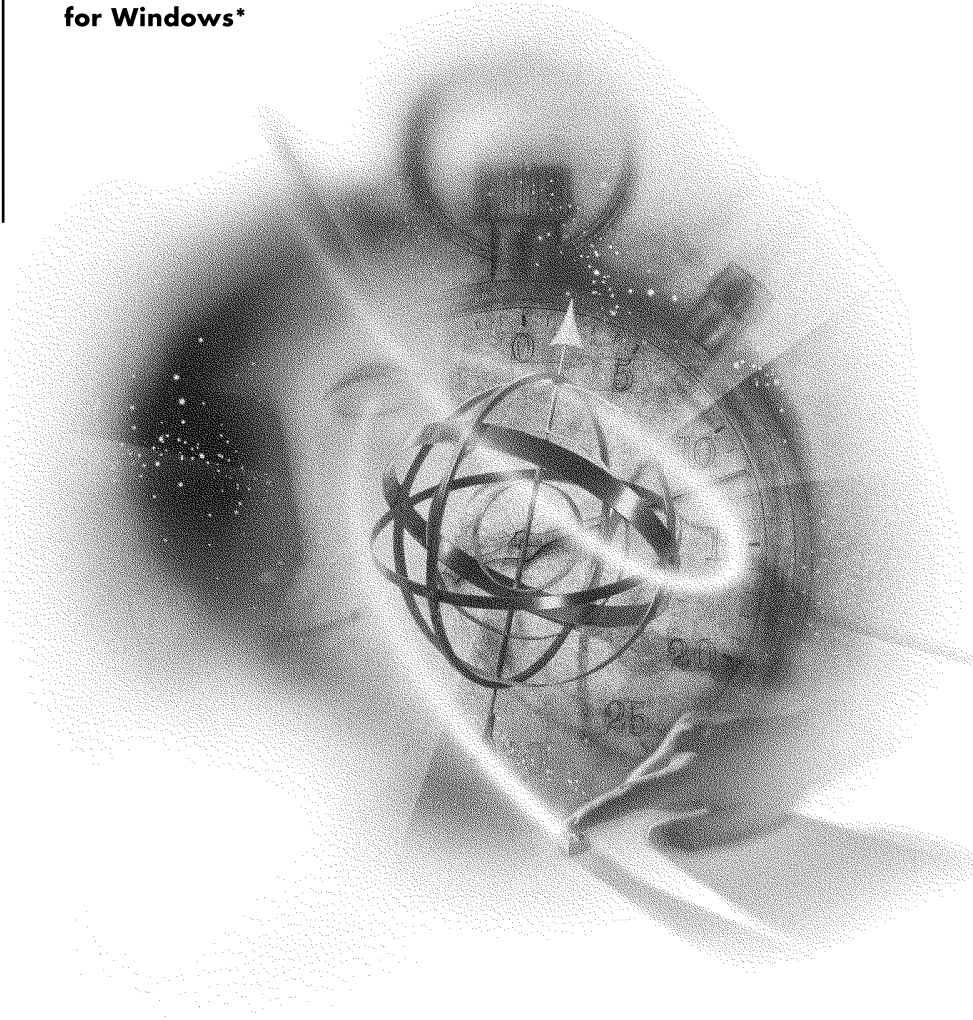


**Novell Client™**

**for Windows\***



**Novell Clients**

**Novell®**

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# Contents

<b>Novell Client Documentation</b> . . . . .	9
<b>1 Installing Novell Clients</b> . . . . .	11
Preparing to Install the Client Software . . . . .	11
Checking Server Protocols and Requirements . . . . .	11
Locating the Latest Client Software . . . . .	13
Preparing Client Workstations . . . . .	13
Additional Information . . . . .	15
Installing Clients from CD-ROM . . . . .	15
Configuring Network Protocols . . . . .	16
Installing Clients from the Network . . . . .	16
Create a Folder . . . . .	17
Copy Files . . . . .	17
Grant Rights . . . . .	17
Modify the ACU Configuration File . . . . .	18
Update the Platform-Specific Configuration Files . . . . .	19
Create or Modify the Login Script . . . . .	20
What Users See . . . . .	22
Upgrading a Client Workstation to Windows 2000 . . . . .	22
<b>2 Setting Up Client Login</b> . . . . .	25
Setting Up Login Scripts . . . . .	25
Where Login Scripts Should Be Located . . . . .	27
Creating or Modifying Login Scripts . . . . .	28
Creating Login Scripts from a Sample or Existing Login Script . . . . .	30
Printing Login Scripts . . . . .	31
Setting Up Login Restrictions . . . . .	31
Setting Up Location Profiles . . . . .	32
Removing a Location Profile . . . . .	33
Customizing the Novell Login Dialog Box . . . . .	33
<b>3 Setting Client Properties</b> . . . . .	37
Setting Properties Prior to Installation . . . . .	37
Setting Properties on a Single Workstation after Installation . . . . .	38
Setting Properties on Multiple Workstations after Installation . . . . .	38
Specifying Global Settings . . . . .	39

<b>4</b>	<b>Managing Novell Client</b>	41
	Common Networking Tasks	41
	NetWare File Security	41
	Checking File or Folder Rights	42
	Changing Trustee Assignments	42
	Combining Multiple Trustees	42
	Setting Up AutoAdminLogon for Windows NT/2000	43
	AutoAdminLogon Options	43
	Setting the AutoAdminLogon Options	46
	Changing Passwords in NetWare Login with AutoAdminLogon	46
	Uninstalling Novell Client	47
<b>5</b>	<b>Printing to a Network Printer</b>	49
	Attaching to a Network Printer	49
	Setting Up Network Printing	50
	Specifying Capture Settings with Windows Printing	50
	Setting Up Point and Print	51
	Disabling NetWare Login Dialog Boxes Brought Up by the Print Provider	52
	Windows NT/2000	52
	Windows 95/98	52
<b>A</b>	<b>Login Script Commands and Variables</b>	55
	Login Script Conventions	55
	Using Identifier Variables	57
	Login Parameters with %n Variables	61
	Login Scripts Commands by Task	62
	Network Connection and Access to Resources	62
	Login Script Execution	62
	Workstation Environment	62
	Text File Usage	63
	Other	63
	#	63
	Command Format	64
	Example	64
	@	64
	Command Format	65
	Examples	65
	ATTACH	65
	BREAK	66
	Command Format	66
	CONTEXT	66
	Command Format	66
	Example	66

## **6** Novell Client for Windows

DISPLAY . . . . .	67
Command Format . . . . .	67
Example . . . . .	67
DRIVE . . . . .	67
Command Format . . . . .	68
Example . . . . .	68
EXIT . . . . .	68
FDISPLAY . . . . .	68
Command Format . . . . .	69
Examples . . . . .	69
FIRE or FIRE PHASERS. . . . .	69
Command Format . . . . .	69
Examples . . . . .	70
GOTO . . . . .	70
Command Format . . . . .	70
Example . . . . .	70
IF...THEN. . . . .	71
Command Format . . . . .	72
Examples . . . . .	72
INCLUDE. . . . .	74
Command Format . . . . .	74
Examples . . . . .	75
LASTLOGINTIME . . . . .	76
Command Format . . . . .	76
MAP . . . . .	76
Command Format . . . . .	77
NO_DEFAULT . . . . .	78
Command Format . . . . .	78
PAUSE . . . . .	79
Command Format . . . . .	79
PROFILE . . . . .	79
Command Format . . . . .	79
Example . . . . .	79
REMARK. . . . .	79
Command Format . . . . .	80
Example . . . . .	80
SCRIPT_SERVER . . . . .	80
Command Format . . . . .	80
SET. . . . .	80
Command Format . . . . .	81
Examples . . . . .	81
SET_TIME . . . . .	82
Command Format . . . . .	82

SHIFT . . . . .	82
Command Format . . . . .	83
Examples . . . . .	83
TERM . . . . .	84
Command Format . . . . .	85
Example . . . . .	85
TREE . . . . .	85
Command Format . . . . .	85
Example . . . . .	86
WRITE . . . . .	86
Command Format . . . . .	87
Examples . . . . .	87
<b>B Sample Login Scripts . . . . .</b>	<b>89</b>
Sample Container Login Script . . . . .	89
Sample Profile Login Script . . . . .	90
Sample User Login Script . . . . .	91
Sample Default Login Script. . . . .	91
<b>C Novell Trademarks . . . . .</b>	<b>93</b>



# Novell Client Documentation

This book includes information on installing and configuring Novell® Client™ for Windows\* NT/2000 version 4.7 and later and Novell Client for Windows 95/98 version 3.2 and later software.

It includes information on the following topics:

- ♦ “Installing Novell Clients” on page 11
- ♦ “Setting Up Client Login” on page 25
- ♦ “Setting Client Properties” on page 37
- ♦ “Managing Novell Client” on page 41
- ♦ “Printing to a Network Printer” on page 49



# 1

## Installing Novell Clients

This section explains how to install Novell® Client™ for Windows\* NT/2000 and Novell Client for Windows 95/98 software, either from CD on one workstation or across the network. It describes how to do the following:

- ◆ “Preparing to Install the Client Software” on page 11
- ◆ “Installing Clients from CD-ROM” on page 15
- ◆ “Installing Clients from the Network” on page 16
- ◆ “Upgrading a Client Workstation to Windows 2000” on page 22

### Preparing to Install the Client Software

Before installing the client software, make sure the server and workstations have sufficient resources and the required software. The hardware and software setup for the server and client workstations require you to complete the following tasks:

- ◆ Check server protocols and requirements
- ◆ Locate the latest Novell Client software
- ◆ Check for a valid network connection
- ◆ Check client workstation requirements

### Checking Server Protocols and Requirements

You must prepare your servers to work with the Novell Client software. You must know what protocols you use on the server and make sure that the servers are configured to support long filenames. NetWare® 5 automatically supports long filenames and does not need to have the name space added to it. However, you must add long filename support to NetWare 3.x and NetWare 4.x servers.

You can install Novell Client with one of the following protocol options:

- ◆ IP Only (NetWare 5)

Installs the IP protocol stack, which allows the client to run in IP-only networks; the workstation cannot communicate with IPX™ servers.

- ◆ IP with IPX Compatibility Mode (NetWare 5)

Installs IP and includes Compatibility mode, which allows IPX applications to run in IP-only networks by converting IPX packets into IP packets. IPX Compatibility mode allows the client to communicate with services in IPX-only networks if the Migration Agent is installed on any NetWare 5 servers. IPX Compatibility mode requires Service Location Protocol (SLP) on the server.

- ◆ IP and IPX (default for new installations)

Allows the client to run in both IP and IPX networks. The workstation uses the same protocol as the server it is communicating with.

- ◆ IPX Only

Allows the client to run in IPX-only networks. This option does not install IP.

**NOTE:** If you are upgrading Novell Client software and you are keeping the same protocol option, you do not need to select a protocol option. The previous protocol configuration remains unchanged unless you choose a different protocol.

## Adding Long Name Space

Make sure that long filename support is installed on NetWare 3.x or NetWare 4.x servers. NetWare 5 servers automatically support long filenames.

**IMPORTANT:** Each name space added to a volume requires additional server memory. If you add name space support to a volume on a server without sufficient memory, that volume cannot be mounted. Once a name space is added to a volume, the name space can be removed from the volume only by deleting the volume and re-creating it, or by using VREPAIR.

- 1 Load the long name space.

At the server console prompt, enter

```
LOAD LONG.NAM
```

**NOTE:** On versions of NetWare prior to NetWare 4.11, use the OS/2\* name space, OS2.NAM. For NetWare 3.11 servers, use OS2OPNFX.NML for long filenames. This NLM™ is a part of 311PTD.EXE and is available on the Novell Web site.

- 2 Add the long name space.

At the server console prompt, enter

```
ADD NAME SPACE LONG TO VOLUME volume_name
```

## Locating the Latest Client Software

Novell Client software is shipped on CD and is also available from the Novell Web site. You should install the latest client version. If you purchased a Novell product, you can use the Novell Client included with that product.

- 1 Create an installation directory.
- 2 At [www.novell.com/download](http://www.novell.com/download), click the software that you want to download.
- 3 Follow the download instructions provided with the files on the Web site.

## Preparing Client Workstations

### Checking Client Workstation Requirements

Client workstations must meet certain requirements before you install or upgrade Novell Client software:

- ♦ Workstation hardware and software

Platform	Hardware	Software
Windows 95/98	<ul style="list-style-type: none"><li>♦ 486 processor or better</li><li>♦ Minimum 28 MB free disk space</li><li>♦ Minimum 16 MB RAM</li></ul>	<ul style="list-style-type: none"><li>♦ Windows 95/98 (Windows 95 must be version A or later or you must use Service Pack 1 from Microsoft*)</li><li>♦ Windows 95 or Windows 98 CD or the Windows .CAB files.</li></ul>

Platform	Hardware	Software
Windows NT/2000	<ul style="list-style-type: none"> <li>◆ Minimum hardware requirements of Windows NT* 4.0</li> <li>◆ Minimum hardware requirements of Windows 2000</li> <li>◆ Minimum 24 MB RAM</li> </ul>	<ul style="list-style-type: none"> <li>◆ Windows NT 4.0 or Windows 2000 (Windows NT must have Service Pack 3 or later)</li> </ul>

- ◆ The network board

Novell Client supports NDIS\* drivers. For information about installing the network board, refer to the manufacturer's instructions.

