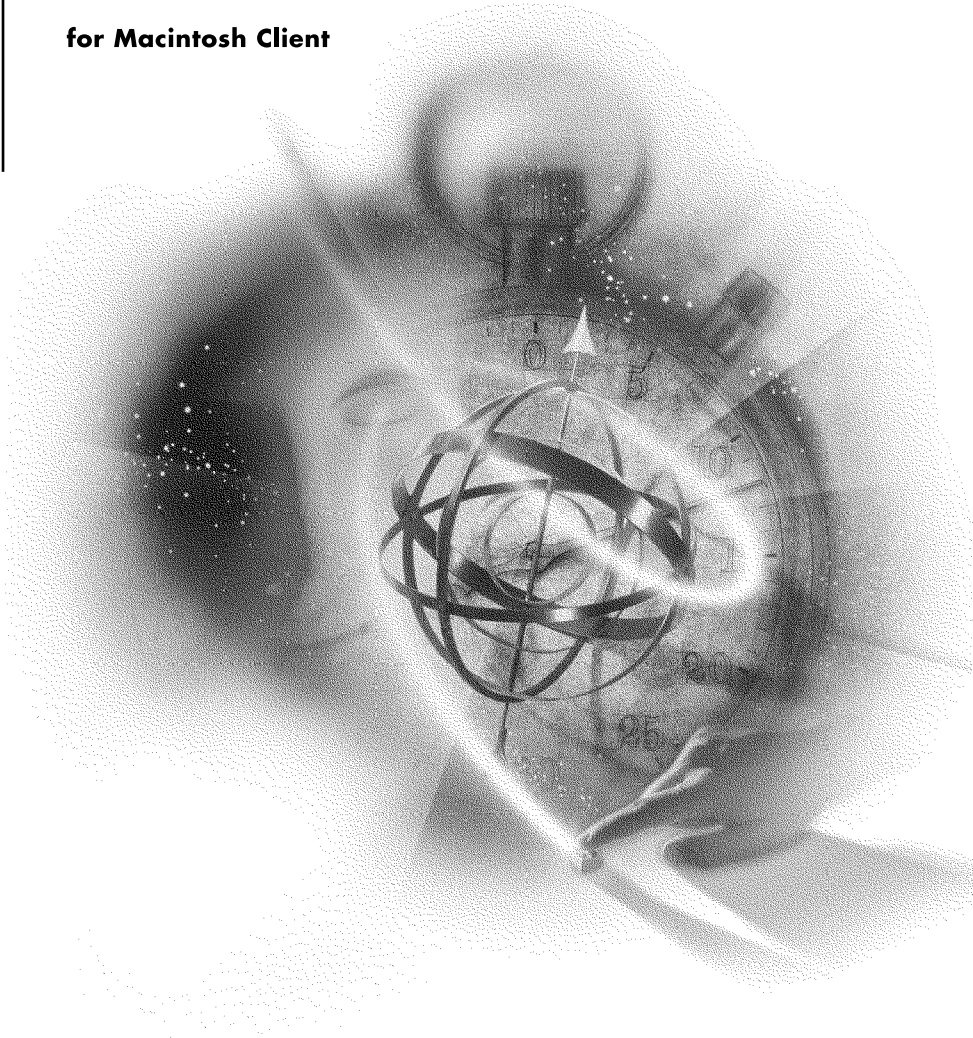

Using the NetWare

for Macintosh Client



NetWare® 3.12
NETWORKING SOFTWARE

Novell®

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Novell, Inc.
122 East 1700 South
Provo, UT 84606
U.S.A.

www.novell.com

Using the NetWare for Macintosh Client
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About This Guide

NetWare[®] for Macintosh client software provides access to NetWare services from Macintosh workstations. The Macintosh client software includes the AppleShare 7.1 (workstation) software for logging in to servers, and the following components:

- ◆ NetWare UAM, for NetWare password encryption
- ◆ NetWare Notify, for receiving messages from other users
- ◆ Extension Mapper, for attaching Macintosh application information to files on servers running NetWare 4.0

The NetWare Tools[™] application is an important new component of the client software. Using NetWare Tools from a Macintosh workstation, you can administer servers running NetWare for Macintosh v3.0 or later. The NetWare Tools application consists of the utilities described below:

- ◆ The Users and Groups utility enables you to manage NetWare users and groups.
- ◆ The Rights utility and the File and Folder Flags utility enable you to manage folder and file security.
- ◆ The Print Queue utility enables you to manage NetWare print queues.
- ◆ The Messaging utility enables you to send messages to other NetWare users.

This guide describes how to install the NetWare for Macintosh client software, how to carry out basic NetWare for Macintosh operations, and how to use each utility provided with the NetWare Tools application.

What This Guide Contains

This guide contains the following chapters and appendices:

- ◆ **Chapter 1, “Installing and Using the Client Software,” on page 19** describes how to install the NetWare for Macintosh client software, and explains how to carry out such basic user operations as accessing shared data and printing to a NetWare queue.
- ◆ **Chapter 2, “Working with NetWare Tools,” on page 49** details the features and special terms associated with the NetWare Tools application. It explains how to launch each utility, and describes such new elements as the Workspace and the session file.
- ◆ **Chapter 3, “Managing Users and Groups,” on page 75** describes how to set up your user base with the Users and Groups utility. It explains how to add and delete users and groups, how to create passwords, how to add a user to a group, and how to make one user security-equivalent to another.

NOTE: Both the Users and Groups utility and the Rights utility enable you to set trustee rights. **Chapter 3, “Managing Users and Groups,” on page 75** discusses how to set trustee rights from the Users and Groups utility.
- ◆ **Chapter 4, “Managing Rights and Flags,” on page 111** contains a discussion of NetWare security and its implications for Macintosh users. It details using the Rights utility to set trustee rights, and describes how to set flags with the File and Folder Flags utility.
- ◆ **Chapter 5, “Managing Print Queues,” on page 133** discusses how to use the Print Queue utility to manage NetWare print queues.
- ◆ **Chapter 6, “Sending and Receiving Messages,” on page 149** describes how to use the Messaging utility. It explains how to send messages to other NetWare users and how to specify whether you wish to receive messages.
- ◆ **Chapter 7, “Mapping Filename Extensions,” on page 153** discusses how to use the Extension Mapper application on NetWare 4.0 servers.
- ◆ **Chapter 8, “Troubleshooting,” on page 161** covers how to resolve any problems that may occur when you use the NetWare Tools application.
- ◆ A glossary and an index appear at the end of this guide.

Who Should Read This Guide

These types of NetWare for Macintosh users should use this guide:

- ◆ The Network Administrator
This user is responsible for managing a NetWare network. He or she must have Supervisor status, and should be familiar with NetWare terms, management tools, and operation.
- ◆ The Workgroup Manager
The network administrator can assign Workgroup Manager status to one or more NetWare for Macintosh end users. A Workgroup Manager has responsibility for one or more groups of NetWare users. A Workgroup Manager can assign users to a designated group, delete users from the group, and assign trustee rights to the group and its members.
- ◆ The Queue Operator
This user is responsible for managing NetWare print queues. Supervisor status automatically gives the network administrator Queue Operator status. In addition, the network administrator may choose to give Queue Operator status to a NetWare for Macintosh end user.
- ◆ The NetWare for Macintosh End User
This type of user may occasionally need to carry out limited administrative tasks; for example, the end user may need to set trustee rights for personal folders, or manage his or her own print jobs.

A Network Administrator's Tasks

The network administrator can carry out these tasks from a Macintosh workstation:

- ◆ Install the NetWare for Macintosh client software. See [“Installing the NetWare for Macintosh Client Software” on page 25](#).
- ◆ Perform basic user operations. See [“Basic NetWare for Macintosh Operations” on page 32](#).
- ◆ Set up and maintain NetWare users and groups. See [Chapter 3, “Managing Users and Groups,” on page 75](#).
- ◆ Set trustee rights for volumes, folders, and files. See [Chapter 4, “Managing Rights and Flags,” on page 111](#).

- ♦ Set folder and file flags. See [Chapter 4, “Managing Rights and Flags,”](#) on page 111.
- ♦ Manage NetWare print queues. The network administrator can perform these tasks on any print job in a queue:
 - ♦ View the status of a job
 - ♦ Get information about a job
 - ♦ Place a job on hold
 - ♦ Release a job from hold
 - ♦ Determine the date and time a job will print
 - ♦ Delete a job
 - ♦ Move a job

For information, see [Chapter 5, “Managing Print Queues,”](#) on page 133.
- ♦ Send and receive short messages. See [Chapter 6, “Sending and Receiving Messages,”](#) on page 149.
- ♦ Use the Extension Mapper to change default extension mappings on a NetWare 4.0 server. See [Chapter 7, “Mapping Filename Extensions,”](#) on page 153.

A Workgroup Manager's Tasks

The Workgroup Manager can carry out these tasks from a Macintosh workstation:

- ♦ Perform basic user operations, such as copying data to a NetWare server or printing to a NetWare print queue. See [“Basic NetWare for Macintosh Operations”](#) on page 32.
- ♦ Add users to a group or delete users from a group. See [Chapter 3, “Managing Users and Groups,”](#) on page 75.
- ♦ Set trustee rights for the users in a group. See [Chapter 4, “Managing Rights and Flags,”](#) on page 111.
- ♦ Use the Print Queue utility to administer his or her own print jobs. See [Chapter 5, “Managing Print Queues,”](#) on page 133.
- ♦ Send and receive short messages. See [Chapter 6, “Sending and Receiving Messages,”](#) on page 149.

A Queue Operator's Tasks

From a Macintosh workstation, the Queue Operator can carry out the same print queue management tasks as the network administrator. For a list of these tasks, see [“A Network Administrator's Tasks” on page 11](#).

An End User's Tasks

Depending on the rights granted by the network administrator, a NetWare for Macintosh end user can carry out these tasks:

- ◆ Perform basic user operations, such as copying data to a NetWare server or printing to a NetWare print queue. See [“Basic NetWare for Macintosh Operations” on page 32](#).
- ◆ Set trustee rights and flags for certain folders and files. See [Chapter 4, “Managing Rights and Flags,” on page 111](#).
- ◆ Use the Print Queue utility to administer his or her own print jobs. See [Chapter 5, “Managing Print Queues,” on page 133](#).
- ◆ Send and receive short messages. See [Chapter 6, “Sending and Receiving Messages,” on page 149](#).
- ◆ Use the Extension Mapper to change personal extension mapping on a NetWare 4.0 server. See [Chapter 7, “Mapping Filename Extensions,” on page 153](#).

How to Use This Guide

This guide describes Macintosh client software and the NetWare Tools application, which can be used with NetWare 3.x or later and with NetWare 4.0. The guide assumes that the NetWare server and NetWare for Macintosh are installed and configured and that the basic setup tasks are complete.

Please see NetWare for Macintosh *Installation and Maintenance* for information about installing and configuring Macintosh access on NetWare servers.

Working With NetWare 3.x Servers

In most cases, the examples in this guide are identical whether you are working with NetWare 3.x or NetWare 4.0 servers. However, sometimes explicit information is provided about how Macintosh workstations interact with a NetWare Directory Services environment, which applies only to NetWare 4.0.

If you are using the NetWare Tools application or the NetWare UAM with NetWare 3.x servers, the windows might show slightly different information than the example windows shown in this guide. In each case, the information you see while using the software will be appropriate for the version of NetWare on the server you are using.

Working with NetWare 4.0 Servers

This section provides information about how the NetWare Directory Services and bindery emulation features of NetWare 4.0 affect Macintosh workstations and the use of NetWare Tools.

For background information on bindery contexts and Directory Services, see NetWare for Macintosh *Installation and Maintenance* for NetWare for Macintosh 4.0 and NetWare 4.0 *Concepts*.

Using the NetWare for Macintosh Client Software (NetWare 4.0)

NetWare for Macintosh 4.0 does not provide direct access to NetWare Directory Services (NDS). Instead, bindery emulation enables a Macintosh workstation to access the Directory database and handle directory objects as though they were bindery objects.

In most cases, bindery emulation is transparent to the Macintosh user, because NetWare 4.0 objects appear as pre-4.0 bindery objects. However, during the NetWare for Macintosh installation on a NetWare 4.0 server, a bindery context is set on each NetWare server that supports Macintosh access. The bindery context on a server affects users' ability to access NetWare services.

In addition, when a Macintosh user changes his or her password on a particular NetWare 4.0 server, the password is changed on all other servers in the same bindery context.

When the NetWare User Authentication Methods (UAM) software is installed on the Macintosh workstation and NetWare encrypted passwords are enabled on the NetWare 4.0 server, the NetWare UAM Macintosh dialog displays the bindery context and Directory Services Tree of the NetWare 4.0 server.

Using the NetWare Tools Application (NetWare 4.0)

The NetWare Tools application has utilities for administering users and groups, security, print queues, and messaging on NetWare servers. The NetWare entities you can work with in NetWare Tools include both file system objects (such as volumes, folders, and files) and bindery objects (such as users, groups, and print queues).

On NetWare 4.0 servers, file system information is maintained locally on a server, just as it is in earlier versions of NetWare. However, in a NetWare 4.0 Directory Services environment, what appear to be bindery objects (users, groups, and print queues) are actually Directory objects within a bindery context.

For example, if you create a new user on a server named MAIN, whose bindery context is set as follows

```
OU=Marketing. O=XYZ_Corp.
```

and there are five other servers who have the same bindery context set, the new user will appear identically on all six servers.

Setting Up Users, Groups, and Rights (NetWare 4.0). Unlike standard NetWare 4.0 tools such as NWADMIN and NETADMIN, the Macintosh NetWare Tools application has a built-in safeguard against creating Macintosh users in a bindery context that the Macintosh users themselves cannot access. Because these tools run on a Macintosh workstation, you cannot mistakenly create users and groups in a place in the Directory Tree that is not accessible to Macintosh users.

WARNING: Because Macintosh access depends on bindery emulation, it is inadvisable to change the bindery context on any NetWare 4.0 server that supports Macintosh access. If you create users and groups in one bindery context and then go to the server's console and change the bindery context, all Macintosh users you created in the previous context will be unable to log in to the server.

Administering and Viewing Print Queues (NetWare 4.0). NetWare for Macintosh print queues are implemented as directories, so they are part of the file system of a particular server. On the other hand, they are Directory objects, which appear to exist on all servers in the same bindery context.

A Macintosh user who is logged in to a NetWare 4.0 server and using NetWare Tools can see all print queues defined in the server's bindery context. However, the user cannot view or administer the jobs in a queue unless he or she is logged in to the server on which the actual print queue directory resides. Therefore, if a user tries to view queues that reside on a server that is not mounted, NetWare Tools opens a login dialog to the server on which the queue resides.

Print queues are usable by the group EVERYONE unless the administrator explicitly restricts access. In NetWare 3.x, the group EVERYONE includes all NetWare users on a particular server. In NetWare 4.0, the group EVERYONE includes all NetWare users in the server's bindery context. In large network environments that support many bindery contexts and Directory Services trees, it is possible for a DOS user who is not defined in the bindery context and is therefore not a member of the group EVERYONE to log in to a server and be unable to print to its queues.

NOTE: For NetWare print queues to be visible in the Chooser, the administrator must configure an AppleTalk "front end" or "spooler" on the server, which responds to Chooser requests on behalf of the queue. Usually a spooler is assigned the same name as the queue it represents, and they are referred to collectively as a print queue. However, because the AppleTalk spooler responds to all Chooser requests of type LaserWriter or ImageWriter, Macintosh users may have the ability to see print queues that have restricted access and which they do not have the NetWare rights to use.

Sending Messages to NetWare Users (NetWare 4.0). Under most circumstances, a Macintosh workstation must have the NetWare Notify software installed to receive messages. However, because the AFP implementation in NetWare for Macintosh 4.0 handles messaging, the NetWare Notify extension is not required to receive messages on Macintosh workstations that are running AppleShare 7.1 *and* are communicating only with servers running NetWare 4.0.

Admin User Rights (NetWare 4.0). On a NetWare 4.0 server, the Admin user is created automatically and assigned the rights necessary to administer the Directory Services tree. Because bindery emulation is used for Macintosh workstations, the NetWare Tools application sees the Admin user as an ordinary user with no special privileges.

HINT: If you want to, you can assign Supervisor equivalence to Admin to allow that login to create users and groups and perform other supervisory functions.

Using the Extension Mapper (NetWare 4.0 Only)

The Extension Mapper application requires that the user be logged in to a NetWare 4.0 server.

Each NetWare 4.0 server that supports Macintosh access maintains a default set of mappings that associate filename extensions such as ".TXT" and ".BAT" with Macintosh applications. The Extension Mapper application allows Macintosh users to remap the default extensions to automatically use their preferred Macintosh applications, and to add new extensions to the default list or to the personal list.

[Chapter 7, "Mapping Filename Extensions," on page 153](#) describes how to use the Extension Mapper.

Conventions

In this manual, *this type font* indicates new terms, key concepts, or emphasis. The following icons denote special types of information:

NOTE: The Note icon introduces additional technical information about a command or procedure.

HINT: The Suggestion icon denotes information that may be useful, but is not critical.

IMPORTANT: The Important icon emphasizes important information. It is a visual cue to key concepts and facts.

WARNING: The Warning icon carries a stronger message than the Important icon and appears only when you must exercise due caution to prevent a critical or irreversible error.

1

Installing and Using the Client Software

This chapter explains how to install the NetWare for Macintosh client software, and describes how to access the full range of NetWare for Macintosh services.

The chapter begins by discussing these topics:

- ♦ Checking the minimum hardware and software requirements for each Macintosh workstation
- ♦ Installing or upgrading the NetWare for Macintosh client software

When you complete the installation or upgrade, you can use this chapter to learn about the network environment and to make sure your installation is working correctly. The chapter describes these basic network tasks:

- ♦ Logging in to a NetWare server
- ♦ Mounting a NetWare volume
- ♦ Copying folders and files between NetWare volumes, or between a NetWare volume and a local disk
- ♦ Creating a folder on a NetWare volume
- ♦ Opening Macintosh applications stored on the NetWare server
- ♦ Opening DOS directories and files
- ♦ Mapping Macintosh application information to DOS files
- ♦ Printing a file to a NetWare print queue
- ♦ Logging out of the NetWare server

Macintosh Hardware and Software Requirements

You can run the NetWare Tools application on a Macintosh Plus or later that has at least 640K free memory. For a Macintosh running System 7.0 or later, 4 megabytes of installed memory is recommended; for System 6.0.5 or later, 2.5 megabytes of installed memory is sufficient.

Before installing the NetWare for Macintosh client software, you must install the Macintosh software listed in [Table 1](#).

Table 1 Required Macintosh Software

Macintosh Software	System 7.0 or Later	System 6.0.5 or Later
System	System 7.0-compatible versions of the Finder and Chooser	Finder Version 6.1 or later Chooser Version 3.3 or later
AppleShare (Workstation)	Version 7.1 is required for use with the current version of the NetWare UAM. This AppleShare software is included on the diskette.	Version 7.1 is required for use with the current version of the NetWare UAM. This AppleShare software is included on the diskette.
LaserWriter drivers (required if you are printing to a LaserWriter printer)	Version 7.0. The standard System 7.0 release includes the LaserWriter, Personal LaserWriter, and Personal LaserWriter SC drivers, installed in the Extensions folder within the System Folder.	Version 5.2 or later, or Version 7.0
ImageWriter drivers (required if you are printing to an ImageWriter printer)	Version 7.0. The standard System 7.0 release includes the ImageWriter, AppleTalk ImageWriter, and ImageWriter LQ drivers.	Version 2.7 or later, or Version 7.0
Network connection software	LocalTalk (built-in), EtherTalk, TokenTalk, or ARCnet as appropriate	LocalTalk (built-in), EtherTalk, TokenTalk, or ARCnet as appropriate

On Macintosh workstations running System 6.0.5 or later, the System Folder must contain all the required software.

On Macintosh workstations running System 7.x, the Extensions folder (located in the System Folder) must contain the AppleShare, printer, and network connection software.

Macintosh Network Connection Software

All Macintosh workstations have the AppleTalk protocols built in. If a Macintosh workstation is connected to a LocalTalk network and has no network boards installed, the Macintosh workstation automatically uses the proper network connection software.

In all other cases, you should verify that the network connection software is installed in the proper location, and that the appropriate network connection icon is selected.

Checking the Network Connection Software (System 7.x)

For a Macintosh workstation running System 7.x with a network board installed, you must make sure these conditions are true:

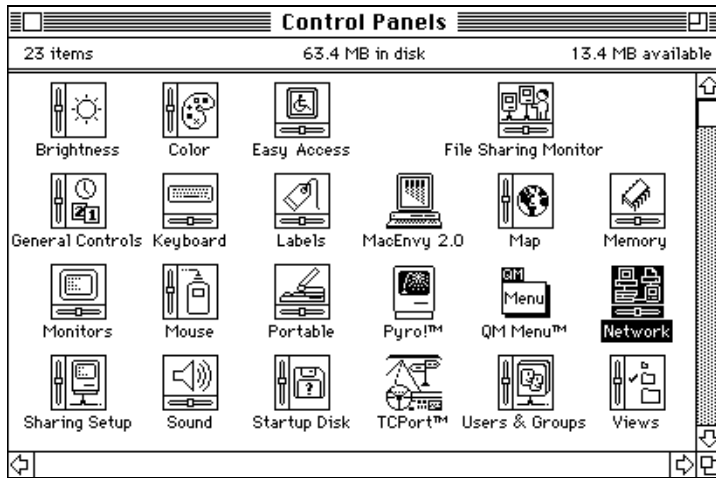
- ◆ The network connection software for the board resides in the Extensions folder (located in the System Folder).
- ◆ The proper network connection icon is selected in the Network Control Panel.

If the network connection software is not present in the Extensions folder, install it. The software is provided with the network board. The documentation for the network board should contain installation instructions.

To verify that the proper network connection icon is selected in the Network Control Panel, open the Control Panels folder. Or, choose the Control Panels option from the Apple menu. In either case, the Control Panels window appears.

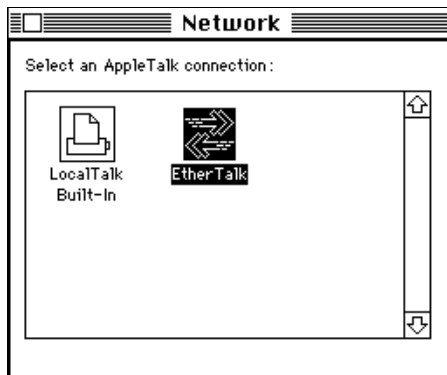
Double-click the Network icon (Figure 1).

Figure 1 Control Panels Window



When you double-click the Network icon, the Network window opens (Figure 2).

Figure 2 Network Window



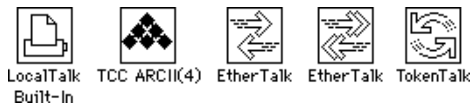
Make sure that the appropriate network connection software is selected. If it is not, select the software by clicking the icon representing it. In this example, because the EtherTalk 2.0 software is selected, the Macintosh workstation can communicate with the NetWare for Macintosh server over Ethernet.

Table 2 discusses the available network connection types.

Table 2 Macintosh Network Connection Types

Connection Type	Description
LocalTalk (Built-In)	If a Macintosh workstation is connected to a LocalTalk cable but has a network board installed, you need to choose the proper network connection software. If you want the Macintosh workstation to communicate with a NetWare server over a LocalTalk connection, select the Built-in software icon; otherwise, choose the icon representing the appropriate software for the network board.
Arcnet	If the Macintosh workstation has an ARCnet board and driver installed, you should see an ARCnet icon. Click the ARCnet icon to allow the Macintosh workstation to communicate on ARCnet.
EtherTalk 1.0 and EtherTalk 2.0	If the Macintosh workstation has an Ethernet board and driver installed (or has a built-in EtherTalk 2.0 connection), you should see one or both EtherTalk icons. The EtherTalk 2.0 icon has double arrowheads. The EtherTalk 1.0 icon has single arrowheads. Click the EtherTalk 2.0 icon to allow the Macintosh workstation to communicate on an EtherTalk 2.0 network. Click the EtherTalk 1.0 icon to allow the Macintosh workstation to communicate on an EtherTalk 1.0 network.
TokenTalk	If the Macintosh workstation has a Token Ring board and driver installed, you should see the TokenTalk icon. Click the TokenTalk icon to allow the Macintosh workstation to communicate on a TokenTalk network.

These icons correspond to the network connection types:



Checking the Network Connection Software (System 6.0.5 or Later)

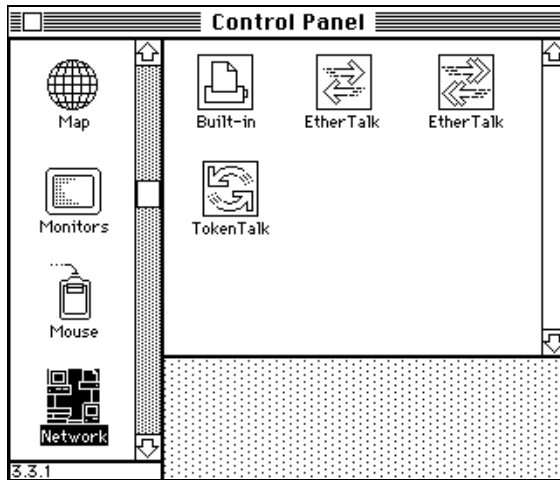
For a Macintosh workstation running System 6.0.5 or later with a network board installed, make sure these conditions are true:

- ◆ The network connection software for the board resides in the System Folder.
- ◆ The proper network connection icon is selected in the Network area of the Control Panel.

If the network connection software is not present in the System Folder, install it. The software is provided with the network board. The documentation for the network board should contain installation instructions.

To verify that the proper network connection icon is selected in the Network area of the Control Panel, choose the Control Panel option from the Apple menu. Then, click the Network icon at the left side of the Control Panel window (shown highlighted in [Figure 3](#)).

Figure 3 Control Panel Window



Make sure that the appropriate network connection software is selected. If it is not, select the software by clicking the icon representing it. See [Table 2](#) for information about the network connection icons you can select.

Installing the NetWare for Macintosh Client Software

This section describes each component of the NetWare for Macintosh client software, and explains how to carry out the installation procedure.

Software Components

Table 3 lists the NetWare for Macintosh client software components.

Table 3 NetWare for Macintosh Client Software

Component	Description	Default Location
Installer	The Installer program installs the software on the local Macintosh disk.	Root of the diskette
NetWare Notify™	The NetWare Notify™ extension allows Macintosh users to receive brief messages. (Not required on Macintosh workstations running AppleShare 7.1 <i>and</i> communicating only with servers running NetWare 4.0.)	System 6.x—System Folder System 7.x—System Folder:Extensions
NetWare UAM	The NetWare User Authentication Method (NetWare UAM™) software provides NetWare password encryption for the Macintosh workstation. Required on all Macintosh workstations that will access servers on which clear-text and guest logins are disabled. (AppleShare 7.1 must be installed for the NetWare UAM to work. See Table 1 on page 20)	System 6.x—System Folder:AppleShare Folder System 7.x—System Folder:AppleShare Folder
NetWare Tools	The NetWare Tools application enables you to manage NetWare file and print services on servers running 3.x or later. This application consists of the utilities listed in Table 4 on page 26	Root of the local Macintosh
Extension Mapper	(NetWare 4.0 servers only.) The Extension Mapper application enables Macintosh users to attach Macintosh file type and creator information to DOS files on a NetWare 4.0 server. After using the Extension Mapper on a DOS file, Macintosh users can double-click on that file to open their preferred Macintosh application.	Root of the local Macintosh

These icons correspond to the software components listed in Table 1-3:



The NetWare Tools application gives you access to the five utilities listed in [Table 4](#).

Table 4 NetWare Tools

Utility	Description
Users and Groups	The Users and Groups utility enables you to add or delete users and groups, set passwords, add a user to a group, assign users and groups as trustees of volumes, folders, and files, and assign or remove security equivalences. For complete information on using this utility, see Chapter 3, “Managing Users and Groups,” on page 75
Rights	The Rights utility enables you to assign trustee rights, set the Inherited Rights Mask, and view your Effective Rights for any volume, folder, or file. For complete information on using this utility, see Chapter 4, “Managing Rights and Flags,” on page 111
File and Folder Flags	The File and Folder Flags utility enables you to set flags. For complete details on using this utility, see Chapter 4, “Managing Rights and Flags,” on page 111
Print Queue	The Print Queue utility enables you to view the contents of a queue, get information about the queue and the jobs it contains, hold and release a print job, determine when a job will print, delete a job, and change a job's position in the queue. For complete information on using this utility, see Chapter 5, “Managing Print Queues,” on page 133
Messaging	The Messaging utility enables you to send brief messages to other users logged in to the same NetWare server. Using the Messaging utility, you can also specify whether you want to receive messages. For information on using this utility, see Chapter 6, “Sending and Receiving Messages,” on page 149

These icons correspond to the NetWare Tools utilities listed in [Table 4](#):

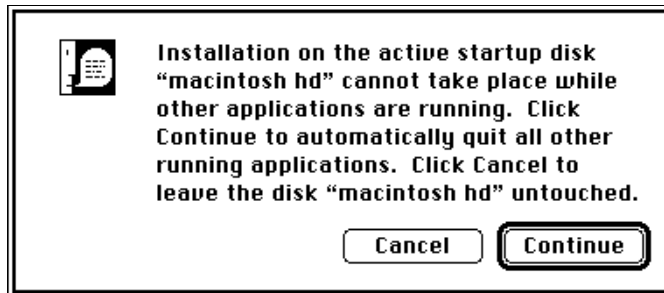


Preparing for the Installation

To install the NetWare for Macintosh client software, you use a program called the Installer. The Installer must be run from the Macintosh workstation on which you are installing the software, but it does not necessarily have to reside on that workstation.

IMPORTANT: The NetWare for Macintosh client software is available on a variety of media. If you are installing the software from CD-ROM or other media, please see the README file accompanying that software before proceeding with the installation. You can also consult the NetWare for Macintosh *Installation and Maintenance* manual for NetWare for Macintosh 4.0. After you have completed the media-specific steps, return here for instructions on using the Installer program from the Macintosh on which you are installing the software.

Before you begin the installation, make sure that no other applications are running on the local Macintosh. But if you forget to unload the applications, don't worry; the Installer program can unload them for you. If you have not unloaded all running applications before launching the Installer, this window opens when you try to install the software:



You then have the option to click the Continue button to quit the active applications and continue the installation, or click the Cancel button to stop the installation while you manually unload the active applications.

