

Novell eDirectory on Linux

Lab Guide

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The intent of this lab guide is to help you quickly establish a test lab deployment of Novell eDirectory on the Linux operating system. Specifically, it will walk you through the setup of Novell eDirectory 8.7.1 on SuSE Linux Enterprise Server 8.2. While the processes described in this document can be followed using different Linux distributions and Novell software versions, for best results, we recommend using the same software and versions noted in this guide.

To obtain copies of Novell eDirectory 8.7.1 and Novell iManager, go to <http://download.novell.com>. An evaluation license for eDirectory can be obtained from <http://www.novell.com/licensing/eld/LRequest.jsp?ENCRYPTION=EVAL>. The SuSE Linux distribution can be downloaded from www.suse.com, or purchased through most major software retailers. You'll also need an LDIF file, which you will use to import sample directory objects, and a schema file, which you will use to extend the eDirectory schema. Both files can be downloaded from <http://www.novell.com/cool solutions/tools/1791.html>.

Part I: Installing SuSE

SuSE Linux Installation Requirements

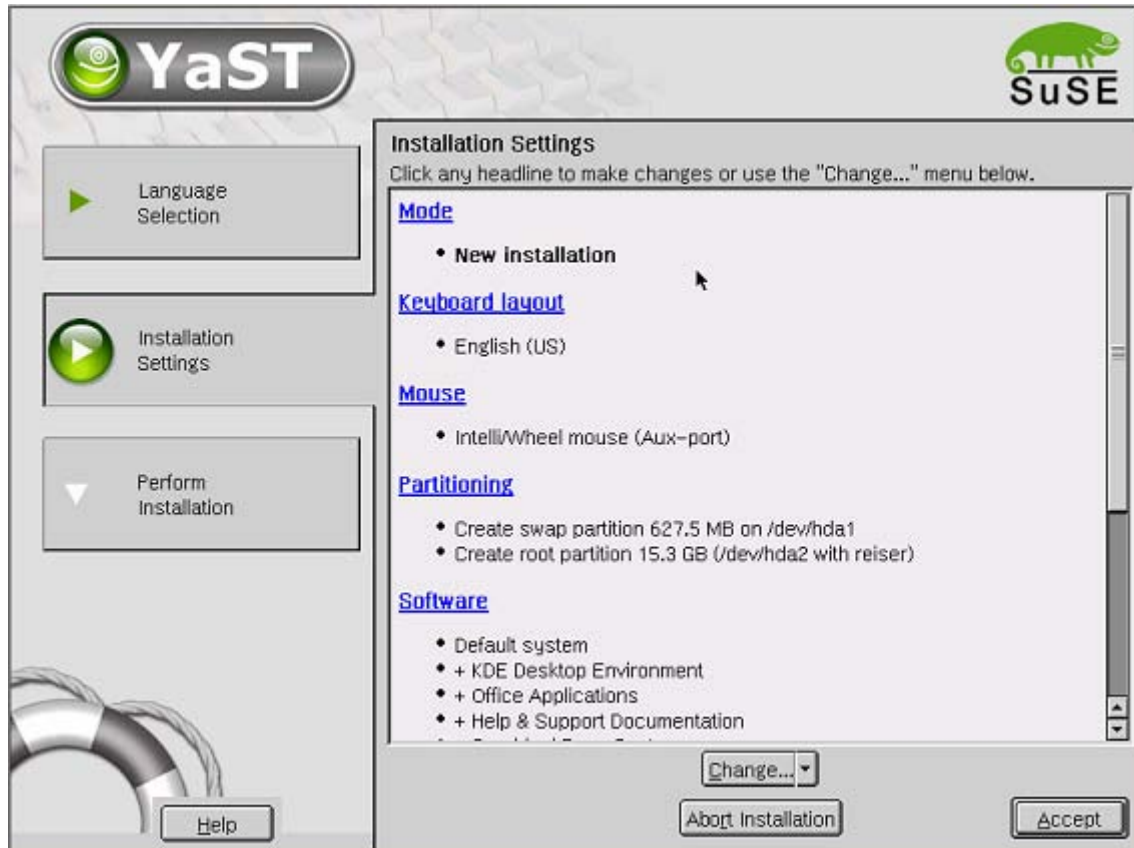
Processor	Hard Disk	Memory
• Intel: Celeron, Pentium to Pentium 4	2 GB Minimum	128 MB Minimum

Installation

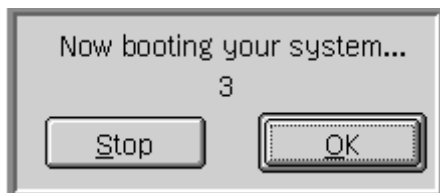
1. Insert the SuSE CD into your CD-ROM /DVD drive and reboot your system. Make sure the CD-ROM is bootable.
2. After the system boots from CD-ROM, it will display the installation method screen. Use the Up and Down arrow keys to choose an installation option, then press Enter.



