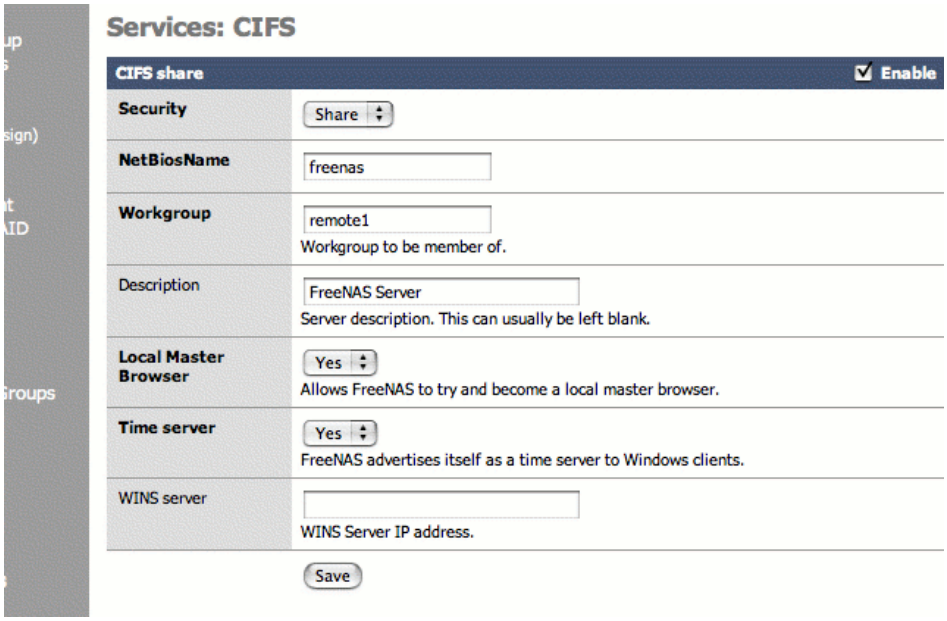
Log on as admin with a default password of freenas:



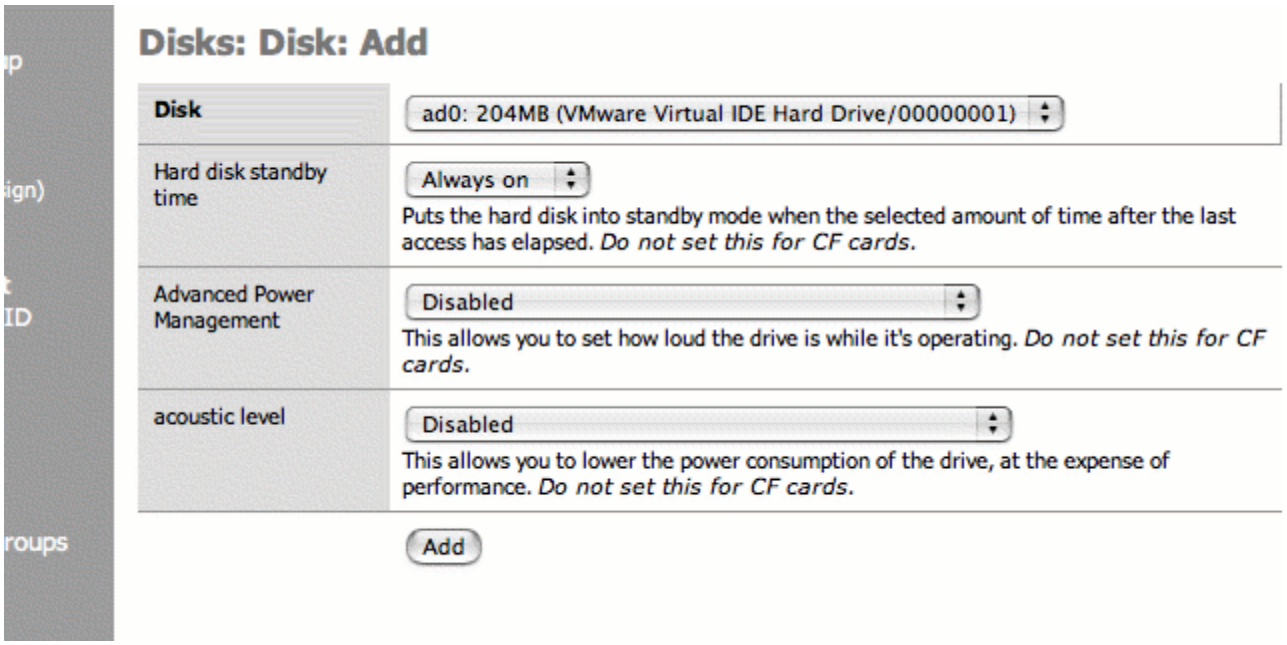
Change the password, of course. Here is what the web GUI looks like:



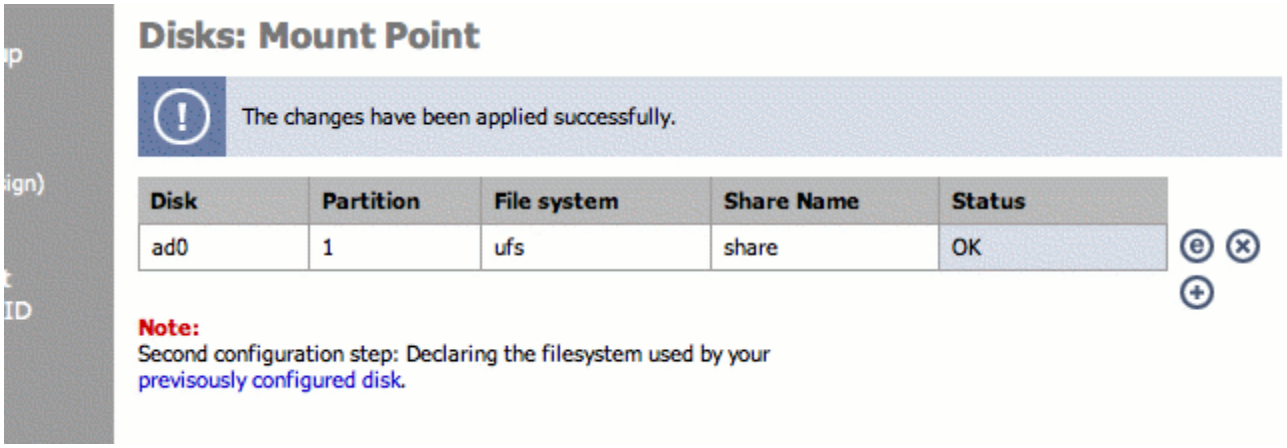
To test this, we are going to set up CIFS and create a share off of a disk device. First off, we will configure CIFS, and change the workgroup to something different (remote1 in this example). Make sure the checkbox is enabled, and click save. If you have a WINS server (or equivalent), fill out the IP address for the WINS server you want the NAS server to announce itself to:



Add a disk drive:



Create a share:



To test the CIFS share, we will upload a file with smbclient from a GNU/Linux box:

```
[usr-1@srv-1 ~]$ smbclient \\\\10.50.100.109\\share
Password:
Domain=[REMOTE1] OS=[Unix] Server=[Samba 3.0.20b]
smb: \> dir
.                           D        0  Wed Jan 25 05:50:12 2006
..                          D        0  Wed Jan 25 05:50:12 2006
38062 blocks of size 512. 1546 blocks available
smb: \> put test.txt
```

```
putting file test.txt as \test.txt (1.7 kb/s) (average 1.7 kb/s)
smb: \> dir
.                                   D        0  Wed Jan 25 05:56:38 2006
..                                  D        0  Wed Jan 25 05:50:12 2006
test.txt                            A       25  Wed Jan 25 05:56:35 2006
38062 blocks of size 512. 1530 blocks available
smb: \>
```

Easy enough. Let's map a drive from a Windows box and see if we can read the file:

```
C:\Documents and Settings\Administrator>net use w: \\10.50.100.109\share
The command completed successfully.
C:\Documents and Settings\Administrator>dir w:
Volume in drive W is share
Volume Serial Number is ABC4-04E7
Directory of W:\
01/25/2006  02:56a      <DIR>          .
01/25/2006  02:50a      <DIR>          ..
01/25/2006  02:56a                  25 test.txt
1 File(s)             25 bytes
2 Dir(s)        781,312 bytes free
C:\Documents and Settings\Administrator>type w:\test.txt
this is a test for samba
C:\Documents and Settings\Administrator>
```

OK. All seems happy. For more details on configuration, see this instruction guide. We are quite excited about this being so quick and easy to install. It provides a way for users access to their files in a recovery situation. The security is pretty bad on this system right now; however, user security is planned for future releases of FreeNAS. Also, since FreeNAS supports USB memory devices, and is so small, it could be used as a quick source for portable document storage that needs to be shared.