The Admin Installation

Unless you use the Custom installation option ([“Click the Customize button.” on page 30](#)), the Admin installation copies all of the client software, including the NetWare Tools application, to the local Macintosh disk. Because the NWM Admin Install Script resides at the same level as the Installer program, this is the default installation if you double-click the Installer icon.

You can perform the Admin Installation by double-clicking the Installer program, double-clicking the NWM Admin Install Script, or if the Macintosh is running System 7.x, by dragging and dropping the NWM Admin Install Script on top of the Installer.

The User Installation

Unless you use the Custom installation option (“[Click the Customize button.](#)” [on page 30](#)), the User installation copies all of the client software *except the NetWare Tools application* to the local Macintosh disk. The NWM User Install Script is provided to enable you to restrict access to the NetWare Tools application while still allowing users to install their own client software.

You can perform the User installation by opening the folder named User Install Script and double-clicking the file named NWM User Install Script, or if the Macintosh is running System 7.x, by dragging and dropping the NWM User Install Script on top of the Installer program.

HINT: You can make an installation folder or diskette that provides only the User installation by moving the NWM User Install Script to the same level as the Installer program and removing the NWM Admin Install Script from that location.

Performing the Installation

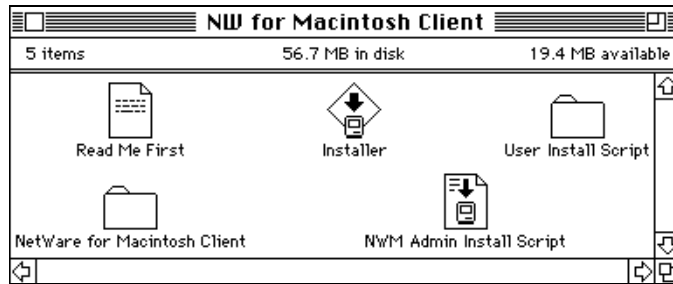
You carry out the same procedure whether you are installing the client software for the first time or upgrading existing software.

NOTE: If you are installing from CD-ROM or any media other than the *NW for Macintosh Client* diskette, skip [Step 1](#). After you have completed the media-specific steps, return here and begin with [Step 2](#).

Follow these steps:

- 1 Insert the *NW for Macintosh Client* diskette into the floppy drive of your Macintosh workstation, or open the *NW for Macintosh Client* folder on a mounted volume.

This window opens:

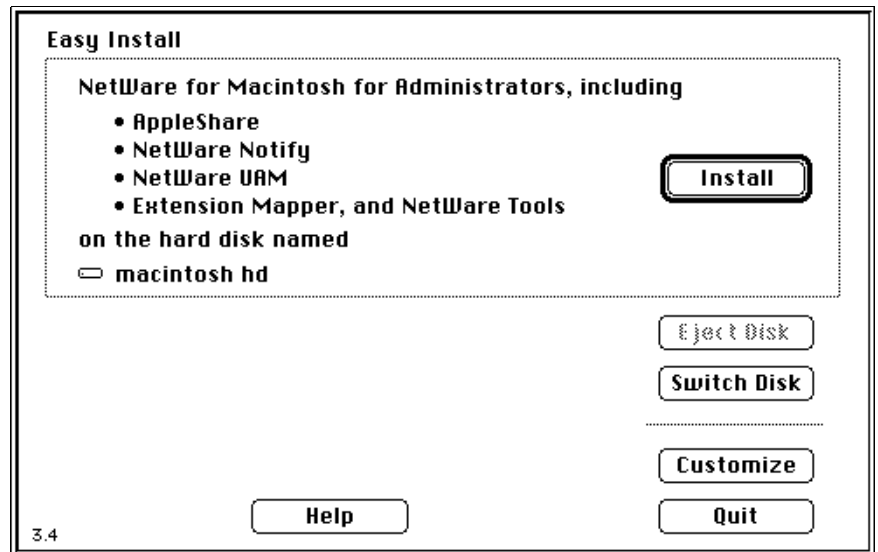


2 Double-click the Installer icon.

See “[The Admin Installation](#)” on page 27 for other ways you can start the Installer, and “[The User Installation](#)” on page 28 for information about using different installation scripts.

When you double-click the Installer to perform the default Admin installation, the Easy Install window in [Figure 4](#) opens.

Figure 4 Easy Install Window



3 Choose the disk on which you want to install the files.

By default, the Installer program writes the client software to the root of the Macintosh startup disk. To choose a different local drive, click the Switch Disk button. Remember that you cannot install the software on the drive that contains the Installer program or on a network drive.

4 Click either the Install button or the Customize button.

If you want to install all of the software listed, click the Install button (Step 4a).

If you want to install only certain components of the client software, click the Customize button (Step 4b).

HINT: If the workstation on which you are performing the installation will not be logging in to NetWare 4.0 servers, you may want to click the Customize button and elect not to install the Extension Mapper application.

4a Click the Install button.

The Installer program begins copying the software to the location you specified. The program displays this window when the installation is complete:

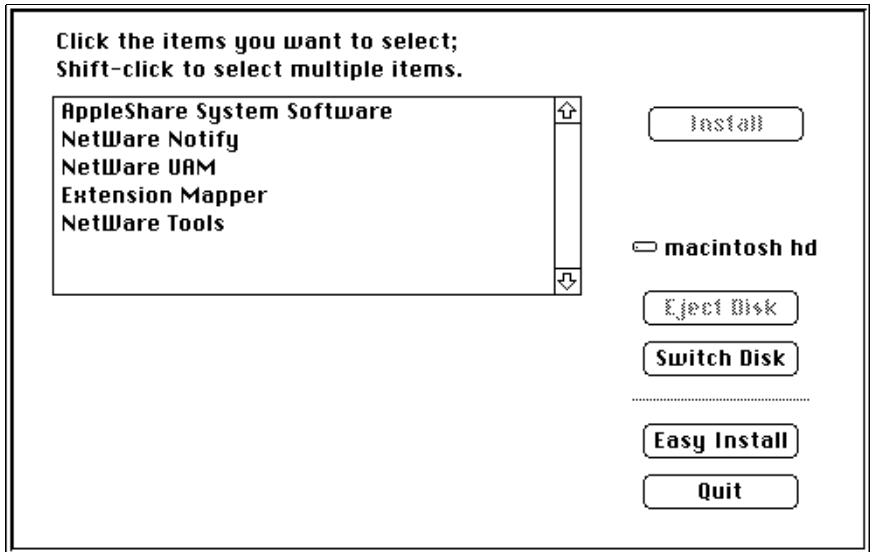


Click the Quit button to leave the Installer program.

4b Click the Customize button.

The Customize window (Figure 5) lets you select only those software components you need to install.

Figure 5 Customize Window



Click each component you want to install, or shift-click to select more than one component. When you click the name of a software component, the window displays a description of the software you have chosen.

See [Table 1 on page 20](#) and [Table 3 on page 25](#) if you need more information about the individual components.

Now, click the Install button in the Customize window. The Installer program copies the software you selected and displays this window when the installation is complete:



Click the Continue button to install other components using the Customize window. Click the Quit button to leave the Installer program.

Basic NetWare for Macintosh Operations

The following sections detail the features that NetWare for Macintosh brings to the Macintosh workstation. If you are unfamiliar with basic NetWare user operations, you should read the sections that follow. If you are already familiar with NetWare, you might want to carry out the tasks described in these sections to make sure that your installation is working correctly.

Logging In to a NetWare Server

A *NetWare server* is a computer used by multiple people to share resources such as disk space, files, applications, and printers. When you log in to a server, these actions take place:

- ♦ You send information across the network identifying you to the server.
- ♦ The server verifies who you are and what tasks you are permitted to perform.

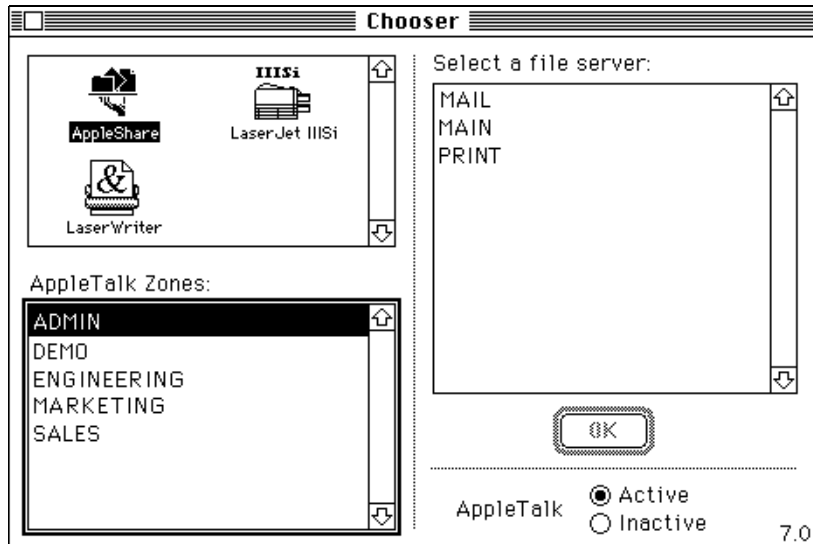
A server's disk storage is divided into *volumes*. Once you log in to a server, you can open a volume as though it were a separate hard disk appearing on your Macintosh desktop.

To log in to a NetWare server, follow these steps:

- 1 Open the Chooser and click the AppleShare icon.

When you select the Chooser option in the Apple menu, the Chooser dialog box opens. When you click the AppleShare icon, the Select a File Server list displays the name of each server in the currently selected zone (Figure 6).

Figure 6 The Chooser Dialog Box



2 Choose a zone.

AppleTalk zones organize the services available to you on the network. In the AppleTalk Zones list, click the zone in which the NetWare server is located. The Select a File Server list is updated to reflect the names of the servers in the zone you selected.

3 Choose a server.

In the Select a File Server list, click the name of the server you want to access. For example, to access the server called MAIN, click its name in the list.

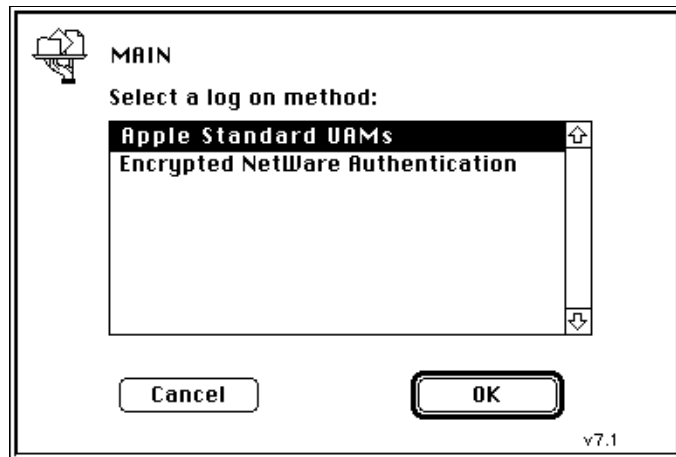
4 Click the OK button.

When you click OK, the Macintosh queries the server to find out which password authentication methods the server supports, Apple clear-text, NetWare encryption, or both. (Apple scrambled passwords are never supported on NetWare servers.)

- ◆ If both password authentication methods are enabled on the server, you see the dialog in [Figure 7](#).
- ◆ If only Apple clear-text passwords are enabled on the server, you see the dialog in [Figure 8 on page 35](#).

- ◆ If only NetWare encrypted passwords are enabled on the server, you see the dialog in [Figure 9 on page 36](#).

Figure 7 Select the log on method for this server

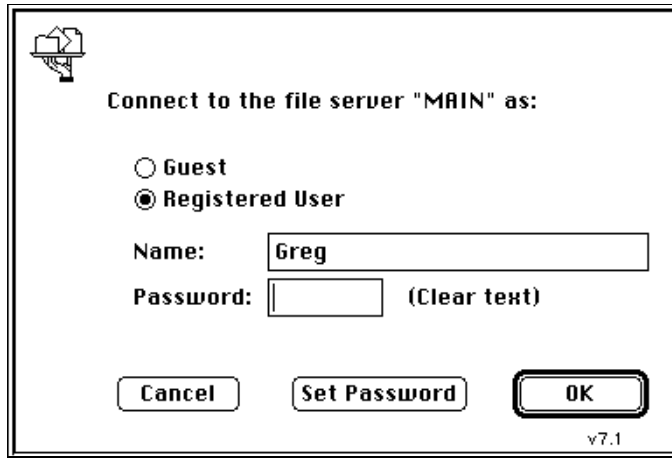


If you choose the wrong authentication method in this dialog, the server will reject your password but no harm will be done. If your password is rejected, select the other authentication method and try again.

4a To send your password as AppleShare clear text, be sure that Apple Standard UAMs is selected ([Figure 7](#)) and then click OK.

When you select Apple Standard UAMs, the dialog in [Figure 8](#) opens.

Figure 8 Standard AppleShare Login Dialog Box



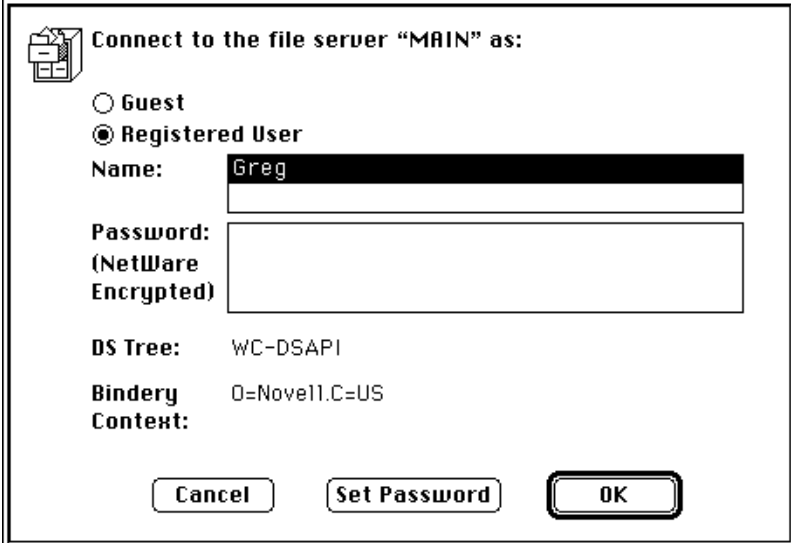
In the text entry box labeled Name, enter your NetWare user name. In the text entry box labeled Password, enter your password. An Apple clear-text password can contain up to eight characters, and can include special characters. When you type your password, it appears as a row of bullet characters.

To change your password, click the Set Password button. A dialog will open in which you can enter your old password and your new one.

- 4b** To send your password using NetWare encryption, choose Encrypted NetWare Authentication (Figure 7), and then click OK.

When you select Encrypted NetWare Authentication, the dialog in Figure 9 opens.

Figure 9 NetWare UAM Login Dialog



The image shows a dialog box titled "Connect to the file server 'MAIN' as:". It contains two radio buttons: "Guest" (unselected) and "Registered User" (selected). Below the radio buttons are two text entry boxes: "Name:" with the text "Greg" and "Password: (NetWare Encrypted)". Below the password box are two lines of text: "DS Tree: WC-DSAPI" and "Bindery Context: O=Novell.C=US". At the bottom are three buttons: "Cancel", "Set Password", and "OK".

In the text entry box labeled Name, enter your NetWare user name. In the text entry box labeled Password, enter your password. A NetWare-encrypted password can contain up to 128 characters, and can include special characters. When you type your password, it appears as a row of bullet characters.

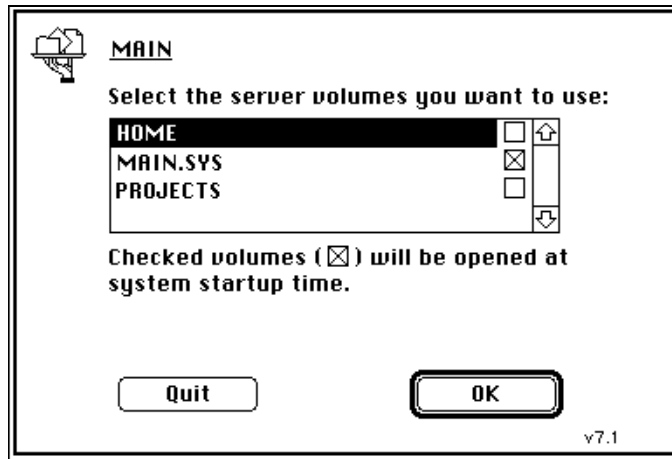
To change your password, click the Set Password button. A dialog will open in which you can enter your old password and your new one.

NOTE: If you are logging in to a NetWare 4.0 server, the NetWare UAM dialog displays the Directory Services Tree and bindery context of the NetWare 4.0 server. If you are logging in to a NetWare 3.x server, this information will not be shown.

5 Click the OK button.

When you click OK, the system logs you in to the server. The Volume dialog box opens (Figure 10).

Figure 10 The Volume Dialog Box



Use the Volume dialog box to mount a volume on the Macintosh desktop. When you mount a volume, you make it available to your Macintosh workstation. You can then open the volume and work with the files stored there.

6 Choose a volume to mount.

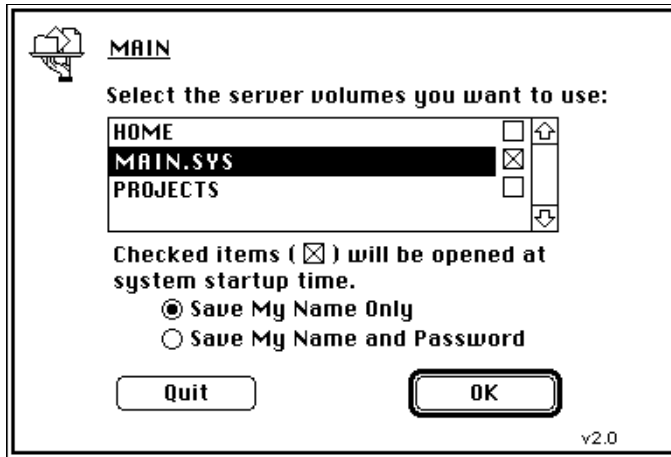
The Volume dialog box contains the name of each volume located on the server. If a volume name is dimmed, you either don't have rights to that volume or have already mounted it.

Click the volume name to choose it. For example, to mount the volume called MAIN.SYS, click its name in the list. If you want to mount more than one volume on a server, you can choose more than one volume at a time.

The checkbox next to each volume name enables you to specify whether you want the volume mounted when you start up your Macintosh workstation. To mount the volume when you start up, click the check box so that an "X" appears.

When you click the check box, two radio buttons appear. One is labeled Save My Name Only. The other is labeled Save My Name and Password. The Volume dialog box looks like the one in [Figure 11](#).

Figure 11 Startup Mounting Enabled



If you choose Save My Name Only, the system prompts you for your password when mounting the volume. If you choose Save My Name and Password, the system mounts the volume automatically, without requesting a password. For enhanced security, choose Save My Name Only.

If you use a NetWare-encrypted password, you cannot check a volume in order to mount it upon startup. If you try to do so, the error message in [Figure 12](#) appears.

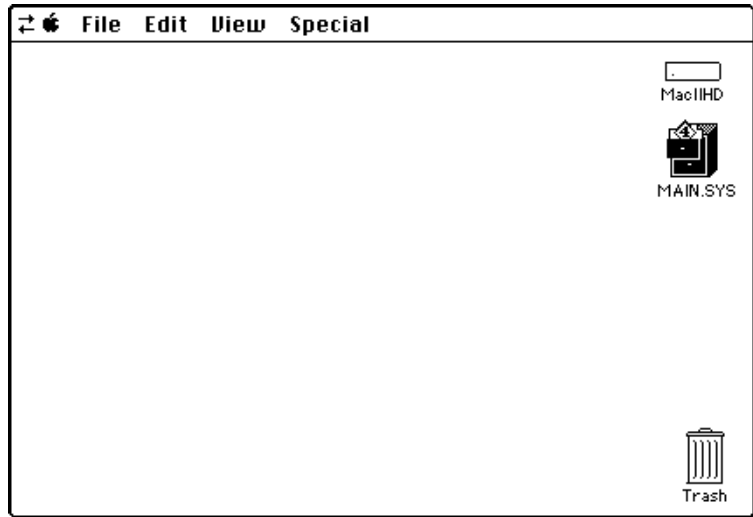
Figure 12 Startup Mounting Not Supported



7 Click the OK button.

The NetWare volume is mounted on your desktop. The volume appears as a filing cabinet icon, like the MAIN.SYS volume in [Figure 13](#).

Figure 13 Volume Icon



When you work with a volume, you frequently see two small arrows flashing on and off in the upper-left corner of the menu bar. These arrows are called the *network activity indicators*. They indicate active communication between your Macintosh workstation and the server.

8 Close the Chooser.

Choose the Close option from the File menu, or click the close box.

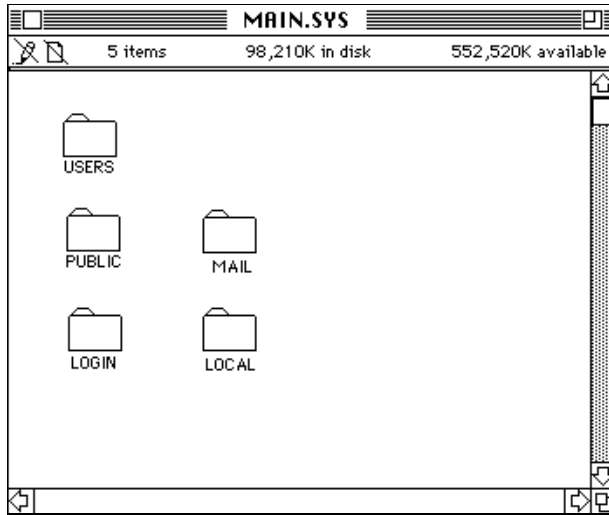
You have now completed the login process.

Working on the NetWare Server

You begin working on the NetWare server by opening a volume and viewing the folders and files at the root, the highest level of the folder and file hierarchy. To open a volume, double-click the icon representing it. Or, highlight the icon and choose the Open option from the File menu.

Figure 14 shows the root of the SYS volume on MAIN.

Figure 14 Root of the SYS Volume



The folders shown in **Figure 14** are standard folders that allow all NetWare users to open them. When you have the right to open a folder, it looks like a plain Macintosh folder on the NetWare volume. If you don't see any folders at the root of the SYS volume, you do not have access rights to any of the existing folders.

Icons That Indicate Your Access Rights

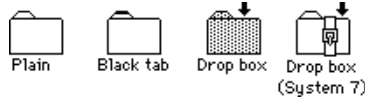
NetWare for Macintosh uses folder icons that allow you to see at a glance your general level of access rights. In addition, if you can open a folder but cannot make changes within that folder, the AppleShare access privilege icons appear in the upper-left corner of the open folder's window. You can see these icons in the upper-left corner of **Figure 14**.

NetWare for Macintosh uses the following folder icons to represent the type of access a user has to a folder:

- ◆ If you do not have permission to open a folder, you cannot see that folder. (You can locate such a folder using the Find File option under System 6.x, or the Find option under System 7.x. Both options are available from the File menu.)

- ◆ If you have the right to open a folder, it appears as a *plain folder*. You might also have other rights in a plain folder; for example, you may have the right to open and write to files in the folder. Use the Rights utility to find out your NetWare rights. [Chapter 4, “Managing Rights and Flags,” on page 111](#) describes the Rights utility in detail.
- ◆ If you have the right to change security rights on a folder and its contents, the folder appears with a black band on the tab. This type of folder is called a *black tab folder*.
- ◆ Under System 6.x, if you have the right to move or copy files into a folder, but do not have the right to open the folder and read its contents, the folder is gray with a small arrow above it. This type of folder is called a *drop box folder*, and it works like a mailbox. You can insert items, but you cannot open the drop box folder to see or read other users' items.

Under System 7.x, a drop box folder is represented with a belt around it. These four folders are represented by these icons:



- ◆ If you can change the security rights on a drop box folder, the drop box folder icon has a black tab.

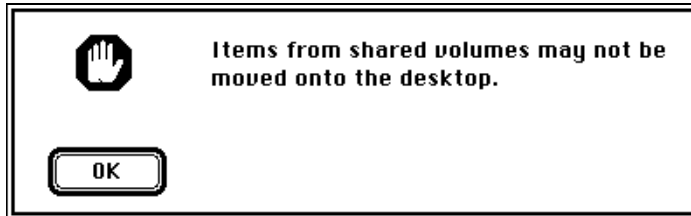
After you copy folders or files to a folder on the NetWare server, they automatically acquire the same set of rights as the folder that contains them. Rights acquired in this way are called *inherited rights*. For complete information on all facets of NetWare rights. See [Chapter 4, “Managing Rights and Flags,” on page 111](#).

Copying Folders and Files

You can copy folders and files between your local disk and a NetWare volume just as you would copy a folder or file to another Macintosh disk. Simply drag the appropriate icon to a volume window. If you are unfamiliar with copying folders and files, see the documentation accompanying your Macintosh workstation.

If you are using System 6.x and you want to copy a folder or file from a NetWare volume to your local disk, you must drag the icon to a window on the desktop. You cannot move or copy items from a NetWare volume to a desktop area not in a window. If you try to do so, the error message shown in [Figure 15](#) appears.

Figure 15 Desktop Error Message: System 6.x



Under System 7.x, you can copy a folder or file from a NetWare volume to any desktop area, either inside or outside a window. The system will actually copy the item to the startup disk, but it will appear on the desktop. When you attempt to move the item, the message shown in [Figure 16](#) appears.

Figure 16 Desktop Error Message: System 7.x



If you have more than one NetWare volume open on your desktop, you copy a folder or file between them just as you would between a local disk and a NetWare volume. Open a window for each volume. Then, drag the folder or file icon from one window to the other.

Creating Folders on a NetWare Volume

You can create a new folder on a NetWare volume just as you would on your local disk—by using the New Folder option from the File menu. However, be aware that you can create a new folder on a NetWare volume only if you have sufficient rights to do so.

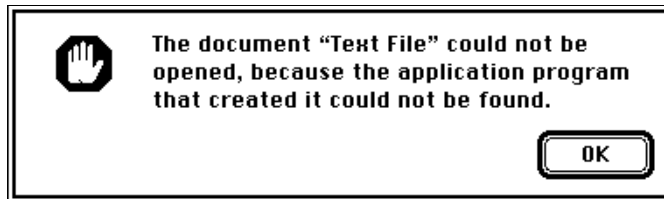
Opening a Macintosh Application on the Server

To work with files stored on the NetWare server, you can use a Macintosh application stored on your local disk or on a NetWare volume. If you create a file on the server using a Macintosh application, you can launch the application from the server just as from your local disk—by double-clicking the icon.

See [Chapter 7, “Mapping Filename Extensions,” on page 153](#) for a way to launch your preferred Macintosh application on DOS files when you are working on a NetWare 4.0 server.

If the Finder cannot find the application on your local disk or any of your mounted volumes, an error message such as the one shown in [Figure 17](#) appears.

Figure 17 The Application Cannot Be Found



This message may also indicate one of the following conditions:

- ◆ The application you are attempting to launch is a single-user version being accessed by another user.

If you want ready access to a Macintosh application that cannot be shared on the network, you should obtain your own copy. Store it locally, or put it in a protected folder on the NetWare server.

- ◆ The application resides in a folder that you do not have sufficient rights to access.

This condition could make it impossible for you to access the application. If you *can* access the application, you may not be able to create, see, or modify files in the folder.

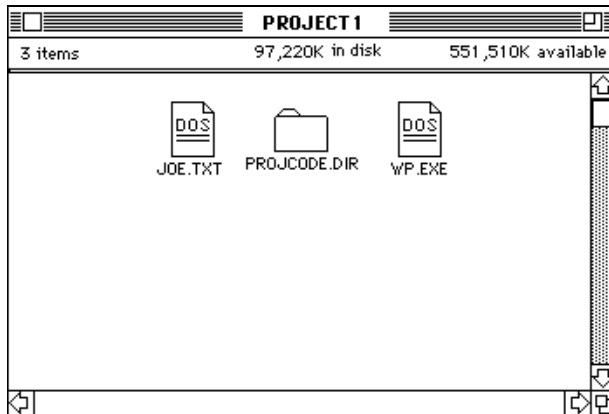
- ◆ You double-clicked a DOS file icon.

The Macintosh Finder does not recognize DOS applications. However, you can open DOS files in certain Macintosh applications. For details, see [“Opening DOS Directories and Files” on page 44](#).

Opening DOS Directories and Files

Because both Macintosh and DOS workstations can store files on a NetWare volume, you might see DOS files, applications, and directories on the server. [Figure 18](#) shows how DOS icons appear.

Figure 18 Sample Contents of a DOS Directory



DOS files and applications show the word DOS in their file icons. You can't open DOS files without the appropriate software. However, you can use the Rights utility to check your security rights on DOS folders and files; and you can use the File and Folder Flags utility to look at flags for DOS files and folders.

If a Macintosh application is designed to read the format of a particular DOS file, you can open that DOS file from within the Macintosh application. This capability depends on both the application that created the file and the application that is attempting to read the file. For example, both the Macintosh and DOS versions of WordPerfect can read WordPerfect files created by a DOS or Macintosh user.

See [Chapter 7, "Mapping Filename Extensions,"](#) on page 153 for a way to launch your preferred Macintosh application on DOS files when you are working on a NetWare 4.0 server.

DOS and Macintosh File Names

If you are sharing folders and files with DOS users, be aware that they will see DOS names rather than Macintosh names for the folders and files you create. These differing folder and file names can cause confusion if you are not aware of how NetWare works.

When converting a Macintosh name to a DOS name, NetWare removes any space characters (which are invalid in DOS names) and drops off all but the first eight characters. For example, if you have a folder named Alpha Test, DOS users see the same folder named ALPHATES.

Suppose you give a folder a name that is the same as the name of an existing DOS directory. When NetWare creates a DOS name for the folder, it drops the last letter and puts a zero in its place. For example, if you name a folder My Folder and the DOS directory MYFOLDER already exists, NetWare gives the new folder the DOS name MYFOLDE0.

If you attempt to create yet another folder that has the same name as the original DOS directory, NetWare drops the last character and appends a 1. For example, if you create a folder called My Folder, and the DOS directories MYFOLDER and MYFOLDE0 already exist, the new DOS name for the folder is MYFOLDE1.