3. When prompted to read and accept the End User License Agreement, click Accept.
4. When prompted to choose the language you want to use, select English, then click Accept to continue.
5. YaST displays a summary of the components you chose and the packages that will be installed.

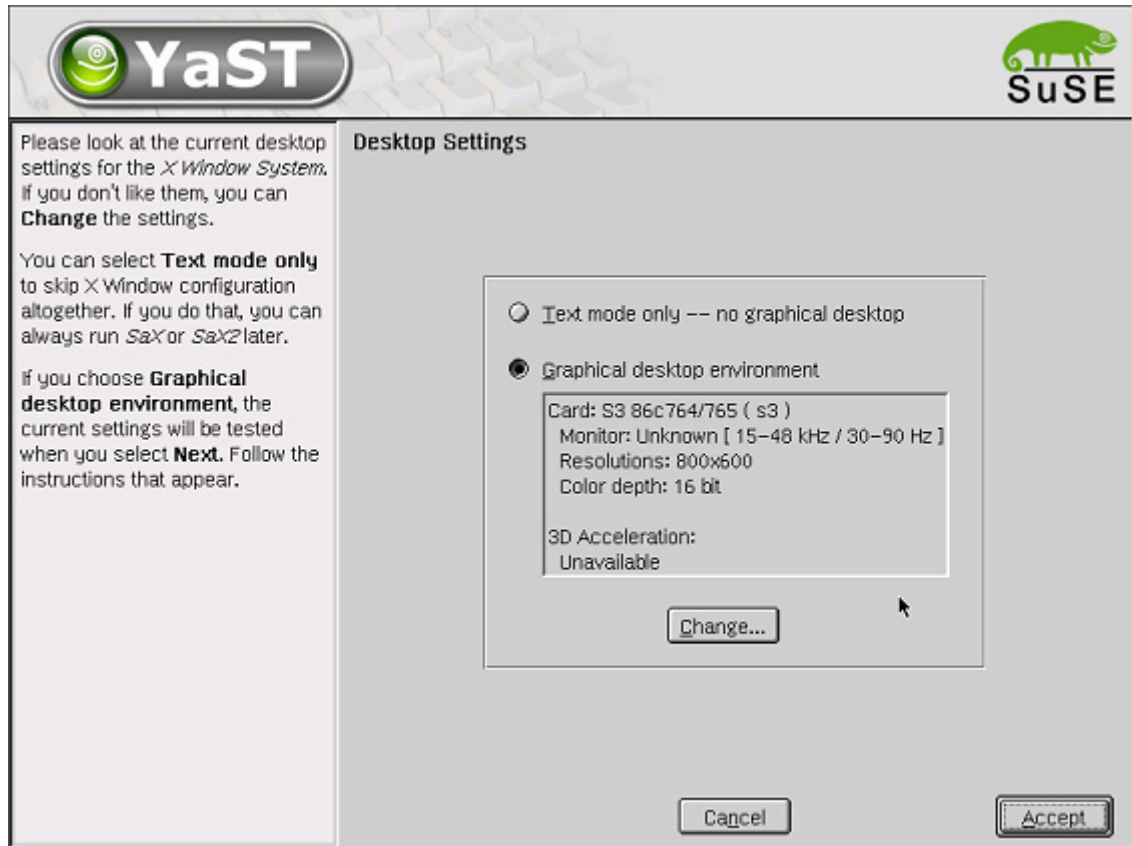


6. Choose your time zone:
 - a. Scroll down to and click the “Time Zone” link. This will let you choose your time zone.
 - b. Scroll down to and highlight your time zone (for example, US/Mountain), click “Hardware Set Clock to,” then change the clock to your local time.
 - c. Click Accept.
7. Click Accept again for the installation to proceed.
8. Once the installation has finished, YaST will attempt to boot your system.



9. Once you are in your new system, you will be prompted to enter a password for the root user. Do not forget or lose this password.
10. Enter your first and last name, then choose a username and password for yourself.

11. When the Desktop Setting screen is displayed, leave these settings as the default, then click Accept.



12. You will be prompted to detect network printers. Click “Skip Detection” and continue with the installation.
13. On the installation setup confirmation screen, click Next to continue.
14. The installation is now complete and you can log in to the system. Select your username from the choice on the screen and type in your password. You’ll then be logged into SuSE Linux.

Part II: Configuring the Ximian Desktop

You should install the Ximian Linux Desktop, as it will help with future updates, installs, and configuration changes. You won’t be installing the full version of Ximian; you will install a trial version. To order the full version of the Ximian Desktop, see <https://store.ximian.com/>.