**IMPORTANT:** By default, ODI™ drivers are not installed. If you are upgrading an older version of the client and you have ODI drivers currently installed, these drivers are still supported. If you are installing for the first time, NDIS drivers will be installed. If you do not already have the necessary NDIS driver, you might need to obtain it from the operating system CD or from the network board manufacturer.

## Incompatibilities

### Windows 95/98

The following network components are not compatible with Novell Client for Windows 95/98:

- ◆ Microsoft Client for NetWare networks
- ◆ Microsoft file and printer sharing for NetWare networks
- ◆ Microsoft Service for NDS® software
- ◆ Novell NetWare workstation shell 3.x (NETX)
- ◆ Novell NetWare workstation shell 4.0 and later (VLM™) clients
- ◆ Novell IPX ODI protocol 16-bit module for the NETX and VLM clients

If any of these network components are installed, the client installation program detects the conflict and removes the conflicting network components.

## Windows NT/2000

For up-to-date information about software incompatibilities, see the Novell Client for Windows NT/2000 readme file, WINNT.TXT.

### Additional Information

“Installing Clients from CD-ROM” on page 15

“Installing Clients from the Network” on page 16

## Installing Clients from CD-ROM

If you plan to install Novell Client software on a small number of workstations, or if the workstations are not yet connected to a network, install from the Novell Client CD.

**NOTE:** If installing or upgrading Novell Client software on several workstations on the network, consider using the network installation explained in “Installing Clients from the Network” on page 16.

You can install the Novell Client using the Application Launcher component of ZENworks™. Application Launcher lets you distribute applications such as the client software to workstations and manage those applications as objects in the NDS tree. For more information, see the ZENworks documentation.

The Novell Client Setup utility installs Novell Client software on workstations running Windows. This utility lets you select the client that you want to install from a list of available clients. Administrative options are also available.

To install from a local CD drive:

**1** Insert the Novell Client CD.

If the Novell Client Setup utility does not automatically launch, run WINSETUP.EXE from the root of the CD.

**2** Click a language.

**3** Click a platform.

**4** Click the software to install.

This starts the installation utility for that software.

**5** Follow the on-screen instructions.

Once Novell Client is installed, check your network protocol configuration. See “Configuring Network Protocols” on page 16.

## Configuring Network Protocols

After you install Novell Client, make sure that it is configured correctly for your network.

**WARNING:** Before you configure network protocols, make sure you have the correct information and any addresses needed. If you configure protocols incorrectly, the workstation will not be able to connect to the network, or it may conflict with other workstations using the same address.

- 1 Right-click Network Neighborhood, then select the protocol that you want to configure and click Properties.
- 2 Configure the protocol options in each tab, then click OK.

For example, if your network uses DHCP to assign IP addresses automatically, click the IP Address tab, then click Obtain IP Address Dynamically. Or, if you must use a static IP address, click Specify an Address and enter the specific address given to you by your network administrator.

**HINT:** Click the question mark in the upper-right corner, then click on any field for more information.

- 3 Click OK to make the changes.

**NOTE:** You might be asked to supply the Windows operating system CD. If you do not have access to the correct files, you may not be able to create a network connection.

You should now set the Novell Client properties for the workstation. See *Creating or Modifying Login Scripts*.

## Installing Clients from the Network

You can install Novell Client software on multiple workstations from the network by copying files to the server and modifying the login script. This installation is sometimes referred to as an Automatic Client Upgrade (ACU).

You can install and upgrade the client software on all platforms when users log in. The process involves six tasks:

- ♦ Create a folder on the server.
- ♦ Copy Novell Client files and other required files to this folder. Workstations can then read the files during login.
- ♦ Grant rights to the new folder.



- ♦ Modify the ACU configuration file.
- ♦ (Optional) Create or update the platform-specific configuration files.
- ♦ Create or modify the login script. (A sample login script is included)

When the login script runs, ACU.EXE determines if the client needs to be upgraded. This initial check saves network bandwidth during login since the setup utility is only run if the client needs to be updated.

## Create a Folder

- 1** Log in to a server as Admin or as a user with Admin equivalence.

Make sure that you have rights to copy files to a network folder that all users can access, as well as rights to modify login scripts.

- 2** Create a folder in SYS:PUBLIC.

For example,

SYS:\PUBLIC\CLIENT

## Copy Files

- 1** From the PRODUCTS directory on the Novell Client CD, copy the WINNT or WIN95 directories to the new folder.

If you are installing only one platform, you need to copy only the platform directory (WINNT or WIN95) for the platform you will install.

If you are installing the client in only one language or if your network does not have enough space to accommodate multiple language directories, you can delete the language directories that you do not need from the NLS directory under each client directory. To ensure that you have all necessary files, copy the entire client directory and then delete only the extra language directories.

- 2** (Conditional) If you are installing Novell Client for Windows 95/98, copy the Windows 95 and/or Windows 98 .CAB files to the WIN95 directory.

The files are on the Microsoft Windows 95 or Windows 98 CD (and Upgrade CD) in the respective WIN95 or WIN98 folder.

## Grant Rights

- 1** Create a Group object in the NDS tree.
- 2** Place into that group users whose workstations need to be installed or upgraded.

- 3 Make sure that the group has Read and File Scan rights to the folder that you created.

**NOTE:** If you created a folder in SYS:PUBLIC, the new folder should have Read and File Scan rights already associated with it, but you should make sure that these rights have not been changed.

- 4 (Conditional) If you want the results of the installation to be added to a status log file, make sure that the group has Write rights to that file.

A status log file records the success or failure of the installation. As each workstation completes its installation, the status log file is appended to include information on that workstation. Enable status logging in the ACU configuration file.

**NOTE:** If you did not create the status log file prior to running the network installation, you must give users Create and Write rights to the directory.

## Modify the ACU Configuration File

The Automatic Client Upgrade utility (ACU.EXE) determines if the client needs to be updated and allows you to determine several install options.

Option	Description	Settings
[UNATTENDFILE]	Determines if a platform-specific configuration will be used and where it is located.	Use=Yes   No (default: No) File= <i>configuration file path</i>
[STATUS LOGGING]	Determines if a status log will be created and where it will be located.  If you did not create a status log file prior to installation, it will be created and placed in the installation directory on the network or in the directory specified in the File setting.	Use=Yes   No (default: No) File= <i>log file path</i>
[LAUNCHINSTALL]	Determines if the platform-specific setup utility will be launched once ACU.EXE determines that the install is necessary.	Launch=Yes   No (default: Yes)
[DISPLAYDIALOG]	Determines if users will be prompted to begin the upgrade.	Display=Yes   No (default: Yes)

To customize ACU:

- 1 Open the ACU.INI file located in the folder that you created on the server.
- 2 Modify the configuration options.

**IMPORTANT:** We recommend that you use the ACU.INI file instead of the command line switches used in previous versions. ACU.INI has been created to simplify the installation process. If you choose to use switches, they will override ACU.INI options.

## Update the Platform-Specific Configuration Files

**NOTE:** If you are installing the client with the default settings, you do not need to create or modify the configuration files. Skip this process and proceed to “Create or Modify the Login Script” on page 20.

**IMPORTANT:** If you use a platform-specific configuration file to configure Novell Client, you must change the [UNATTENDEDFILE] option to Yes.

Each platform-specific installation utility reads a configuration file generated by Novell Client Install Manager in order to configure the client properties. This file provides information such as where to copy drivers during installation and the most recent version number. This file must be placed in the same folder as the installation utility.

**IMPORTANT:** If you are configuring Windows 95/98 workstations, options that were set in the NWSETUP.INI file or on the command line in previous versions of Novell Client (such as Display First Screen or CAB FIX) are now set up in Novell Client Install Manager.

To create a configuration file:

- 1 Start Novell Client Install Manager (NCIMAN.EXE).

For Windows 95/98, Novell Client Install Manager is located in the WIN95\IBM\_ *language* \ADMIN folder that you copied to the server.

For Windows NT/2000, Novell Client Install Manager is located in the WINNT\I386\ADMIN folder that you copied to the server.

- 2 Select File > New, then select the platform and click OK.
- 3 Modify the installation options as needed.
  - 3a In the Installation Options list box, double-click the configuration option that you want to modify.
  - 3b In the property pages, set the parameters and then click OK.

The values that you set appear in the right list box.

**HINT:** You can import the settings from a workstation that has been previously configured and save them to the configuration file. Once you set up the workstation, select File > Import Registry to import the settings.

**4** Select File > Save.

You can use any filename—for example, UNATT\_95.TXT or UNATT\_NT.TXT.

**5** Copy this file to one of the following directories:

- ◆ WIN95\IBM\_*language* (for Windows 95/98)
- ◆ WINNT\I386 (for Windows NT/2000)

**IMPORTANT:** The path to the text file cannot contain long filenames.

## Create or Modify the Login Script

You need to modify login scripts for users whose workstations will be upgraded.

- ◆ To upgrade workstations for users in a container, modify that container's login script.
- ◆ To upgrade workstations for users in a profile, modify that profile's login script.
- ◆ To upgrade specific users' workstations, modify those users' login scripts.
- ◆ To upgrade a workstation running bindery-based client software (such as Microsoft Client for NetWare Networks that ships with Windows 95 or Windows 98), edit the system login script (SYS:PUBLIC\NET\$LOG.DAT).

## Creating or Modifying a Login Script Using NetWare Administrator

To create or modify a login script using NetWare Administrator:

- 1** Start NetWare Administrator.
- 2** Using the browser, select the object whose login script you want to create or modify.
- 3** Select Object > Details > Login Script.
- 4** Enter the login script commands and information into the login script text box.

For a sample of the login script commands that you need to add to the scripts, see “Sample Client Installation Login Script” on page 21.

**IMPORTANT:** Make sure you edit the sample login script to match the server names, directory paths, and specifications of your own network.

For additional information on all login script commands, see Login Script Commands and Variables in the Novell Client Online Documentation.

**5** To save the login script and close the Details dialog box, click OK.

If the login script that you just created was a container or user login script, you're finished and the client software will be installed or updated the next time users log in.

If the login script that you just created was for a Profile object, you must associate the User object with the Profile and make the User object a trustee of the Profile object. For additional information on all login scripts, see Creating or Modifying Login Scripts in the Novell Online Client Documentation.

## Sample Client Installation Login Script

The following sample shows the commands that you add to the login script in order to install the client software from the network. The sample includes sample text for installing across an internal network.

**IMPORTANT:** In this sample, the information that is necessary to the script is represented in uppercase letters. The information that you should customize for your network is in lowercase letters.

**NOTE:** If you are using this sample script to replace the Microsoft Client with Novell Client for Windows95/98, some user intervention is necessary. Due Microsoft Client's limited scripting capabilities, users must close an open DOS box before the workstation is rebooted and the installation is completed.

```
REM ***** Windows 95/98 *****
If PLATFORM = "W95" or PLATFORM = "W98" THEN
  WRITE "Updating Novell Client for Windows 95/98."
  #\\server1\sys\public\client\win95\ibm_enu\acu.exe
  IF "%ERROR_LEVEL" = "1" THEN
    EXIT
  END
REM ***** Windows NT/2000 *****
IF PLATFORM = "WNT" THEN
  WRITE "Updating Novell Client for Windows NT/2000."
  #\\server1\sys\public\client\winnt\i386\acu.exe
  IF "%ERROR_LEVEL" = "1" THEN
    EXIT
  END
END
```

## What Users See

If this is a new client software installation, or if it is an upgrade from older client software, the software is installed or upgraded when users log in and restart the workstation. Users might see system messages as their workstations are upgraded, depending on how you set up the installation.

## Upgrading a Client Workstation to Windows 2000

You can upgrade a Windows 95/98 or Windows NT 4.0 workstation with Novell Client software to Windows 2000 without uninstalling the client software.

**Windows 95/98 to Windows 2000:** Installs Novell Client version 4.51 from the Windows 2000 CD.

**Windows NT to Windows 2000:** Detects the version of Novell Client software installed and does one of the following:

- ◆ If the Novell Client version is 4.6 or earlier, Windows 2000 installs the Novell Client version 4.51 from the Windows 2000 CD.
- ◆ If the Novell Client version is 4.7 or later, Windows 2000 leaves it in tact but removes all installed components and changes the protocol selection.

After the migration to Windows 2000 is complete, Novell Client will reinstall the previously installed components and restore the previously selected protocols.

**WARNING:** In order to complete the reinstallation of the components and protocols, the user who logs in to the workstation after the migration must have Administrator rights.

Novell Client version 4.51 on the Windows 2000 CD has limited functionality. Therefore, you will want to upgrade to the latest Novell Client version once you have completed the upgrade. To facilitate this, Novell Client will run an Automatic Client Upgrade from one of the following places:

- ◆ The path pointed to by the NWCLIENTDIR environment variable in the login script or at the command line
- ◆ The path where Novell Client was installed from
- ◆ Drive Z: on the network

You may choose to skip the Automatic Client Upgrade by setting the NWCLIENTDIR environment variable to NULL in the login script.

For more information on Automatic Client Upgrade, see “Installing Clients from the Network” on page 16.