If you want DOS users to see the same folder and file names that you do, follow these naming guidelines:

- ◆ Use a maximum of eight characters for the name. You can follow these eight characters with a period and a one- to three-character extension. For example, both these names are valid for DOS:

`Schedule.txtProject`

- ◆ Do not use a space character or any of the following characters in the folder or file name:

`. " / \ [] : | < >+ = ; ,`

Printing a File Using a NetWare Print Queue

A *NetWare print queue* stores your print jobs very quickly and sends them to the appropriate type of printer on a first-come, first-served basis. When you send a print job to a queue instead of directly to a printer, your Macintosh becomes available for other tasks more quickly than if you had to wait for the printer to accept your print job.

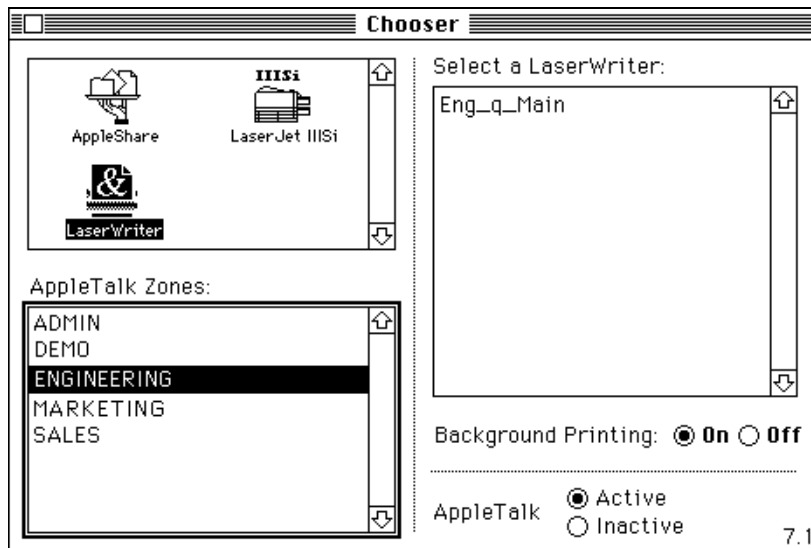
NOTE: For NetWare print queues to be visible in the Chooser, the administrator must configure an AppleTalk "front end" or "spooler" on the server, which responds to Chooser requests on behalf of the queue. Usually a spooler is assigned the same name as the queue it represents, and they are referred to collectively as a print queue.

To send a print job to a NetWare print queue from a Macintosh workstation, you must first select the queue in the Macintosh Chooser. Follow these steps:

- 1 Open the Chooser and click a printer icon (for example, the LaserWriter icon).

When you select the Chooser option in the Apple menu, the Chooser dialog box opens. When you click a printer icon, the Select a Printer list displays the name of each printer or print queue of the selected type (LaserWriter) in the currently selected zone (Figure 19).

Figure 19 Choosing a Print Queue in the Chooser



If you do not see a print queue name immediately, click another zone name until you find the queue you want to use.

2 Choose a NetWare print queue name in the Select a LaserWriter list.

If you see printer names as well as queue names in this list, you can print directly to the printer or use the queue. Using the queue frees up your keyboard much more quickly, especially if many users have access to the printer.

You can have Background Printing on or off. Either way, the system sends your job to the queue you choose.

3 Close the Chooser.

NetWare will now submit your print jobs to the selected queue whenever you print a document. You can change your queue selection any time you want by using the Chooser again.

4 Send a print job.

You can send print jobs to the queue from within an application (by choosing the Print option from the File menu), or from the desktop.

Print queues are usually created to accept print jobs from all users, but this is not always the case. If a queue was created to be accessible only to Queue Users and you are not an eligible Queue User, you might see the following message:

```
Can't place job in queue: no queue rights
```

This message will be displayed in the standard Macintosh PrintMonitor utility or if Background Printing is not enabled, in the Finder's printing window. Your attempt to print will fail, announced by a standard Macintosh printing error message.

Logging Out of a NetWare Server

When you are finished working on a server, you can log out by dragging all the volume icons for that server to the Trash icon on the Macintosh desktop.

You can also log out of the server by shutting down your Macintosh workstation.

2

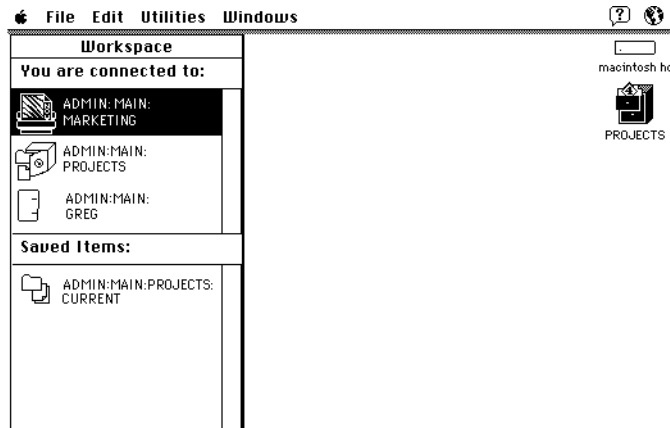
Working with NetWare Tools

The NetWare Tools application provides five utilities for setting up and administering a NetWare server running 3.x or later. This chapter describes how to launch each utility and how to locate the NetWare entities—the volumes, folders, files, users, groups, and print queues—you need to manage.

Launching the Utilities

To start up the NetWare Tools application, double-click the icon labeled NetWare Tools. A screen like the one in [Figure 20](#) appears.

Figure 20 Startup Screen



Once inside the NetWare Tools application, you can use either of the following methods to launch a utility:

- ◆ Choose a utility from the Utilities menu (Figure 21):

Figure 21 Utilities Menu



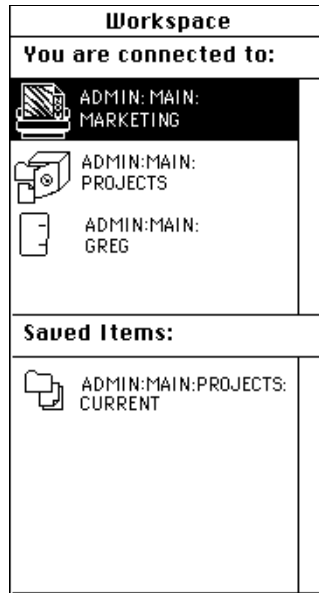
If you prefer to view the Utilities menu as an iconic palette, choose Preferences in the Edit menu and enable the Use Iconic Utility Palette option (see “Setting Preferences” on page 71). The Utilities menu will then contain a palette with these icons:

Figure 22 Utilities Icons



- ◆ Users and Groups utility icon
- ◆ Rights utility icon
- ◆ File and Folder Flags utility icon
- ◆ Print Queue utility icon
- ◆ Messaging utility icon
- ◆ Choose an item from the *Workspace* (Figure 23).

Figure 23 The Workspace



The Workspace contains items that represent utility sessions with NetWare entities that are currently "known" on your Macintosh Desktop.

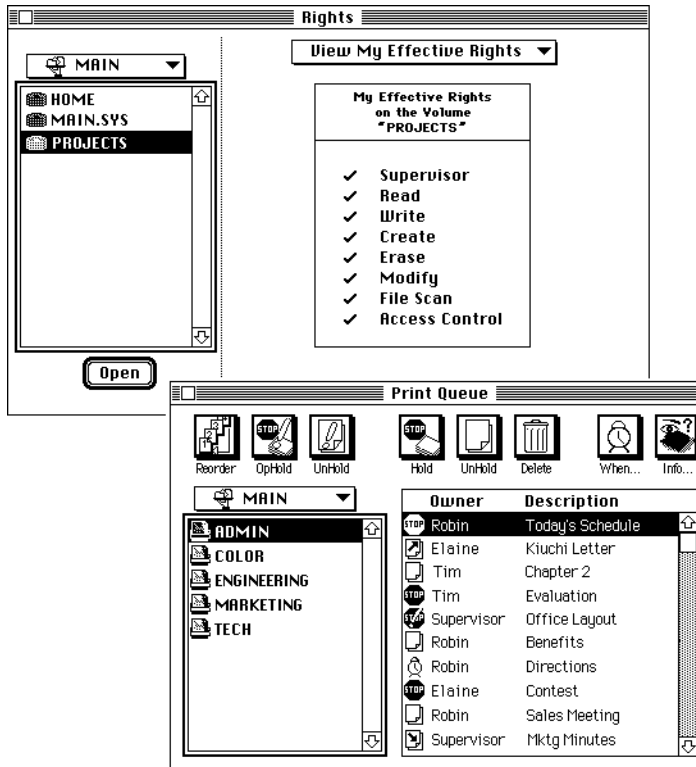
For example, if a NetWare print queue is selected in the Chooser, the Workspace contains an item representing a utility session with that queue, and if you are currently logged in to a NetWare server with a volume mounted, that volume and your NetWare login will appear as items in the Workspace.

Double-clicking on an item in the Workspace launches the appropriate utility and takes a shortcut directly to the NetWare entity. See ["Using the Workspace" on page 62](#) for more detail.

When you launch a utility, a *utility window* opens. The contents of the utility window vary according to the task at hand. For example, when you launch the Rights utility, the utility window contains functions for managing NetWare rights and flags. When you launch the Print Queue utility, the utility window contains functions for managing NetWare print queues.

You can launch more than one utility at a time; if you do so, a separate utility window opens for each utility. For example, if you launch the Rights utility and then launch the Print Queue utility, these two utility windows appear:

Figure 24 Multiple Utility Windows



The chapters that follow describe how to carry out particular tasks using each utility. However, before you can use the functions each utility provides, you must locate the NetWare entity you want to administer. The next section, [“Locating NetWare Entities” on page 53](#), describes how to do so.

Locating NetWare Entities

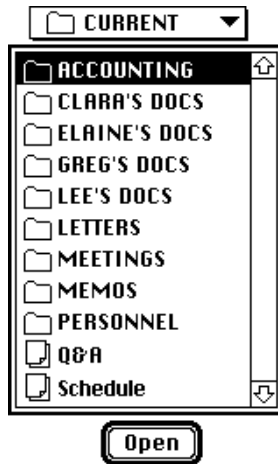
When you work with a utility, your tasks may be limited. If you are an end user, you may simply need to locate a single print queue, or scan the hierarchy of a particular volume. If you are a network administrator or workgroup manager, however, you may have to administer several volumes, or work with entities on different servers.

No matter what NetWare entity you are looking for, you use the *Browser tools* to find it. With these tools, you can "browse" the network to locate the volumes, folders, files, users, groups, and print queues you need to administer. The next sections describe how to use the Browser tools.

Introducing the Browser Tools

The Browser tools always appear in the left-hand portion of the utility window, a location called the *Browser area*. [Figure 25](#) shows the Browser components.

Figure 25 Browser Tools



The Browser tools consist of

- ◆ A scrolling list, known as the *Browser*

The Browser contains a set of network entities residing in the location shown in the pop-up menu. [Figure 25](#) shows the folders and files residing in the CURRENT folder.

HINT: If the name of an entity listed in the Browser is too long to be displayed fully, you will see part of the name followed by an ellipsis (...). You can view the whole name by pressing the mouse button on the name.

The entities displayed are appropriate to the active utility. For example, the Browser in the Print Queue utility displays a list of print queues. The Browser in the Rights utility displays a list of the volumes, folders, or files on which you can set trustee rights. You might see a Browser like the one in [Figure 25](#) when using the Rights utility.

- ◆ A pop-up menu

When the pop-up menu is closed, it displays the network entity that contains the items in the Browser. When you open the pop-up menu, you see all the entities higher in the hierarchy of zones, servers, and volumes than those in the Browser.

For example, suppose the CURRENT folder resides at the root of the PROJECTS volume, which is located on the MAIN server in the ADMIN zone. When the Browser displays the contents of the CURRENT folder, the menu contains the name of the folder and all the entities above it in the hierarchy ([Figure 26](#)).

Figure 26 Browser Area Pop-Up Menu



Note that the pop-up menu also contains a World option. When you highlight this option, the Browser displays a list of all the zones that it finds on the AppleTalk internet.

The pop-up menu enables you to move higher in the network hierarchy than the item highlighted in the Browser. When you choose an item in the pop-up menu, the Browser displays the entities one level below it. For more information on using the pop-up menu to navigate the network hierarchy, see [“Moving Up the Hierarchy” on page 59](#).

- ◆ An Open button

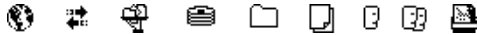
The Open button enables you to navigate one level lower in the hierarchy than the item highlighted in the Browser. The section [“Moving Down the Hierarchy” on page 60](#) explains how to use the Open button.

Getting to Know the Browser Area Icons

In both the Browser list and pop-up menu, an icon representing the type of entity displayed appears to the left of each item name. Icons are available for these types of entities:

- ◆ The top level of the hierarchy
- ◆ A zone
- ◆ A NetWare server
- ◆ A volume
- ◆ A folder
- ◆ A file
- ◆ A user
- ◆ A group
- ◆ A print queue

These icons represent the types of entities listed above. Their left-to-right order reflects their sequence in the list



What the Browser Contains

Depending on the utility you are using, a different set of entities may appear in the Browser when you choose a pop-up menu option.

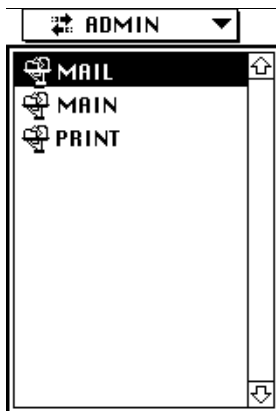
When you choose the World option, the Browser always displays the name of each AppleTalk zone it finds ([Figure 27](#)).

Figure 27 AppleTalk Zones in the Browser



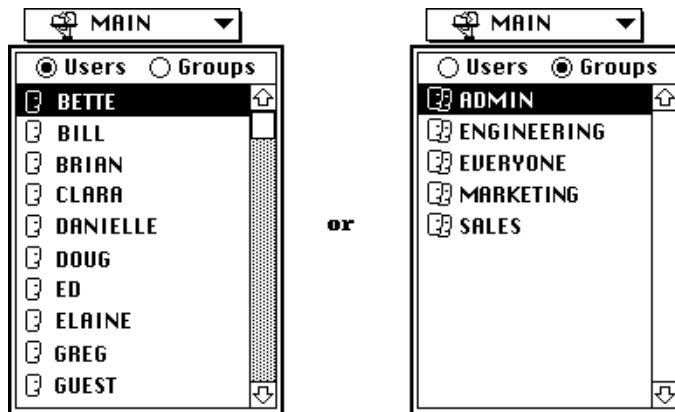
When you choose a zone name, the Browser always displays the name of each NetWare server in the zone (Figure 28).

Figure 28 Server List in the Browser



When you choose a server name in the Users and Groups utility or the Messaging utility, the Browser contains the name of each user or group registered on the server (Figure 29).

Figure 29 User and Group Lists in the Browser



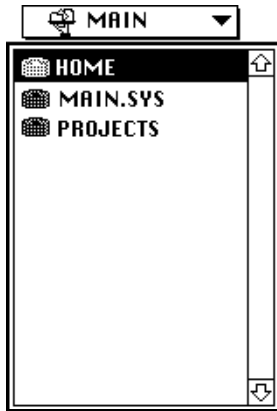
When you choose a server name in the Print Queue utility, the Browser contains the name of each print queue configured on the server (Figure 30).

Figure 30 Print Queue List in the Browser



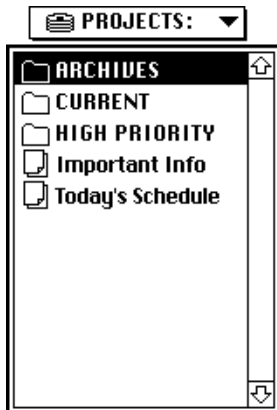
When you choose a server name in the Rights utility or the File and Folder Flags utility, the Browser contains the name of each volume on the server (Figure 31).

Figure 31 Volume List in the Browser



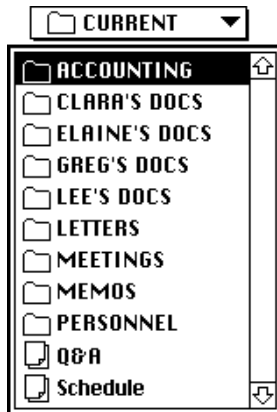
When you choose a volume name in the Rights utility or the File and Folder Flags utility, the Browser displays the files and folders at the root of the volume (Figure 32).

Figure 32 Volume Contents in the Browser



When you choose a folder in the Rights or the File and Folder Flags utility, the Browser displays the contents of the folder (Figure 33).

Figure 33 Folder Contents in the Browser



Moving Up the Hierarchy

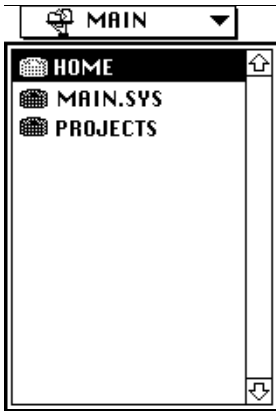
To move higher in the network hierarchy than the entity highlighted in the Browser, choose an item in the pop-up menu. The Browser displays the entities one level below the item selected in the pop-up.

For example, suppose the Browser displays the contents of the CURRENT folder, which resides on the PROJECTS volume on the MAIN server. What if you want to see all the volumes on MAIN?

To do so, you need to move up the hierarchy, past the volume level, to the server level. Open the pop-up menu and choose the server name:



The Browser now displays the volumes on MAIN:

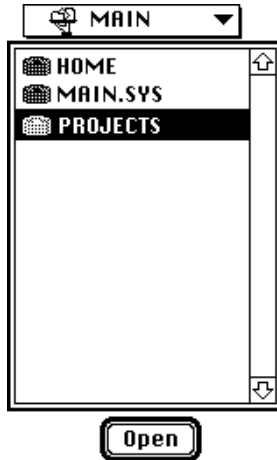


Moving Down the Hierarchy

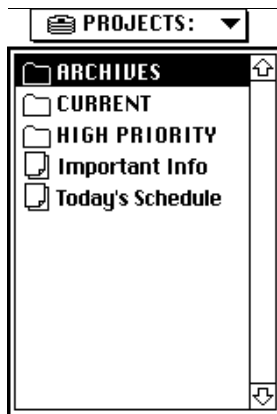
As we have seen, the Browser contains the items lower in the network hierarchy than the entities displayed in the pop-up menu. To move further down the hierarchy, begin by choosing an entity in the Browser. To display the entities residing one level below it, use any of these methods:

- ◆ Highlight the entity name and click the Open button.
- ◆ Highlight the entity name and press <Return> or <Enter>.
- ◆ Double-click the name of the entity.

For example, to see the folders and files at the root of the PROJECTS volume, highlight PROJECTS in the Browser. Then, click Open.



The folders and files at the root of the PROJECTS volume appear in the Browser. The name of the volume appears in the pop-up menu.



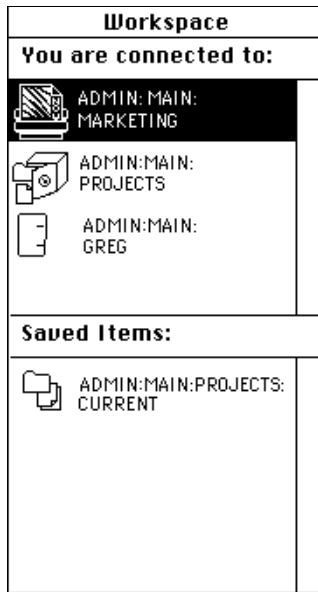
When to Log In to a Server

You do not need to log in to a particular server to see its name in the Browser. The names of all servers in any zone appear, regardless of whether you are logged in to them. However, when you highlight the server name and attempt to move one level below it, you must be logged in to that server. Otherwise, you cannot continue navigating.

If you are not logged in to the server when you attempt to display the entities it contains, the standard login dialog boxes appear. These dialog boxes require that you choose a login method, specify a user name and password, and mount a volume. The volume you mount need not be the one containing the entities you want to work with; it need only reside on the server containing those entities. For information on carrying out the login procedure, see “[Logging In to a NetWare Server](#)” on page 32.

Using the Workspace

When you launch the NetWare Tools application, the Workspace opens:



The Workspace window has two panes:

- ◆ The Connected Items pane at the top of the window

The Connected Items pane contains items that represent utility sessions with NetWare entities that are currently "known" on your Macintosh Desktop. For example, if a NetWare print queue is selected in the Chooser, the Workspace contains an item that represents a utility session with that queue.

- ◆ The Saved Items pane at the bottom of the window

The Saved Items pane contains items that represent previous utility sessions that you have saved in a session file.

Opening a Utility Session from the Workspace

Utility sessions in the Connected Items or Saved Items pane provide an easy, convenient way to open a NetWare Tools utility. You can open a utility session in either pane of the Workspace by using one of these methods:

- ◆ Double-click the utility icon.
- ◆ Highlight the utility icon, and choose the Open Workspace Item option from the File menu.

The Connected Items Pane

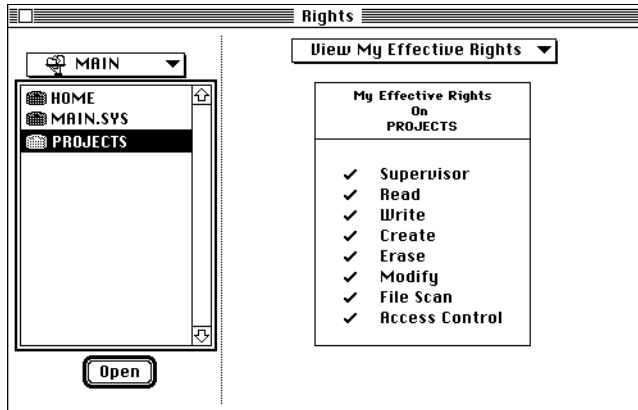
These are the NetWare icons that can appear in the Connected Items pane:

- ◆ The Print Queue utility icon, which represents the NetWare queue selected in the Chooser. This icon appears only if a NetWare print queue is selected in the Chooser.
- ◆ The Rights utility icon, which represents the NetWare volumes you have mounted on the desktop. This icon appears next to the name of each mounted volume. The volumes appear in the order in which you mounted them.
- ◆ The User icon, which represents your login name to servers whose volumes are mounted on the desktop. The user names appear in the order in which you logged in.

For example, suppose the Connected Items pane contains this utility session:



This session indicates the Rights utility (the Rights utility icon is shown), with a volume named PROJECTS on a server named MAIN in the ADMIN zone. When you open this utility session, the Rights utility window opens with the PROJECTS volume already highlighted in the Browser and your rights displayed:



NOTE: After launching the Tools application, use the Refresh command in the Windows menu to update the Connected Items pane when you change the connections on your Desktop. For example, if you unmount a volume, log in to another NetWare server, or choose a different print queue in the Chooser, the updated information will not be shown until you choose Refresh in the Windows menu. See [“Refreshing the Active Window” on page 70](#) for details.

The Saved Items Pane

The Saved Items pane contains utility sessions you have saved in a *session file*. These are the NetWare icons that can appear in the Saved Items pane:

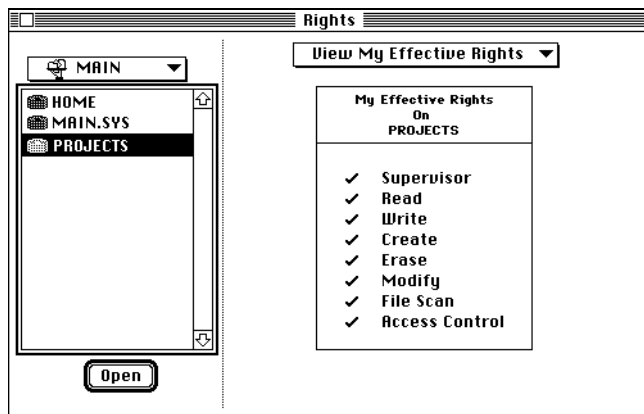
- ◆ Users and Groups utility icon, which represents a saved session in this utility with particular users and groups.
- ◆ Rights utility icon, which represents a saved session in this utility with particular NetWare volumes.
- ◆ File and Folder Flags utility icon, which represents a saved session with particular folders and files.
- ◆ Print Queue utility icon, which represents a saved session with a particular NetWare queue.

If you are working frequently with a particular NetWare entity, you can save the utility session for that entity in a session file. When you launch the NetWare Tools application after creating a session file, an item representing that entity appears in the Saved Items pane, even if you are not connected to that entity. You can then reopen the utility session directly from the Saved Items pane.

For example, suppose the Saved Items pane contains this utility session:

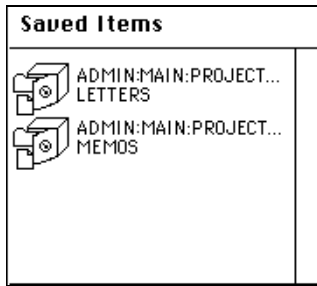


Even though the PROJECTS volume is not mounted on the desktop, you can open this utility session and be prompted automatically to log in to the MAIN server. You don't need to spend the time locating the zone containing the appropriate server, or the server containing the volume you want to work with. The application does the work for you. After you have logged in and mounted the PROJECTS volume, the Rights utility window opens with the PROJECTS volume already highlighted in the Browser and your rights displayed:

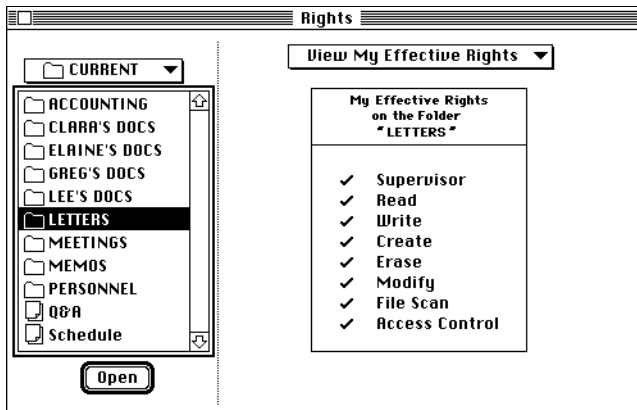


End users can find session files useful as well. Suppose that as the office manager, you commonly work with two folders: LETTERS and MEMOS. Some of the documents you store in these folders are confidential. Others should be shared only with certain users. Still others should be available to anyone. When you add a document to one of these folders, you need to set access rights accordingly.

For convenience, represent both these folders in your session file. When you launch the NetWare Tools application, an item representing each folder appears in the Saved Items pane:



To set rights on a file in one of the folders, launch the Rights utility from the appropriate item. For example, to set rights on a file in the folder LETTERS, launch the utility from the item representing LETTERS. The folder is automatically highlighted:



You can now easily navigate to the appropriate file in the LETTERS folder and set rights on it.

When To Log In to a Server

Each item you store in your session file appears in the Saved Items pane, whether or not you are logged in to the server containing it.

If you are not logged in to the server when you attempt to launch the utility, the standard login dialog boxes appear. These dialog boxes require that you choose a login method, specify a user name and password, and mount a volume. The volume need not be the one containing the entity you want to work with; it need only reside on the server containing the entity.

For information on carrying out the login procedure, see [“Logging In to a NetWare Server” on page 32](#).

Using Session Files

When you launch the NetWare Tools application, the Saved Items pane of the Workspace contains the utility sessions that were saved in a session file. By default, the program uses a session file called NetWare Tools Prefs. You can add utility sessions to this file, or delete sessions from it. The contents may vary, but the application always looks for this file by default.

In addition to providing a default session file, the NetWare Tools application enables you to create multiple session files, each containing a particular set of entities.

For example, if you are a network administrator, you might create two files. The Volumes file might store utility sessions for the volumes you most frequently set rights on; the Print Queues file may store descriptions of the print queues you administer. When your task involves administering the volumes, you can use the Volumes file. When your tasks involves print queue management, you can use the Print Queues file.

The sections that follow describe how to specify which session file NetWare Tools uses.

Using the Default Session File

When you launch NetWare Tools by double-clicking the application icon, the program looks for the session file called NetWare Tools Prefs. If you are running System 6.x, the application looks for the file in the System Folder. If you are running System 7.x, the system looks for the file in the System Folder:Preferences folder.

When the application is loaded into memory, the sessions represented in the NetWare Tools Prefs file appear in the Saved Items pane of the Workspace. If the application does not find a session file in the proper location, it creates a blank file; when you launch the application, the Saved Items pane is empty. You can then add utility sessions to the file, as described in [“Creating or Modifying a Session File” on page 68](#).

Using an Alternate Session File

You can launch NetWare Tools with a different session file by double-clicking that session file's icon in the Finder or by selecting the session file's icon and choosing Open in the Finder File menu. Or, if the Macintosh is running System 7.x, you can drag-and-drop the session file's icon on top of the NetWare Tools application.

Once inside the application, you *cannot* specify that the Workspace reflect the contents of a different session file. To load a different session file, you must quit the application and launch it again by double-clicking a different file icon in the Finder.

Creating or Modifying a Session File

To create or modify a session file, follow these steps:

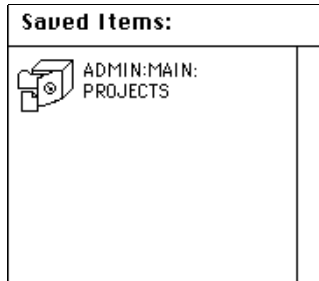
- 1** Launch the NetWare Tools application.
- 2** Choose a NetWare entity to add to the session file.

To find the entity, open the utility you will use to work with it. For example, if you plan to set rights on the PROJECTS volume, open the Rights utility. In the Browser, navigate to the entity and highlight the row representing it.

For information on finding a NetWare entity, see [“Locating NetWare Entities” on page 53](#).

3 Choose the Add to Workspace option from the File menu.

The item appears in the lower pane and is represented in the session file. In our example, a session item representing the PROJECTS volume appears:



To copy a session item from the Connected Items pane to the Saved Items pane, highlight it and choose the Add to Saved Items option from the File menu.

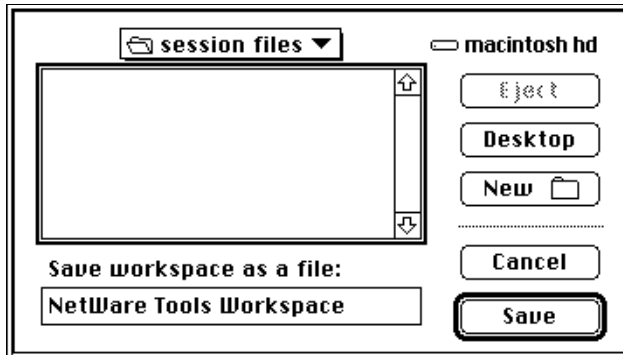
4 Double-check your work.