1. Open a terminal window by clicking the following icon, located at the bottom of the screen on the menu bar:



2. Change to the root user. Notice that the prompt will change so that the # sign is shown. You are now the root user.

```
dante@linux:~$ su
Password:
```

3. Enter the following command, or cut and paste the command into your terminal:

```
wget -q -O - http://go.ximian.com |sh
```

Note: The | character above is the "pipe" symbol, obtained by pressing SHIFT-\ on most keyboards.

4. Follow the onscreen prompts until you get to the Ximian Installer screen.



5. Select "Ximian Mirror Site," then click Forward.
6. If you're using an HTTP proxy, enter it at this point. Otherwise, click Forward again, enter your update registration information, then click Forward.

7. Select the closest download mirror to your location, then click Forward, after which the installer will detect your distribution. Click Forward again.
8. Select “Ximian Desktop 2,” then click Forward.
9. On the Component Selection screen, click Forward.
10. The installer will show any software dependencies that must be installed. Click Forward to proceed.
11. The Ximian Installer will now finish installing the packages on your system. After the installation is finished, click Close, then reboot your system.



Part III: IP Configuration

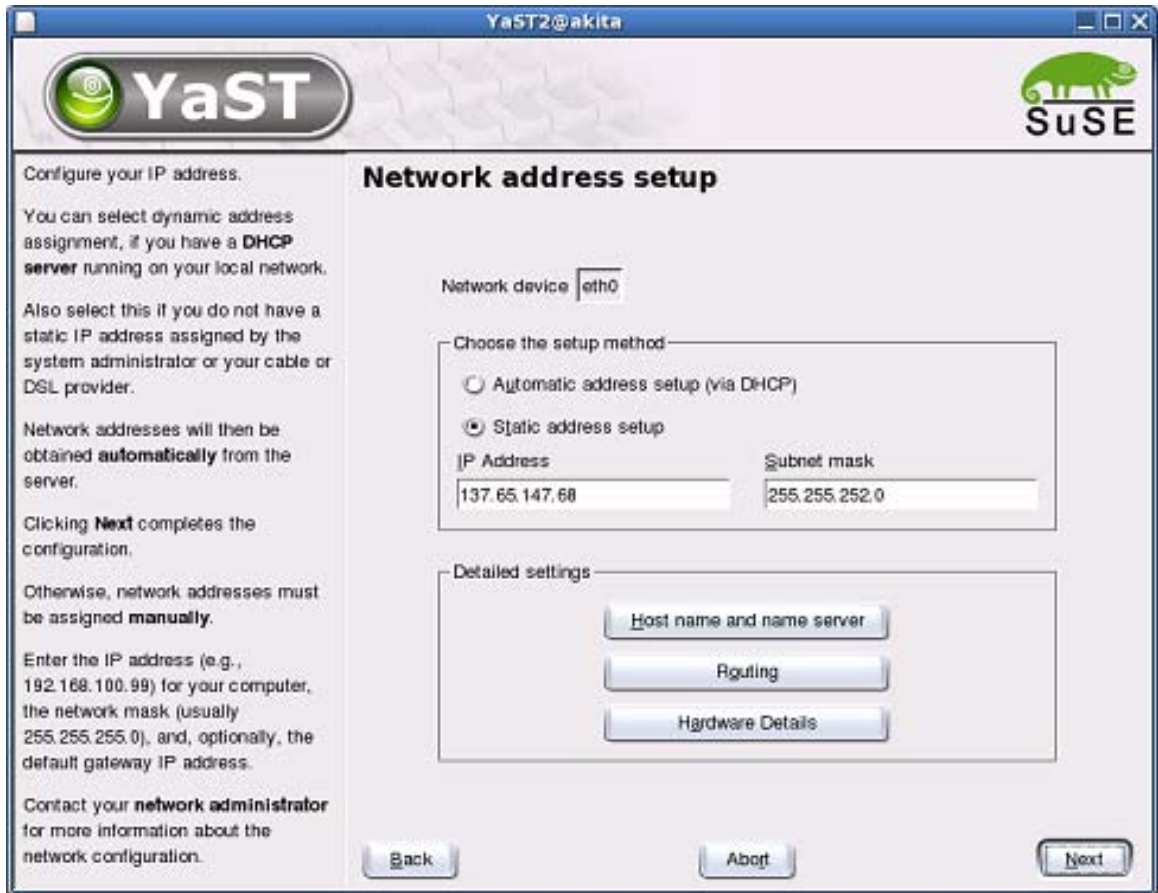
In this section, you will learn how to set up your server so that one of the network cards has a static IP address. The other card will serve as a DHCP server. This process is fairly simple with SuSE Linux. If you already have a static IP address available for your use (assigned to you by your network administrator), substitute it for the sample address given in this section.