For more information on installing Novell Client on individual workstations, see “Installing Clients from CD-ROM” on page 15.





# 2

## Setting Up Client Login

You can customize the client login environment to suit your network and give you greater control over what users can access during login. This section contains information about:

- ◆ “Setting Up Login Scripts” on page 25
- ◆ “Setting Up Login Restrictions” on page 31
- ◆ “Setting Up Location Profiles” on page 32
- ◆ “Customizing the Novell Login Dialog Box” on page 33

### Setting Up Login Scripts

When a user successfully logs in to the network, Novell<sup>®</sup> Login executes one or more login scripts that automatically set up the workstation environment. Login scripts are similar to batch files and are executed by the Novell Login utility.

You can use login scripts to map drives and search drives to directories, display messages, set environment variables, and execute programs or menus.

Login scripts are properties of specific NDS<sup>®</sup> objects.

There are four types of login scripts:

- ◆ **Container:** sets the general environments for all users in that container. Novell Login executes container login scripts first. Container login scripts can be associated with Organization or Organizational Unit objects. A user can use only one container login script.

**NOTE:** A container login script replaces the system login script from NetWare<sup>®</sup> 3.

- ◆ **Profile:** sets environments for several users at the same time. Novell Login executes a profile login script after the container login script. Profile login scripts are associated with profile objects. A user can be assigned only one profile login script but can choose other profile login scripts.
- ◆ **User:** sets environments (such as printing options or an e-mail username) specific to a single user. Novell Login executes the user login script after any container and profile login scripts have executed. User login scripts are associated with User objects. A user can have only one user login script.
- ◆ **Default:** contains only essential commands, such as drive mappings to NetWare utilities, and cannot be edited. It runs if a user (including user Admin) doesn't have a user login script, even if a container or profile login script exists.

**NOTE:** If you don't want to create any user login scripts and you don't want the default login script to execute for any users, you can disable the default login script by including the NO\_DEFAULT command in the container or profile login script.

Maintaining many user login scripts can be time-consuming. Therefore, you should try to include as much customization information as possible in the container and profile login scripts, which are fewer in number and easier to maintain.

For example, if all users need access to the NetWare utilities in the same volume, put the search drive mapping to that volume in a single container login script rather than in every user login script.

Create profile login scripts if several users have identical login script needs. Profile login scripts are sometimes thought of as group login scripts.

Finally, in user login scripts, include only those individual items that can't be included in profile or container login scripts.

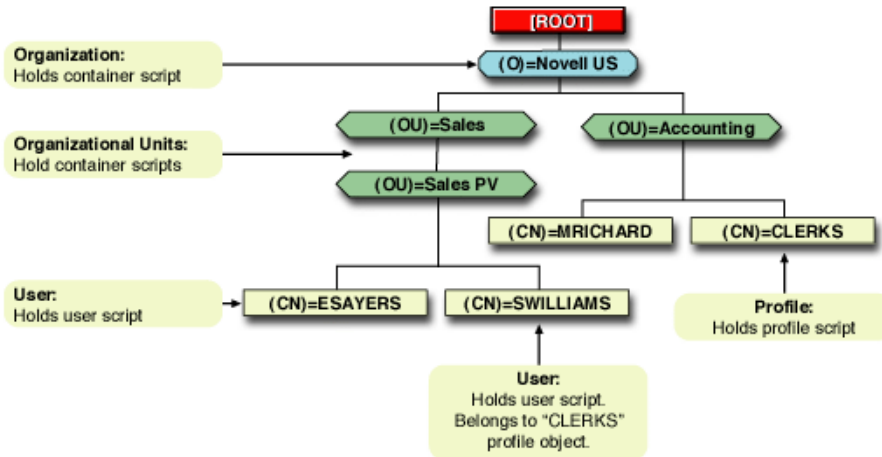
**IMPORTANT:** Since up to three login scripts can execute whenever a user logs in, conflicts can occur and drive mappings can be overwritten by consecutive login scripts. It is important to note that the last login script to execute (usually the user login script) overrides any conflicting commands in a previous login script.

**WARNING:** Don't delete the Login directory (SYS:LOGIN) created during network installation. It contains the Novell Login and NLIST utilities. If users run command line utilities, they can use these utilities to log in and view a list of available NetWare servers.

## Where Login Scripts Should Be Located

Login scripts are properties of objects. Consequently, only certain objects can contain login scripts. This, in turn, largely determines where login scripts can be located.

The following figure shows how the different types of login scripts can reside in an NDS tree and how they affect users.



In the figure, there are three users: ESAYERS, SWILLIAMS, and MRICHARD. The following shows which login scripts execute when each of these users logs in.

- ◆ For user ESAYERS: The SALES\_PV's container login script executes first, followed by ESAYERS's user login script.
- ◆ For user SWILLIAMS: The SALES\_PV's container login script executes first, followed by the default login script.
- ◆ For user MRICHARD: The ACCOUNTING container login script executes, followed by the CLERKS' profile login script, and then MRICHARD's user login script.

Container login scripts affect only users immediately below the Organization or Organizational Unit that contains the login script.

For example, in the figure, although there are two levels of container objects above users ESAYERS and SWILLIAMS, only the script for the container they're in (OU=SALES\_PV) executes when they log in.

If the SALES\_PV Organizational Unit had no container login script defined, no container login script would execute for ESAYERS and SWILLIAMS, even though a container login script exists at a higher level.

Because user SWILLIAMS has no user login script defined, the default login script executes after the container login script.

Since user MRICHARD belongs to the profile CLERKS, the CLERKS profile login script executes before MRICHARD's user login script. Users can be assigned to only one Profile object, but there are ways to get around the one profile login script restriction. See "Getting Around the One Profile Login Script Restriction" on page 30.

## Creating or Modifying Login Scripts

You can use NetWare Administrator to create login scripts from scratch or from a sample login script that is provided for you. Using a sample login script can help reduce syntax errors and thus reduce the time it takes you to create your login scripts.

All four types of login scripts use the same conventions, commands, and variables. For more information on login script commands and variables, see "Login Script Commands and Variables" on page 55.

The main difference in creating container, profile, and user login scripts is the object that you select to contain the login scripts. The default login script is not assigned to any object.

- ◆ Container login scripts are assigned to container objects (Organization or Organizational Unit objects).
- ◆ Profile login scripts are assigned to Profile objects. In order for a User object to use a profile login script, you must select that User object and assign it to the Profile.
- ◆ User login scripts are assigned to User objects.

**IMPORTANT:** Before you create or modify login scripts, you must have the Write property right to the object that will contain the login script, and the Organization, Organizational Unit, Profile, or User object that you plan to assign the login script to must already exist.

To create or modify a login script with NetWare Administrator:

- 1** Using the browser, select the object whose login script you want to create or modify.
- 2** Click Object > Details > Login Script.
- 3** Enter the login script commands and information into the login script text box.

For sample login scripts, see “Sample Login Scripts” on page 89.

**NOTE:** You can create a login script from any of the samples included in this documentation or from an existing login script. See “Creating Login Scripts from a Sample or Existing Login Script” on page 30.

- 4** To save the login script and close the Details dialog box, click OK.

If the login script that you just created was a container or user login script, you’re finished. If the login script is for a Profile object, you must associate the User object with the Profile and make the User object a trustee of the Profile object

### **Associating the User Object with a Profile Object**

- 1** Using the browser, select the User object that needs to use the profile login script.
- 2** Click Object > Details > Login Script.
- 3** Enter the name of the Profile object in the Default Profile field located under the login script text box, then click OK.
- 4** To add the User object as a trustee of the Profile object, select the Profile object.
- 5** Click Object > Trustees of This Object > Add Trustee.
- 6** Enter the name of the User object that uses this Profile object.
- 7** Make sure the Browse object right and the Read property right are checked, then click OK to assign these rights to the User object.

The User object is now a trustee of the Profile object and has the rights necessary to run the profile login script. Repeat these steps for all additional users who need to use this script.

## Getting Around the One Profile Login Script Restriction

Users can belong to only one profile login script and so, as a rule, only one profile login script can be executed for any user. There are ways to run the equivalent of different or multiple profile login scripts by specifying other profile login scripts.

For example, to specify a different profile login script for a user at the command line, use the following command:

```
LOGIN username /p profile_object
```

You can also specify a different profile login script using NetWare Administrator. On the user's Login Script page, browse until you find the profile login script that you want to associate with the user, select it, and then click OK. For more information on associating a profile login script with a user, see the NetWare Administrator help.

You can also assign users to more than one Group object. Use the MEMBER OF group identifier variable to execute different parts of a login script, depending on the Group objects that the user belongs to. To accomplish this, use the If...THEN command (see "IF...THEN" on page 71 ) and the MEMBER OF group identifier variable (see "Using Identifier Variables" on page 57).

To view an example of the IF...THEN command used with the MEMBER OF group identifier variable, see "Sample Login Scripts" on page 89.

## Creating Login Scripts from a Sample or Existing Login Script

To create a login script from any of the samples included in this documentation or from an existing login script, complete the following steps:

- 1 Locate the sample or existing login script that you want to modify.

For sample login scripts included in this documentation, see "Sample Login Scripts" on page 89.

- 2 Copy the sample or existing login script.
- 3 In NetWare Administrator, open the empty login script that you want to create, then paste the sample into the login script.
- 4 Make necessary changes to the sample login script to customize it for your network.

**IMPORTANT:** Make sure you edit the sample login script to match the server names, directory paths, and specifications of your own network.

## 5 Click OK to save the new login script.

If the login script that you just created was a container or user login script, you're finished. If the login script that you just created was for a Profile object, you must associate the User object with the Profile object and make the User object a trustee of the Profile object. See "Associating the User Object with a Profile Object" on page 29.

## Printing Login Scripts

To print a login script from the command line, use the `NLIST` command and redirect the output to a file or a printer. You must be in an object's parent container to see and print the login script of that object.

**IMPORTANT:** You must have a workstation running DOS 3.30 or later and Read and File Scan property rights to the object to be printed.

To print a user's login script, enter

```
NLIST user=username show "login script">LPT1
```

To print a container's login script, enter

```
NLIST "organizational unit"="ou name" show "login  
script">LPT1
```

**NOTE:** Any option in the `NLIST` command that includes a space in its name must be enclosed in quotes.

## Setting Up Login Restrictions

Login restrictions are limitations on user accounts that control access to the network. These restrictions can be set for each user in NetWare Administrator and include the following:

- ◆ Requiring a password (you can specify its minimum length, whether it must be changed and how often, whether it must be unique, and whether the user can change it)
- ◆ Setting the number of logins with expired password and the number of incorrect login attempts allowed
- ◆ Setting account limits like an account balance or expiration date
- ◆ Limiting disk space for each user by specifying the maximum blocks available for each user on a volume
- ◆ Specifying the number of simultaneous connections a user can have

- ◆ Specifying, by node address, which workstations users can log in on
- ◆ Restricting the times when users can log in (you can assign all users the same hours, or you can restrict users individually)

When a user violates login restrictions, the account is disabled and no one can log in using that username. This prevents unauthorized users from logging in.

## Setting Up Location Profiles

Location profiles allow you to save the information from a user's specific login into a location profile. When the user selects this profile during login, the profile automatically sets up login information such as the user's name, server, tree, context, login script, and other applicable information so that the user does not have to type this information.

Location profiles are especially powerful for users who log in from multiple places. Users can have separate profiles for the office, home, laptop, or any other workstation they use. This simplifies the login process so that users do not have to remember their login information for each workstation. Using multiple location profiles also gives you control over what users can access from each workstation.

You can create a location profile on a single workstation or location profiles for multiple workstations using the ZENworks™ Workstation Configuration policy packages.

**HINT:** To create location profiles that will be used by multiple workstations and then distribute them, use the ZENworks Novell Client™ Configuration policy created in the Workstation Configuration policy package in NetWare Administrator. For more information on using ZENworks policy packages, see the ZENworks documentation. If you have questions while setting up a policy package, click Help.

To create a location profile on a workstation:

- 1 Open the Client property pages.
  - ◆ Right-click the N icon in the system tray and click Novell Client Properties > Location Profiles.
  - ◆ Right-click Network Neighborhood and click Properties > Location Profiles.
- 2 Type the name of the profile that you want to add, then click Add.



**3** From the Service menu, select one of the following:

Login Service to configure your login settings

or

Connection Service to configure your dial-up connection settings

**4** From the Service Instance menu, do one of the following:

Select an existing service instance.

or

Enter a name for a new service instance, then click Add to specify the settings for this service in the Novell Client Login window or Connection Services window.

**5** When you have finished creating the location profile, click OK.

## Removing a Location Profile

You may need to remove a location profile once it has been created. If you are removing a location profile created on an individual workstation, complete the procedure below. If you want to remove a location profile created in a Client Configuration policy, you can either delete the Client Configuration policy or change the associations of specific users with this policy.

- 1** Right-click the N icon in the system tray and click Novell Client Properties > Location Profiles to open the Novell Client property pages.
- 2** Click the name of the profile that you want to remove, then click Remove.

## Customizing the Novell Login Dialog Box

The Novell Login dialog box can be customized to show the features that you want users to have access to. Customizing gives you control over:

- ◆ The choice of NDS or bindery connection
- ◆ The Location field at the top of the dialog box

Hiding the Location field is especially useful if you have set up only one location profile for a workstation. In this case, the Location field is not useful and might confuse or distract the user.