If you make a mistake, or decide you no longer want a utility session in the session file, you can easily delete it. Simply highlight the item in the Saved Items pane. Then, choose the Clear option from the Edit menu, or press <Delete>. The item disappears from the Workspace. Note that you cannot delete items from the Connected Items area.

You can make changes to the Saved Items pane at any time the Workspace is open—that is, at any time the NetWare Tools application is running.

The NetWare Tools application automatically saves all changes to the session file you are currently using. To save your changes to a new session file, choose the Export Workspace to File option from the File menu.

A standard Macintosh file dialog opens, where you can enter the name of the new file and click the Save button.



Remember that only the session items in the Saved Items pane are saved to the new session file. The items in the Connected Items pane are not saved.

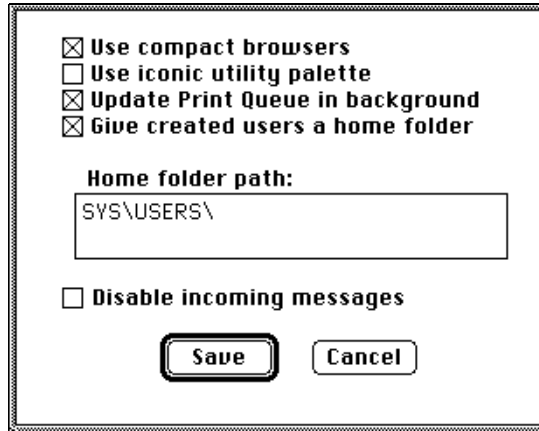
Refreshing the Active Window

To refresh the information in the active window, choose the Refresh option from the Windows menu. The NetWare Tools application updates the window to show any new NetWare entities located on the internet, and to reflect any NetWare entities that have left the internet.

Setting Preferences

The NetWare Tools application allows you to set preferences that affect the utilities. **Figure 34** shows the default preferences settings:

Figure 34 Utilities Preferences



You can set these preferences clicking in the check boxes to enable or disable the option, and then clicking the Save button. If an option is enabled, an "X" appears in the check box.

- ◆ Use Compact Browsers

If you uncheck this preference, the Browser resizes to accommodate longer names. When this option is checked, if a name is too long to be displayed in the Browser, you will see part of the name followed by an ellipsis (...). You can view the whole name temporarily by pressing the mouse button on the name.

- ◆ Use Iconic Utility Palette

If you check this preference, the Utilities menu opens an iconic palette instead of an ordinary menu listing the utilities.

- ◆ Update Print Queue in Background

The Print Queue utility is continuously being updated with new information about print jobs in the visible queues, even if the Print Queue utility window is not currently frontmost and active. If you uncheck this preference, the update activity ceases when the Print Queue utility window is in the background. Unchecking this option reduces the system resources used to update print queue information.

- ◆ Give Created Users a Home Folder

If you uncheck this option, a home folder will not be created automatically for new users created via the NetWare Tools application.

- ◆ Home Folder Path

If the Give Created Users a Home Folder option is checked, this edit field should contain a legal DOS path to the directory in which the home folders will be created.

The path specified here will be used only if the Supervisor user object does *not* define a default path for users' home folders and a folder named USERS is *not* located at the root of the SYS volume. The system looks here for a specified path only after checking both of those conditions.

- ◆ Disable Incoming Messages

If you check this option, the Macintosh on which the NetWare Tools application resides will not accept messages from other NetWare users.

Required Privileges

Any member of the group EVERYONE can use the utilities to view information. However, if you do not have the File Scan right for a volume, folder, or file, you cannot see the entity in the list.

To carry out certain administrative tasks, you must have particular privileges. [Table 5](#) summarizes each task and the privilege it requires.

Table 5 Required Privileges

Utility	Tasks	Required Privileges
Users and Groups	Create and delete users and groups.	You must be a Supervisor or Supervisor-equivalent.
	Add or remove a user to or from a group.	You must be a Supervisor, Supervisor-equivalent, or Work Manager.
	Create, modify, or delete passwords for any user or group.	You must be a Supervisor or Supervisor-equivalent.
	Create, modify, or delete your own password.	You must be logged in and the server must allow users to set their own passwords.
	Set or remove user or group trusteeship of a file or folder.	You must be a Supervisor or Supervisor-equivalent, or use the Rights utility instead.
	Set user rights on a file or folder on which the user has trusteeship.	You must be a Supervisor or Supervisor-equivalent, or use the Rights utility instead.
	Set or remove security equivalences.	You must be a Supervisor or Supervisor-equivalent.
Rights	Set or remove trustee rights for a volume, folder, or file.	You must have the Access Control or Supervisory right for the volume, folder, or file.
	Set or remove trusteeship.	You must have the Access Control or Supervisory right for the volume, folder, or file.
File and Folder Flags	Set attributes for a folder or file.	You must have the Modify right for the folder or file.
Print Queue	Manage your own print jobs.	You must be a Queue User.
	Manage print jobs for other users.	You must be a Supervisor, Supervisor-equivalent, or Queue Operator.
Messaging	Send and receive messages.	You must be logged in to the server and have the required client software.

Quitting the NetWare Tools Application

To quit the NetWare Tools application, choose Quit from the File menu.

3

Managing Users and Groups

This chapter describes how to work with the Users and Groups utility to set up and maintain your user base.

The information in this chapter is intended primarily for the network administrator and Workgroup Manager, although any user can carry out some of the jobs described here. A note at the beginning of each section specifies the privileges necessary to perform each task.

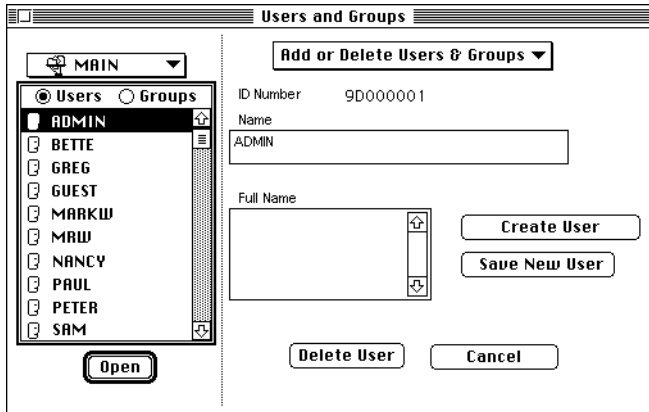
HINT: Because Bindery Emulation is used for Macintosh workstations logging in to NetWare 4.0 servers, the NetWare Tools application sees the Admin user as an ordinary user with no special privileges. If you want to enable the Admin user to create users and groups in NetWare Tools, you can assign Supervisor equivalence to the Admin login. See [“Setting a Security Equivalence” on page 102](#).

The chapter discusses these topics:

- ◆ Creating a user
- ◆ Setting a password
- ◆ Creating a group
- ◆ Adding a user to a group
- ◆ Setting trustee rights for a user or group
- ◆ Setting or removing security equivalences
- ◆ Deleting a user
- ◆ Deleting a group
- ◆ Deleting a user from a group

Before You Begin

Before you can carry out the tasks described in this chapter, you must launch the Users and Groups utility. When you launch the utility from the Utilities menu, this window opens:



The pop-up menu at the top right of the window enables you to choose the task you want to carry out. In the Users and Groups utility, the pop-up menu contains these options:



The options are briefly summarized below:

- ◆ Add or Delete Users & Groups: Choose this option to add or delete a user or group, or to see the full name of a user or group.
- ◆ Assign Passwords: Choose this option to assign or modify a password.
- ◆ Users & Groups Assignments: Choose this option to assign users to one or more groups.
- ◆ Assign or Remove Trustees: Choose this option to assign a user or group as a trustee of a volume, folder, or file.

- ◆ **Assign Rights:** Choose this option to assign a set of rights for any trustee of a volume, folder, or file.
- ◆ **Set Security Equivalences:** Choose this option to make one user security-equivalent to another user, or to a group.

By default, the pop-up menu above the Browser displays the name of the server containing the first volume mounted on your desktop.

The Browser shows all users registered on that server. (Or, on NetWare 4.0 servers, the Browser displays the names of all users in that server's Bindery Context.) Your user name is highlighted.

HINT: If the name of a user or group is too long to be displayed in the Browser, you will see part of the name followed by an ellipsis (...). You can view the whole name by pressing the mouse button on the name.

If no volumes are mounted when you launch the utility, the Browser contains the name of each server in your default zone; the first server in the list is highlighted. The pop-up menu displays the zone name.

If no servers exist in your default zone, the Browser displays the name of each zone on the AppleTalk internet; the first zone in the list is highlighted. The pop-up menu displays the World option.

To administer users and groups on a server other than the default, you must locate the server. The section [“Locating NetWare Entities” on page 53](#) describes how to do so.

Setup Tasks Checklist for the Network Administrator

As a network administrator, you might work with the Users and Groups utility only occasionally; for example, you might use the utility simply to add or delete users as the need arises. However, you may also want to use the utility to set up your user base from scratch. Follow these steps when you perform your initial setup:

1. Create users. For information, see [“Creating a User” on page 78](#).
2. Create a password for each user. For information, see [“Setting a Password” on page 82](#).
3. Create groups. For information, see [“Creating a Group” on page 85](#).
4. Add users to each group. For information, see [“Adding Users to Groups” on page 87](#).

5. Set trustee rights for each user or group (optional). For information, see [“Setting Trustee Rights for a User or Group” on page 91.](#)
6. Set security equivalences (optional). For information, see [“Setting a Security Equivalence” on page 102.](#)

Creating a User

A *user* is any person allowed to work on the server. When you create a user, you assign a user name to identify the person as someone allowed to use server resources.

NOTE: When you create a user on a NetWare 4.0 server, that person will be identified as someone allowed to use resources on the current server as well as resources on all other servers in the same Bindery Context. For more information about users and Bindery Contexts in NetWare 4.0, see *NetWare for Macintosh Installation and Maintenance* for NetWare for Macintosh 4.0.

The SUPERVISOR name exists automatically. SUPERVISOR has all rights in all folders, and no one can revoke these rights. On NetWare 3.x servers, the GUEST name also exists; GUEST serves as a user name for anyone who needs temporary and restricted access to the server. For complete information about these user names, see *NetWare Concepts*.

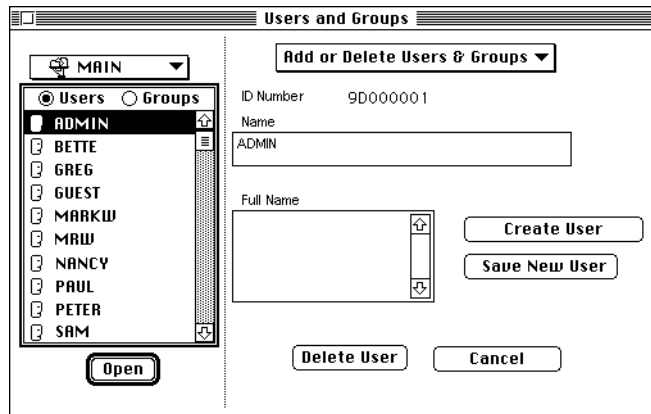
NOTE: To create a user, you must have Supervisor status.

Follow these steps:

- 1 Choose the Add or Delete Users & Groups option.

The utility window will look like the one shown in [Figure 35](#).

Figure 35 Adding or Deleting Users & Groups



- 2** Locate the server on which you want to create a user.

The name of the server must appear in the pop-up menu above the Browser. For example, to create a user on the server MAIN, make sure that MAIN appears in the pop-up menu.

- 3** In the Browser, click the Users radio button.

Any users currently registered on the server appear in the Browser. If you have not yet created a user, the users SUPERVISOR and GUEST are the only ones displayed.

- 4** Click the Create User button.

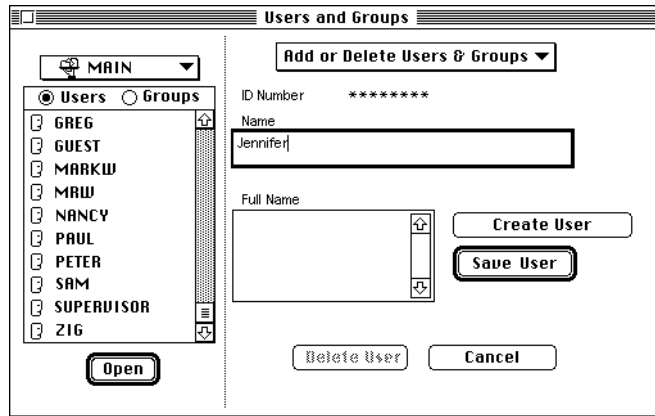
Any text appearing in the text entry boxes is cleared. The cursor appears in the Name text entry box, and that box is highlighted.

- 5** Enter a user name.

In the Name text entry box, enter a user name. You can specify up to 47 characters. The user name cannot contain control characters, spaces, or any of these symbols:

. " / \ [] : | < > + = ; , * ? ~

For example, to create a user name for Jennifer, type **Jennifer** in the text entry box.



Note that the Chooser limits a login name to 31 characters. Therefore, if the user will log in to a server from a Macintosh workstation, limit the user name to 31 characters.

6 Enter user information.

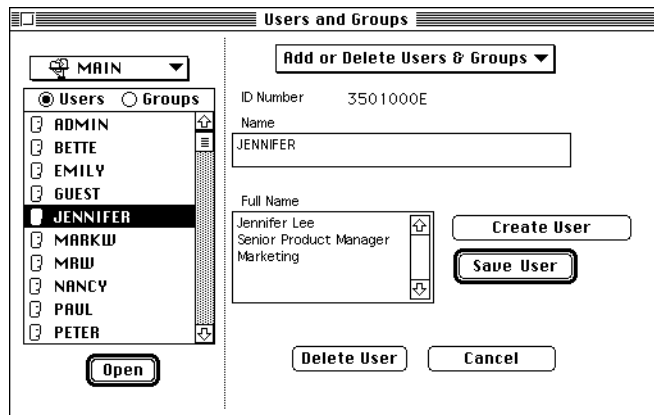
In the text entry area labeled Full Name, enter any information that may be helpful in identifying the user. You might enter the user's full name and title, and the name of his or her department; for example,

Jennifer Lee
Senior Product Manager
Marketing

You can enter up to 128 characters.

7 Click the Save User button.

When you click Save User, the system assigns the user an internal user ID. This identifier appears next to the ID Number label. The window now looks like this:



The user automatically becomes a member of the group EVERYONE. In addition, the system automatically creates a mail folder. This folder is named with the user ID and resides in the MAIL folder on the SYS volume.

NOTE: On a NetWare 4.0 server, the new user will be a member of the group EVERYONE on this server and on all other servers in the same Bindery Context. The new user will not be a member of the group EVERYONE in other Bindery Contexts. For more information about Bindery Contexts in NetWare 4.0, see NetWare for Macintosh *Installation and Maintenance* for NetWare for Macintosh 4.0.

The new user name appears highlighted in the Browser. The user name appears in all uppercase letters, regardless of how you typed it into the Name text entry box. When logging in, the user can enter his or her user name with any combination of uppercase and lowercase letters.

For the new user to mount a volume on the server, he or she must be a trustee of a folder or file on the volume. Because each new user you create is automatically a member of the group EVERYONE, a you should make EVERYONE the trustee of a folder or file on the volume. For information on assigning a user or group as a trustee, see [“Setting Trustee Rights for a User or Group” on page 91](#).

Setting a Password

It is recommended practice to assign a password to all new users. When the user logs in to the server, he or she can set a new password, provided that the NetWare server has been set up to allow users to change their own passwords.

NOTE: When you set a password on a NetWare 4.0 server, the password will be required for the user to log in to the current server and all other servers in the same Bindery Context. For more information about users and Bindery Contexts in NetWare 4.0, please see NetWare for Macintosh *Installation and Maintenance* for NetWare for Macintosh 4.0.

NOTE: To set a password for any user other than yourself, you must have Supervisor status. To set your own password, you must be logged in with your user name, and the server must be set up to specify that users can change their passwords.

Follow these steps:

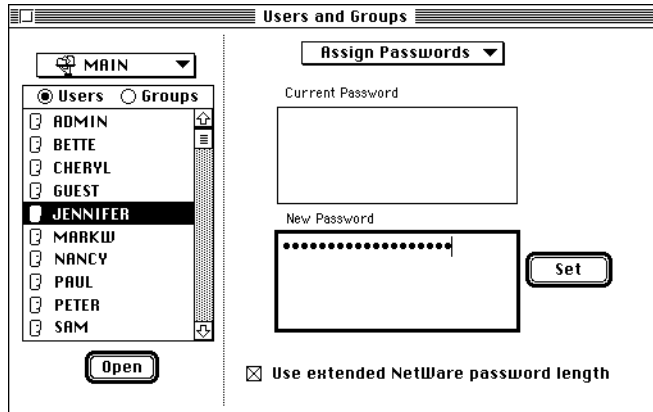
- 1** Choose the Assign Passwords option.
- 2** Locate the server containing the user for whom you want to set a password.

The server's name must appear in the pop-up menu above the Browser. For example, if you want to set a password for a user on the server MAIN, make sure that MAIN appears in the pop-up menu.

- 3** In the Browser, highlight a user name.

For example, to set a password for the user JENNIFER, highlight JENNIFER in the Browser ([Figure 36](#)).

Figure 36 Assigning a Password to the Selected User



- 4** Specify whether the password will use the extended password length.

NetWare encrypted passwords can be up to 128 characters long, while Apple clear-text passwords are limited to 8 characters. A setting on the NetWare server determine whether NetWare encrypted passwords are not supported, allowed as an option, or are required to log in to that server. Macintosh users must log in via the NetWare UAM to use extended passwords.

If you need to specify a non-extended Apple clear-text password, click the check box labeled Use Extended NetWare Password Length so that the "X" disappears.
- 5** Enter the current password (non-Supervisors only).

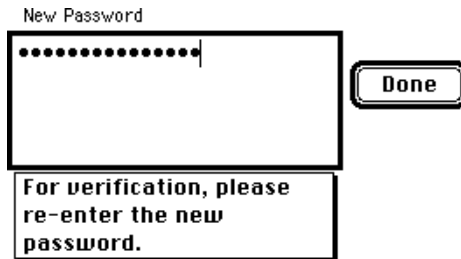
If you are changing your own password, enter your current password in the text entry box labeled Current Password. As you type each letter, it appears as a bullet character. If you do not have a password and are creating one for the first time, leave the Current Password text entry box blank.

If you have Supervisor rights, you need not enter the user's current password.
- 6** Enter the new password.

In the text entry box labeled New Password, enter the new password. As you type each letter, it appears as a bullet character. The new password must contain at least four characters.

7 Click the Set button.

When you click the Set button, this message appears:



Re-enter the new password in the New Password text entry box. The Set button changes to Done.

8 Click the Done button.

If you correctly re-entered the new password in [Step 7](#), this message appears:



If the password is not accepted when you click Done, make sure that you typed it correctly the second time. If you are sure you typed the password correctly, you need to check password restrictions on the server. For example, the server might have been set to require a certain number of characters in a password, or to require that the new password is different from the password used previously.

If one of these errors occurs, a window displays the appropriate error message. Click OK to close the window. Then, complete [Step 5](#) through [Step 8](#) again.

9 Click the OK button to close the window.

Creating a Group

A *group* is a collection of users registered on a server who share applications, perform similar tasks, or have similar needs for information. When you create a group, you can work with users collectively rather than individually. As members of a group, users automatically inherit the group's privileges. The group EVERYONE automatically exists and includes all users on the current server.

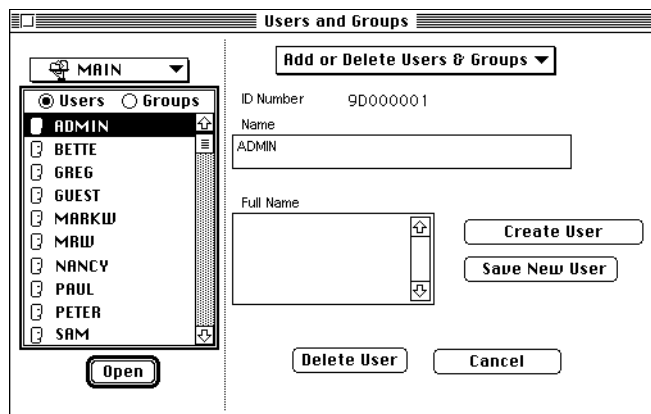
NOTE: By default, the group EVERYONE on a NetWare 4.0 server includes all users in the current Bindery Context; however, a user can be removed from the group EVERYONE. When you create a new group on a NetWare 4.0 server, the group will be identified on the current server as well as on all other servers in the same Bindery Context. For more information about Bindery Contexts in NetWare 4.0, please see NetWare for Macintosh *Installation and Maintenance* for NetWare for Macintosh 4.0.

Before you can add users to a group other than EVERYONE, you must create the group on the server. To carry out this task, follow the steps described in this section. For information on adding users to the group, see [“Adding Users to Groups” on page 87](#).

To create a group, you must have Supervisor status.

- 1 Choose the Add or Delete Users & Groups option.

The window looks like this:



2 Locate the server on which you want to create a group.

The name of the server must appear in the pop-up menu above the Browser. For example, to create a group on the server MAIN, make sure that MAIN appears in the pop-up menu.

3 In the Browser, click the Groups radio button.

Any groups currently registered on the server appear in the Browser. If you have not yet created a group, the group EVERYONE is the only one displayed.

4 Click the Create Group button.

Any text appearing in the text entry boxes is cleared, and the cursor appears in the Name text entry box.

5 Enter a group name.

In the Name text entry box, enter a group name. You can specify up to 47 characters. The group name cannot contain control characters, spaces, or any of these symbols:

. " / \ [] : | < > + = ; , * ? ~

For example, to create a group for members of the Marketing department, enter **Marketing** in the text entry box.

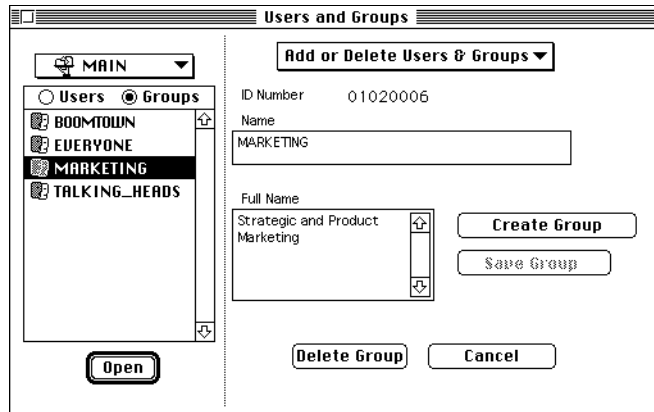
6 Enter group information.

In the text entry area labeled Full Name, enter any information that may be helpful in identifying the group. You can enter up to 128 characters.

7 Click the Save Group button.

When you click Save Group, the system assigns the group an internal ID. This identifier appears next to the ID Number label.

Figure 37 Creating a Group on MAIN



The new group name appears highlighted in the Browser. The name appears in all upper-case letters, regardless of how you typed it in the Name text entry box.

You are now ready to add users to a group.

Adding Users to Groups

You can approach adding users to groups from either of these viewpoints:

- ◆ From the user viewpoint, by specifying to which groups a particular user should belong
- ◆ From the group viewpoint, by specifying which users should be added to a particular group

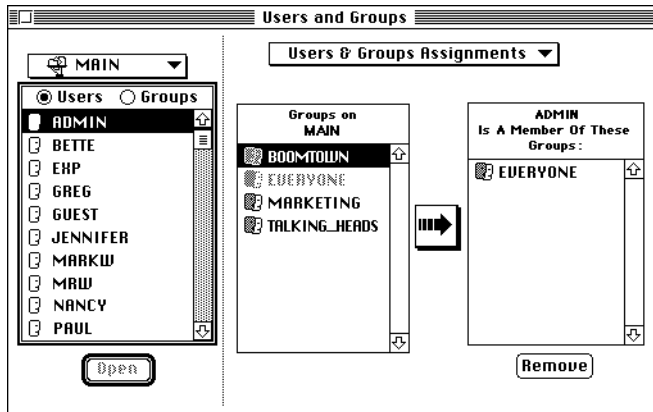
NOTE: To add a user to a group, you must have Supervisor status or Workgroup Manager status for that group.

Selecting Groups to Which a User Will Belong

This section describes how to make a user a member of a group. Follow these steps:

- 1 Choose the Users & Groups Assignments option.

The window will look like this:



In addition to the Browser, the window contains these lists:

- ◆ The Users and Groups list

This list appears in the center of the window. When users appear in the Browser, this list displays all the groups registered on the server (or, for NetWare 4.0 servers, all groups in the current Bindery Context). From this list, you choose the groups to which the user will belong.

- ◆ The Group Membership list

This list appears at the right of the window. When users are shown in the Browser, this list displays the groups to which a selected user belongs. When groups are shown in the Browser, this list contains users who are members of a selected group.

- 2 Locate the server containing the user you want to add.

The server's name must appear in the pop-up menu above the Browser. For example, if you want to assign a user to a group on the server MAIN, make sure that MAIN appears in the pop-up menu.

3 In the Browser, click the Users radio button.

All the users registered on the server appear.

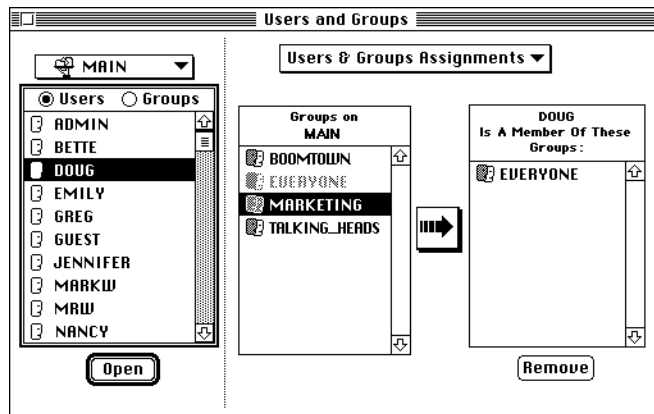
4 In the Browser, highlight a user name.

Highlight the name of the user to add to a group. For example, to add the user DOUG to a group, highlight DOUG.

5 In the Users and Groups list, highlight a group name.

Highlight the group to which you want to add the highlighted user. For example, to add DOUG to the MARKETING group, highlight MARKETING. The window will look like this:

Figure 38 Adding a User to Groups



6 Click the right-arrow button.

When you click the right-arrow button, you add the user to the selected group. The group name you selected appears in the Group Membership list.

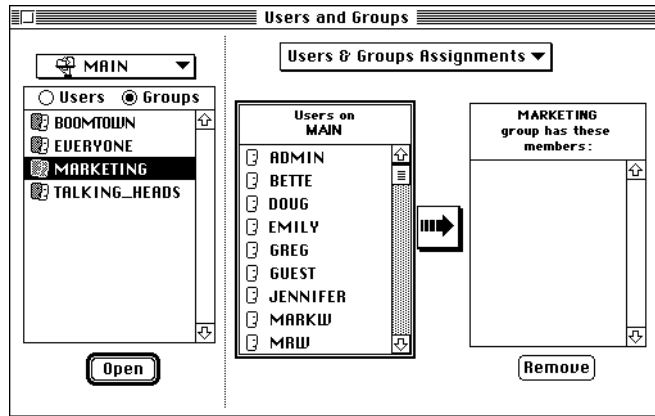
Selecting Users to Add to a Group

This section describes how to add users to a particular group. Follow these steps:

1 Choose the Users & Groups Assignments option.

2 In the Browser, click the Groups radio button.

All the groups registered on the server appear. The window will look like this:



- 3 Locate the server containing the group you want to administer.

The server's name must appear in the pop-up menu above the Browser. For example, if you want to add a user on the server MAIN to a group, make sure that MAIN appears in the pop-up menu.

- 4 In the Browser, highlight a group.

Highlight the group to which you want to add a user. For example, to add users to the MARKETING group, highlight MARKETING in the list.

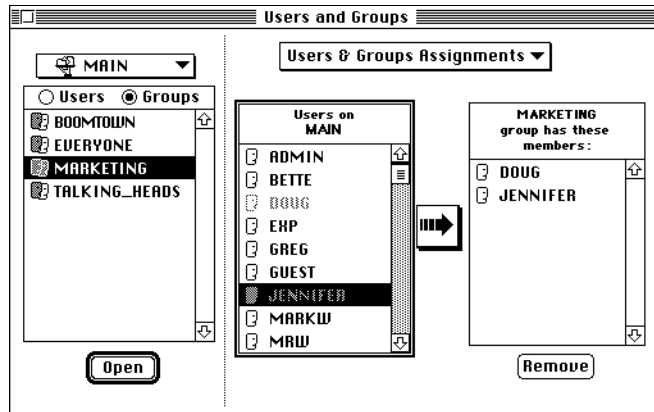
- 5 In the Users and Groups list, highlight a user name.

Highlight the user you want to add to the group. For example, to add the user DOUG to the group MARKETING, highlight DOUG.

- 6 Click the right-arrow button.

When you click the right-arrow button, you add the highlighted user to the group. For example, if you highlight the user DOUG and click the right-arrow button, DOUG appears in the Group Membership list, as shown in [Figure 39](#).

Figure 39 Adding Users to a Group



Setting Trustee Rights for a User or Group

When you set *trustee rights*, you give a particular user or group certain rights to a specific volume, folder, or file. The user or group is known as the *trustee*. The *rights* you assign determine the kinds of tasks the trustee can carry out. The process of setting rights involves two tasks:

1. Assigning a trustee to a volume, folder, or file. The section [“Assigning a Trustee” on page 93](#) describes how to carry out this task.
2. Assigning the rights to the trustee for the volume, folder, or file. The section [“Assigning a Set of Rights for a Trustee” on page 95](#) discusses how to carry out this task.

NOTE: To set trustee rights for any user or group, you must have the Access Control right on the volume, folder, or file.

You can approach setting trustee rights from either of these viewpoints:

- ♦ From the user or group viewpoint, determining which volumes, folders, and files a particular user or group should have rights to access
- ♦ From the rights viewpoint, determining which users or groups should be able to access a particular volume, folder, or file

While working with users or groups, you can use the Users and Groups utility to give them rights to access certain data. This is described in the next sections. For information on setting trustee rights with the Rights utility, see [“Setting Trustee Rights for a Volume, Folder, or File” on page 114](#).

NOTE: If you have sufficient rights to change the trustee rights of a particular user or group, that user or group will be active in the Users and Groups utility lists; otherwise, the user or group will be dimmed. If a user or group is dimmed, you can approach the trustee rights change from the "rights" point of view instead by using the Rights utility. If you own a folder or file, you will be able to change its access rights in the Rights utility.