1. On your menu bar, click System, then click Administrator Settings on the drop-down menu.

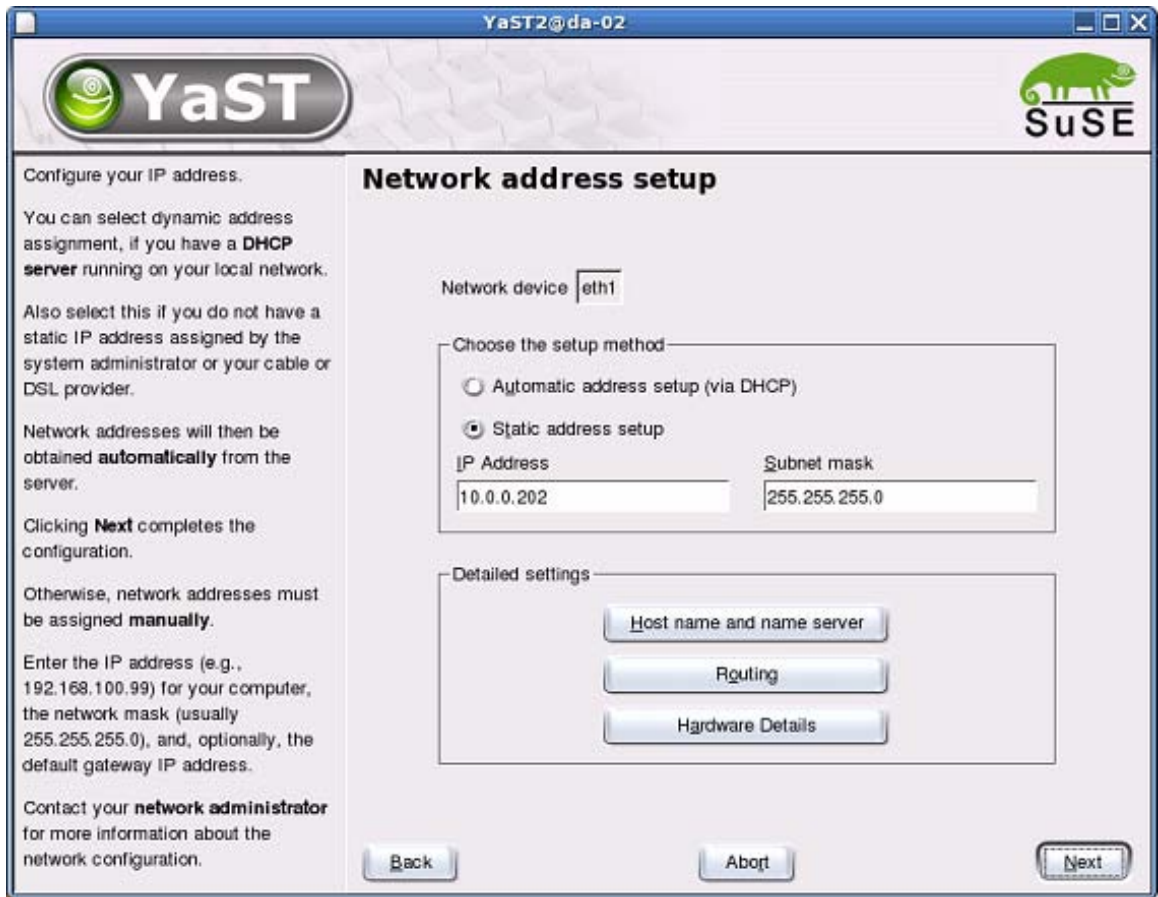
2. Enter the administrator password, then press Enter.
3. In the YaST Control Center, click Network Devices (on the left hand side), then click “Network card.”