- ◆ The Advanced button

If you have set up several location profiles and do not want users to change the data in various login fields (such as tree, context, server, run scripts, etc.), you can hide the Advanced button.

- ◆ The Variables button on the Script tab

If you use %2, %3, %4, or %5 in the login script, you might want to set these values in the location profile but not allow the user to change them. In this case, it might be helpful to hide the Variables button.

- ◆ The Clear Connections check box on the NDS and Bindery tabs

If you want all connections to be cleared every time the user logs in, or if you don't want any connections to be cleared, you can set the value in the location profile and then hide the Clear Connections check box.

**NOTE:** The Clear Connections check box is never visible during initial login, because an initial login automatically clears all connections.

- ◆ The Workstation Only check box that appears under the Password field during an initial NT/2000 login

If you do not want to allow workstation-only logins—for example if you want to require that the user log in to NetWare in order to use the workstation—you can hide the Workstation only check box.

- ◆ The Run, Display, and Automatically Close properties of login scripts
- ◆ RAS options, if RAS is installed on the workstation

These additional features of the Novell Login dialog box should also be considered:

- ◆ If Dialup is not installed on the workstation, the fields on the Dialup tab are disabled.
- ◆ If the Novell Login dialog box is being used to log in to a specific tree, the Tree field is disabled to prevent the user from changing the tree.
- ◆ If the Novell Login dialog box is being used to log in to a specific NDS server, the Server and Tree fields on the NDS tab are disabled to prevent the user from changing them.
- ◆ If the Novell Login dialog box is being used to log in to a specific bindery server, the Server field on the Bindery tab is disabled to prevent the user from changing the server.

The Novell Login dialog box can be customized to control the availability of certain login options. This gives you control of how users log in.

**HINT:** You can also customize the Novell Login dialog box for multiple workstation using the ZENworks Novell Client Configuration policy created in the Workstation Configuration policy package in NetWare Administrator. For more information on using

ZENworks policy packages, see the ZENworks online documentation. If you have questions while setting up a policy package, click Help.

To show or hide any login dialog box options:

- 1** Right-click the N icon in the system tray and click Novell Client Properties > Location Profiles to open the Novell Client property pages.
- 2** Click Advanced Login.
- 3** In the Show On Login section of the Advanced Login property page, check the check boxes for the items that you want to appear, and clear those that you do not want to appear.



# 3

## Setting Client Properties

You can optimize Novell® Client™ for your network by using property pages to configure installation options and protocol support, optimize performance, configure optional client parameters, and set a variety of other parameters.

By default, the client is configured for high speed with moderate use of memory and data protection. You can adjust the client to optimize its performance in any of these areas. However, optimizing the client in one area might mean performance cost in other areas.

**HINT:** A new Advanced Menu Settings tab has been added to the Novell Client Property Page. This tab lets you set menu options and control settings such as the ability to send messages to the server console or how Network Neighborhood is configured. A short description of each setting is available in the Description field when you highlight the option.

**NOTE:** Additional information on the Advanced Settings is available in the April 1999 AppNote (<http://developer.novell.com/research/appnotes/1999/april/03/index.htm>).

You can set properties for a single workstation, or you can set them for multiple workstations simultaneously.

## Setting Properties Prior to Installation

Use Novell Client Install Manager to set properties for one or more workstations prior to an unattended install. This method saves you from having to set each workstation individually.

To set properties prior to installation:

- 1 Start the Novell Client Install Manager.

Novell Client Install Manager is located on the ZENworks™ CD-ROM in the PRODUCTS\WIN95\IBM\_ *language* >ADMIN directory.

- 2** Click File > New File > *your operating system*.
- 3** Modify the installation options as needed by doing the following:
  - 3a** Double-click the configuration option that you want to modify in the Installation options list box.

- 3b** In the property pages, set the parameters, and then click OK.

The values that you set appear in the right list box.

**HINT:** You can set up one workstation the way you want other workstations set up, then use Novell Client Install Manager to import the settings from that workstation's registry and save them to the configuration file you use during the ACU install. Once you set up the workstation, click File > Open Registry to import the settings into Novell Client Install Manager.

For information about setting properties on a single workstation, see "Configuring Network Protocols" on page 16.

- 4** Click File > Save.

You can save the file with any filename that you want to use. For example, you could rename the file NOVELL.TXT and then use it in conjunction with the ACU.

## Setting Properties on a Single Workstation after Installation

To set the properties after installation:

- 1** Right-click the N icon in the system tray.
- 2** Click Novell Client Properties.
- 3** Set the properties that you want to change.
- 4** Click OK to make the changes and close the property pages.

## Setting Properties on Multiple Workstations after Installation

Beginning with ZENworks™ and NetWare® 5, you can use NetWare Administrator to configure client properties for multiple workstations. The properties that you set in NetWare Administrator are pushed down to the client workstations at scheduled times or when specified events occur, such as when a user logs in.

To set the properties on multiple workstations after installation:

- 1** (Conditional) If you have not already done so, open NetWare Administrator.

- 2** (Conditional) If you have not already done so, use NetWare Administrator to create a container, user, or workstation package and associate that package with an object in the tree.
- 3** Open the package that you want to set properties for.
- 4** Click Page Options.
- 5** Set the properties that you want to change.
- 6** Close the property pages.
- 7** Schedule the time or event when the properties will be pushed down to the workstations.

For instructions on using the Scheduler, see the ZENworks online help included with NetWare Administrator.

The workstations do not need to be logged in to the network for the update to take place. However, they do need to be powered on. You can use the Scheduler to specify what to do if a workstation is not on when the update takes place. See the online help for more information.

## Specifying Global Settings

Novell Client™ for Windows\* NT/2000 software provides a custom policy template for use with the Windows NT/2000 System Policy Editor (POLEDIT.EXE). You can use the System Policy Editor and the Novell Client for Windows NT/2000 template to create a policy file that specifies the values for Novell Client for Windows NT/2000 settings.

After ensuring that the settings in the policy file work correctly, save the policy file as `SYS:\PUBLIC\WINNT\NTCONFIG.POL` on every preferred server. The Novell Client for Windows NT/2000 settings are read from the policy file and then stored in the registry each time a user logs in to the network.

The policy file that is used is the one in the `sys:\public\winnt` directory of the preferred server. If no preferred server is specified, the policy file in the `SYS:\PUBLIC\WINNT` directory of the server with the first connection is used.

The primary documentation for the System Policy Editor is in the Microsoft\* Windows NT/2000 Resource Kit.

To ensure that your policy will run, the following registry setting must be set to 1 (the default):

```
\\HKLM\System\CurrentControlSet\Control\Update\UpdateMode:DWORD:  
1
```

NetWare Administrator makes it possible to set up user and workstation policies. For more information, refer to the ZENworks online documentation for NetWare Administrator.

The policy file is a .POL file that contains Windows NT/2000 Client Policy settings. These are settings that are created and edited with NetWare Administrator or by using the Microsoft POLEDIT utility with the NT/2000 Client template. The policies are applied or written to the registry when a user logs in to the network.



# 4

## Managing Novell Client

Managing Novell® Client™ requires that you manage users' network connections, passwords, rights and other security issues, etc. All of these features are available from the Novell Client desktop.

### Common Networking Tasks

Novell® Client™ software is integrated with Windows\*. Features are integrated into standard Windows interfaces such as My Computer, Network Neighborhood, Control Panel, and the N icon in the system tray.

Instructions on performing common client tasks are provided under the N menu:

- 1** Right-click the N icon.
- 2** Select Novell Client Help > Novell Client User Guide.

### NetWare File Security

NetWare® networks restrict access to network files and folders based on user accounts. For example, a user connected to the network using the administrator account might be able to delete or rename a file that other users can only open and edit.

The NetWare file system keeps track of the rights that you have to files and directories on the network. When you try to access any file on a NetWare network, NetWare either grants access or prohibits certain things that you can do with the file.

Rights are granted and revoked by creating trustee assignments. For more information, see “Changing Trustee Assignments” on page 42.

File rights apply only to the file that they are assigned to. The rights can be inherited from the folder that contains the file. Folder rights apply not only to the folder but also to the files and folders it contains.

## Checking File or Folder Rights

- 1 In Network Neighborhood, right-click the file that you want to check.
- 2 Click Properties > NetWare Rights.
- 3 In the Trustees box, find your user account and look to the right to find the rights that you have to the file or folder.

## Changing Trustee Assignments

- 1 Right-click the file or folder in Windows Explorer or in Network Neighborhood.
- 2 Click Properties > NetWare Rights.
- 3 Add trustees, remove trustees, or change the rights granted to trustees as needed.

**NOTE:** Trustee assignments override inherited rights.

You must have the Supervisor right to change trustee assignments.

To change an Inherited Rights Filter, use the NetWare Administrator utility or the NetWare Rights property page.

## Combining Multiple Trustees

To apply the same trustee assignments to a group of selected files, check the Combine Multiple Trustees check box. This check box is available only if you're viewing the NetWare rights for multiple files or folders. Additionally, at least one of the files or folders must have at least one trustee assignment. The trustees and rights shown are the combined trustees and rights for all the files.

If you check Combine Multiple Trustees, the trustee assignments that are shown will apply to all selected files after you click OK or Apply.

- 1 From Network Neighborhood, click a file.
- 2 Control+click additional files.
- 3 Right-click the selected files.
- 4 Click Properties > NetWare Rights.

Because multiple files are selected, the Combine Multiple Trustees check box is enabled.

**5** Check or uncheck the check box.

**6** Click OK.

For example, Kim is a trustee of FILE\_A and FILE\_B. Kim has Read, File Scan, and Access Control rights for FILE\_A and Read and File Scan rights for FILE\_B. If you select FILE\_A and FILE\_B and view their properties, Kim is shown as a trustee with Read, File Scan, and Access Control rights.

If you check Combine Multiple Trustees and then click OK, Kim is given the Access Control right for FILE\_B. Therefore, Kim now has Read, File Scan, and Access Control rights for both FILE\_A and FILE\_B.

## Setting Up AutoAdminLogon for Windows NT/2000

Windows NT and Windows 2000 allow you to automate the logon process by storing your password and other pertinent information in the Registry database.

**WARNING:** There is a security risk to using the AutoAdminLogon feature. Usernames and passwords in the registry are visible to users. This feature also allows other users to start your computer and use the account that you establish to automatically logon even if you have locked the workstation. Please see the Microsoft recommendations on when to use AutoAdminLogon.

You can use Registry Editor (REGEDIT.EXE) to add the needed logon information.

**WARNING:** Using Registry Editor incorrectly can cause serious, system-wide problems that may require you to reinstall Windows NT or Windows 2000 to correct them.

**HINT:** To bypass the AutoAdminLogon process, and to log in as a different user, hold down the Shift key after a logout or after a Windows NT restart.

## AutoAdminLogon Options

This section lists the options that you can choose from when setting AutoAdminLogon. To set the options, use the procedure in “Setting the AutoAdminLogon Options” on page 46.

## AutoAdminLogon for Windows Workstation Only

---

Key: HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\WindowsNT\CurrentVersion\Winlogon

Key: HKEY\_LOCAL\_MACHINE\SOFTWARE\Novell\Login

---

AutoAdminLogon=1

AutoAdminLogon=0

DefaultDomain or Local WorkstationName=<Name of Domain or Local Workstation>

DefaultUserName= <Windows User Name>

DefaultPassword =<Windows Password for the DefaultUserName specified above>

---

## AutoAdminLogon for Windows Workstation and NetWare

---

Key: HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\WindowsNT\CurrentVersion\Winlogon

Key: HKEY\_LOCAL\_MACHINE\SOFTWARE\Novell\Login

---

AutoAdminLogon=1

AutoAdminLogon=1

DefaultDomain or Local WorkstationName=<Name of Domain or Local Workstation>

DefaultLocationProfile=< The name of the Location Profile that contains the information about the Novell User to log in to the NetWare network such as Username, Tree, Context, Server, etc.>

DefaultUserName= <Windows User Name>

DefaultPassword =<Windows Password for the DefaultUserName specified above>

DefaultPassword =<Novell Password for the DefaultUserName specified in the Location Profile>

---

**HINT:** Location profiles allow you to save a user's specific login information. The profile automatically sets up login information such as the user's name, server, tree, context, login script, and other applicable information so that the user does not have to type this information. See "Setting Up Location Profiles" on page 32.

**NOTE:** The NT Credential information in the Location Profile will not be used. The NT user information in the registry will be used instead.

## AutoAdminLogon for NetWare Only Using Dynamic Local User (DLU) for Windows

---

Key: HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\WindowsNT\CurrentVersion\Winlogon	Key: HKEY_LOCAL_MACHINE\SOFTWARE\Novell\Login
AutoAdminLogon=0	AutoAdminLogon=1  DefaultLocationProfile=< <i>The name of the Location Profile that contains the information about the Novell User to log in to the NetWare network such as Username, Tree, Context, Server, etc.</i> >  DefaultPassword =< <i>Novell Password for the DefaultUserName specified in the Location Profile</i> >

---

**HINT:** Location profiles allow you to save a user's specific login information. The profile automatically sets up login information such as the user's name, server, tree, context, login script, and other applicable information so that the user does not have to type this information. In this case, the location profile must specify an NDS user with Dynamic Local User (DLU) privileges on the Windows NT or Windows 2000 workstation. See "Setting Up Location Profiles" on page 32.