Using the Rights Packages

When you set trustee rights, you can assign each NetWare right individually, or you can use a set of *rights packages*. A rights package is an iconic representation of a commonly used set of NetWare rights. Rights packages provide an easy way to set rights without memorizing the full set of NetWare rights.

Each rights package represents a predefined set of NetWare rights. [Table 6](#) lists the packages and the NetWare rights they represent.

Table 6 Rights Packages

Rights Package	NetWare Rights Represented	Folder Privileges Granted to Trustee	File Privileges Granted to Trustee
User	Read, Write, Create, Erase, Modify, File Scan	See folder contents Open, read, or write files Create files and folders Delete or rename folder Change folder attributes	See file Open, read, write, salvage, delete, or rename file Change file attributes
Owner	Read, Write, Create, Erase, Modify, File Scan, Access Control	See folder contents Open, read, write files Create files and folders Delete or rename folder Change folder attributes Modify folder's trustee list and Inherited Rights Mask	See file Open, read, write, salvage, delete, or rename file Change file attributes Modify file's trustee list and Inherited Rights Mask
View	File Scan	See folder contents	See file
Drop	Create	Can create files and folders in the folder, but cannot see contents of the folder	Salvage file if it is deleted
Read	Read, File Scan	See, open, and read files in the folder	See, open, and read file
Custom	The set of NetWare rights you specify	The rights you specify	The rights you specify

These icons represent the rights packages you can select:

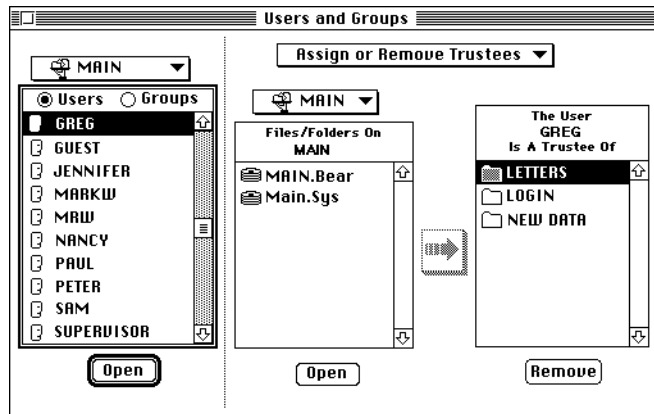


Assigning a Trustee

To assign a trustee to a volume, folder, or file, follow these steps:

- 1 Choose the Assign or Remove Trustees option.

The window will look like this:



In addition to the Browser, this window contains these lists:

- ◆ The File System list

This list appears in the center of the window. From the File System list, you choose the volume, folder, or file to which you want to assign a trustee. The File System list, pop-up menu, and Open button operate very much like the tools in the Browser area, but do not allow you to navigate any higher than the server level.

- ◆ The Trusteeship list

This list appears at the right of the window. When you highlight a user or group in the Browser, the Trusteeship list displays the volumes, folders, and files of which the user or group is already a trustee.

2 Locate the server on which you want to assign a trustee.

The server's name must appear in the pop-up menu above the Browser. For example, if you want to assign a trustee on the server MAIN, make sure that MAIN appears in the pop-up menu.

3 In the Browser, highlight the user or group you want to assign as a trustee.

To assign a user as a trustee, click the Users radio button in the Browser. All the users registered on the server appear. Highlight the user you want to assign. For example, to assign GREG as a trustee, highlight GREG.

NOTE: If a user's name is dimmed in the Browser, it means you don't have rights to see the user's trustee assignments. If you want to assign trustee rights to a user whose name is dimmed, use the Rights utility instead.

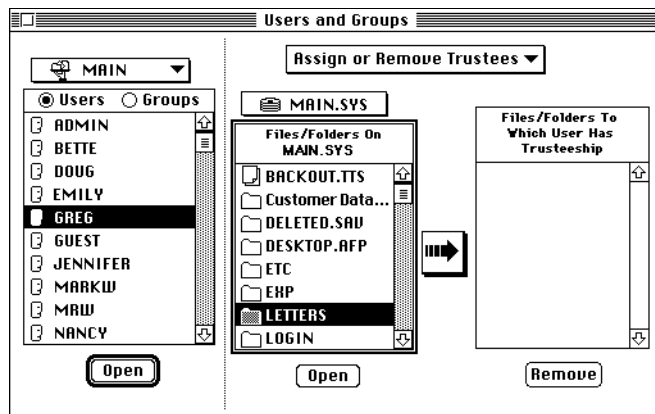
To assign a group as a trustee, click the Groups radio button in the Browser. All the groups registered on the server appear. Highlight the group you want to assign. For example, to assign the groups SALES as a trustee, highlight SALES.

4 In the File System list, highlight the volume, folder, or file to which you want to assign the trustee.

For example, to make the user GREG a trustee of the LETTERS folder, open the appropriate volume (such as MAIN.SYS), and then highlight LETTERS in the File System list.

The utility window now looks like the one shown in [Figure 40](#).

Figure 40 Assigning a User Trusteeship



5 Click the right-arrow button

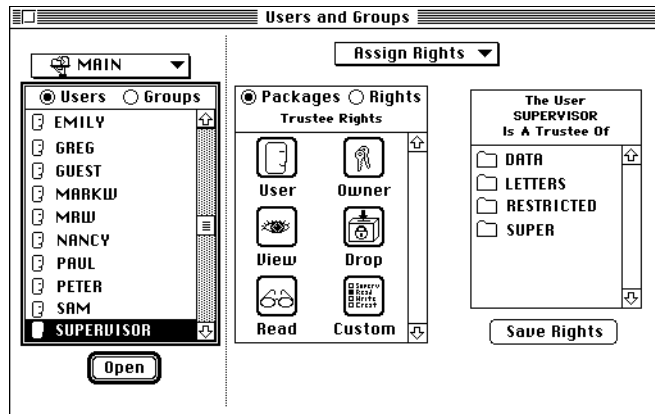
When you click the right-arrow button, the highlighted volume, folder, or file is added to the Trusteeship list. The trustee automatically has Read and File Scan rights, which correspond to the Read rights package. For information on setting rights, see [“Assigning a Set of Rights for a Trustee” on page 95](#).

Assigning a Set of Rights for a Trustee

To assign a set of rights for a trustee, follow these steps:

1 Choose the Assign Rights option.

The utility window will look like this:



In addition to the Browser, this window contains these lists:

- ◆ Trustee Rights

The center of the window shows Rights Packages, which are iconic representations of a pre-defined set of NetWare rights. If you click the Rights radio button, the list of individual NetWare rights is shown instead. [Table 6 on page 92](#) lists the rights packages.

- ◆ The Trusteeship list

This list appears at the right of the window. When you highlight a user or group in the Browser, the Trusteeship list displays the volumes, folders, and files of which the user or group is a trustee.

2 Locate the server on which you want to set trustee rights.

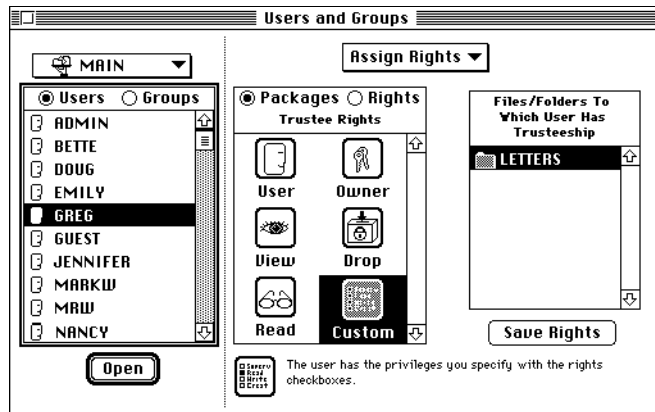
The server's name must appear in the pop-up menu above the Browser. For example, if you want to assign trustees on the server MAIN, make sure that MAIN appears in the pop-up menu.

3 In the Browser, choose the user or group for whom you want to assign rights.

For example, to assign rights to the trustee GREG, highlight GREG.

4 In the Trusteeship list, choose the volume, folder, or file for which you want to set rights.

For example, to assign GREG rights on the folder LETTERS, highlight LETTERS in the Trusteeship list.



5 Specify a set of rights to assign the trustee.

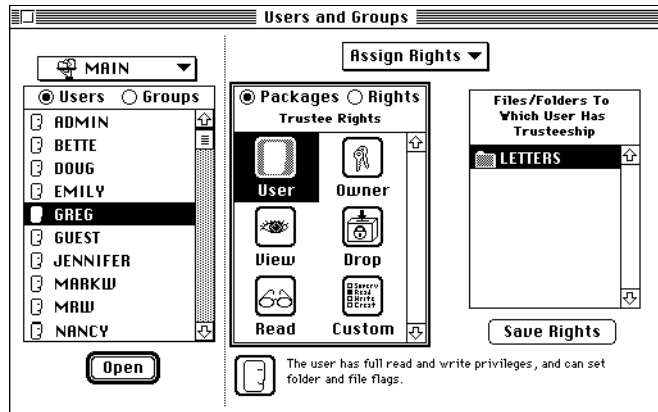
You can specify a set of rights in one of three ways:

5a Use the rights package icons.

To access the rights package icons, click the Packages radio button in the Rights list. Highlight the rights package you want to assign. When you highlight a rights package icon, the text below the Rights list summarizes the privileges associated with it.

For example, to assign GREG the rights granted by the User rights package on the LETTERS folder, click the User icon.

Figure 41 Assigning Rights Using a Rights Package

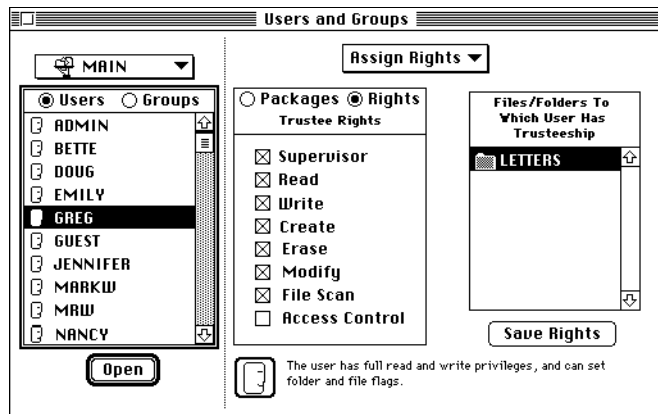


To view the specific NetWare rights turned on in any rights package, highlight the rights package icon and click the Rights radio button. The screen changes to show the eight NetWare rights.

5b Use check boxes corresponding to the individual NetWare rights.

To access the check boxes, click the Rights radio button. A list of NetWare rights appears (Figure 42).

Figure 42 Assigning Individual NetWare Rights



Click the check box so that an "X" appears next to each right you want to grant the trustee. For each right you want to prohibit the trustee from exercising, click the corresponding check box so that it is blank.

When you choose a set of rights corresponding to a rights package, the icon representing the package appears below the check boxes list. Associated text describes the privileges conferred by the rights package. If the rights you choose do not correspond to a rights package, the Custom icon appears below the list.

5c Create a custom rights package.

To create a custom rights package, you use the Custom rights package icon and the check boxes.

Highlight the Custom icon. The NetWare rights check boxes appear. Specify the rights you want to assign the trustee by clicking the appropriate check boxes. To return to the rights package icons, click the Packages radio button. The Custom icon remains highlighted.

6 Click the Save Rights button.

When you click the Save button, you assign the rights you specified for the trustee.

Each nested folder inherits the trustee rights you set unless you make an explicit change in one of these ways:

- ♦ Use the Inherited Rights Mask in a nested folder. For information, see [“Using the Inherited Rights Mask to Control Rights” on page 123](#).
- ♦ Make a new trustee rights assignment in a nested folder.

Alternative Methods for Making Trustee Assignments

In addition to the method described in the previous sections, you can assign trustee rights to a user in one of these ways:

- ♦ Make the user a member of a group. Each member of a group acquires all the trustee rights assigned to the group. For information on assigning a user to a group, see [“Adding Users to Groups” on page 87](#).
- ♦ Make the user security-equivalent to another user or group. With security equivalence, you enable the user to share the trustee rights of another user or group in all folders. If you make a user security-equivalent to a Supervisor, that user becomes another Supervisor, with all rights in all folders.

For information on setting a security equivalence, see [“Setting a Security Equivalence” on page 102](#).

A user's trustee rights derive from a combination of all trustee assignments, no matter how you set those assignments. For example, suppose you use the Rights utility to give an individual user named TERESA these trustee rights on the LETTERS folder:

Read, Write, and File Scan

Further, suppose TERESA belongs to a group that has the Create and Erase rights on the LETTERS folder. TERESA's combined trustee rights are now these:

Read, Write, Create, Erase, and File Scan

Finally, suppose TERESA has security equivalence with ED, and that ED has the Access Control right for the LETTERS folder. TERESA's trustee rights are now these:

Read, Write, Create, Erase, File Scan, and Access Control

Removing a User or Group as a Trustee

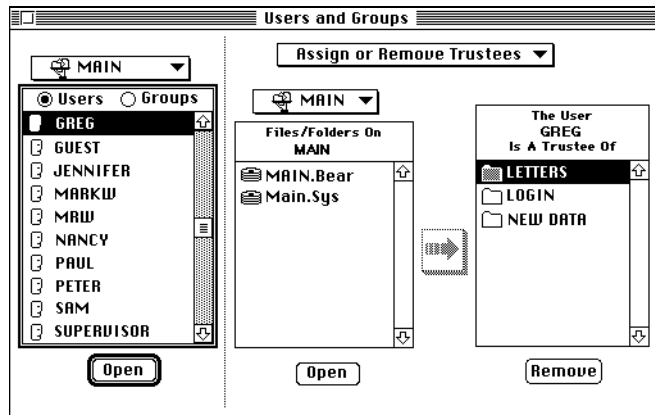
When you remove a user or group as a trustee, that user or group no longer has rights to the volume, folder, or file unless rights were granted indirectly, as described immediately above.

NOTE: To remove a trustee, you must have the Access Control right on the volume, folder, or file.

Follow these steps:

- 1 Choose the Assign or Remove Trustees option.

The utility window will look like this:



- 2 Locate the server from which you want to remove the trustee.

The server's name must appear in the pop-up menu above the Browser. For example, if you want to remove a trustee from the server MAIN, make sure that MAIN appears in the pop-up menu.

- 3 In the Browser, highlight the user or group you want to remove as a trustee.

To remove a user as a trustee, click the Users radio button in the Browser. All the users registered on the server appear. Highlight the trustee you want to remove. For example, to remove GREG as a trustee, highlight GREG.

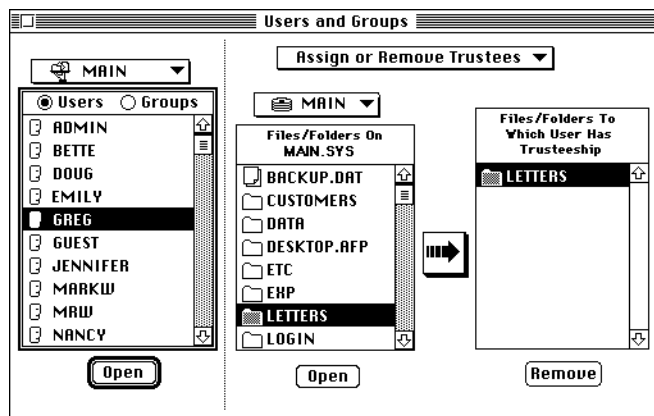
To remove a group as a trustee, click the Groups radio button in the Browser. All the groups registered on the server appear. Highlight the trustee you want to remove. For example, to remove the group SALES as a trustee, highlight SALES.

When you highlight a trustee in the Browser, all the volumes, folders, and files to which that trustee has rights appear in the Trusteeship list.

- 4 In the Trusteeship list, highlight the volume, folder, or file from which you want to remove the trustee.

For example, to remove the user GREG as a trustee of the LETTERS folder, highlight LETTERS.

The utility window now looks like this:



- 5 Click the Remove button.

When you click the Remove button, the volume, folder, or file you highlighted disappears from the Trusteeship list. The user or group highlighted in the Browser is no longer a trustee of that volume, folder, or file.

However, if the user is a member of a group with trustee rights to the volume, folder, or file, he or she still has the trustee rights assigned the group. If the user has been assigned rights by security equivalence, he or she still has the rights that the security equivalence allows.

To remove the trustee rights the user has a member of a group, remove the user from the group; see “[Removing Users from Groups](#)” on page 107. To remove the trustee rights assigned by a security equivalence, remove the security equivalence; see “[Removing a Security Equivalence](#)” on page 104.

Setting a Security Equivalence

When you assign a *security equivalence* to a user, that user acquires the same rights as another user or group. If the rights assignment changes for one user, it also changes for all security-equivalent users. By default, a user is security-equivalent to the group EVERYONE and to any other group of which he or she is a member.

You can make a user security-equivalent to Supervisor. This action enables the user to log in under his or her name with Supervisor privileges. Of course, you should be particularly cautious about making any user Supervisor-equivalent.

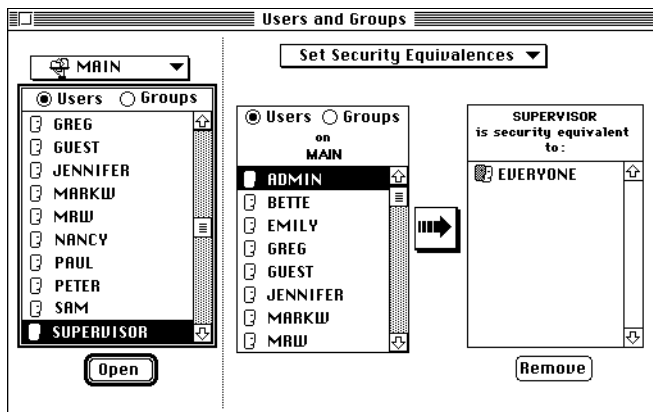
HINT: If you want to enable the NetWare 4.0 Admin user the rights to administer servers in the NetWare Tools application, you can assign Supervisor equivalence to the Admin login.

NOTE: To set a security equivalence, you must have Supervisor status.

Follow these steps:

- 1 Choose the Set Security Equivalences option.

The utility window looks like this:



The utility window contains these lists:

- ◆ The Browser

When a server name appears in its pop-up menu, the Browser contains a list of users; from this list, you choose the user for whom you want to assign a security equivalence. For simplicity, think of this user as the *original user*.

- ◆ The Users and Groups list

This list appears in the center of the window. The Users and Groups list can display either the users or the groups registered on the server chosen in the Browser area. Click the Users radio button to display user names; click the Groups radio button to display group names.

From the Users and Groups list, you choose the user or group to which you want to make the original user security-equivalent. For simplicity, think of this user or group as the *target user* or the *target group*.

- ◆ The Security Equivalences list

When you highlight a user name in the Browser, the list labeled Security Equivalences contains the name of each target user or group to which the original user is security-equivalent.

2 Locate the server containing the users and groups you want to work with.

The server's name must appear in the pop-up menu above the Browser. For example, if you want to assign a security equivalence on the server MAIN, make sure that MAIN appears in the pop-up menu.

3 In the Browser, highlight the original user.

Highlight the user for whom you want to set a security equivalence. For example, to make the user DOUG security-equivalent to another user, highlight DOUG.

4 In the Users and Groups list, highlight a target user or group.

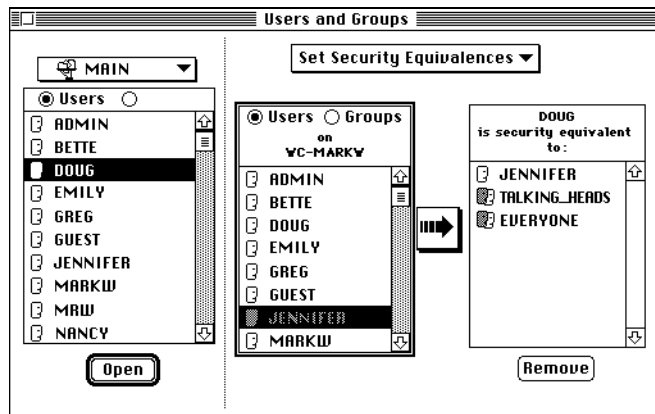
To make the original user security-equivalent to another user, click the Users radio button in the Users and Groups list. The list displays all the users registered on the server. Highlight the target user. For example, to make DOUG security-equivalent to JENNIFER, highlight JENNIFER.

To make the original user security-equivalent to a group, click the Groups radio button in the Users and Groups list. The list displays all the groups registered on the server. Highlight the target group. For example, to make DOUG security-equivalent to the group SALES, highlight SALES.

5 Click the right-arrow button.

When you click the right-arrow button, the original user becomes security-equivalent to the target user or group. The name of the target user or group is grayed out in the Users and Groups list and appears in the Security Equivalences list.

For example, if you make DOUG security-equivalent to JENNIFER, the user name JENNIFER appears in the Security Equivalences list. The utility window now looks like this:



Removing a Security Equivalence

To remove a security equivalence, follow the steps described below.

NOTE: To remove a security equivalence, you must have Supervisor status.

- 1** Choose the Set Security Equivalences option.
- 2** Locate the server containing the original user.

The original user is the user for whom you set the security equivalence. In the Browser area, locate the server containing this user and make sure the server name appears in the pop-up menu above the Browser.

For example, if you want to remove a security equivalence on the server MAIN, make sure that MAIN appears in the pop-up.

- 3** In the Browser, highlight the original user.

Highlight the user from whom you want to remove a security equivalence. For example, to remove a security equivalence from the user DOUG, highlight DOUG.

- 4** In the Security Equivalences list, highlight the name of the target user or group.

Highlight the target user or group to which the original user should no longer be security-equivalent. For example, if you no longer want the user DOUG to be security-equivalent to the user JENNIFER, highlight JENNIFER in the list.

- 5** Click the Remove button.

When you click the Remove button, the application removes the security equivalence. The user or group you highlighted in the Security Equivalences list disappears from it.

Deleting a User

When you delete a user, the system automatically deletes the user's mail folder. However, the user's files remain.

NOTE: To delete a user, you must have Supervisor status.

Follow these steps:

- 1** Choose the Add or Delete Users & Groups option.

- 2** Locate the server on which the user is registered.

The name of the server must appear in the pop-up menu above the Browser. For example, if you want to delete a user registered on the server MAIN, make sure that MAIN appears in the pop-up menu.

- 3** In the Browser, click the Users radio button.

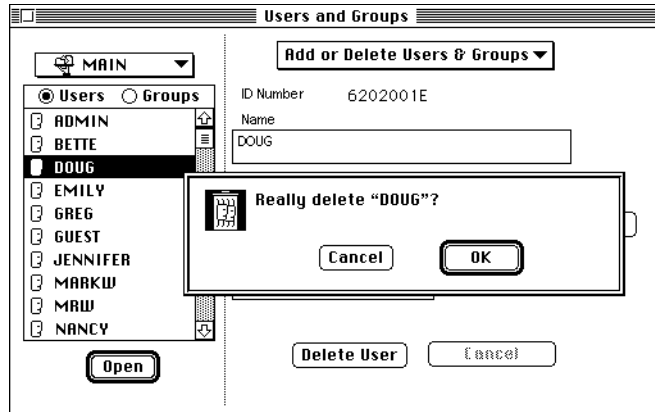
All the users currently registered on the server appear.

- 4** In the Browser, highlight the name of the user you want to delete.

For example, to remove the user JENNIFER from the system, highlight JENNIFER in the Browser.

5 Click the Delete User button.

A window appears, asking you to confirm that you want to delete the user:



If you still want to delete the user, click the OK button. The user name disappears from the Browser.

If you decide not to delete the user, click the Cancel button.

Deleting a Group

NOTE: To delete a group, you must have Supervisor status.

When you delete a group, all its members lose the rights they gained as members of the group.

To delete a group, follow these steps:

- 1** Choose the Add or Delete Users & Groups option.
- 2** Locate the server on which the group is registered.

The name of the server must appear in the pop-up menu above the Browser. For example, if the group is registered on the server MAIN, make sure that MAIN appears in the pop-up menu.

- 3** In the Browser, click the Groups radio button.

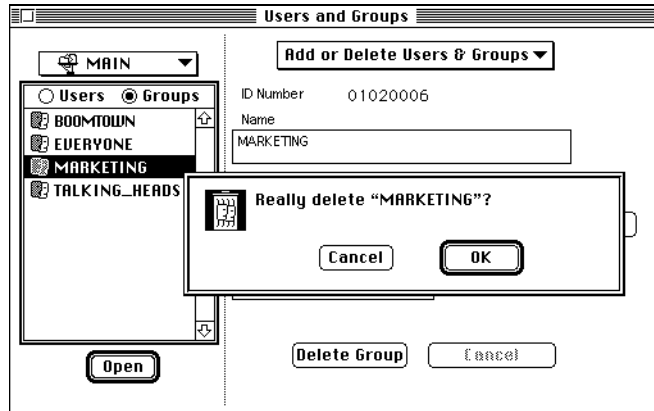
All the groups currently registered on the server appear.

4 In the Browser, highlight the name of the group you want to delete.

For example, to remove the group **MARKETING** from the system, highlight **MARKETING** in the Browser.

5 Click the Delete Group button.

A window appears, asking you to confirm that you want to delete the group:



If you still want to delete the group, click the OK button. The group name disappears from the Browser.

If you decide not to delete the group, click the Cancel button.

Removing Users from Groups

You can approach removing users from groups from either of these viewpoints:

- ◆ From the user viewpoint, specifying from which groups a particular user should be removed
- ◆ From the group viewpoint, specifying which users should be removed from a particular group

NOTE: To remove a user from a group, you must have Supervisor status or Workgroup Manager status for that group.

Selecting Group Memberships to Remove from a User

This section describes how to remove a particular user from his or her groups. Follow these steps:

- 1 Choose the Users & Groups Assignments option.
- 2 Locate the server containing the user you want to remove.

The server's name must appear in the pop-up menu above the Browser. For example, if you want to remove a user from several groups on the server MAIN, make sure that MAIN appears in the pop-up menu.

- 3 In the Browser, click the Users radio button.

All the users registered on the server appear.

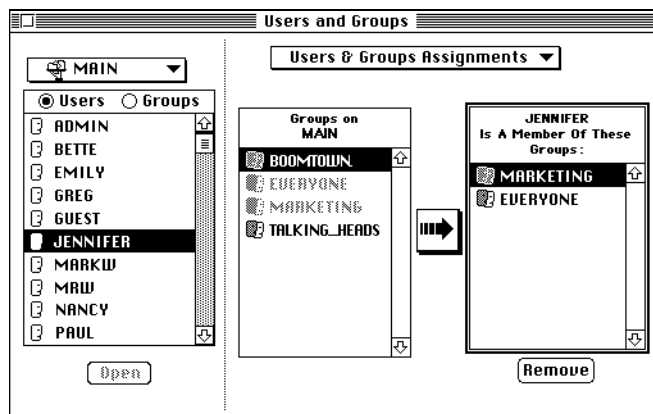
- 4 In the Browser, highlight a user name.

Highlight the name of the user to remove. For example, to remove the user DOUG from a group, highlight DOUG.

- 5 In the Group Membership list, highlight a group name.

Highlight a group from which you want to delete the highlighted user. For example, to remove JENNIFER from the MARKETING group, highlight MARKETING.

The window will look like this:



- 6 Click the Remove button.

When you click the Remove button, the user is deleted from the selected group.

Selecting Users to Remove from a Group

This section describes how to add users to a particular group. Follow these steps:

1 Choose the Users & Groups Assignments option.

2 In the Browser, click the Groups radio button.

All the groups registered on the server appear.

3 Locate the server containing the group you want to administer.

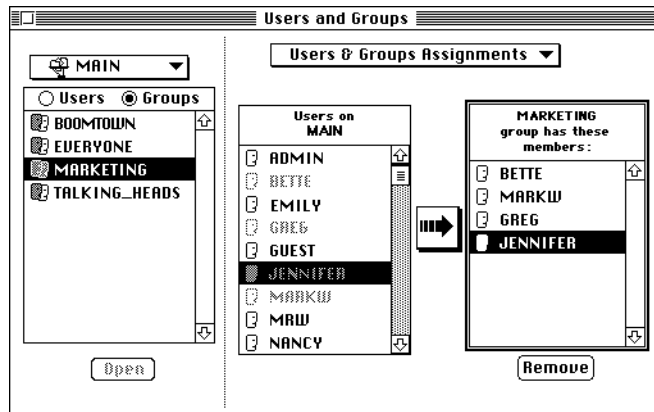
The server's name must appear in the pop-up menu above the Browser. For example, if you want to remove users on the server MAIN from a group, make sure that MAIN appears in the pop-up menu.

4 In the Browser, highlight a group.

Highlight the group from which you want to remove users. For example, to remove users to the MARKETING group, highlight MARKETING in the list.

5 In the Group Membership list, highlight a user name.

Highlight the user you want to remove from the group. For example, to remove the user JENNIFER from the group MARKETING, highlight JENNIFER. The window now looks like this:



6 Click the Remove button.

When you click the Remove button, you remove the highlighted user from the group. The users no longer appear in the Group Membership list.

4

Managing Rights and Flags

This chapter discusses how to control access to volumes, folders, and files on a NetWare server.

Using the Rights utility, you can carry out these tasks:

- ◆ Set trustee rights for a volume, folder, or file
- ◆ Use the Inherited Rights Mask to control rights
- ◆ View your Effective Rights

Using the File and Folder Flags utility, you can carry out these tasks:

- ◆ Set file flags
- ◆ Set folder flags

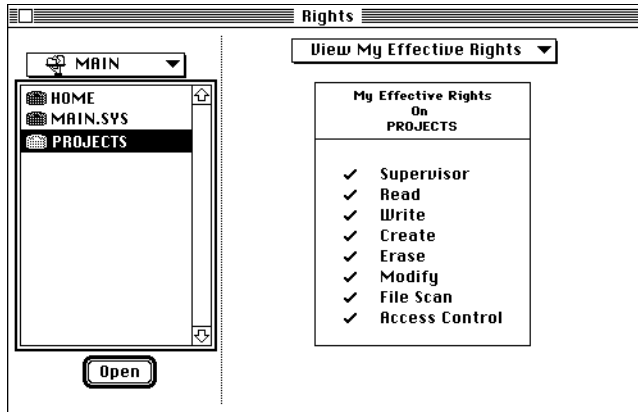
For a full understanding of NetWare security, see *NetWare Concepts*.