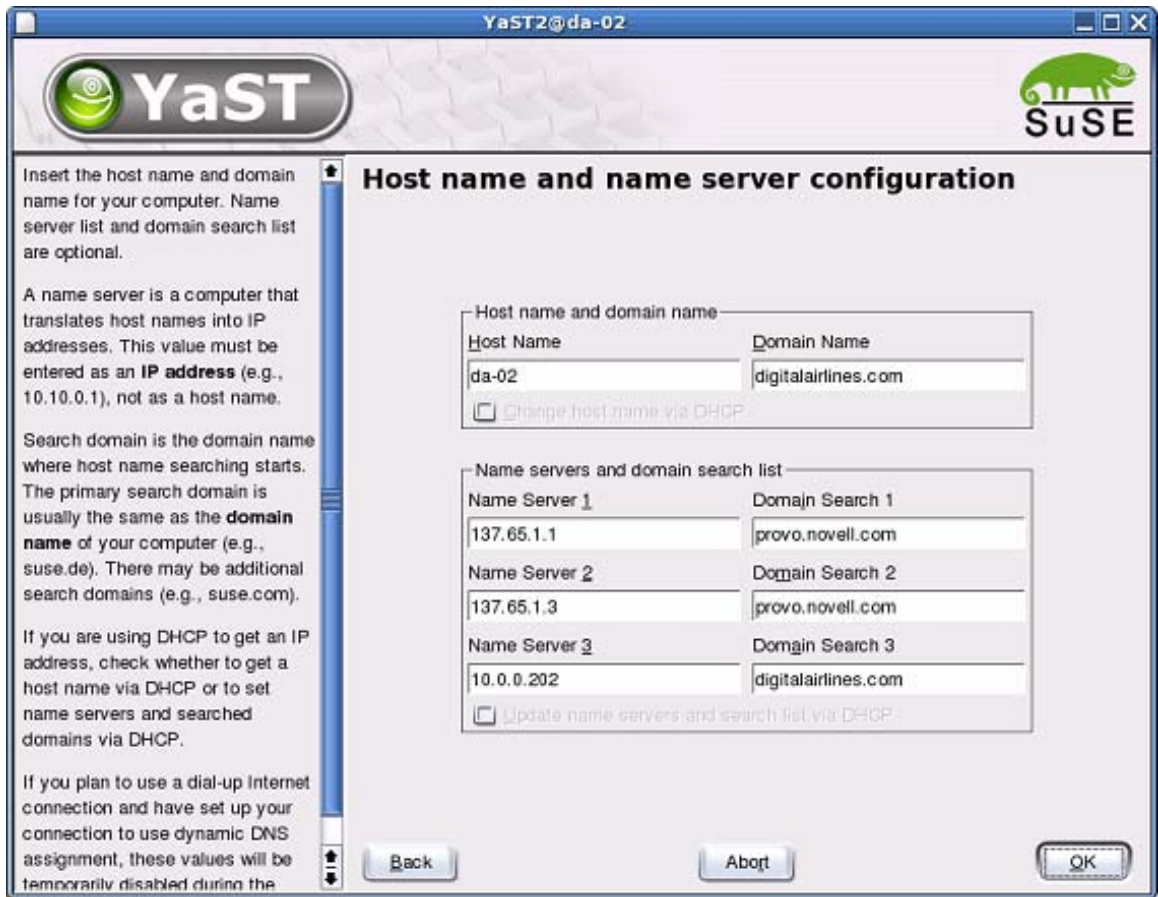
4. Click “Change...” near the bottom of the Network Cards configuration screen, then click Edit.
5. Click “eth0,” click Edit, click “Static address setup,” then enter the IP address and Subnet mask that has been assigned to you.



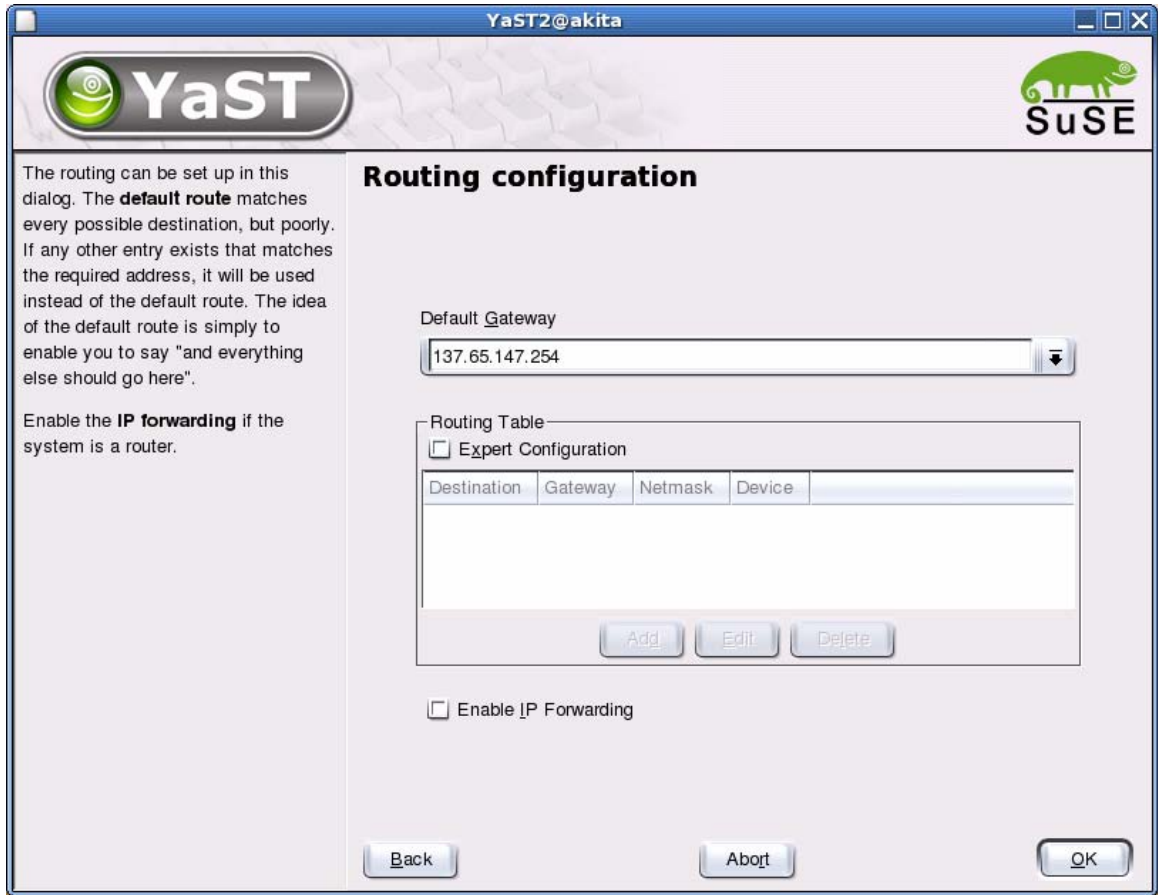
6. Click Next, click the line that says “eth1,” then click Edit.
7. Click “Static address setup” again, and enter 10.0.0.202 for the IP address and 255.255.255.0 for the Subnet mask.