## AutoAdminLogon for Windows and Query for NetWare

---

Key: HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\WindowsNT\CurrentVersion\Winlogon	Key: HKEY_LOCAL_MACHINE\SOFTWARE\Novell\Login
AutoAdminLogon=1	AutoAdminLogon=0
DefaultDomain or Local WorkstationName=< <i>Name of Domain or Local Workstation</i> >	AutoAdminQueryNDS=1
DefaultUserName= < <i>Windows User Name</i> >	
DefaultPassword =< <i>Windows Password for the DefaultUserName specified above</i> >	

---

## AutoAdminLogon for NetWare under Terminal Server

---

Key: HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\WindowsNT\CurrentVersion\Winlogon

Key: HKEY\_LOCAL\_MACHINE\SOFTWARE\Novell\Login

---

AutoAdminLogon=1

DefaultLocationProfile=< *The name of the Location Profile that contains the information about the Novell User to log in to the NetWare network such as Username, Tree, Context, Server, etc.*>

DefaultPassword =< *Novell Password for the DefaultUserName specified in the Location Profile*>

---

### Turn Off AutoAdminLogon

---

Key: HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\WindowsNT\CurrentVersion\Winlogon

Key: HKEY\_LOCAL\_MACHINE\SOFTWARE\Novell\Login

---

AutoAdminLogon=0

AutoAdminLogon=0

---

## Setting the AutoAdminLogon Options

To set the options:

- 1 Start Registry Editor (REGEDIT.EXE).
- 2 Locate the specified Registry keys and set the values as indicated.  
**NOTE:** If a value does not exist, choose Edit > New > String Value. Type the name of the value, then press Enter.  
**IMPORTANT:** If no DefaultPassword string is specified, the value of the AutoAdminLogon key is automatically changed from 1 (true) to 0 (false), disabling the AutoAdminLogon feature.
- 3 Exit the Registry Editor and log out of Windows NT or Windows 2000.

## Changing Passwords in NetWare Login with AutoAdminLogon

If AutoAdminLogon is enabled, be careful when running the NetWare Login utility from the icon in the NetWare (Common) group. When run as a standalone from the icon, the NetWare Login utility does not recognize that the workstation is running AutoAdminLogon.

If your primary connection's password expires when running NetWare Login from the icon, you will be given the chance to synchronize all NetWare and NT passwords. Make sure that you do not synchronize the NT password, because NetWare Login does not update the Registry setting for AutoAdminLogon.

## Uninstalling Novell Client

You can uninstall the Novell Client by using the uninstall utility or Remove in Network Properties.

- ◆ For Windows 95/98, double-click the uninstall utility (UNC32.EXE) located in the PRODUCTS\WIN95\language\_directory\ADMIN directory.
- ◆ For Windows NT/2000, in the Network Properties, click Services < Novell Client for Windows NT/200 < Remove, then click Yes





# 5

## Printing to a Network Printer

You can use the Windows\* Add Printer Wizard to inform the computer of the network printers that you want to use. You also need to install a printer driver for each type of printer that you use.

You can automate printer setup for users so that the computer attaches to network printers they use each time they log in to the network. Users can use the network printers without worrying about manually connecting to the printer every time they want to print.

After connecting to a network printer, users can select the printer from any application that they are using. See the application's documentation for information on using printers.

### Attaching to a Network Printer

You set up network printing by specifying the name of the printer that you want to use. You can do this by using any of the following programs:

- ◆ Windows Add Printer Wizard
- ◆ Novell® Capture Printer Port

The following can automate your printer connections, so the computer connects to network printers each time you log in:

- ◆ NetWare® Login Script
- ◆ NT/2000 Restore Connections
- ◆ NT/2000 Logon Script

## Setting Up Network Printing

- 1** Click Start > Settings > Printers.
- 2** Double-click Add Printer.
- 3** Click Network Printer Server > Next.
- 4** Select a printer you want to use from the Shared Printers box.
  - ◆ For NetWare 4 or later (NDS<sup>®</sup>) networks, double-click Novell Directory Services<sup>®</sup> and find the context for the printer. Select a Printer object from the list.
  - ◆ For NetWare 3 and bindery networks, double-click NetWare Servers. Double-click the name of the server that supports the queues you want to use, then select the queue.
- 5** Click OK.
- 6** (Conditional) If a dialog box prompts you to install a driver for the printer, click OK and install it.
  - 6a** Select the name of the printer from the Driver box, then click OK.
  - 6b** Enter the path to the printer driver, then click OK.
- 7** Run an application and select the network printer when you print.

## Specifying Capture Settings with Windows Printing

Windows does not require captured printer ports to print to a network printer. Windows can use print devices that are associated with network printers. This allows applications to print directly to a network printer.

- ◆ The CAPTURE utility does not affect Windows printer devices.
- ◆ Captures are global. If you capture a printer port, the port is available for network printing from anywhere in Windows.

Use the Capture Settings dialog box to specify printer settings for print captures created with Windows. This can be useful if you want to use a DOS or Windows 3.x application that relies on print captures and you can't put the capture in a login script. To access the Capture Setting dialog box:

- 1** Right-click the N icon in the system tray.
- 2** Click Novell Capture Printer Port.
- 3** Enter the correct information in the dialog box.
- 4** Click Settings.

These settings apply only to printer ports that are captured from Windows. Printer ports that are captured in a login script or from the command line do not use these settings.

These settings do not apply to printers that appear in the Windows Printers folder.

Changing the printer settings for a specific captured printer port does not change the default printer settings.

## Setting Up Point and Print

- 1** Get the printer driver files.

Get the Windows 95 or 98 CD-ROM or the Windows 95 or 98 printer driver files supplied by the printer's manufacturer.

- 2** Log in as Admin or a user with Admin equivalent rights for the printer or print queue.

- 3** Select a printer or print queue in the Windows Explorer or Network Neighborhood.

- 4** Click File > Properties > Setup Point and Print.

- 5** Specify the path for the printer driver files.

You must be logged in to the tree or server where the path is located. You must also have sufficient rights for the specified directory to copy the files there. Users need Read and File Scan rights for the specified directory.

- 6** Click Select Printer Model.

- 7** Select the manufacturer of the printer.

- 8** Select the model of the printer.

- 9** Click OK.

The printer driver files are copied to the path specified in Step 5.

- 10** Click OK again.

# Disabling NetWare Login Dialog Boxes Brought Up by the Print Provider

If you log in to a workstation but do not log in to NetWare and you have NetWare printers installed, you will be prompted to log in to NetWare once by the QMS print provider and once by the NDPS print provider. You can disable these login dialog boxes if desired.

## Windows NT/2000

Windows NT/2000 has two registry setting options for disabling login dialog boxes:

If you set

```
HKLM\SOFTWARE\Novell\Print\Delay Login\Delay Login=1
```

the print provider tells Windows that the printer is a NetWare printer even though the user is not authenticated. Then, the provider waits for an action that requires authentication is detected before displaying a login dialog box.

If you set

```
HKLM\SOFTWARE\Novell\Print\Never Login\Never Login=1
```

the print provider never displays the NetWare login dialog, and print jobs sent prior to authentication fail. A message similar to the following is displayed:

```
"Error writing to \\TREE\QUE.context: A write fault occurred on the network. Do you wish to retry or cancel the job?"
```

## Windows 95/98

Windows 95/98 has two registry setting options for disabling login dialog boxes:

If you set

```
HKLM\SOFTWARE\Novell\Print\Never Login\Never Login=1
```

the print provider never displays the NetWare login dialog. Print jobs will succeed, but the printer will go offline. To print, you must log in to NetWare and then manually turn the printer online by opening the Printers folder, right-clicking on the Printer, and deselecting Print Offline.

If you set

HKLM\SOFTWARE\Novell\Print\Never Login\UserDialupSettings=1

the print provider sets Never Login to the dial-up connection settings and attempts to print.

**NOTE:** This functionality is available only in Windows 95B or later.



# A

## Login Script Commands and Variables

This section lists login script commands alphabetically and by the type of tasks the commands perform. It also contains a list of identifier variables used in login scripts.

Before implementing any commands or variables, make sure you understand basic login script conventions. See “Login Script Conventions” on page 55 and “Using Identifier Variables” on page 57.

**NOTE:** Commands that work only on DOS or Windows\* 3.x workstations have not been included. These commands include CLS, COMSPEC, DOS VERIFY, MACHINE, NOSWAP, and SWAP. For information on using these commands, see the help file that accompanies Novell® Client™ for DOS and Windows 3.x.

### Login Script Conventions

The following table explains the conventions you should follow when creating login scripts.

Minimum login script	No minimum. All types of login scripts are optional. Login scripts can vary from one line to many. There are no required commands.
Case	Either uppercase or lowercase is accepted. Exception: identifier variables enclosed in quotation marks and preceded by a percent sign (%) must be uppercase. See “Using Identifier Variables” on page 57.
Characters per line	Maximum 512 characters per line, including any variables after they are replaced by their values; 78 characters per line (common screen width) is recommended for readability.

Punctuation and symbols	Type all symbols (#, %, ", _) and punctuation exactly as shown in examples and syntax.
Commands per line	Use one command per line. Start each command on a new line; press Enter to end each command and start a new command.  Lines that wrap automatically are considered one command.
Sequence of commands	Generally, enter commands in the order that you want them to execute, with the following restrictions:  ATTACH commands (NetWare 3 <sup>®</sup> only) must precede related MAP commands to avoid prompting the user for a username/ password during login (see "ATTACH" on page 65).  If you use # (see "#" on page 63) or @ (see "@" on page 64) to execute an external program, the command must follow any necessary MAP commands. If sequence is not important, group similar commands, such as MAP and WRITE commands, together to make the login script easier to read.
Blank lines	Blank lines don't affect login script execution. Use them to visually separate groups of commands.
Remarks (REMARK, REM, asterisks, and semicolons)	Lines beginning with REMARK, REM, an asterisk, or a semicolon are comments, which don't display when the login script executes (see "REMARK" on page 79). Use remarks to record the purpose of each command or group of commands or to temporarily keep certain lines from executing.
Identifier variables	Type identifier variables exactly as shown. To display the value of an identifier variable as part of a WRITE command, you must enclose the identifier in quotation marks and precede it by a percent sign (%). See "Using Identifier Variables" on page 57.



---

## NDS Attribute Values

Any NDS attribute value can be read from a login script, including extended names. The syntax for accessing NDS attributes is identical to common script variables with a few exceptions.

- ◆ The NDS attribute must be at the end of the string.
- ◆ If multiple variables are required, they must be in separate strings.
- ◆ You must use the actual NDS<sup>®</sup> attribute value names. You cannot use localized names or nicknames. Some common NDS attribute names are listed in “Using Identifier Variables” on page 57.
- ◆ You must have Read rights to read the value of objects other than values associated with your own User object.

**NOTE:** If the name contains a space, you can replace it with an underscore “\_” but it is not required. Both of the following examples are correct syntax: map n %home directory or map n %home\_directory.

---

## NDS Object Mappings

NDS objects such as cluster-enabled volumes can be mapped in the login script using the object’s fully distinguished name and context preceeded by a leading dot (.).

To map to a cluster-enabled volume, you would use the following syntax:

```
MAP N:= .<NDS object’s fully distinguished name including context>
```

For example:

```
MAP N:= .cluster2_vol1.xyz.provo.novell
```

For more information on mapping, see “MAP” on page 76.

---

## Using Identifier Variables

Many login script commands allow you to take advantage of identifier variables to make your login script more efficient and flexible.

Use identifier variables to enter a variable (such as LAST\_NAME), rather than a specific name (such as Smith), in a login script command. When the login script executes, it substitutes real values for the identifier variables.

By using the variable, you can make the same login script command applicable to multiple users.

When using variables within login script commands, observe the following conventions:

- ◆ Type the variable exactly as shown.
- ◆ To use environment variables as identifiers, enclose them in angle brackets (<>).
- ◆ Identifier variables are used most often with commands such as IF...THEN, MAP, and WRITE. They can also be used with commands that you can specify a path for, such as COMSPEC.
- ◆ Identifier variables can be placed within literal text strings in a WRITE statement. However, the identifier variable must be in uppercase letters and preceded by a percent sign. (Literal text is the text that is displayed on the screen, such as "Sales report is due today." Literal text must be enclosed in quotation marks.)

For example, using the %LAST\_NAME variable, substitutes the user's actual last name for the LAST\_NAME variable in the command upon login.

```
WRITE "HELLO, "%LAST_NAME
```

displays the following message on Bob Smith's workstation screen when he logs in:

```
Hello, SMITH
```

Using the %GREETING\_TIME variable, displays the time of day. If Bob Smith logs in during the morning, both of the following lines display the same message (Good morning, SMITH) on his screen:

```
WRITE "Good "; GREETING_TIME; ", "; LAST_NAME
```

```
WRITE "Good %GREETING_TIME, %LAST_NAME"
```

Category	Identifier Variable	Function
Date	DAY	Day number (01 through 31)
	DAY_OF_WEEK	Day of week (Monday, Tuesday, etc.)
	MONTH	Month number (01 through 12)
	MONTH_NAME	Month name (January, February, etc.)