Before You Begin

Each section in this chapter describes how to carry out a particular task. The sections are arranged by numbered step. Step 1 of each procedure always instructs you to launch either the Rights utility or the File and Folder Flags utility. If the specified utility is already launched, there is no need for you to launch it again.

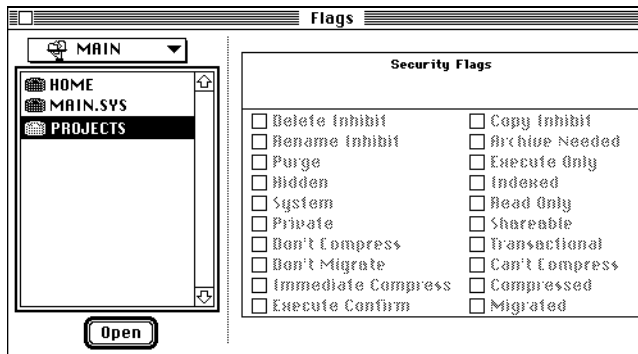
When you launch the Rights utility from the Utilities menu, the window in [Figure 43](#) opens.

Figure 43 Rights Utility Window



When you launch the File and Folder Flags utility from the Utilities menu, the window in [Figure 44](#) opens.

Figure 44 File and Folder Flags Utility Window



NOTE: If flags are dimmed in the utility window, it means either that you do not have rights to change the flags or that the flags can be set only on the server.

The pop-up menu in the Rights utility enables you to choose the tasks you want to carry out. The menu contains these options:

Figure 45 Rights Utility Pop-Up Menu



The options are described below.

- ◆ View My Effective Rights: Choose this option to see your Effective Rights for a volume, folder, or file.
- ◆ Set Inherited Rights Mask: Choose this option to set the Inherited Rights Masks for a volume, folder, or file.
- ◆ Assign or Remove Trustees: Choose this option to add trustees to or remove trustees from a volume, folder, or file.
- ◆ Assign Rights: Choose this option to assign rights to a trustee for a volume, folder, or file.

For each utility, the pop-up menu above the Browser displays the first volume mounted on your desktop and all of the folders and files at the root level of that volume appear in the list.

HINT: If the name of a volume, folder, or file is too long to be displayed in the Browser, you will see part of the name followed by an ellipsis (...). You can view the whole name by pressing the mouse button on the name.

If no volumes are mounted when you launch the utility, the Browser contains the name of the each server in your default zone; the first server in the list is highlighted. The pop-up menu displays the zone name.

If no servers exist in your default zone, the Browser displays the name of each zone on the AppleTalk internet; the first zone in the list is highlighted. The pop-up menu displays the World option.

If the volume, folder, or file you want to administer is not in the Browser list that appears by default, you can navigate to it. See [“Locating NetWare Entities” on page 53](#) for information on how to do so.

Setting Trustee Rights for a Volume, Folder, or File

When you set *trustee rights*, you give a user or group certain rights to a specific volume, folder, or file. The user or group is known as the *trustee*. The *rights* you assign determine the kinds of tasks the trustee can carry out. The process of setting rights entails two tasks:

1. Assigning a trustee. See the section “[Assigning a Trustee](#)” on page 116 for information.
2. Assigning the rights for the trustee. The section “[Removing a Trustee from a Volume, Folder, or File](#)” on page 121 describes how to carry out this task.

Both the Rights utility and the Users and Groups utility enable you to set trustee rights.

When you use the Rights utility, you first find the volume, folder, or file to which you want to assign trustee rights. Then, you locate the users and groups you want to assign as trustees. The following sections describe how to set trustee rights using the Rights utility.

For information on using the Users and Groups utility to set trustee rights, see “[Setting Trustee Rights for a User or Group](#)” on page 91.

NOTE: To set trustee rights, you must have the Access Control right on the volume, folder, or file.

Using the Rights Packages

When you set trustee rights, you can assign each NetWare right individually, or you can use a predefined set of *rights packages*. A rights package is an iconic representation of a commonly used set of NetWare rights.

Each rights package represents a particular set of NetWare rights. [Table 7](#) lists the rights packages and the privileges they represent.

Table 7 Rights Packages

Rights Package	NetWare Rights Represented	Folder Privileges (Trustee Assignment)	File Privileges (Trustee Assignment)
User	Read, Write, Create, Erase, Modify, File Scan	See folder contents Open, read, or write files Create files and folders Delete or rename folder Change folder attributes	See file Open, read, write, salvage, delete, or rename file Change file attributes
Owner	Read, Write, Create, Erase, Modify, File Scan, Access Control	See folder contents Open, read, write files Create files and folders Delete or rename folder Change folder attributes Modify folder's trustee list and Inherited Rights Mask	See file Open, read, write, salvage, delete, or rename file Change file attributes Modify file's trustee list and Inherited Rights Mask
View	File Scan	See folder contents	See file
Drop	Create	Can create files and folders in the folder, but cannot see contents of the folder	Salvage file if it is deleted
Read	Read, File Scan	See, open, and read files in the folder	See, open, and read file
Custom	The set of NetWare rights you specify	The rights you specify	The rights you specify

These icons represent the rights packages you can choose:



NOTE: When you use the rights packages to modify an Inherited Rights Mask, the NetWare rights represented by the icon are left “on” in the mask and all other rights are turned “off” (restricted). See “Using the Inherited Rights Mask to Control Rights” on page 123 for more information.

Assigning a Trustee

To assign a trustee to a volume, folder, or file, follow these steps:

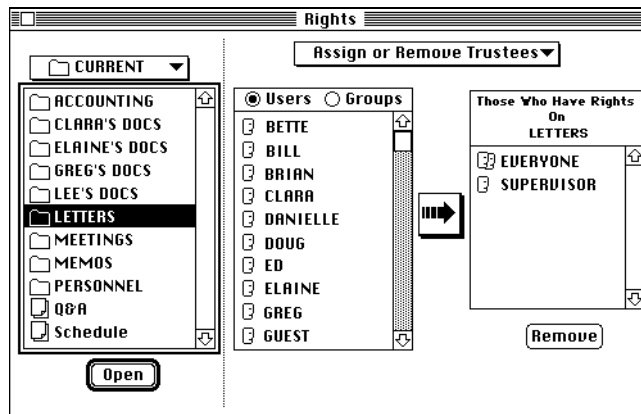
- 1 Launch the Rights utility.
- 2 In the Browser, highlight the volume, folder, or file to which you want to assign a trustee.

For example, to assign a trustee to the LETTERS folder, highlight LETTERS in the Browser.

- 3 Choose the Assign or Remove Trustees option.

The window shown in Figure 46 appears.

Figure 46 Assigning a Trustee



In addition to the Browser, the window contains these lists:

- ◆ The Users and Groups list

This list appears in the center of the window. It contains the users residing on the same server as the volume, folder, or file you highlighted. In this example, the list contains the names of all users on the server containing the LETTERS folder.

- ◆ The Trustee list

This list appears at the right of the window. It contains the trustees of the highlighted volume, folder, or file. In this example, the list contains the trustees of the LETTERS folder.

- 4** In the Users and Groups list, highlight a user or group.

Highlight the user or group to assign as a trustee of the highlighted volume, folder, or file. By default, the Users radio button is selected and the list displays registered users. To display a list of groups on the server, click the Groups radio button.

For example, to assign the user GREG as a trustee of the LETTERS folder, highlight GREG.

- 5** Click the right-arrow button.

When you click the right-arrow button, the Rights utility adds the highlighted user or group to the Trustee list. The new trustee automatically has Read and File Scan rights, which correspond to the Read rights package.

Assigning a Set of Rights for a Trustee

To assign a set of rights for a trustee, follow these steps:

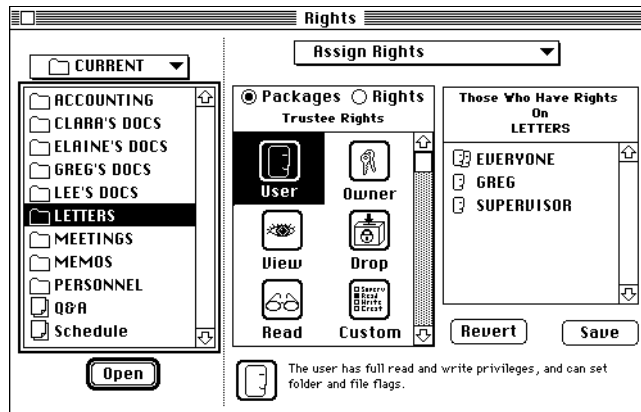
- 1** Launch the Rights utility.
- 2** In the Browser, highlight the volume, folder, or file for which you want to assign trustee rights.

For example, to assign rights for a trustee of the LETTERS folder, highlight LETTERS in the Browser.

- 3** Choose the Assign Rights option.

The window in [Figure 47](#) appears.

Figure 47 Assigning Rights



In addition to the Browser, the window contains these lists:

- ◆ Trustee Rights

The center of the window shows Rights Packages, which are iconic representations of a pre-defined set of NetWare rights. If you click the Rights radio button, the list of individual NetWare rights is shown instead. [Table 7 on page 115](#) lists the rights packages.

- ◆ The Trustee list

The Trustee list appears at the right of the window. This list contains the trustees of the highlighted volume, folder, or file. In our example, the list shows the trustees of the LETTERS folder.

If the highlighted entity has no trustees associated with it, the list is empty. If this is the case, you must assign a trustee to the volume, folder, or file before you can set rights; for information, see [“Assigning a Trustee” on page 116](#).

4 In the Trustee list, highlight a user or group.

Highlight the user or group for which you want to assign rights.

For example, to assign rights to the trustee GREG, highlight GREG.

5 Specify a set of rights for the trustee.

You can specify a set of rights in one of the ways described below.

5a Use the rights package icons.

To access the rights package icons, click the Packages radio button in the Trustee Rights list. Highlight the rights package you want to assign. When you highlight a rights package icon, the text below the Trustee Rights summarizes the privileges associated with it.

To view the specific NetWare rights turned on in any rights package, highlight the rights package icon and click the Rights radio button. The window changes to show the eight NetWare rights.

5b Use check boxes corresponding to the individual NetWare rights.

To access the check boxes, click the Rights radio button. A list of NetWare rights appears (Figure 48).

Figure 48 Rights Check Boxes



The image shows a dialog box titled "Trustee Rights". At the top, there are two radio buttons: "Packages" (unselected) and "Rights" (selected). Below the radio buttons is a list of eight NetWare rights, each with a checkbox. The checkboxes for "Read", "Write", "Create", "Erase", "Modify", and "File Scan" are checked, while "Supervisor" and "Access Control" are unchecked.

Right	Checked
Supervisor	<input type="checkbox"/>
Read	<input checked="" type="checkbox"/>
Write	<input checked="" type="checkbox"/>
Create	<input checked="" type="checkbox"/>
Erase	<input checked="" type="checkbox"/>
Modify	<input checked="" type="checkbox"/>
File Scan	<input checked="" type="checkbox"/>
Access Control	<input type="checkbox"/>

For each right you want to grant the trustee, click the corresponding check box so that an "X" appears. For each right you want to prohibit the trustee from exercising, click the corresponding check box so that it is blank.

When you select a set of rights corresponding to a rights package, the icon representing the package appears below the check boxes list. Associated text describes the privileges conferred by the rights package. If the rights you select do not correspond to a rights package, the Custom icon appears below the list.

5c Create a custom rights package.

Highlight the Custom icon. The NetWare rights check boxes appear. Specify the rights you want to assign the trustee by clicking the appropriate check boxes. To return to the rights package icons, click the Packages radio button. The Custom icon remains highlighted.

6 Click the Save button.

When you click the Save button, you assign the rights you specified to the highlighted trustee.

If you change your mind about the rights you specified in the Inherited Rights Mask, you can click the Revert button to return to the last set of rights assigned. If you highlight a different folder or file without first saving your changes, the Inherited Rights Mask reverts to its previous setting automatically.

Each nested folder inherits the trustee rights you set unless you make an explicit change in one of these ways:

- ◆ Use the Inherited Rights Mask in a nested folder. For information, see [“Using the Inherited Rights Mask to Control Rights” on page 123](#).
- ◆ Make a new trustee rights assignment in a nested folder.

Alternative Methods for Making Trustee Assignments

In addition to using the method described in the previous sections, you can assign trustee rights to a user in one of these ways:

- ◆ Make the user a member of a group. Each member of a group acquires all the trustee rights assigned to the group. For information on assigning a user to a group, see [“Adding Users to Groups” on page 87](#).
- ◆ Make the user security-equivalent to another user or group. With security equivalence, you specify that one user share the trustee rights of another user or group in all folders. If you make a user security-equivalent to a Supervisor, that user becomes another Supervisor, with all rights in all folders. For information on setting a security equivalence, see [“Setting a Security Equivalence” on page 102](#).

A user's trustee rights derive from a combination of all trustee assignments, no matter how you set those assignments. For example, suppose you use the Rights utility to give a user named TERESA these trustee rights on the LETTERS folder:

Read, Write, and File Scan

Further, suppose TERESA belongs to a group that has the Create and Erase rights on the LETTERS folder. TERESA's combined trustee rights are now these:

Read, Write, Create, Erase, and File Scan

Finally, suppose TERESA has security equivalence with ED, and that ED has the Access Control right for the LETTERS folder. TERESA's trustee rights are now these:

Read, Write, Create, Erase, File Scan, and Access Control

Removing a Trustee from a Volume, Folder, or File

When you remove a user or group as a trustee, that user or group no longer has rights to the volume, folder, or file, except for rights derived from group membership or security equivalence.

NOTE: To remove a trustee, you must have the Access Control right on the volume, folder, or file.

Follow these steps:

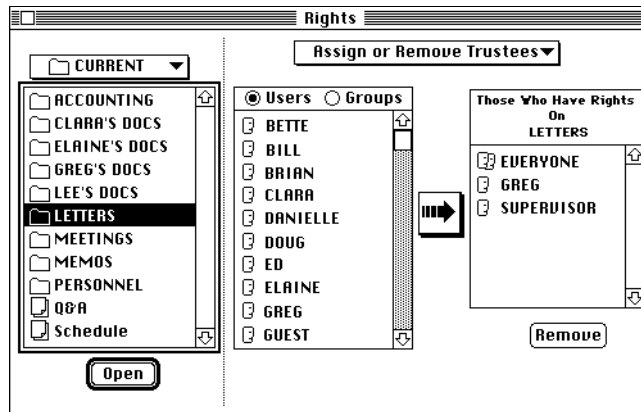
- 1** Launch the Rights utility.
- 2** In the Browser, highlight the volume, folder, or file from which you want to remove a trustee.

For example, to remove a trustee from the LETTERS folder, highlight LETTERS in the Browser.

- 3** Choose the Assign or Remove Trustees option.

The window in [Figure 49](#) appears.

Figure 49 Removing a Trustee



In addition to the Browser, the window contains the lists described below.

- ◆ The Users and Groups list

The Users and Groups list appears in the center of the window. By default, this list contains the users residing on the same server as the volume, folder, or file you highlighted. In this example, the list contains the names of all users registered on the server containing the LETTERS folder.

- ◆ The Trustee list

The Trustee list appears at the right of the window. This list contains the trustees of the highlighted volume, folder, or file. In this example, the list shows the trustees of the LETTERS folder.

4 In the Trustee list, highlight a user or group.

Highlight the user or group you want to remove as a trustee.

For example, to remove the user GREG as a trustee of the LETTERS folder, highlight GREG.

5 Click the Remove button.

When you click the Remove button, the trustee name disappears from the Trustee list. The user or group is no longer a trustee of the volume, folder, or file you highlighted.

However, if the user is a member of a group with trustee rights to the volume, folder, or file, he or she still has the trustee rights assigned the group. If the user has been assigned rights by security equivalence, he or she still has the rights that the security equivalence allows.

To remove the trustee rights the user has as a member of a group, remove the user from the group; see [“Removing Users from Groups” on page 107](#). To remove the trustee rights assigned by a security equivalence, remove the security equivalence; see [“Removing a Security Equivalence” on page 104](#).

Using the Inherited Rights Mask to Control Rights

Every NetWare folder and file has an *Inherited Rights Mask* associated with it. The mask contains a full set of the eight NetWare rights, with all rights initially turned on.

The Inherited Rights Mask is like a sieve, filtering out certain rights. It can be used only to restrict rights, never to enable rights that have been turned off by a trustee assignment. The rights that remain after the Inherited Rights Mask has been applied are the *effective rights*.

The Supervisor right is always “on” in the Inherited Rights Mask, so you cannot restrict supervisor privileges by modifying the Inherited Rights Mask.

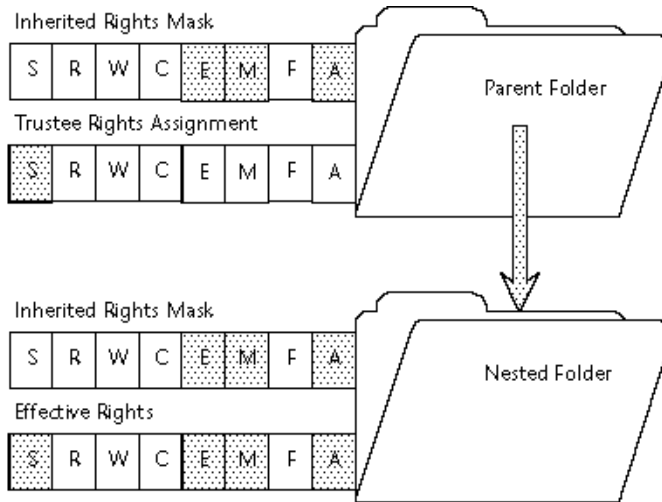
For a folder, turning off rights in the Inherited Rights Mask restricts the rights that folder inherits from its parent folder. For a file, turning off rights in the Inherited Rights Mask restricts the rights that file inherits from the folder that contains it.

Nested folders inherit all rights from their parent folder until the Inherited Rights Mask modifies those rights or another new trustee rights assignment overrides the current effective rights in that folder.

NOTE: In NetWare 4.0, a trustee assignment in the current folder or file overrides any setting in the Inherited Rights Mask.

In **Figure 50**, rights in a gray box are “turned off” (restricted).

Figure 50 The Inherited Rights Mask



In **Figure 50**, the parent folder’s effective rights are the same as the trustee rights assignment, because a trustee assignment in the current folder overrides the Inherited Rights Mask.

The nested folder’s effective rights are equal to the rights inherited from the parent folder minus the rights that are turned off in the folder’s Inherited Rights Mask.

NOTE: To modify the Inherited Rights Mask, you must have the Access Control right on the folder or file.

To use the Inherited Rights Mask, follow these steps:

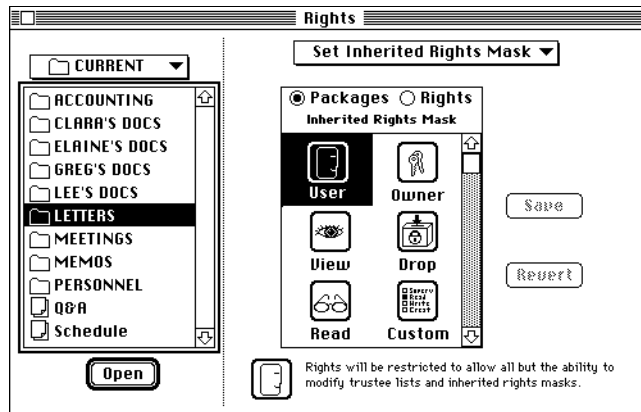
- 1** Launch the Rights utility.
- 2** In the Browser, highlight the folder or file for which you wish to set the Inherited Rights Mask.

For example, to set the Inherited Rights Mask for the LETTERS folder, highlight LETTERS in the Browser.

3 Choose the Set Inherited Rights Mask option.

This window in [Figure 51](#) appears.

Figure 51 Setting the Inherited Rights Mask



The Inherited Rights Mask list appears in the center of the window. A set of NetWare rights package icons appears. For information about these icons, see [Table 7 on page 115](#).

4 Turn Inherited Rights on or off.

You can set the Inherited Rights Mask in any one of these ways:

4a Use the rights package icons.

Highlight the icon that represents the rights you want to leave “on” in the mask. All other rights in the Inherited Rights Mask will be turned “off” (restricted), except for the Supervisor right, which is not affected.

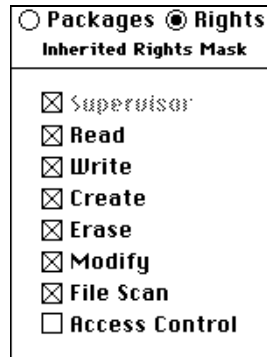
For example, if you click the User icon ([Figure 51](#)), only the Access Control right will be restricted in the Inherited Rights Mask.

When you click a rights package icon, the text below the list summarizes the privileges that icon represents. Or, you can view the NetWare rights represented by an icon by clicking the icon and then clicking the Rights radio button.

4b Set the individual NetWare rights.

To access the list of eight NetWare rights, click the Rights radio button. The Supervisor right is dimmed, because it cannot be modified in the Inherited Rights Mask ([Figure 52](#)).

Figure 52 Inherited Rights Mask Check Boxes



A right is “on” in the Inherited Rights Mask when an “X” appears in its check box. A right is restricted when the check box is blank. Click in the check box to turn the right on or off, depending on its current state.

When you choose a set of rights corresponding to a rights package, the icon representing the package appears below the check boxes list. Associated text describes the privileges conferred by the rights package. If the rights you choose do not correspond to a rights package, the Custom icon appears below the list.

4c Create a custom Inherited Rights Mask.

Highlight the Custom icon. The NetWare rights check boxes appear. Specify the rights you want to set in the Inherited Rights Mask. To return to the rights package icons, click the Packages radio button. The Custom icon remains highlighted.

5 Click the Save button.

To save your changes, click the Save button.

If you change your mind about the rights you specified in the Inherited Rights Mask, you can click the Revert button to return to the last set of rights assigned. If you highlight a different folder or file without first saving your changes, the Inherited Rights Mask reverts to its previous setting automatically.

Viewing Your Effective Rights

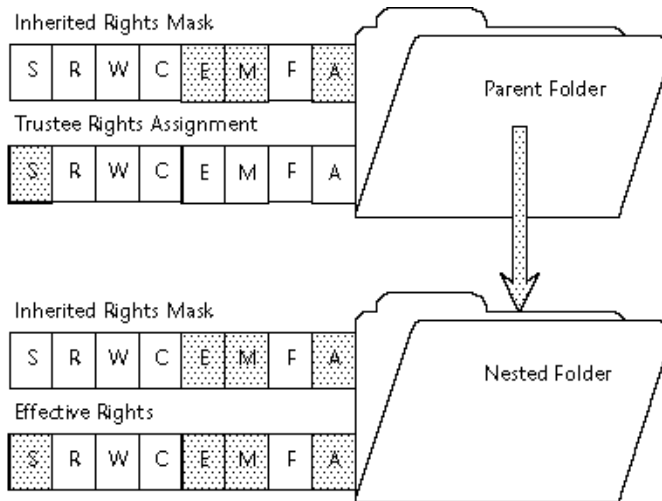
Effective Rights are the rights you can actually exercise at the root of a volume, or in a given folder or file. To determine your Effective Rights, you must know which rights you are granted with a trustee assignment and which rights are revoked with the Inherited Rights Mask. If you are not sure how the Inherited Rights Mask works, see [“Using the Inherited Rights Mask to Control Rights” on page 123](#).

NOTE: Remember that in NetWare 4.0 a trustee rights assignment on a folder overrides the Inherited Rights Mask on that folder. If a trustee rights assignment was made in the current folder, your effective rights on that folder are always equal to your trustee rights.

If a trustee rights assignment was not made on a folder, your effective rights are inherited from the parent folder, although some of the parent folder’s rights can be revoked by the Inherited Rights Mask. Once a right has been revoked by the Inherited Rights Mask, it can be restored in that folder and folders nested within it only by making a new trustee rights assignment.

[Figure 53](#) shows three levels of folders and the effect of modifying the Inherited Rights Mask within a folder hierarchy. In [Figure 53](#), rights in a gray box are “turned off.”

Figure 53 Inherited and Effective Rights

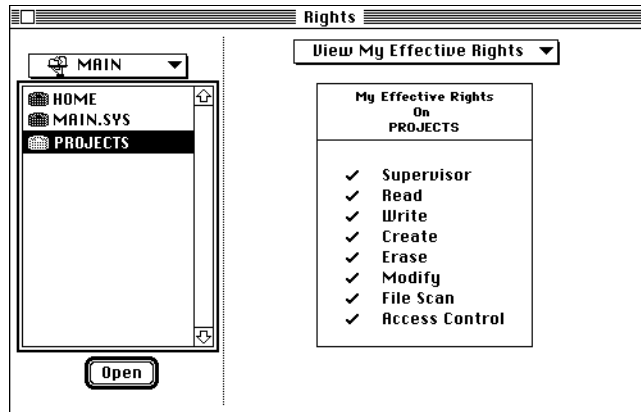


NOTE: Any user with the File Scan right on a volume, folder, or file can view Effective Rights.

To view your Effective Rights, follow these steps:

- 1** Launch the Rights utility.
- 2** In the Browser, highlight the volume, folder, or file whose Effective Rights you want to view.
For example, to view your Effective Rights for the LETTERS folder, highlight LETTERS in the Browser.
- 3** Choose the View My Effective Rights option.
The window in [Figure 54](#) appears.

Figure 54 Viewing My Effective Rights



The Effective Rights list appears in the center of the window. The NetWare rights appear. A checkmark appears next to each Effective Right you have for highlighted volume, folder, or file. If no checkmark appears next to a right, you do not have the Effective Right.

Setting File and Folder Flags

File and folder flags (also called “attributes”) assign special properties to files and folders, override rights granted with trustee assignments, and prevent tasks that Effective Rights allow. Use flags to protect files and folders to which many users have access. For example, you may want to flag important applications so that even the Supervisor cannot accidentally delete them.

NOTE: In most cases, you must have the Modify right on the file or folder to set a flag. However, there are three exceptions, which apply to files only. Users with the Read right can set the Archive Needed flag. Users with the Create right can set the Execute Only flag. Users with the Erase right can set the Purge flag.

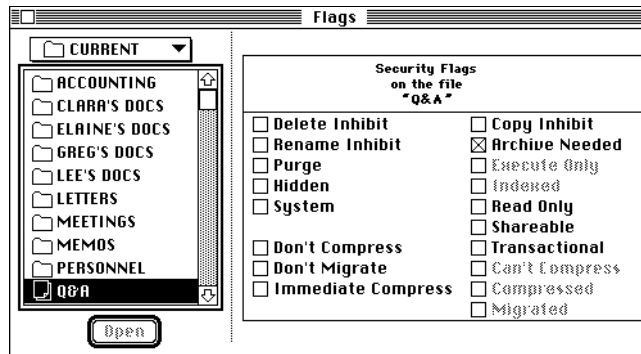
To set file and folder flags, follow these steps:

- 1 Launch the File and Folder Flags utility.
- 2 In the Browser, highlight the file or folder for which you want to set flags.
- 3 Select the flags.

To the right of the Browser a set of check boxes appear. Each check box corresponds to a particular flag. Flags set by the operating system and those you do not have sufficient rights to set are grayed out.

If you have highlighted a file in the Browser, the flags shown in [Figure 55](#) appear.

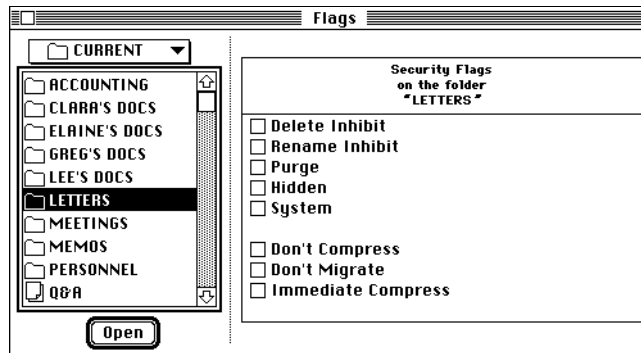
Figure 55 Setting File Flags



NOTE: If you are logged in to a NetWare 3.x server, the File and Folder Flags utility shows only those flags that are valid for that version of NetWare. The File Flags shown above are valid for NetWare 4.0.

If you have highlighted a folder in the Browser, the flags shown in [Figure 56](#) appear.

Figure 56 Setting Folder Flags

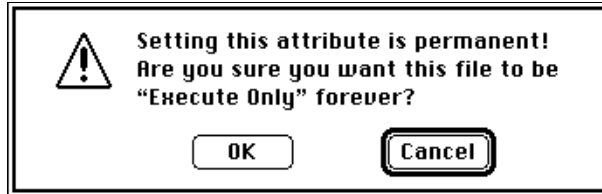


NOTE: If flags are dimmed in the utility window, it means either that you do not have rights to change the flags or that the flags can be set only on the server.

To set a flag, click the check box corresponding to it so that an "X" appears. To turn off a flag, click the check box so that it is blank.

When setting flags, keep these facts in mind:

- ◆ *You can set the Execute Only flag for DOS .EXE and .COM files only. You must have the Create or Modify right on the file. Setting this flag for a Macintosh file does not prevent it from being copied, and may cause it to execute improperly.*
- ◆ *You cannot clear the Execute Only flag once you set it. Make sure you have a second copy of the file. When you try to set the Execute Only flag, an “X” appears in the check box and this alert appears:*



If you still want to set the Execute Only flag, click OK. If you do not want to set the Execute Only flag, click Cancel. The application removes the “X” from the check box.

- ◆ *If the Migrated flag is set, you cannot set the Compress Immediately and Don't Migrate flags.*

For complete information about file and folder flags, see *NetWare Concepts*.

5

Managing Print Queues

This chapter describes how to use the Print Queue utility to manage NetWare print queues.

NOTE: If you are using the Print Queue utility on a NetWare 4.0 server, please see the section “Administering and Viewing Print Queues (NetWare 4.0)” under “[Using the NetWare Tools Application \(NetWare 4.0\)](#)” on [page 15](#) for related information.