8. Click “Host name and name server,” then click Modify in the dialog box that appears.
 - a. Enter your Host Name, Domain Name, and name server information. For the Host Name, use da02. For the domain name, use digitalairlines.com.
 - b. Enter the primary and secondary name servers you were provided with.
 - c. Enter 10.0.0.202 and digitalairlines.com for the tertiary name server.
 - d. Click OK to continue.



9. Finally, select Routing, enter the Default Gateway address that you were assigned, then click OK.



10. Click Next at the bottom of the screen, then click Finish.

The Static IP configuration is now complete.

Part IV: Installing eDirectory

eDirectory Installation Server Requirements

Objects	Processor	Memory	Hard Disk
100K	Pentium III 450-700 MHz (Single)	384 MB	144 MB
1 Million	Pentium III 450-700 MHz (Dual)	2 GB	1.5 GB
10 Million	Pentium III 450-700 MHz (2-4)	2 GB+	15 GB

eDirectory Installation

Make sure that you have the eDirectory license file available on either a floppy disk or on the hard drive itself. The easiest thing to do is to place the license file in the installation directory located at `Linux/setup/`. To request an eDirectory evaluation license, see <http://www.novell.com/licensing/eld/LRequest.jsp?ENCRYPTION=EVAL>.

Depending on which method you are using to install eDirectory, the way you invoke the installation script will be slightly different.

If you are using the installation CD, you need to mount the CD. This can be done simply by entering `mount /media/dvd` or `mount /media/cdrom` at a system prompt, depending on whether you have a DVD or CDROM drive.

1. Open a terminal window by right-clicking the screen and selecting the “New Terminal” option from the drop-down menu.
2. Enter `su` at the command prompt to change to the root user, then enter the password for the root user. Notice that the prompt will change so that the # sign is shown. This indicates that you are the root user.
3. Go to the directory of the setup script by entering `cd media/cdrom/Linux/setup/` or `cd media/dvd/Linux/setup/` at the command prompt.
4. Enter `./nds-install` at the command prompt to run the install script.

If you downloaded the tarball, you need to unzip and untar the file before you run the install script.

1. Open a terminal window by right-clicking the screen and selecting the “New Terminal” option from the drop-down menu.
2. Enter `su` at the command prompt to change to the root user, then enter the password for the root user. Notice that the prompt will change so that the # sign is shown. This indicates that you are the root user.

```
dante@da-02: ~> su
Password:
da-02: /home/dante # █
```

3. Use `tar zxvf <filename>` to untar the program.

```
da-02:/home/dante # tar zxvf eDir_871_linux_full.tar.gz █
```

4. Go to the setup script directory, then enter **./nds-install** to run the install script.

```
da-02:/home/dante/Linux/setup # ./nds-install
```

5. After the introduction screen finishes scrolling down the screen, press Enter to continue.
6. You are prompted to read the License Agreement. You can use the spacebar to scroll through it a page at a time. Once you reach the end of the agreement, you can choose to accept it (y), not accept it (n), or quite the installation (q).

```
|%% Do you accept the terms of the Novell eDirectory (8.7.1) license agreement '[y/n/q] ? 'y
```

7. Enter **1,2**, then press Enter to select the eDirectory Server installation.
8. If you have already placed the license file in the setup directory, the install script will continue unimpeded. Otherwise, the install will prompt you for the location of the file.
9. The setup will automatically install the necessary RPMs, then exit. Read the readme.txt file located in the Linux/ directory (located one directory above where you are currently) before continuing with the eDirectory tree configuration.
10. Use ndsconfig to set up your initial tree. Enter **ndsconfig new -t DA_TREE -o 8000 -O 8443** at the command prompt.

```
|da-02:/home/dante/Linux/setup # ndsconfig new -t DA_TREE -o 8000 -O 8443
```

11. When you are asked for the admin name, enter **admin.DA**. Enter **novell** for the password. For the server context, enter **da**.

```
Enter admin name with context[admin.org]:admin.da
Enter the password for admin.da:
Re-enter the password for admin.da:
Enter server context[org]:da
Starting the service 'ndsd'... Done.
Configuring eDirectory with following parameters
    Admin name      = admin.da
    Tree name       = DA_TREE
    Server Context  = da
    dibdir path     = /var/nds/dib
```

eDirectory is now set up on the server.