Category	Identifier Variable	Function
	NDAY_OF_WEEK	Weekday number (1 through 7; 1=Sunday)
	SHORT_YEAR	Last two digits of year (99, 00, 01)
	YEAR	All four digits of year (1999, 2000, 2001)
Time	AM_PM	a.m. or p.m.
	GREETING_TIME	Time of day (morning, afternoon, evening)
	HOUR	Hour (12-hour scale; 1 through 12)
	HOUR24	Hour (24-hour scale; 00 through 23)
	MINUTE	Minute (00 through 59)
	SECOND	Second (00 through 59)
User	CN	User's full login name as it exists in NDS
	LOGIN_ALIAS_CONTEXT	"Y" IF REQUESTER_CONTEXT is an Alias
	FULL_NAME	User's unique username. It is the value of the FULL_NAME property for both NDS and bindery-based NetWare. Spaces are replaced with underscores.
	LAST_NAME	User's surname in NDS, or full login name in bindery-based NetWare
	LOGIN_CONTEXT	User's context
	LOGIN_NAME	User's unique login name (long names are truncated to eight characters)
	MEMBER OF "group"	Group object that the user is assigned to
	NOT MEMBER OF "group"	Group object that the user is not assigned to
	PASSWORD_EXPIRES	Number of days before password expires
	REQUESTER_CONTEXT	Context when login started
	USER_ID	Number assigned to each user

Category	Identifier Variable	Function
Network	FILE_SERVER	NetWare server name
	NETWORK_ADDRESS	The internal number assigned by the network specifying where a device can be located in the network cabling system
Workstation	MACHINE	Type of computer (IBM_PC, etc.)
	NETWARE_REQUESTER	Version of the NetWare Requester™ for OS/2* or VLM™ users
	OS	Type of operating system on the workstation
	OS_VERSION	Operating system version on the workstation
	P_STATION	Workstation's node number (12-digit hexadecimal)
	PLATFORM	Workstation's operating system platform
	SHELL_TYPE	Version of the workstation's DOS shell; supports NetWare 2 and NetWare 3 shells and NetWare 4 Requester for DOS.
	SMACHINE	Short machine name (IBM*, etc.)
	STATION	Workstation's connection number
	WINVER	Version of the workstation's Windows operating system
NetWare® Mobile	DIALUP	0 = Not using dialup 1 = Using NetWare Mobile Client dialup profile
	OFFLINE	0 = Not offline 1 = Disconnected login
DOS Environment	<variable>	Any DOS environment variable can be used in angle brackets. To use a DOS environment variable in MAP, COMSPEC, and FIRE PHASERS commands, add a percent sign (%) in front of the variable.
Miscellaneous	ACCESS_SERVER	Shows whether the access server is functional (TRUE = functional; FALSE = nonfunctional)

Category	Identifier Variable	Function
	ERROR_LEVEL	An error number (0 = no errors)
	%n	Replaced by parameters the user enters at the command line with the login utility  See "Login Parameters with %n Variables" on page 61.
Object Properties	property name	You can use property values of NDS objects as variables. Use the property values just as you do any other identifier variable. If the property value includes a space, enclose the name in quotation marks.  To use a property name with a space within a WRITE statement, you must place it at the end of the quoted string:  <pre>WRITE"Given name=%GIVEN_NAME" IF"MESSAGE SERVER"="MS1" THEN MAP INS S16:=MS1\SYS:EMAIL END</pre>

## Login Parameters with %n Variables

Some variables in a login script can be indicated by a percent sign (%) followed by a number from 0 to 9.

**NOTE:** Only four variables (%2 to %5) can be changed in the login screen.

When a user logs in, additional parameters can be entered that the login utility passes to the login script. The login utility then substitutes these parameters for any %n variables in the login script. These variables are replaced in order by the parameters the user entered when logging in.

The %0 variable is replaced by the name of the NetWare server entered in the login dialog box, and %1 is replaced by the user's fully distinguished login name. The remaining variables change, depending on what the user types when executing the login utility. The %n variables must precede all command line options.

The "SHIFT" on page 82 login script command allows you to change the order in which these %n variables are substituted.

# Login Scripts Commands by Task

This list identifies which specific login script commands to use, depending on what you need your login scripts to accomplish.

## Network Connection and Access to Resources

“ATTACH” on page 65

“CONTEXT” on page 66

“DRIVE” on page 67

“MAP” on page 76

“TREE” on page 85

## Login Script Execution

“BREAK” on page 66

“FIRE or FIRE PHASERS” on page 69

“GOTO” on page 70

“IF...THEN” on page 71

“INCLUDE” on page 74

“NO\_DEFAULT” on page 78

“PAUSE” on page 79

“PROFILE” on page 79

“SCRIPT\_SERVER” on page 80

“SHIFT” on page 82

## Workstation Environment

“SET” on page 80

“SET\_TIME” on page 82

## Text File Usage

“@” on page 64

“#” on page 63

“DISPLAY” on page 67

“EXIT” on page 68

“FDISPLAY” on page 68

“TERM” on page 84

“WRITE” on page 86

## Other

“LASTLOGINTIME” on page 76

“REMARK” on page 79

## #

Use the # symbol to execute a program that is external to the login script. The # command executes an external program and waits until it is finished running before continuing with other login script commands.

This command fails when

- ◆ The given directory is invalid
- ◆ Proper security rights are lacking
- ◆ The executable file cannot be found
- ◆ Insufficient workstation memory is available to load the file

**IMPORTANT:** Use the @ command instead of the # command to run an external program from a login script if that external program will remain open for any length of time. Otherwise, the login script will remain open until that external program is closed. (Login scripts cannot be edited when they are held open.)

## Command Format

```
# [path] filename [parameter]
```

Replace *path* with a drive letter, or, if you have specified NOSWAP on the command line or in the login script, you can replace path with a full directory path beginning with the NetWare volume name.

Replace *filename* with an executable file (files that end in .EXE, .COM, or .BAT, for example). It isn't necessary to include the extension, but doing so can speed up the execution of the external program.

Replace *parameter* with any parameters that must accompany the executable file.

## Example

You can use Automatic Client Update (ACU) to update Novell Client software without having to physically visit each workstation and manually update the software.

ACU uses a text file that can be called from the login script. To call this file from the login script for a workstation running Novell Client for Windows NT/2000, place one of the following commands in the login script:

```
#Z:\PUBLIC\INSTALL\NTCLIENT\SETUPNW.EXE /ACU
```

or

```
#\ [SERVER] \ [VOLUME] \PUBLIC\INSTALL\NTCLIENT\SETUPNW.EXE  
/ACU
```

## @

Use the @ command to execute a program that is external to the login script and then continue with the script (similar to the Startup group). Enter the @ command followed by the name of the file that you want to execute.

**IMPORTANT:** Use the @ command instead of the # command to run an external program from a login script if that external program will remain open for any length of time. Otherwise, the login script will remain open until that external program is closed. (Login scripts cannot be edited when they are held open.)

This command fails when

- ◆ The given directory is invalid
- ◆ Proper security rights are lacking



- ◆ The executable file cannot be found
- ◆ Insufficient workstation memory is available to load the file

## Command Format

```
@ [path] filename [parameter]
```

Replace *path* with a drive letter.

Replace *filename* with an executable file (files that end in .EXE, .COM, or .BAT, for example). Do not include the extension.

Replace *parameter* with any parameters that must accompany the executable file.

## Examples

If you want to start the GroupWise® program from within the login script, you must have a search drive mapped to where the GroupWise utility is stored. Enter the following command in the login script:

```
@GRPWISE5
```

You do not need to enter a path in this case, because the executable program file for GroupWise 5 (GRPWISE5.EXE) is located in a search drive.

If you do not have a search drive mapped to the directory where the program is located, include the path to that directory in the command. For example, if the program to run GroupWise 5 is located in the APPS directory on drive G, use the following command:

```
@SYS:\APPS\GRPWISE5
```

## ATTACH

Establishes a connection between a workstation and a NetWare server. If the server is not in the current tree, a bindery connection is made.

In networks running NetWare 3 or earlier versions, use the ATTACH command to connect to multiple file servers. In NetWare 4 versions and later, users no longer need to attach separately to multiple servers and do not need to use the ATTACH command. If users want to connect to multiple trees, use the TREE command (see “TREE” on page 85).

**IMPORTANT:** If users are trying to create persistent drive mappings, use the MAP command (see “MAP” on page 76).

# BREAK

Use **BREAK ON** to allow the user to terminate execution of the login script. The default is **BREAK OFF**. If **BREAK ON** is included in a login script, the user can press Ctrl+C or Ctrl+Break to abort the normal execution of the login script.

**NOTE:** When the **BREAK** option is **ON**, type-ahead keyboard input is not saved to the buffer.

## Command Format

**BREAK ON|OFF**

# CONTEXT

Use **CONTEXT** to set a user's current context in the NDS tree. Similar to the **CX** utility in DOS, you can enter a complete name to move down through the context, or you can use periods to move up toward the root of the tree. However, **CONTEXT** does not support all options that the **CX** workstation utility does; **CONTEXT** only sets the context.

## Command Format

**CONTEXT context**

To change the current NDS context, replace *context* with the context that you want the user to see after login.

## Example

To change the context to the Organizational Unit **SALES**, under the Organization **NOVELL\_US**, add the following line to the login script:

```
CONTEXT .SALES.NOVELL_US
```

You can type a single period instead of a container name to indicate that you want to move up one level.

For example, if you are in the context **SALES.NOVELL\_US** and you want to move up one level to the context **NOVELL\_US**, add the following line to the login script.

```
CONTEXT .
```

To move up two levels, enter two periods, etc.

# DISPLAY

Use DISPLAY to show the contents of a text file when the user logs in.

When you use DISPLAY, all characters in the file, including any printer and word processing codes, appear. This command works best with an ASCII file.

To display only the text and suppress codes, use “FDISPLAY” on page 68.

**NOTE:** If the given path does not exist or if the file is not found, no error message appears on the screen when the user logs in.

## Command Format

```
DISPLAY [path] filename
```

Replace *path* with either a drive letter or a full directory path beginning with the NetWare volume name.

Replace *filename* with the complete name (including the extension) of the file that you want to display.

## Example

Suppose you put messages in a file called SYSNEW.TXT in the SYS:PUBLIC\MESSAGES directory, and you want your users to see the messages when they log in on Monday. Add the following lines to the container login script:

```
IF DAY_OF_WEEK="Monday" THEN  
DISPLAY SYS:PUBLIC\MESSAGES\SYSNEWS.TXT  
END
```

## DRIVE

Use DRIVE to change the default drive while the login script is executing.

If this command is not included in the login script, the default drive will be set to the first network drive, which is often assigned to the user’s home directory upon login.

If you don’t want the default drive to be the first network drive, map a drive in the login script to the directory you want to be the default; then use the DRIVE command to change the default drive.

Instead of specifying a drive letter such as F: or G:, you can use an asterisk followed by a number *n* to represent the *n*th network drive (for example, \*3). This allows drive letters to reorder themselves automatically if previous drive mappings are deleted or added.

## Command Format

```
DRIVE [drive | *n]
```

Replace *drive* with a local or network drive letter, or replace *n* with a drive number. The use of either is dependent on their already being assigned within the login script.

## Example

Suppose a user will be working on only one project for several days and the files for that project are located on drive S:. Use the DRIVE command to set the default drive to S: so that the user doesn't have to change the default drive manually after each login.

First, make sure drive S: is mapped to the correct directory in the user's login script. Then enter the following command in the login script:

```
DRIVE S:
```

## EXIT

Use EXIT to terminate execution of the login script.

**IMPORTANT:** You cannot use EXIT in a login script to stop the login script and execute a program. EXIT only terminates the execution of the login script. If you want to execute a program after exiting the login script, you must use two commands: “#” on page 63 or “@” on page 64 followed on the next line by EXIT.

## FDISPLAY

Use FDISPLAY to show the text of a word processing file when the user logs in.

To display both the text and the printer and word processing codes of a file, or to display an ASCII file, see “DISPLAY” on page 67.

When you use FDISPLAY to display a word processing file, the text is filtered and formatted so that only the text is displayed. FDISPLAY will not display tabs.

**NOTE:** If the given path does not exist or if the file is not found, no error message appears on the screen when the user logs in.

## Command Format

```
FDISPLAY [path] filename
```

Replace *path* with either a drive letter or a full directory path beginning with the NetWare volume name.

Replace *filename* with the complete name (including the extension) of the file that you want to display.

## Examples

Suppose you put messages in a file called SYSNEWS.TXT in the SYS:PUBLIC\MESSAGES directory, and you want your users to see this file on their screens when they log in on Monday.

Add the following lines to the container login script:

```
IF DAY_OF_WEEK="Monday" THEN  
FDISPLAY SYS:PUBLIC\MESSAGES\SYSNEWS.TXT  
END
```

## FIRE or FIRE PHASERS

FIRE or FIRE PHASERS emits a phaser sound by playing the PHASERS.WAV sound file.

Use this command by to generate the phaser sound whenever a user logs in. Use FIRE or FIRE PHASERS with the IF..THEN command to make the sound execute a different number of times depending on the circumstances of the login.