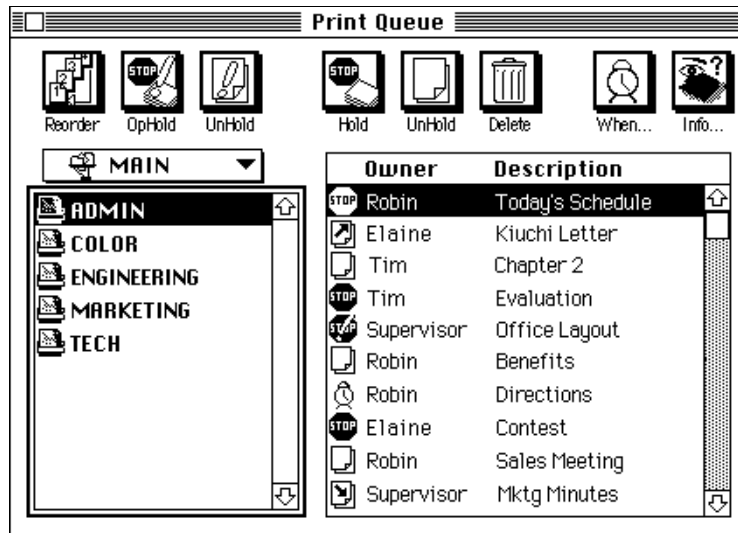
Before You Begin

Before you can carry out the tasks described in this chapter, you must do the following:

- 1 Launch the Print Queue utility in the Utilities menu.

If the printer selected in the Chooser is a NetWare queue, it will be highlighted when the utility window opens. [Figure 57](#) shows a highlighted queue for which the user has Queue Operator status:

Figure 57 Print Queue Utility Window



If you have Queue User status on the highlighted queue, the same window appears, but the Reorder, OpHold, and UnHold buttons grouped at the left of the window do not appear. These buttons are available to a Queue Operator only.

The Browser contains the names of print queues—by default, these are the print queues configured on the same server (or, for NetWare 4.0 users, in the same Bindery Context) as the print queue selected in the Chooser.

HINT: If the name of the print queue is too long to be displayed in the Browser, you will see part of the name followed by an ellipsis (...). You can view the whole name by pressing the mouse button on the name.

The pop-up menu above the Browser displays the name of the server containing the queues. If you are not logged in to that server, the standard login dialog boxes appear when you launch the utility. These dialog boxes require that you choose a login method, specify a user name and password, and mount a volume. The volume you mount need not be the one containing the print queue; it need only reside on the server containing it. For information on carrying out the login procedure, see [“Logging In to a NetWare Server” on page 32.](#)

If no NetWare print queue is selected in the Chooser when you launch the utility, the Browser displays the print queues on the server containing the first volume mounted on your desktop. The first print queue in the list is highlighted.

If no volumes are mounted, the Browser contains the name of each server in your default zone; the first server in the list is highlighted. The pop-up menu displays the zone name.

If no servers exist in your default zone, the Browser displays the name of each zone on the AppleTalk internet; the first zone in the list is highlighted. The pop-up menu displays the World option.

2 In the Browser, highlight the queue you want to manage.

For information on how to find a particular queue, see [“Locating NetWare Entities” on page 53](#).

Queue Management Tasks

The tasks you can carry out using the Print Queue utility depend upon whether you have Queue User or Queue Operator status.

- ◆ All members of the group EVERYONE are automatically assigned Queue User status, and the network administrator can explicitly assign Queue User status by using the PCONSOLE utility.
- ◆ Having Supervisor status automatically gives you Queue Operator status, or the network administrator can explicitly assign Queue Operator status by using PCONSOLE.

A Queue User’s Tasks

A user is the owner of any job he or she submits to a queue. With Queue User status, you can carry out these tasks on each of your print jobs:

- ◆ Place a job on hold
- ◆ Release a job from hold
- ◆ Determine the date and time a job will print
- ◆ Delete a job

In addition, you can view information about *any* print job, including its name, its owner, and its position in the queue. You can also view information about the queue itself, including its Queue ID and the number of jobs it contains.

As a Queue User, you cannot move any job in the queue, even if you are the owner of the job.

A Queue Operator's Tasks

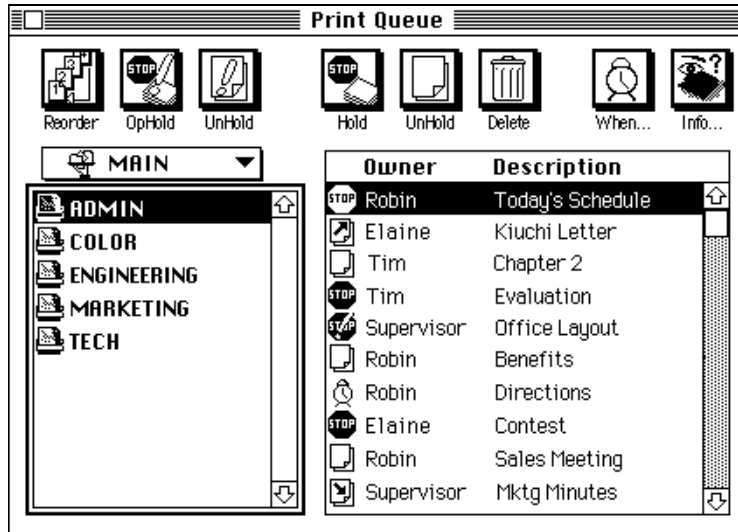
In order to use all the administrative functions of the Print Queue utility, you must have Queue Operator status. Having Queue Operator status enables you to carry out these tasks on *any* job in the queue:

- ◆ View information about a print job, including its name, its owner, and its position in the queue
- ◆ Place a job on hold
- ◆ Release a job from hold
- ◆ Determine the date and time a job will print
- ◆ Delete a job
- ◆ Move a job

In addition, you can view information about the queue itself, including its Queue ID and the number of jobs it contains.

Viewing Information

When you highlight a print queue in the Browser, the print jobs it contains appear in the scrolling list to the right. For example, if you highlight the ADMIN print queue, its contents appear:



Viewing Basic Information about a Print Job

Basic information about each print job is arranged in the columns described below.

- ◆ **Status:** The leftmost column is called the Status column. The icon displayed in this column indicates the status of the job. [Table 8](#) lists the icons that can appear in the Status column.
- ◆ **Owner:** This column contains the Macintosh Chooser name of the user who sent the job—the job owner.

NOTE: If the owner is not logged in to the server on which the print queue resides, he or she cannot place the job on hold, release the job from hold, determine the date and time the job will print, or delete the job. In other words, the job owner cannot carry out the usual job ownership tasks. In order to be able to manipulate your own job, log in to the server before submitting the job.

- ◆ **Description:** This column contains the name of the file.

Table 8 Print Queue Status

Name	Description
Adding	The job is being transferred to the queue.
Ready	The job is in the queue and is waiting to be printed.

Name	Description
Printing	The job is being transferred from the queue to the printer.
Waiting	The job has been set to print at a later time.
User Held	A User Hold exists on the job. For information about putting a User Hold on a job, see “Holding a Print Job” on page 141
Operator Held	An Operator Hold exists on the job. For information about putting an Operator Hold on a job, see the section “Holding a Print Job” on page 141
Error	An error condition has occurred.

These icons represent the different print queue status messages; their left-to-right order reflects their sequence in [Table 8](#):



Viewing Complete Information about a Print Job

You can get complete information about any job in the queue by following the steps described below.

1 Highlight the print job.

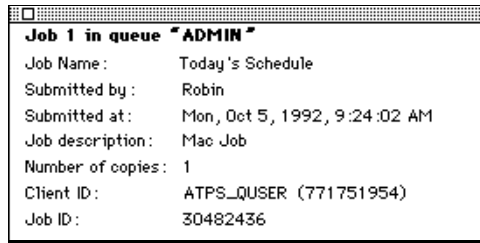
Find the print job for which you want information. Click the row in which the print job appears. You can get information about multiple jobs by shift-clicking or command-clicking.

For example, if you want information about the job called Today’s Schedule, highlight its entry in the queue.

2 Click the Info button, or double-click the highlighted row.

The window in [Figure 58](#) appears.

Figure 58 Print Job Info Window



The label at the top of the window indicates the position of the job in the queue; in this case, the job is at the top of the ADMIN queue. The fields in the window are described in [Table 9](#).

Table 9 Fields in the Print Job Window

Field	Description
Job name	The name of the file submitted to the queue.
Submitted by	The name of the job owner.
Submitted at	The date and time the job was placed in the queue. The information in this field reflects the date and time on the server's system clock.
Job description	The user who sent the job. If the print server cannot determine who sent the job, the value "Mac Job" appears in this field.
Number of copies	The number of copies to be printed.
Client ID	The NetWare login name of the client submitting the job. If the owner was not logged in to the server on which the queue resides when he or she submitted the job, the name in this field is ATPS_QUSER. To have ownership rights to the job, the owner must be logged in to the server.
Job ID	A number assigned by the operating system to uniquely identify the job.

Viewing Information about the Print Queue

To view information about the print queue itself, follow the steps described below.

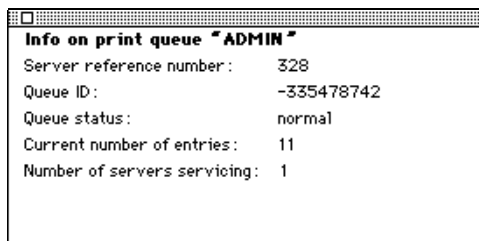
- 1 In the Browser, highlight the name of the print queue.

For example, if you want information about the ADMIN print queue, highlight ADMIN in the Browser.

- 2 Click the Info button.

The window in [Figure 59](#) appears.

Figure 59 Print Queue Info Window



The fields in the window are described in [Table 10](#).

Table 10 Fields in the Print Queue Info Window

Field	Description
Server reference number	The internal ID number of the server on which the queue resides.
Queue ID	The internal ID number of the print queue.
Queue status	The status of the queue. If no error condition is in effect, the status "Normal" appears in this field. If an error condition occurs, the field displays the phrase "Error condition" and explains, when possible, the nature of the error.
Current number of entries	The number of print jobs residing in the queue.
Number of servers servicing	The number of servers from which the queue can receive jobs.

Holding a Print Job

You may want to put low-priority jobs on hold to ensure that higher priority jobs print first.

NOTE: To put a job on hold, you must have either Queue User or Queue Operator status.

If you have Queue User status, you can set a *User Hold*. If you have Queue Operator status, you can set either a User Hold or an *Operator Hold*. [Table 11](#) describes each type of hold.

Table 11 **Holding a Print Job**

Type	Description
User Hold	<p>A Macintosh user who is logged in to the server via AFP and is a designated Queue User can put a User Hold on any job that he or she owns. However, the job cannot have a status of Printing.</p> <p>The Queue Operator can put a User Hold on <i>any</i> job that does not have a status of Printing, regardless of who sent it to the queue.</p> <p>If a job's status is User Held, the Queue Operator or the job owner can release the hold.</p>
Operator Hold	<p>A Queue Operator can put an Operator Hold on any job in the queue that does not have a status of Printing. If a job's status is Operator Held, only a Queue Operator can release the hold.</p>

To put a job in the queue on hold, follow the steps described below.

1 Highlight the print job.

Click the row in which the print job appears. The job can have any status except Printing; you cannot hold a job in the process of being sent to the printer.

To put a hold on more than one print job at a time, choose more than one row.

2 Put the print job on hold.

Place either an Operator Hold or a User Hold on the job.

2a Place an Operator Hold on the job (Queue Operator only).

To put an Operator Hold on the print job, click the OpHold button. The Operator Held icon appears next to the job.

You can put an Operator Hold on a job that already has a User Hold associated with it. If both an Operator Hold and a User Hold exist concurrently, the Operator Held icon takes precedence and is the one that appears.

2b Place a User Hold on the job (job owner or Queue Operator only).

To put a User Hold on the print job, click the Hold button. If there is already an Operator Hold on the job, the Operator Held icon takes precedence and remains next to the job entry. The job now has a User Hold and an Operator Hold on it. If there is not an Operator Hold on the job, the User Held icon appears next to the job entry.

Alternative Methods for Putting a Job on Hold

You can use an AppleTalk Print Services (ATPS) utility on the server to configure a queue to allow Macintosh users to put a job on hold.

- ◆ If you have printer accounting, you can specify that ATPS place a User Hold or an Operator Hold on a job when a user submitting the job does not have enough credit to print it.
- ◆ You can specify that all the jobs submitted by a print spooler enter the queue with either a User Hold or an Operator Hold.
- ◆ You can specify that ATPS retain jobs in a queue after they have printed. ATPS puts a User Hold on the affected jobs.

Whatever the source of the hold, the appropriate icon appears next to the print job entry in the Print Queue utility.

Releasing a Print Job from Hold

To release a print job from hold, follow the steps described below.

NOTE: With Queue User privileges, you can release a User Hold on a file you own, even if you did not set the hold. With Queue Operator privileges, you can release both a User Hold and an Operator Hold on any job, no matter what the source of the hold.

1 Highlight the print job.

Click the row in which the print job appears. To release several print jobs from hold at one time, highlight more than one row.

2 Remove the job from hold.

Remove either an Operator Hold or a User Hold.

2a Remove the Operator Hold (Queue Operator only).

If you are a Queue Operator, click the UnHold button pictured at the left to remove an Operator Hold. This button is grouped with the Queue Operator buttons at the left of the window.

2b Remove the User Hold (job owner or Queue Operator only).

If you are the job owner, click the UnHold button pictured at the left to remove a User Hold you placed on a job. This UnHold button resides to the right of the Hold button.

If you are the Queue Operator, you can click this button to remove any User Hold. If a job has both a User Hold and an Operator Hold, clicking the button removes only the User Hold. The Operator Hold remains.

Once you remove the hold, the new status of the print job depends on its status when the hold was originally placed. [Table 12](#) summarizes the possible scenarios.

Table 12 **Releasing a Print Job from Hold**

Status Before Hold	Type of Hold Placed	Status When Hold is Released
Adding, Ready, or Waiting (but the waiting period elapsed during the hold)	User Hold or Operator Hold	Ready
Waiting (and the waiting period did not elapse during the hold)	User Hold or Operator Hold	Waiting
User Held	Operator Hold	User Held
Operator Held	User Hold	Operator Held

Determining When a Job Will Print

You may want to specify the date and time a job in the queue goes to the printer. For example, if an especially large job resides in the queue, you might want the job to print when others are not using the printer. By doing so, you ensure that the job does not inconvenience other users attempting to print shorter documents.

NOTE: A Queue Operator can set the date and time for any job in the queue. A Queue User can set the date and time only for a job that he or she owns.

To specify when a job will print, follow these steps:

1 Highlight the print job.

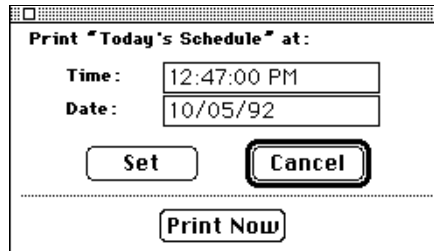
Click the row in which the print job appears. The status of the print job must be Ready, Waiting, User Held, or Operator Held. You cannot set a new date and time for a job with a status of Adding or Printing.

Shift-click to choose more than one row if you want to set the same date and time for several jobs.

2 Click the When button.

Clicking the When button displays this dialog box:

Figure 60 Determining When a Job Will Print



3 Set a new time and date, or click Print Now.

3a Set a new date and time.

Enter the time and date you want the job to print. Then, click the Set button. The window closes and the Waiting icon appears next to the job entry.

The job will print when the date and time on the server containing the print job corresponds to your specifications. Be aware that the server may be set to a different date and time than your Macintosh workstation.

3b Print now.

If the job currently has a status of Waiting, you can change its Waiting status to Active by clicking the Print Now button. The window closes and the Waiting Icon no longer appears next to the job.

The status of the job changes to the one that existed before you changed it to Waiting. For example, if the job was User Held on it before you changed its status to Waiting, the status of the job reverts to User Held when you clear the specification.

Deleting a Print Job

To delete a job from a queue, follow the steps described below.

NOTE: A Queue Operator can delete any job in the queue. A Queue User can delete only a job that he or she owns.

- 1 Highlight the print job.

Click the row in which the print job appears. Choose more than one row to delete several jobs at once.

- 2 Click the Delete button.

The selected print job(s) are deleted immediately.

Moving a Print Job

You may want to place a high-priority job ahead of other jobs in the queue. To move a job, follow the steps described below.

NOTE: Only a Queue Operator can move a job in the queue.

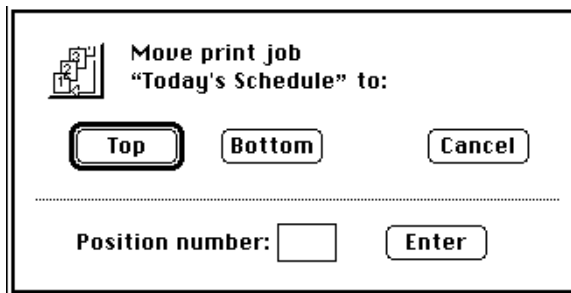
- 1 Highlight the print job.

Click the row in which the print job appears. The print job must have a status of Ready, Waiting, User Held, or Operator Held. You cannot move a job with a status of Adding or Printing.

You can choose more than one row if you want to move several jobs at the same time.

- 2 Drag the print job(s) to the appropriate location.

You can also use the Reorder button to move the job(s) to the beginning or end of the queue. When you click Reorder, this dialog box appears:



To move the job to the top of the queue, click the Top button.

To move the job to the bottom of the queue, click the Bottom button.

To specify a particular position, enter a number in the Position Number edit field and click Enter.

6

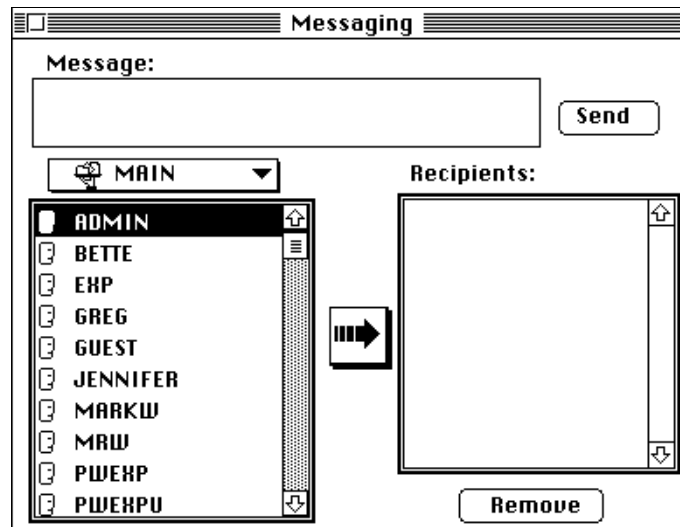
Sending and Receiving Messages

This chapter describes how to send a message to NetWare users and groups, and how to specify whether you want to receive messages.

Before You Begin

To carry out the tasks described in this chapter, you must launch the Messaging utility. When you launch the Messaging utility from the Utilities menu, a window like the one in [Figure 61](#) opens:

Figure 61 Messaging Utility Window



The Browser contains the names of registered users. By default, these are the users registered on the server containing the first volume mounted on your desktop. The pop-up menu above the Browser displays the name of the server.

HINT: If the name of a user or group is too long to be displayed in the Browser, you will see part of the name followed by an ellipsis (...). You can view the whole name by pressing the mouse button on the name.

If no volumes are mounted when you launch the utility, the Browser contains the name of each server in your default zone; the first server in the list is highlighted. The pop-up menu displays the zone name.

If no servers exist in your default zone, the Browser contains the name of each zone on the AppleTalk internet. The first zone in the list is highlighted. The pop-up menu displays the World option.

If you want to send a message to user on a server that does not appear by default, you must navigate to it. For details, see [“Locating NetWare Entities” on page 53](#).

Sending a Message

To send a message to several users, follow these steps:

- 1** Locate the server containing the user or users.

The name of the server must appear in the pop-up menu above the Browser. For example, to send a message to a user on the server MAIN, make sure that MAIN appears in the pop-up menu.

- 2** In the Browser, highlight the user to whom you want to send a message.

To send a message to more than one user at a time, highlight multiple users or groups.

- 3** Click the right-arrow button.

The name of the user or group you highlighted in the Browser now appears in the Message Recipients list.

- 4** In the Message text entry box, enter your message.

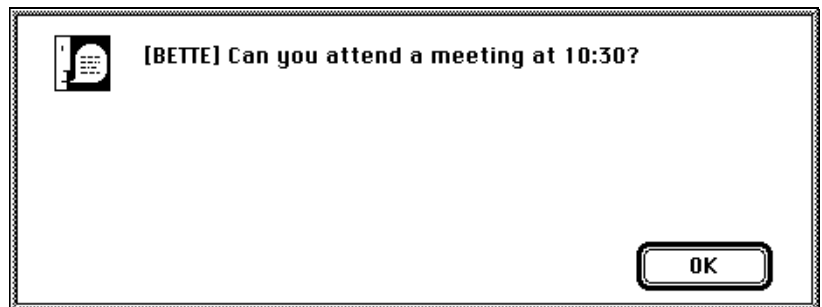
The message can contain up to 44 characters.

The utility window now looks like this one:



5 Click the Send button.

The Messaging utility sends the message to the user(s) or group(s) in the Message Recipients list. When a user receives a message, it looks like this one:

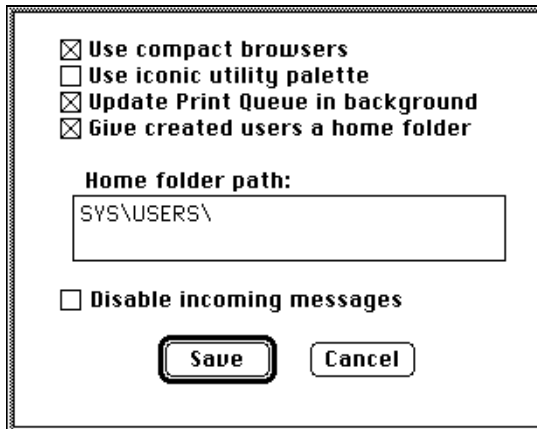


Specifying Whether You Receive Messages

Unless you are logging in to NetWare 4.0 servers only and are running AppleShare 7.1, the NetWare Notify software must be installed to receive messages.

You can specify that you do not want to receive messages from other NetWare users by choosing Preferences from the Edit menu and checking the Disable Incoming Messages option at the bottom of the window (Figure 62):

Figure 62 Disabling Incoming Messages



7

Mapping Filename Extensions

This chapter describes how to map filename extensions on a NetWare 4.0 server to a preferred Macintosh application and file type.

What Is Extension Mapping?

Extension mapping is a NetWare 4.0 feature that attaches Macintosh application information to files with certain filename extensions.

DOS files use a naming convention to alert certain applications to a file's type. One, two, or three-characters following a period in a file name (called the filename extension) can be recognized by a DOS application and used to make assumptions about that file. For example, the extension “.EXE” indicates an executable file, and “.DB” represents a database file.

Macintosh files have associated Finder information about the application that created the file and the file type. The Finder information enables users to double-click on the file's icon and automatically open the right application.

If extension mapping has been enabled on a NetWare 4.0 server, a set of default mappings exist between filename extensions and Macintosh information about the application that created the file and the file type. The information associated with the filename extension enables Macintosh users to double-click on the file's icon and automatically open the specified application.

IMPORTANT: Both DOS and Macintosh files are affected by extension mapping. If a Macintosh filename has an extension that is included in the list of mappings, the Macintosh Finder reads the mapped application information instead of the Finder information for that file.

Using the Extension Mapper (NetWare 4.0 Servers Only)

The Extension Mapper application allows Macintosh users to map the extensions to use their preferred Macintosh applications automatically, and to add new extensions to the default or a personal list.

If you log in as Supervisor and select the “default mappings” option in the Extension Mapper Preferences, you can change the default mappings on that server. You can also select the “personal mappings” option to change your own mappings, or instruct the Macintosh to turn off extension mapping for the Supervisor login.

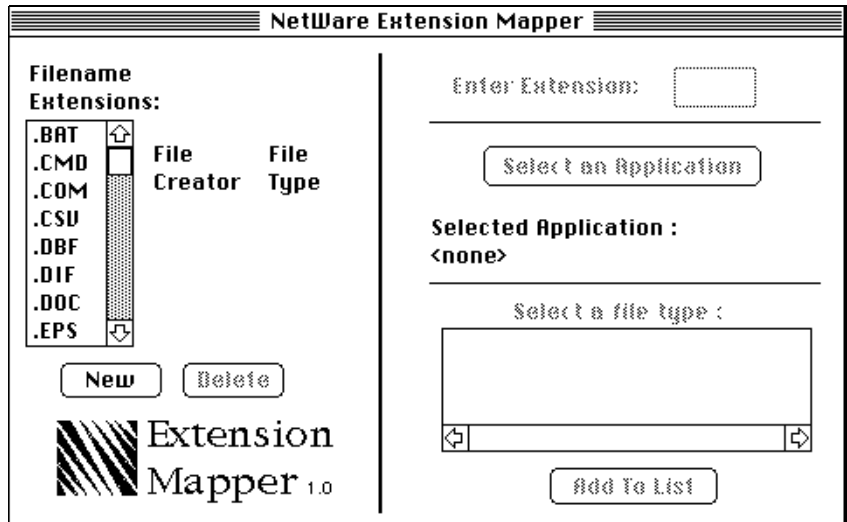
If you log in as an ordinary user, you can use the Extension Mapper to change the Macintosh applications used in the default mappings. This will affect only your personal mappings. Or, you can instruct the Macintosh to turn off extension mapping for your user login.

Viewing Default Extension Mappings

To use the Extension Mapper, double-click its icon to launch the application. You must be logged in to at least one NetWare 4.0 server, and that server must have extension mapping enabled. Otherwise, you will see an error message.

When you have logged in to a NetWare 4.0 server with extension mapping enabled and launch the Extension Mapper, the window shown in [Figure 63](#) opens.

Figure 63 The NetWare Extension Mapper



The list at the left side of the window shows default filename extensions. Next to the list are two fields, which together specify the Macintosh application to which a particular filename extension is mapped.

When you click on an extension in the list, the two fields will contain the following information:

- ◆ The File Creator field specifies a Macintosh application. In Macintosh terminology, “creator” means the application that created that file.
- ◆ The File Type field specifies a file type supported by that application. The file type tells the application how to interpret the file’s contents as it is opening the file. For example, if the file type is “TEXT,” the application interprets the file as a sequence of ASCII characters. A different type would cause the application to interpret the contents differently, for example, to interpret formatting codes as well as text.

To see how extension mappings work, click on an extension in the list; for example, click on the “.TXT” extension (Figure 64):

Figure 64 Viewing a Default Extension Mapping

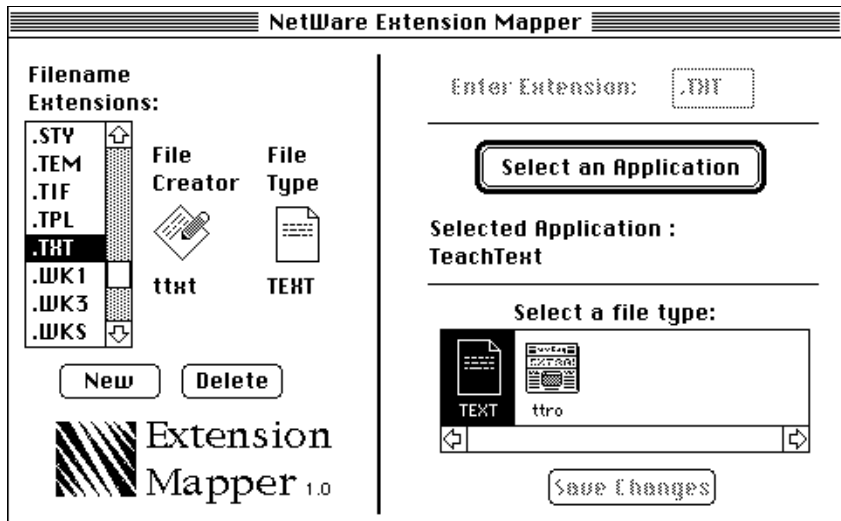


Figure 64 shows that files ending in “.TXT” have a default map to the TeachText Macintosh application, with a file type of “Text.”

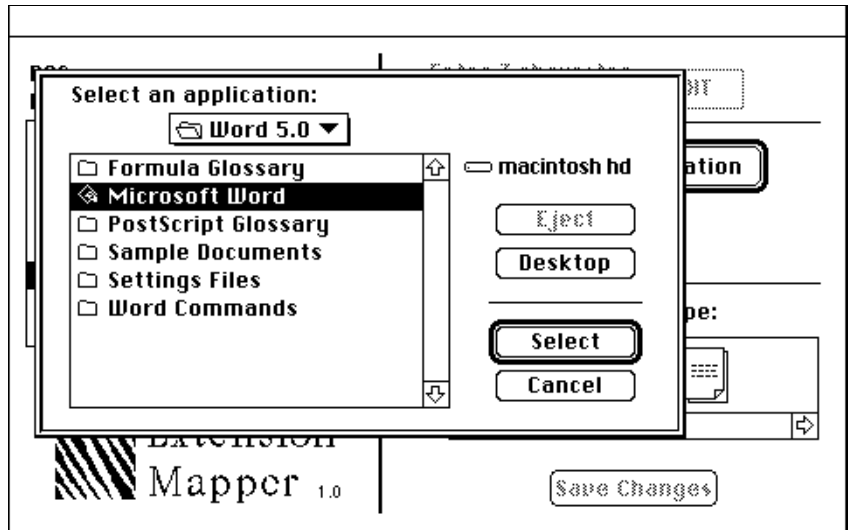
The horizontal list of file type icons in the lower-right of the window shows the file types supported by the TeachText application. You can change the file type by selecting a different icon from this list; however, a file type of “Text” is recommended in this case.

Changing Extension Mappings

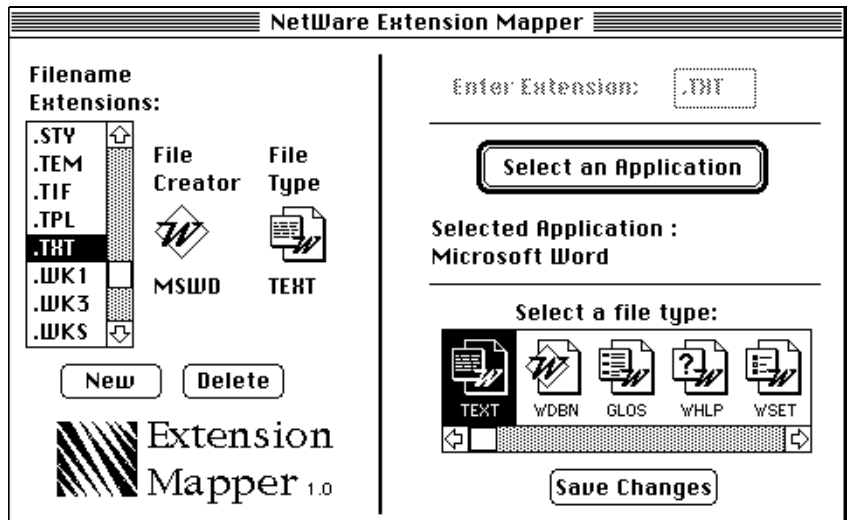
Unless you are logged in as Supervisor, the changes you make to extension mappings affect only your personal mappings. See “[Choosing Extension Mappings or Turning Off Mappings](#)” on page 159 for related information.