Part V: Setting Up a DHCP Server

In this section, you will learn how to set up DHCP on your server.

1. Open the openoffice.org word processor application. On your Ximian Desktop toolbar (at the top of the screen), there should be an icon that has a pen on it. Click that icon to open the word processor.
2. Once the application is open, click File, then click Open. In the filename box enter `/usr/share/doc/packages/dhcp-server/examples/simple_dhcp.conf`.
3. Click File, then click Save As. In the filename box enter, `/home/<name_of_your_user>/dhcp.conf` (for `<name_of_your_user>` enter your username).
4. Edit the following lines

```
# let's give the local domain a name
# (which should correlate to your name server configuration)
option domain-name          "beer";

# this assumes that your dhcp server is also the router for the subnet
option routers              192.168.0.1;

# clients shall use this host as nameserver, too
option domain-name-servers 192.168.0.1;

# this can explicitely be specified
option broadcast-address 192.168.0.255;

# these 10 addresses will be given out dynamically
subnet 192.168.0.0 netmask 255.255.255.0 {
    range 192.168.0.11 192.168.0.20;
    # options may also be put here if they are not global
}
```

to be as follows:


```

# let's give the local domain a name
# (which should correlate to your name server configuration)
option domain-name          "digitalairlines.com";

# this assumes that your dhcp server is also the router for the subnet
option routers              10.0.0.202;

# clients shall use this host as nameserver, too
option domain-name-servers  10.0.0.202;

# this can explicitly be specified
option broadcast-address    10.0.0.255;

# these 50 addresses will be given out dynamically
subnet 10.0.0.0 netmask 255.255.255.0 {
    range 10.0.0.50 10.0.0.100;
    # options may also be put here if they are not global
}

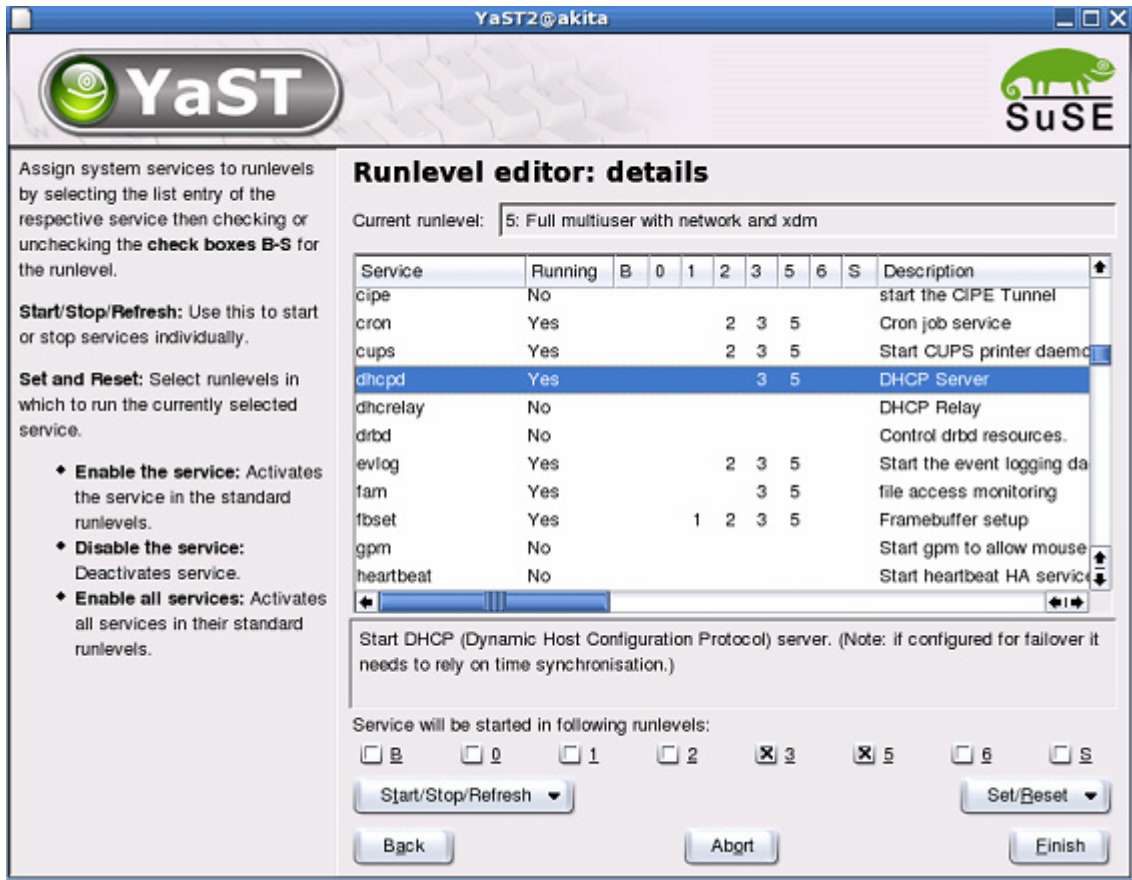
```

Save the file, and then exit the program.