## Command Format

```
FIRE n soundfile
```

Replace *n* with the number of times that you want this sound to occur.

Replace *soundfile* with the name of the sound file that you want to play when this command is executed. (The sound file variable cannot be used on DOS workstations.) You can use any .WAV or platform-compatible sound file.

## Examples

The following line executes the phaser sound four times upon login:

```
FIRE 4
```

The following line executes the rifle sound three times upon login:

```
FIRE 3 RIFLE.WAV
```

To use a variable as the number of times to fire, use % before the variable, as follows:

```
FIRE %variable
```

For more information about using variables, see “Using Identifier Variables” on page 57.

## GOTO

Use GOTO to execute a portion of the login script out of the regular sequence.

Set BREAK ON in your login script before experimenting with GOTO loops so that you can break out of a login script if necessary. See “BREAK” on page 66.

**IMPORTANT:** Do not use GOTO to enter or exit a nested “IF...THEN” on page 71 statement. This usage causes problems for the program.

## Command Format

```
GOTO label
```

Use *label* to indicate where the login script should continue executing.

## Example

To execute a loop of commands, include the following lines in the login script. In this case, the commands to be executed are labeled AGAIN (as indicated in the second line).

```
SET X="1"  
AGAIN:  
SET X=<X> + "1"  
;see compound strings for this  
WRITE <X>  
IF <X> < "9" THEN GOTO AGAIN
```

The GOTO command looks at the value of <X> (a DOS environment variable). If the value of <X> is less than 9, then <X> increments by 1 and GOTO loops back to the AGAIN label. When <X> gains the value of 9, the IF...THEN test becomes false, the GOTO is ignored, and the script continues normally.

## IF...THEN

Use IF...THEN to perform an action only under certain conditions.

An example of a conditional statement is

```
IF MEMBER OF "CLERKS"
```

In this statement, some action is performed if the user who logged in belongs to the Group object named CLERKS.

The following is a different type of conditional statement:

```
IF DAY_OF_WEEK="MONDAY"
```

In this statement, the equal sign (=) indicates the relationship between the variable (DAY\_OF\_WEEK) and its value (Monday). Note that the value (Monday) is inside quotation marks.

When using IF...THEN statements, be aware of the following syntax rules:

- ◆ Use AND or OR to include two or more conditionals in an IF...THEN statement.
- ◆ Values of conditional statements must be enclosed in quotation marks.
- ◆ Values of conditional statements are compared with the assumption that the values are characters, not numeric values. The value of 21, therefore, would be considered greater than the value of 100 when comparing these two characters. To ensure the system properly calculates numeric values instead of character values, use the VALUE modifier in the IF...THEN statement.
- ◆ The ELSE statement is optional.
- ◆ IF, ELSE, and END must be on separate lines. THEN does not need to be on a separate line.
- ◆ If you include a WRITE command as part of the IF...THEN command, the WRITE command must be on a separate line.

- ◆ IF...THEN statements can be nested (up to 10 levels). However, GOTO should not be used in a nested IF...THEN statement to enter or exit from the body of an IF...THEN statement.
- ◆ If your IF...THEN statement consists of only one line, you do not need to include END even if that line wraps. If your IF...THEN statement must be on more than one line (for example, if you used ELSE or WRITE, which must be on separate lines), you must include END.
- ◆ Six relationships are possible between the elements of an IF...THEN statement. Represent these relationships with the following symbols:
  - = Equals
  - <> Does not equal
  - > Is greater than
  - >= Is greater than or equal to
  - < Is less than
  - <= Is less than or equal to

## Command Format

```
IF conditional [AND|OR [conditional]] THEN
commands
[ELSE
command]
[END]
```

Replace *conditional* with identifier variables. For information about identifier variables, see “Using Identifier Variables” on page 57.

Replace *commands* with any login script commands that you want to be executed if the specified condition is true.

## Examples

If you place the following command in a login script, the message “Status report is due today” appears when the user logs in on Monday and “Have a nice day!” on other days:

```
IF DAY_OF_WEEK="MONDAY" THEN
  WRITE "Status report is due today."
ELSE
  WRITE "Have a nice day!"
END
```



The following lines mean “If the hour (on a 24-hour scale) is greater than or equal to 12, then write ‘afternoon’”:

```
IF VALUE HOUR24 >= "12" THEN
    WRITE "afternoon"
END
```

The following command executes the CAPTURE utility on the fourth day of the week (Wednesday):

```
IF NDAY_OF_WEEK="4" THEN
    #CAPTURE Q=FAST_Q NB TI=10 NFF
END
```

The following example shows nested IF...THEN statements. Notice that there are two IF statements, so each one must have its own END statement:

```
IF DAY_OF_WEEK="MONDAY" THEN
    MAP *6:=VOL1:APPL\WP
    IF MEMBER OF CLERKS THEN
        WRITE "Your report is due immediately!"
    END
END
```

Conditionals can be joined with commas, the word AND, or the word OR to form compound conditionals.

The first line of the following IF...THEN statement is a compound conditional that means “If it is the evening of the first day of the month”:

```
IF GREETING_TIME="EVENING" AND DAY="01" THEN
    WRITE "The system will be backed up tonight."
END
```

The following line is a compound conditional that means “If it is 11:59:59 p.m.”:

An IF...THEN statement can include several commands that must be executed if the conditional is true.

The following example shows two commands that are executed on Tuesdays: a WRITE command that displays a message about a staff meeting, and an INCLUDE command that tells the login script to process any commands or messages contained in the file SYS:PUBLIC\UPDATE.TXT.

```
IF DAY_OF_WEEK="TUESDAY" THEN
    WRITE "Staff meeting today at 10 a.m."
    INCLUDE SYS:PUBLIC\UPDATE.TXT
END
```

# INCLUDE

Use INCLUDE to execute independent files or another object's login script as a part of the login script currently being processed.

These subscripsts can be text files that contain valid login script commands (any of the commands explained in this section) or login scripts that belong to a different object you have rights to.

Text files that contain login script commands, as well as other objects' login scripts, can be used as subscripsts. Use these subscripsts to supplement the main login script.

You can create and edit text file subscripsts using any text editor. Subscripsts do not need to have any particular filenames or extensions.

The INCLUDE command executes the login script commands contained in the subscripsts. It does not display the text of the subscripsts.

INCLUDE nesting is limited only by available memory. This means that one subscripsts file can include another subscripsts file, which can include yet another subscripsts file, etc. In DOS, however, the maximum number of subscripsts files that you can nest is 10.

If the subscripsts is a text file, users must have at least File Scan and Read rights to the directory containing the subscripsts.

If you are using another object's login script as a subscripsts, users must have the Browse right to the object whose script you are including and the Read right to the object's Login Script property.

## Command Format

```
INCLUDE [path] filename
```

or

```
INCLUDE object_name
```

To use a text file as a subscripsts, replace *path* with either a drive letter or a full directory path beginning with the NetWare volume name.

Replace *filename* with the complete name (including the extension) of the text file.

To execute another object's login script as part of a login script, replace *object\_name* with the name of the object whose login script you want to use.

## Examples

To execute a text file called SCRIPT.NEW (located in volume VOL1) as a subscript, add the following line to your main login script:

```
INCLUDE VOL1:ADMIN\USERS\SCRIPT.NEW
```

Suppose you are creating a container login script for all users under the Organizational Unit object SALES\_LA. You recently created a container login script for users under the Organizational Unit object SALES\_PV.

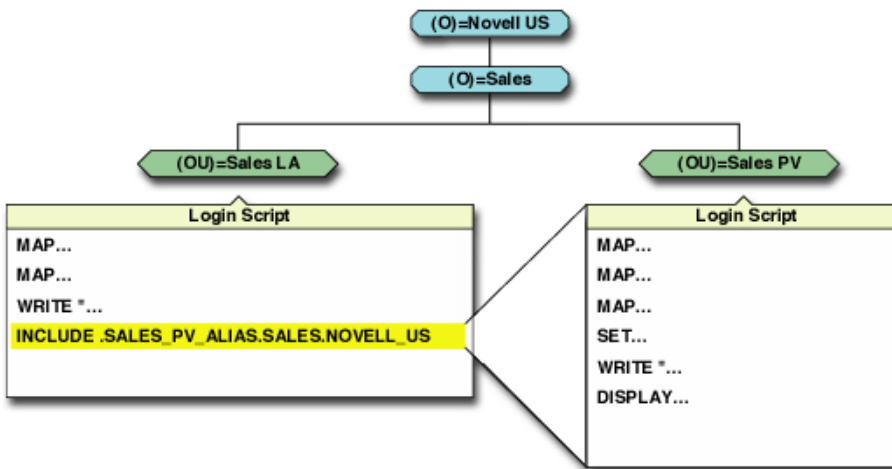
You've decided that the SALES\_LA users could use the same login script as the SALES\_PV users, but with a few more drive mappings.

In the SALES\_LA login script, you could add the additional drive mappings, and then use the INCLUDE command to execute the entire SALES\_PV login script as a part of the SALES\_LA login script, as follows:

1. Create an alias for the SALES\_PV Organizational Unit in the SALES\_LA Organizational Unit.
2. Add this line to the SALES\_LA Organizational Unit's login script:

```
INCLUDE .SALES_PV_ALIAS.SALES.NOVELL_US
```

The following figure illustrates how the INCLUDE command executes the SALES\_PV login script as part of the SALES\_LA login script.



# LASTLOGINTIME

Use LASTLOGINTIME variable to display the last time the user logged in.

If you include this command in the login script, the time of the last login is displayed on the workstation screen.

## Command Format

**LASTLOGINTIME**

# MAP

Use MAP to map drives and search drives to network directories or to map to NDS objects such as cluster-enabled volumes.

If you use MAP to automate drive map assignments during execution of the login script, users don't need to map drives every time they log in.

If you do not want the result of each mapping to be displayed as it is executed, add the MAP DISPLAY OFF command at the beginning of the login script. When all drive map assignments have been completed, add the line MAP DISPLAY ON and MAP to your login script. This sequence provides a cleaner display for users as they log in.

Instead of specifying drive letters such as F: or G:, you could use an asterisk followed by a number *n* to represent the *n*th network drive. For example, if the first network drive is F: then using MAP \*3:= would assign H: { 1 2 3 = F G H}. Or, if the first network drive is D:, then using MAP \*4:= would assign G: { 1 2 3 4 = D E F G}.

This allows drive letters to reorder themselves automatically when local drives are removed or added or when the first network drive is changed. This also allows users to log in from workstations with a different number of local drives than their regular workstation.

You can map a local drive (usually A: through C:) to a network directory, but you cannot access the local drive until you remove the network drive mapping. Do not map over the local drive containing the Windows directory.

Do not map a drive to a network drive such as a CD-ROM drive.

## Command Format

**MAP** [*options*] | [*parameters*] [*drive:=path*]

Replace *drive* with any valid network drive letter, local drive letter, or search drive number.

Replace *path* with either a drive letter, a full directory path, a Directory Map object, or an NDS object such as a cluster-enabled volume.

More than one command can be on the map line if the commands are separated by a semicolon (;), as shown in the following example:

**MAP \*1:=SYS:PUBLIC;\*2:=SYS:PUBLIC\DOS**

When mapping a drive to a directory on an NDS server, begin the path with either the Volume object name or *server\volume*.

When mapping to a directory on a bindery-based server or to an NDS server that isn't the current server, begin the path with the server's name.

When mapping to an NDS object, use the object's fully distinguished name preceded by a leading dot (.).

Replace *option* with one of the following:

- ◆ **DISPLAY ON|OFF**: Determines whether drive mappings are displayed on the screen when the user logs in. The default setting is ON. This option is valid only in login scripts.
- ◆ **ERRORS ON|OFF**: Determines whether MAP error messages are displayed when the user logs in. MAP ERROR OFF must be placed before MAP commands in the login script. The default setting is ON. This option is valid only in login scripts.

Replace *parameter* with one of the following:

- ◆ **INS**: Inserts a drive mapping between existing search mappings.
- ◆ **DEL**: Deletes a drive mapping, making that drive letter available for other mapping assignments.
- ◆ **ROOT or R**: Maps a fake root. Windows NT/2000 is always mapped to the root. Some applications require their executable files to be located in a root directory.

Since you might not want users to have rights at the root directory, you can map a fake root to a subdirectory instead.

The Windows NT/2000 native environment forces a map root on all drives. To prevent a forced map root in a Windows NT/2000 environment, set the MAP ROOT OFF = 1 environment variable. All drives are then mapped as specified, and only explicit map root drives are rooted.

- ◆ C (CHANGE): Changes a search drive mapping to a regular mapping, or a regular mapping to a search drive mapping.
- ◆ P (PHYSICAL): Maps a drive to the physical volume of a server, rather than to the Volume object's name.

A Volume object name might conflict with a physical volume name. (For example, object ACCT is an Accounting volume, but there is also a physical volume named ACCT.) Therefore, if you prefer to map a drive to the physical volume name, use MAP P.

- ◆ N (NEXT): When used without specifying a drive number or letter, maps the next available drive.

## NO\_DEFAULT

Use NO\_DEFAULT in a container or profile login script if you do not want the default user login script to run.

If you do not want to create any user login scripts and you do not want the default user login script to run, add this command to either the container or the profile login script.