To assign a different creator (application) and file type to files ending in “.TXT,” click the button labeled Select An Application. A Macintosh file dialog opens, in which you can select a different application. Figure 65 shows the file dialog with the Microsoft Word application selected.

Figure 65 Changing the Extension Mapping



When you click the Select button in the file dialog, the Extension Mapper looks like this:

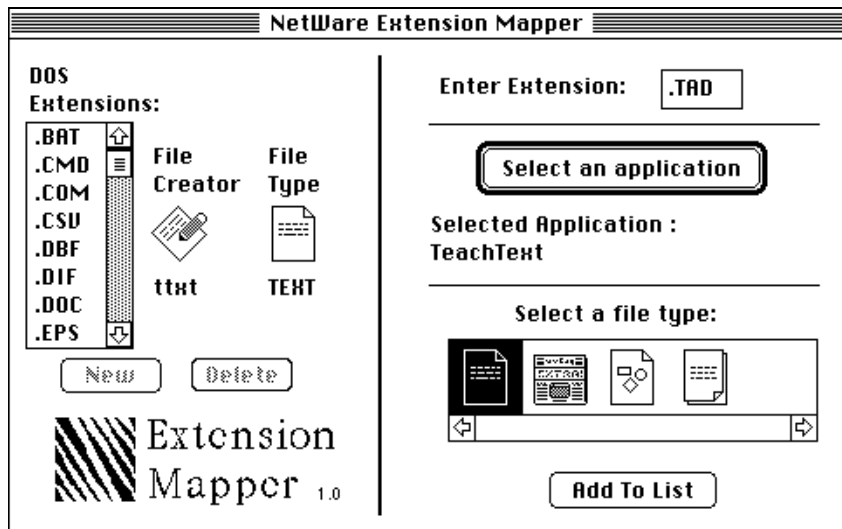


After you click the Save Changes button, Macintosh users logging in to the NetWare server will see the Microsoft Word icon for files ending in “.TXT.” When they double-click that icon, the Microsoft Word application opens the file.

Adding or Removing Filename Extensions

You can add to the list of filename extensions or remove extensions from it by using the New or Delete buttons below the list.

For example, if the NetWare server contains files with the filename extension “.TAD,” you can add these files to the list by clicking the New button. When you click New, the text entry field in the upper-right corner of the window becomes active, and you can enter the 3-character extension “.TAD”:

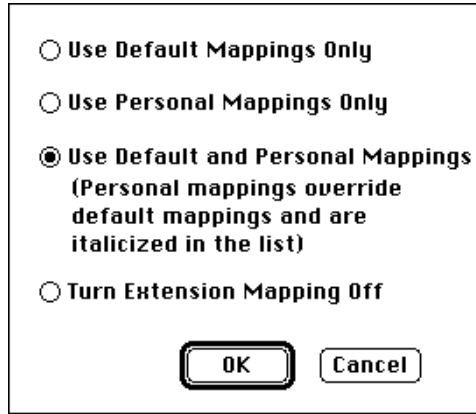


To add the new extension to the list, click the Select An Application button, choose a Macintosh application (such as TeachText, shown above), select a file type for that application, and click Add To List.

To delete a filename extension from the list of defaults, highlight the extension you want to remove and then click Delete. You will be asked to confirm that you want to remove the extension from the list.

Choosing Extension Mappings or Turning Off Mappings

After using the Extension Mapper to associate files with your preferred Macintosh applications, you have the option to return to the server defaults by choosing Preferences from the Edit menu. The Extension Mapper Preferences window looks like this:

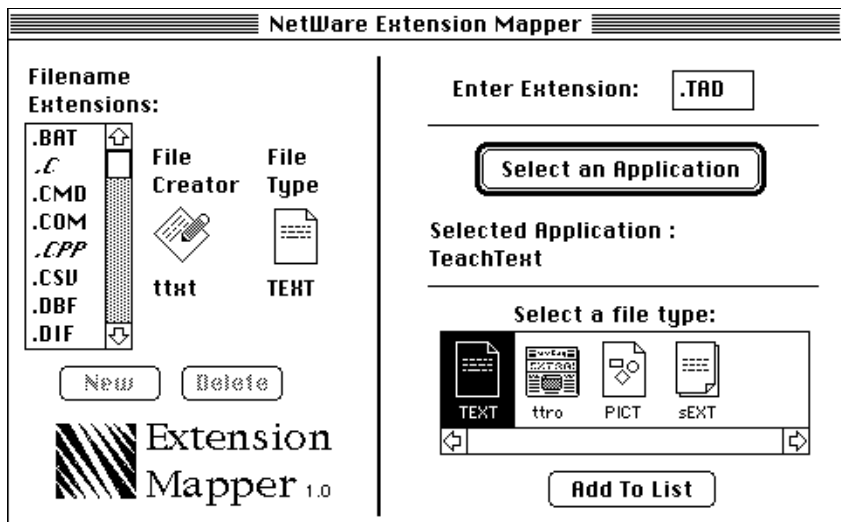


If you are logged in as Supervisor, you can enable Use Default Mappings Only and then change the mappings as described in [“Changing Extension Mappings” on page 156](#). The default mappings on the server will be modified for all Macintosh users.

If you are logged in as a user, enabling Use Default Mappings Only causes the default, server-wide mappings to be used.

If you select Use Personal Mappings Only, only those extension mappings that you have set personally will be used. The default, server-wide mappings will not be in effect.

If you select Use Default and Personal Mappings, the default mappings will be used unless you have changed one or more of the defaults, in which case your changes will be used where they apply. When this option is selected, the list of extensions shows your personal mappings in italics:



To turn off extension mapping for your login, click Turn Extension Mapping Off. If you want to turn it back on again later, you can click this radio button again.

Quitting the Extension Mapper Application

To quit the Extension Mapper application, choose Quit from the File menu.

8

Troubleshooting

This chapter describes symptoms of error conditions and presents basic guidelines for diagnosing problems you might see at the Macintosh workstation when using NetWare for Macintosh.

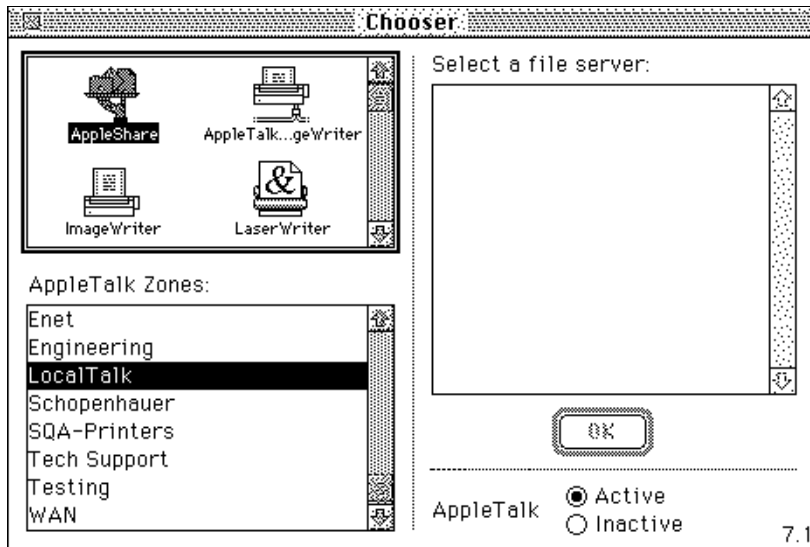
Diagnosing Problems

If your attempt to resolve a problem fails and you purchased NetWare for Macintosh from an authorized dealer, please call your dealer for assistance. You should be prepared to give a complete description of the problem—what happens, when it happens, and what you have already done to diagnose problem.

The Server Does Not Appear in the Chooser or Browser

Figure 66 shows an error condition in which zones names appear in the Chooser, but the server name does not appear when the server's zone is highlighted.

Figure 66 The Server Does Not Appear in the Chooser



A similar type of error condition can occur in which no zone names appear in the Chooser, or zones that were recently specified in a newly configured server do not appear.

To diagnose the cause of this problem, you need to narrow the problem to one of these components: the Macintosh workstation, the AppleTalk configuration on the NetWare server, or the network hardware connecting them.

To begin diagnosing the problem, answer these questions:

1. Can the Macintosh user can see other AppleTalk services?

Choose another AppleTalk service on the same network as the problem Macintosh. If the Macintosh cannot see any AppleTalk services or zones, the workstation itself or the cable to which it is connected are suspect.

If the name of another service appears, the Macintosh is capable of communicating on the AppleTalk network. In this case, the problem is more likely to be a router or cabling problem.

2. When attached to a different network connection, can the Macintosh workstation locate the server?

If a Macintosh user at a second location can see the NetWare server, swap the problem Macintosh to that network connection and see whether the server still appears. If you can see the server, the network connection at the original location is suspect. If you cannot see the server, the server's AppleTalk configuration is suspect.

3. Can the NetWare server see the Macintosh?

Use Echo Test in ATCON, as described in *NetWare for Macintosh Installation and Maintenance*. If the server can "see" the Macintosh, but not vice versa, the network software in the Macintosh is suspect.

4. Can the server see another Macintosh on the same network?

Use Echo Test in ATCON. If the server can "see" the second Macintosh but cannot see the original problem Macintosh, the could be a problem with the connectors at the Macintosh client or with the Macintosh network interface board.

In order to rule out the Macintosh workstation as the source of the problem, make sure that all of the following conditions are true:

- ◆ Cabling connections are secure and correct.

If the network hardware on the Macintosh is loose or incorrect, the Macintosh will not be connected to the AppleTalk network, so no zones will appear in the Chooser.

If you are using an Ethernet or Token Ring board for the Macintosh, check that the network connection to the Macintosh network board is secure, and properly connected to the board and the cable. On Ethernet, make sure that the Thick/Thin switch is set correctly on the network board.

If the Macintosh is connected to a LocalTalk network, make sure that the LocalTalk cable is connected to the Macintosh printer port, not the modem port, and that the LocalTalk cable connections are not loose or unplugged. LocalTalk cable connections can work loose if you don't secure them with cable ties.

- ◆ The correct network connection icon is selected.

If you have selected the wrong network connection icon, the Macintosh will not be upon the network and no zones will appear in the Chooser.

For a Macintosh workstation running System 7.x, you must select the proper network connection icon in the Network Control Panel. For a Macintosh workstation running System 6.0.5 or later, you must select the proper network connection icon in the Network area of the Control Panel.

The icon you select must match the network configured on the server for the cable supporting the Macintosh. The icon corresponds to these network types:

- ◆ LocalTalk
 - ◆ ARCnet
 - ◆ EtherTalk 1.0 (called **ethernet_ii** on the server)
 - ◆ EtherTalk 2.0 (called **ethernet_snap** on the server)
 - ◆ TokenTalk
- ◆ The Macintosh network drivers are correctly installed.

Network drivers are provided with Macintosh network boards. Refer to the documentation for the board to verify that you installed the driver correctly.

- ◆ AppleTalk is enabled in the Chooser.

If AppleTalk is not enabled, the Macintosh will not be up on the network, and no zone names will appear in the Chooser.

- ◆ Token Ring Source Routing is enabled or disabled in order to be consistent with the server configuration.

If you are using Token Ring Source Routing, make sure that you use it consistently on all Token Ring interfaces, including TokenTalk boards in Macintosh workstations. See the documentation for the TokenTalk board to verify that you enabled Source Routing if appropriate.

- ◆ If you are using Token Ring and are connecting to a NetWare 3.x server, make sure ATTOKLLC.NLM is loaded and bound to the IPX board on the server.
- ◆ If you are using Token Ring and are connecting to a NetWare 4.0 server, make sure LLC8022.NLM is loaded.
- ◆ If you are using Token Ring and the server's Token Ring card is configured for 16 Mb/sec or 4 Mb/sec, make sure the Macintosh Token Ring card is also configured for the same speed.

- ♦ The Macintosh workstation operates correctly when not connected to the network.

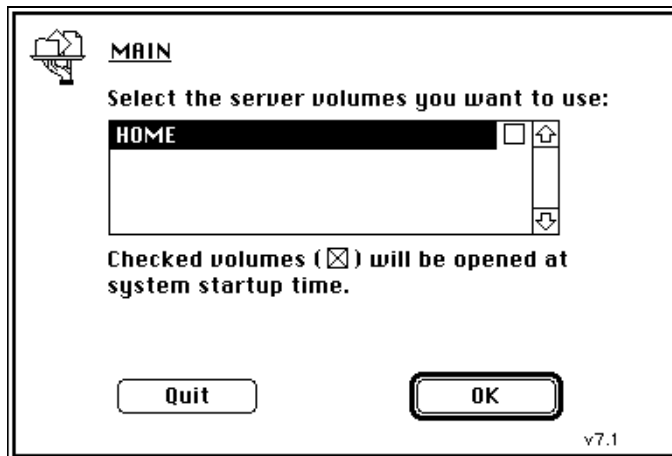
Disconnect the Macintosh client from the network cable and connect it to a printer with a LocalTalk connection. Verify that its peripheral devices and power source are operating correctly.

If you rule out the Macintosh workstation as the source of the problem, you must determine whether the problem is caused by the network hardware or server configuration. For guidelines, see NetWare for Macintosh *Installation and Maintenance*.

The Volume Name Does Not Appear in the Volume Dialog Box

Macintosh users can see the NetWare server and begin the login process, but they cannot see the name of the volume they need to mount in the Volume dialog box (Figure 67).

Figure 67 The Volume Name Does Not Appear



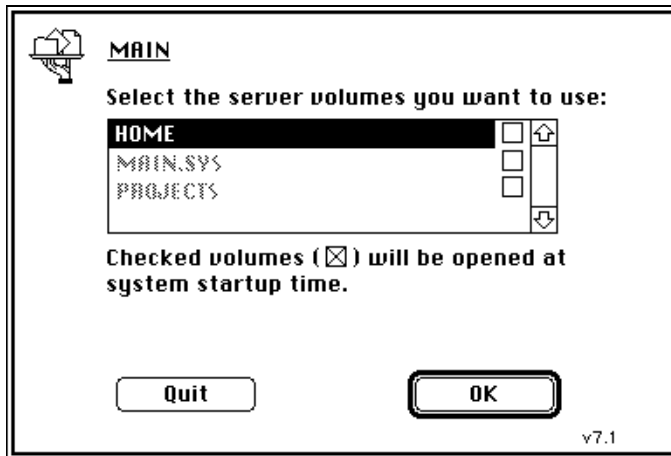
The most likely cause for this problem is a server configuration error. Either the Macintosh name space was not added to the volume, or the MAC.NAM support module was not loaded. For information on resolving this problem, see NetWare for Macintosh *Installation and Maintenance*.

NOTE: If you don't see any volumes listed, it means that NetWare for Macintosh was installed on the server but the Macintosh name space was not correctly loaded or added to any of the server's volumes.

The Volume Name Is Dimmed in the Volume Dialog Box

A Macintosh user can see the NetWare server and begin the login process, but a volume name is dimmed in the Volume dialog box and the user cannot select it.

Figure 68 The Volume Name is Dimmed



One possible cause for a dimmed volume name is that the Macintosh user has no access privileges on the volume. When you create a user, you must give that user access privileges to a file or folder on the volume. Because each new user is a member of the group EVERYONE, the simplest way to assign access privileges is to make EVERYONE a trustee of a file or folder.

Another possible cause is a problem with the DESKTOP.AFP folder on the server. Either the folder doesn't exist, or is corrupted for the volume. To remedy this problem, you must clear and rebuild the desktop as described in NetWare for Macintosh *Installation and Maintenance*.

The Macintosh User Can See the Server, But Cannot Log In

This problem can be caused by one of these conditions:

- ♦ The user is not registered on the server.

You can create a user name with the Users and Groups utility. For detailed information, see [“Creating a User” on page 78](#).

- ◆ The server cannot locate the user.

If the server's Bindery Context is set to a container other than the one that contains the user object for the person who is trying to log in, then the server will not be able to find the user.

To remedy this problem, log in to a server that is set to the correct Bindery Context, or else create a user object for the person in the bindery context for server where the person needs to log in.

For information about Directory Services and Bindery Contexts, refer to the NetWare for Macintosh *Installation and Maintenance* manual for NetWare for Macintosh 4.0.

- ◆ System accounting is turned on at the server, but the user does not have a balance.

If accounting is active at the server, you must assign an accounting balance to the user before he or she can log in.

- ◆ The NetWare UAM is not installed in the AppleShare Folder within the System Folder, but the network administrator has enabled only NetWare-encrypted logins on the server.

Remedy this problem by installing the NetWare UAM in the proper location.

- ◆ The maximum number of Macintosh users have already logged in to the server.

The maximum number of Macintosh users can range from 5 to 1000, depending on the version of NetWare for Macintosh and the version of the NetWare on the server. If the user limit has reached its maximum, a user trying to log in to a server will see an error message.

One Macintosh user must log out of the server for another user to log in.

The AppleShare Icon Does Not Appear in the Chooser

This condition means that you have not installed the AppleShare Workstation software on the Macintosh. For information on the installation procedure, see [“Installing the NetWare for Macintosh Client Software” on page 25](#).

File and Folder Creation and Modification Dates Are Wrong

A Macintosh is losing information in the Last Modified and Created columns when copying Macintosh folders and files to the NetWare server. If it is important that this information be preserved, check that the system clock on the Macintosh shows the same date and time as the system clock on the server.

If you are using System 6.x, open the Control Panel and check the General Icon to see that the system clock displays the correct date and time. If you are using System 7.x, open the General Controls control panel and check the date and time. If the Macintosh system clock is correct, check the time on the NetWare server and, if necessary, reset it.

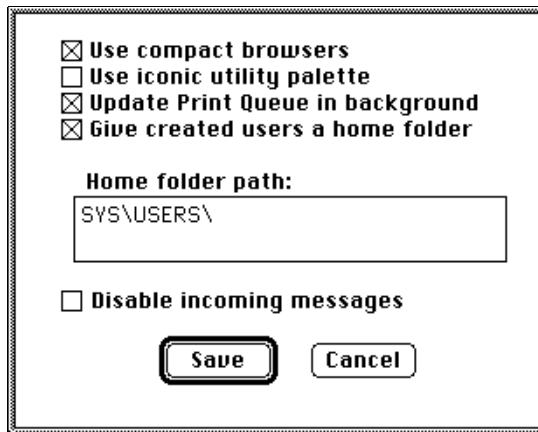
Macintosh Icons Do Not Appear in the Server's Folders

If Macintosh users report that Macintosh document and application icons appear as generic icons, you should clear and rebuild the DESKTOP.AFP folder. For information, see NetWare for Macintosh *Installation and Maintenance*.

Performance Penalty on Macintosh Running NetWare Tools

The Print Queue utility is continuously being updated with new information about print jobs in the visible queues, even if the Print Queue utility window is not currently frontmost and active. If you leave the Print Queue utility open and it is continuously polling the queues and updating the information shown, you may notice a performance penalty and the double-arrow mouse cursor might disappear occasionally.

If you notice these problems, choose the Preferences option from the Edit menu and uncheck the item labeled Update Print Queue in Background:



The following section describes error messages that can occur while using the NetWare Tools application. These messages typically appear in Macintosh error dialog, but might sometimes appear in the context of a utility or Finder dialog.

Memory Warnings

NetWare Tools memory is running low. Close NetWare Tools windows to free memory.

Explanation: This message means that the NetWare Tools application has run out of memory. By default, the application is assigned 640K memory size, which allows approximately 15 open utility windows.

Action: If you see this message, close some of the NetWare Tools utility windows. If you want to increase the application memory size, select the NetWare Tools application icon in the Finder and choose Get Info from the Finder File menu. Then, type a new application memory size in that window.

The server is out of memory.

Explanation: This message indicates that the current server does not have the resources to complete a request initiated in the NetWare Tools application. It indicates a serious overload on the server, and has nothing to do with the utilities running on a Macintosh.

Action: It's probably a good idea to log out of the server.

Print Queue Errors

NetWare Tools could not *perform an action on specified job* because *specified reason*.

Explanation: This message can appear when you try to perform any of the following actions on one or more print jobs in the Print Utility:

Explanation: *perform an action:*

- ◆ delete
- ◆ hold
- ◆ unhold
- ◆ set print time for
- ◆ act on
- ◆ reorder
- ◆ get information for

Explanation: *specified job:*

Explanation: If one print job is selected, the message specifies that print job by name. If more than one print job is selected, the message specifies the number of selected jobs.

Explanation: *specified reason:*

- ◆ you do not own that job [those jobs].

If the message specifies that NetWare Tools cannot perform the specified action because you do not own the selected print job or jobs, then your current login to this server is neither a "Queue Operator" for this queue, nor "Supervisor." Without the extended privileges of these logins, you can perform actions only on your own print jobs.

- ♦ the queue is servicing that job [those jobs].

If the message specifies that NetWare Tools cannot perform the specified action because the queue is servicing the selected job or jobs, it means that the print jobs have already started printing.

- ♦ of unknown error *number*

If the message specifies that NetWare Tools cannot perform the specified action because of an unknown error (followed by an error number), it means that an unspecified error has occurred on the server, the Macintosh workstation, or the network that connects them.

Nothing to display. *Specified reason.*

Explanation: This message can appear when the Print Utility attempts and fails to display the contents of a queue for one of the following reasons:

Explanation: *Specified reason:*

Explanation: Your current login to this server is neither a “Queue User” for this queue, nor a member of this server’s group “Everyone.” Your server administrator can set either of these conditions so you can look at the queue’s print jobs.

- ♦ Bindery failure
- ♦ Bindery locked
- ♦ Directory full
- ♦ Error!
- ♦ Max queue servers
- ♦ No job
- ♦ No job rights
- ♦ No queue
- ♦ No queue server
- ♦ No such object
- ♦ Queue error
- ♦ Queue halted
- ♦ Queue is full
- ♦ Queue not active
- ♦ Queue servicing

NetWare Tools does not have enough memory to display *number* jobs. NetWare Tools can only display *number* jobs.

Explanation: This message indicates that there are too many jobs in the print queue for NetWare Tools to display all of them. As the number of jobs decreases (as they are printed), the condition causing this message will be resolved.

Positions must be in the range 0 to 250.

Explanation: This message can occur when you are trying to reorder print jobs in the queue and specify a position greater than 250 or less than zero.

Action: Reenter the new position number within the allowed range.

Messaging Errors

Messages can hold only 44 characters.

Explanation: This message indicates that you typed more than 44 characters in the message. There is no resource other than paring down the message to contain fewer characters.

Messages cannot contain return characters.

Explanation: This message means that you pressed <Return> while entering the text of your message. The Message utility doesn't accept return characters. Continue typing your message in one long line, which will wrap to the next line automatically when you reach the edge of the message box.

Glossary

AppleTalk zones

A logical grouping of AppleTalk devices such as Macintosh computers, Apple printers, and NetWare servers. The network administrator defines AppleTalk zones and can assign devices to a particular zone.

Bindery Context

Bindery Emulation (described immediately below) requires that you set a Bindery Context on each NetWare 4.0 server. This context is a pointer that indicates where the bindery emulation objects are held. *Bindery Emulation users can log in only to servers within their Bindery Context.* This creates limitations which other Directory Services users do not have, which can be overcome by careful configuration of Bindery Contexts. See NetWare for Macintosh *Installation and Maintenance* for NetWare for Macintosh 4.0.

Bindery Emulation

NetWare for Macintosh 4.0 does not provide direct access to NetWare Directory Services (NDS), but instead uses Bindery Emulation to enable Macintosh workstations to access the Directory database and handle Directory objects as though they were bindery objects. See NetWare for Macintosh *Installation and Maintenance* for NetWare for Macintosh 4.0.

Black tab folder

A folder on which the user has the Access Control right and can modify the folder's security.

Browser

In a utility window, a scrolling list containing a set of NetWare entities. Depending on the active utility, these entities might include zones, servers, users, groups, volumes, folders, files, or print queues.

Browser area

The left-hand portion of a utility window. The Browser area contains the Browser tools.

Browser tools

A set of tools you can use to locate the NetWare entities you administer in a utility window. The Browser tools consist of a Browser, a pop-up menu, and an Open button.

Connected Items pane

The top pane of the Workspace. The Connected Items pane contains a snapshot of each entity with which you are currently working and the utility you can use to administer it.

Drop box folder

A folder in which a user has the Create and File Scan rights. The user can copy a file into the folder, but cannot see the folder's contents, delete files in the folder, or search the folder.

DS tree

The Directory Services tree in which a NetWare 4.0 server is located is displayed in the NetWare UAM. This information is useful if your site supports multiple DS trees.

Effective Rights

The rights you can actually exercise at the root of a volume, or in a given folder or file. The combination of your trustee rights and the rights specified in the Inherited Rights Mask determine Effective Rights.

Flags

Properties assigned to a folder or file on a NetWare volume. Flags override rights granted with trustee assignments and can prevent tasks that Effective Rights would allow. Also called *attributes*.

Group

A collection of network users who share applications, perform similar tasks, or have similar needs for information.

GUEST

A user name created automatically when you install NetWare 3.x. By default, GUEST has no password and only limited rights. The purpose of GUEST is to allow a user without a registered user name to log in to the network. The supervisor can change the rights of GUEST or remove the user name entirely.

Inherited Rights Mask

A feature of NetWare v3.0 and later. The Inherited Rights Mask is like a sieve, filtering out certain rights. For a folder, turning off rights in the Inherited Rights Mask restricts the trustee rights the folder can inherit from its parent folder. For a file, turning off rights in the Inherited Rights Mask restricts the trustee rights the file can inherit from the folder that contains it.

Internet

Any interconnected group of networks, such as an interconnected group of AppleTalk networks. Network users on an internet can share information and network devices. See also *network*.

NetWare-encrypted password

A NetWare-style password encoded by the NetWare User Authentication Method (UAM) software on your Macintosh workstation before transmission to the NetWare server. A NetWare-encrypted password can be up to 128 characters long, and can include special characters. The encryption method has no effect on the way you type in the password.

NetWare Notify

A startup document that enables Macintosh users to receive brief messages.

NetWare Rights Packages

A feature of the Rights utility. Each rights package provides a particular set of NetWare rights. The rights packages you can choose are User, Owner, Private, Drop, View Only, and Custom.

NetWare Tools

An application that enables you to manage NetWare file and print services from your Macintosh workstation.

NetWare User Authentication Method (UAM) software

Software that provides NetWare password encryption (encoding during transmission) for the Macintosh workstation.

Network

A collection of interconnected, individually controlled computers, together with the hardware and software used to connect them.

Network activity indicators

Two arrows displayed in the upper-left corner of the Macintosh monitor. These arrows blink to indicate network activity, as when you copy a file to a server.

Network administrator

The person responsible for setting up and maintaining the network. The network administrator has Supervisor login privileges and administers security on the network.

Operator Hold

A hold placed on a print job by a Queue Operator.

Password

A unique word or set of characters a user must enter before he or she can access a volume on a server.

Plain folder

A white folder icon with no markings. When a plain folder appears in the Finder, you can open the folder and see the names of the folders and files inside. You may or may not be able to create, delete, or modify files, depending on other rights assigned in the folder. The plain folder is equivalent to the File Scan right.

Print queue

A sequence of print job requests stored and processed on a first-in, first-out basis.

Queue Operator

A user with rights to manage all jobs in a queue. The Queue Operator can view information about the queue and print jobs in it, place a job on hold, release a job from hold, determine the date and time a job will print, delete a job, and move a job. Supervisor status automatically gives the network administrator Queue Operator status. In addition, the network administrator may choose to give Queue Operator status to a workgroup manager or NetWare for Macintosh end user.

Queue User

A user who can carry out any of the following tasks on a job he or she submits to a queue: place the job on hold, release the job from hold, determine the date and time the job will print, and delete the job. In addition, the Queue User can view information about *any* print job and about the queue as a whole. However, he or she cannot move a job in the queue.

Saved Items pane

The lower pane of the Workspace. The Saved Items pane contains the entities and utilities represented in your session file.

Security equivalence

A NetWare security feature that allows one user to exercise the same rights as another user or group of users. Assigning rights with security equivalence is often easier and more efficient than assigning rights directly to individual users.

Server

A combination of controller software and mass-storage devices that allows computer users to share common files and applications on a network. A server on an AppleTalk network may be a Macintosh computer running AppleShare software or an IBM PC (or a compatible computer) running NetWare for Macintosh software.

Session file

A file containing the names and locations of the NetWare entities you most frequently administer, along with the utility you use to work with each one. When you launch the NetWare Tools application, the entities and utilities stored in your session file appear in the Saved Items pane of the Workspace.

Startup disk

A disk with all the necessary program files—such as the Finder and System files contained in the System Folder for the Macintosh workstation—to set the computer into operation. A startup disk is sometimes called a boot disk.

Supervisor

Anyone who can log in with the user name SUPERVISOR. The supervisor can administer network security and perform other administrative tasks to maintain the system.

Trustee

A user or group assigned rights on a particular volume, folder, or file.

Trustee rights

Privileges assigned to a user or group for a specific volume, folder, or file. The user or group is known as the trustee. The rights assigned determine the kinds of tasks the trustee can carry out.

User

Any person allowed to work on the network. A user logs in to the server with a user name identifying him or her as someone allowed to use server resources.

User Hold

A hold placed on a print job by the Queue User who owns the job, or by the Queue Operator.

User name

A name recognized by the network, with which a user gains access to the server. Each user is assigned a user name and (usually) a password for logging in.

Workspace

The window that opens automatically when you launch the NetWare Tools application. When you launch a utility from the Workspace, you can take a shortcut to the NetWare entities you administer most frequently.

Volume

A hard disk, or portion of a hard disk, on the server. A server's disk storage is divided into volumes; you can open a volume just as you open a local disk on your Macintosh desktop.

Volume icon

On the desktop, an icon that looks like a filing cabinet. In the Browser, an icon that resembles a hard disk. Each icon represents a volume on the server.

Workgroup Manager

Status assigned by the network administrator that enables a user to add or delete users from a group, and to assign trustee rights to the group and its members.

Workstation

A personal computer connected to a network. Each user on the network logs in to the server through his or her workstation.