5. At a command prompt as root, enter **mv dhcp.conf.txt /etc/dhcpd.conf**.

```
da-02:/home/dante # mv dhcp.conf.txt /etc/dhcpd.conf
```

6. Enter **dhcpd eth1**, then press Enter.
7. To make the DHCP server start on reboot, click System on the toolbar, click Administrator Settings, then enter the root password.
8. On the left-side menu, click System, then click Runlevel Editor on the right side.
9. Click “Runlevel properties,” then scroll down to the “dhcpd” service.
10. Highlight the dhcpd service line, click “Set/Reset” at the bottom of the window, then click “Enable the service.”



11. Click Finish and close YaST.

Part VI: Installing iManager

Novell iManager is a Web-based network management application. You can use iManager to configure network services, set up and manage your eDirectory tree, and create and manage eDirectory objects.

In this section, you will learn how to install iManager. After iManager is installed, you will be able to populate and make modifications to your eDirectory Tree.

Note: UNIX platforms require a separate installation of Apache, Tomcat, and the JVM in order for iManager to run properly. The minimum web services requirements for UNIX platforms are JVM 1.3.1_02, Apache 1.3.20, and Tomcat 3.3a. For more information, see the [Novell iManager Administration Guide](#).

1. At a command prompt, as root, untar iManager.

```
da-02:/home/dante # tar zxvf iMan_201_linux.tgz
```

2. Change to the iManager directory and start the install script by entering **./install.sh** at the command prompt.
3. The script will prompt you to continue with an install or an uninstall. Press the “i” key to continue with the install.
4. Enter **yes** for the express install.
5. Scroll through the license agreement using the spacebar to read a page at a time, then enter **y** to accept the agreement.
6. Enter the admin name, context, and password. You will be prompted for a PCO password (the syntax is “cn=admin.o=da”; use **novell** as the password). Because this is a fresh install, use the same password that you used for the admin password.
7. When you are prompted to make any changes, enter **no**, then press Enter.
8. Scroll through the documentation screen, after which you will be finished with the iManager install.

Part VII: Extending the Schema and Importing an LDIF File

Now you will prepare and populate your directory.

1. Make sure that the schema file is located in the /home/<your_user_name>/ directory. At the command prompt, enter **ndssch -t DA_TREE admin.da da-20.sch**.

```
da-02:/home/dante # ndssch -t DA_TREE admin.da da-20.sch
```

2. You will be prompted for the admin password, after which the schema will be extended.
3. Open a browser and enter the IP address of the server as follows:

<ipaddress>/nps/iManager.html

Enter **admin** for the user and **novell** for the password.

4. Click the LDAP entry on the left menu, then click LDAP Overview.

LDAP

[Create LDAP Object](#)

[Delete LDAP Object](#)

[LDAP Overview](#)

5. Click the LDAP Group da02.da.

LDAP Overview

[View LDAP Groups](#) [View LDAP Servers](#)

[LDAP Group - akita.da](#)

6. Unclick the Require TLS for Simple Binds with Password box, click Apply at the bottom of the page, then click OK.

LDAP Group: LDAP Group - akita

General

Server List

LDAP Server - akita.da		
------------------------	--	--

Authentication Options

Proxy user:

Require TLS for Simple Binds with Password

7. On the Left menu, click eDirectory Maintenance, click Import Convert Export Wizard” (ICE), then click Next.
8. In the “file to enter” text field, enter the path to the da-20.ldif file, then click Next.
9. In the “server dns name” text field, enter the IP address of the server, and then click Authenticated Login. Enter the admin name and object (the syntax is cn=admin,o=da), then enter **novell** as the password. Click Next.

Select the import destination.

Server DNS name/IP address:

Port:

DER file:

(Needed if a secure port is used.)

- Anonymous login
 Authenticated login

User DN:

(ex: cn=admin,o=novell)

Password:

Advanced Settings

- Use LBURP (Lightweight Bulk Update/Replicate Protocol)
 Allow forward references
 Use LDAP protocol version 2
 Store N/WAS Simple passwords/Hashed passwords

10. ICE will then generate the import command and show it on the screen. Click Finish to continue.

The Tree is now populated and you can administer it using iManager. For more information, see the [Novell eDirectory Administration Guide](#).