**NOTE:** If you have created a user login script for a user, that login script executes whether or not the NO\_DEFAULT command is in the container or profile login script.

## Command Format

**NO\_DEFAULT**

# PAUSE

Use PAUSE to create a pause in the execution of the login script.

You can add PAUSE to the login script following a message so that the user has time to read the message before it scrolls off the screen.

If you include PAUSE, the message “Strike any key when ready...” appears on the workstation screen. NetWare Login then waits for a key to be pressed before it executes the rest of the login script.

## Command Format

```
PAUSE
```

# PROFILE

Use PROFILE in a container script to set or override a user’s assigned or command line-specified profile script. This is useful when defining a group profile.

## Command Format

```
PROFILE profile_object_name
```

## Example

To override the profile script assigned to a user, and to cause the user to execute a PROFILE script called team\_profile, use the following command:

```
PROFILE team_profile
```

# REMARK

To include explanatory text in the login script or to keep a line from being executed during testing, begin a line with REMARK, REM, an asterisk ( \* ), or a semicolon ( ; ). Any text that follows these symbols is ignored when NetWare Login executes the login script. Remarks do not appear on the screen.

**IMPORTANT:** This command and its associated text must be the only entry on a line. Placing remarks on the same line as other login script commands can cause errors.

If a remark is several lines long, begin each line with the remark keyword (REMARK, REM, an asterisk, or a semicolon).

## Command Format

```
REM[ARK] [text]
```

or

```
* [text]
```

or

```
;  
[text]
```

Replace text with the comment you want to include in the login script.

## Example

The following are examples of explanatory text that you might use with the REMARK command and its variants:

```
* This is Richard's login script  
; Mapped network drives follow:  
REM The next mapping is a fake root.  
REMARK This login script is for new users.
```

## SCRIPT\_SERVER

NetWare 2 and NetWare 3 users can use SCRIPT\_SERVER to set a home server where the bindery login script is read from.

SCRIPT\_SERVER has no effect on NetWare 4 and later users.

## Command Format

```
SCRIPT_SERVER server_name
```

## SET

Use SET to set an environment variable to a specified value.

When you use SET in a login script, you must enter quotation marks (" ") around values.

If a variable is set to a path that ends in a "\", these two characters are interpreted as an embedded quote preceded by an escape character. To avoid this problem, use two backslashes before the ending double quotes (\\").



You do not need to include SET commands in login scripts. For example, you might decide place some SET commands in the workstation's AUTOEXEC.BAT file. Where you use SET commands depends upon your individual needs.

This command does not work in a login script if the DOS workstation's environment is too small. In this case, you should set the environment size in the CONFIG.SYS file.

After you use the SET command to set a value for an environment variable, you can use that variable in other login script commands.

To include an environment variable as an identifier variable in a command, enclose the name of the variable in angle brackets (for example, <emailuser>).

## Command Format

```
[TEMP] SET name="value"
```

Replace *name* with an environment parameter that identifies the environment you want to change.

Replace *value* with identifier variable substitutions. Values must be enclosed in quotation marks.

To change the environment for the login script, but not for the workstation itself after the login script has finished executing, use the optional keyword TEMP.

## Examples

You can use SET to make a prompt display the current directory path (such as F:\HOME\MARY>), rather than just the drive letter. To do this, add the following line to the login script:

```
SET PROMPT="$P$G"
```

“\$P” lists the current directory path and “\$G” displays a “>” (greater than) character.

To set a path for a program called DAILY, which is in the REPORTS subdirectory under drive G:, you would add the following line:

```
SET PATH="G:\REPORTS\DAILY"
```

This sets the variable PATH to G:REPORTS\DAILY.

Setting the variable PATH in the login script removes any search drives previously assigned. Use SET PATH only before you map search drives. SET PATH also overwrites any paths set in the user's AUTOEXEC.BAT file.

To display this path, you can include PATH as an identifier variable in a WRITE command by enclosing the variable (not the value) in angle brackets. For example, the following line displays "My path is G:\REPORTS\DAIly":

```
WRITE "My path is ";<path>
```

To include an environment variable in a MAP command, precede the variable with a percent sign (%). For example, you could include the following lines in a login script to set and map a drive to the variable NWS:

```
SET NWS="C:\XYZ"  
MAP S16:=%<NWS>
```

## SET\_TIME

Use SET\_TIME to set the workstation time equal to the time on the NetWare server that the workstation first connects to.

If you set SET\_TIME to OFF in the login script, the workstation time does not update to the server's time.

## Command Format

```
SET_TIME ON|OFF
```

## SHIFT

Use SHIFT to change the order in which %n variables are interpreted in the login script. SHIFT allows users to enter login parameters in any order. For more information on %n variables, see "Login Parameters with %n Variables" on page 61.

You can shift up to 10 login script variables from %0 to %9.

When users execute NetWare Login, they can include additional parameters. Each of these parameters is assigned a %n variable; in this way, the parameter's real value can be substituted for the %n variable that appears in the login script.

In the login script, you can add SHIFT with a positive or negative number to move the variables in either direction. For example, SHIFT -3 moves each %n variable three positions to the right.

## Command Format

**SHIFT [n]**

Replace *n* with the number of places that you want the variable to shift. The default is SHIFT 1.

## Examples

When Mary logs in, she wants to access her word processing program, change the way it is set up, and map a drive to her work directory called ACCNTS.

Mary also has a command in her login script to map a drive to her DATABASE directory, but she does not need it today. The commands in Mary's login script are shown here.

```
:LOOP
IF "%2"="WP" THEN
    SET WP="\U-CML\B-10\D"
    MAP S16:=SYS:APPL\WP\SETUP
END
IF "%2"="ACCNTS" THEN MAP G:=SYS:ACCNTS
IF "%2"="DATABASE" THEN MAP S16:=SYS:APPL\DATABASE
SHIFT
IF "%2" <> "" THEN GOTO LOOP
```

(In the last line, "IF "%2" <> "" is followed by closed quotation marks, which means "If %2 isn't blank".)

With these commands in her login script, and assuming a command line login, Mary can log in to the primary file server (named FS1) using her username, MARY, as follows:

```
LOGIN FS1\MARY WP ACCNTS
```

The parameters in Mary's login command are given the following values:

```
%0=FS1
%1=MARY
%2=WP
%3=ACCNTS
```

Mary's login script looks for %2, which is WP, and sets the word processing environment. Then the login script shifts the variables one to the left so that

%2 now becomes ACCNTS. Upon executing the loop, the login script maps a drive to the ACCNTS directory.

Mary could also change the order of her login command without affecting the way her work environment is set up, as follows:

```
LOGIN MARY ACCNTS WP
```

The parameters in this login command are given the following values:

```
%0=FS1
```

```
%1=MARY
```

```
%2=ACCNTS
```

```
%3=WP
```

In this case, Mary's login script looks for %2, which is now ACCNTS. The login script maps a drive to the ACCNTS directory. Then the login script shifts the variables to the left so that %2 now becomes WP.

Upon executing the loop, the login script sets the word processing environment.

## **TERM**

This command is normally used only for Application Launcher scripts, a component of ZENworks.

You can use the TERM command in a login script to stop the login script and return an error code.

You can also use TERM in an IF...THEN statement, so that the login script stops and an error code is returned only if an IF statement is true (that is, a certain condition exists). If the IF statement is false (that is, a condition doesn't exist), the login script skips the TERM command and continues executing.

Because TERM stops the login script, be sure to put this command either at the end of the login script or at a point within the script where you intend execution to stop. Do not nest the TERM command in the login script.

If you add TERM to a container login script, it prevents other profile or user login scripts from running. If you put TERM in a profile login script, it prevents the user login script from running.

## Command Format

```
TERM nnn
```

Replace *nnn* with an error level. Any error level between 000 and 999 is valid.

## Example

If you want the login script to exit and return an error code of 718, you can add the following statement to the login script:

```
TERM 718
```

## TREE

The TREE command can be used only with clients that support multiple NDS tree attachments.

Use TREE to attach to another NDS tree within the network and to access its resources.

The TREE command changes the “focus” of the login script so that all NDS object references in subsequent script commands (for drive mappings, print captures, etc.) apply to the NDS tree specified in the TREE command.

You can include multiple TREE commands within a login script, either to attach to additional trees or to switch the login script’s “focus” back to a tree that the user is already attached to.

## Command Format

```
TREE tree_name[/complete_name;password]
```

Replace *tree\_name* with the name of the NDS tree that you want the user to attach to.

Replace *complete\_name* with the user’s complete name (Distinguished Name) for the NDS tree that the user is attaching to. The complete name establishes the user’s context in the tree. If you do not include the complete name, the user is prompted for a complete name when the TREE command is executed from the login script.

Replace *password* with the correct password for that user and tree. If the username and password are the same as the primary login username and password, you can omit the password and not be prompted for it.

**IMPORTANT:** Use caution when including passwords in a login script. It is more secure to eliminate the password. Then, at the point in the login script where the TREE command is executed, the user is prompted for the password.

## Example

To attach the user with the complete name MRICHARD.ACME (whose password is BUTTERFLY) to an NDS tree named CORP, add the following line to the login script:

```
tree corp/.mrichard.acme;butterfly
```

## WRITE

Use WRITE to display messages on the workstation screen when a user logs in to the network. Text that you want to display must be enclosed in quotation marks (" ").

There are several ways to display variables in the text message. The way you enter the variable in the WRITE command determines the display format, as follows:

- ◆ If you type the identifier variable as shown, with no special punctuation, only the variable is displayed on the screen.
- ◆ If you enclose the identifier variable inside quotation marks, precede the variable with a percent sign (%) and type it in uppercase letters. This method is often used to combine regular text with an identifier variable, because both the text and the variable can be enclosed in the same quotation marks.
- ◆ To join several text strings and identifier variables into a single display without enclosing the variables in quotation marks, use a semicolon between the text and the variables.
- ◆ If you have several WRITE commands, each one appears on a separate line on the user's workstation. However, if you put a semicolon at the end of all but the last WRITE commands, the commands all appear as one continuous sentence or paragraph (although they might wrap onto additional lines on the workstation's screen).

Text strings can include the following special characters:

Character	Meaning
\r	Causes a carriage return
\n	Starts a new line of text
\"	Displays a quotation mark on the screen
\7	Makes a beep sound

In addition to the semicolon, you can use other operators to form compound strings (in other words, to join text and identifier variables into one command). These operators are listed in the following table, in order of precedence:

Operator	Meaning
* / %	Multiply, divide, modulus
+ -	Add, subtract
>> <<	Shift left or right (1000 >> 3 becomes 1)

## Command Format

```
WRITE "[text] [%identifier] " [;] [identifier]
```

Replace *text* with the words you want to display on the screen.

Replace *identifier* with a variable you want to display, such as a user's login name. See "Using Identifier Variables" on page 57 for a complete list of variables.

## Examples

To display the message "Hello," add the following line to the login script:

```
WRITE "Hello"
```

To display the user's surname along with a greeting, add the identifier `LAST_NAME` to the command. To do this, either join the text and the identifier with a semicolon or include the variable in the quotation marks with the text.

Either of the following lines displays “Hello, Smith” when user Bob Smith logs in:

```
WRITE "Hello, " ;%LAST_NAME
```

```
WRITE "Hello, %LAST_NAME"
```

To make a beep sound occur while the phrase “Good morning” appears on the screen, add the following line to the login script:

```
WRITE "Good %GREETING_TIME \7"
```



# B

## Sample Login Scripts

You can create login scripts from these sample login scripts using NetWare® Administrator. Using a sample login script can help reduce syntax errors, reducing the time it takes you to create your login scripts.

For more information on how to create login scripts, see “Creating Login Scripts from a Sample or Existing Login Script” on page 30.

**IMPORTANT:** You must modify these sample login scripts to match the server names, directory paths, and specifications of your own network.

### Sample Container Login Script

The container login script should contain any information that applies to all users. By using some or all of the commands included in the following sample container login script, you might find it easier to plan and create your own container login scripts.

For more detailed information about each type of login script command, see “Login Script Commands and Variables” on page 55.

```
MAP DISPLAY OFF
MAP ERRORS OFF
MAP *1:=%HOME_DIRECTORY

IF "%1"="ADMIN"THEN MAP *1:SYS:SYSTEM

IF OS = "WIN95" THEN
    MAP P:=SYS:PUBLIC
ELSE
    MAP INS S1:=SYS:PUBLIC
    MAP INS S2:=SYS:PUBLIC\%MACHINE%\%OS%\%OS_VERSION
END
```

```

IF OS = "WINNT" THEN
  MAP P:=SYS:USERS\%LOGIN_NAME\WINNT
  MAP INS S16:=SYS:APPS\WINAPPS\WINNT
  SET TEMP = "P:\USERS\%LOGIN_NAME\WINNT\TEMP"
END

MAP INS S16:=VOL1:APPL\LOTUS
MAP INS S16:=SYS:EMAIL
MAP M:=VOL1:SHARED
MAP N:=VOL1:MODEMS

MAP O=SYS:DOC

IF MEMBER OF "MANAGERS" THEN
  MAP *3:=VOL1:PROJECTS\REPORTS
END

```

## Sample Profile Login Script

If you have groups of users with identical login script needs, you can create a Profile object and then create a login script for it. Then you can assign each user to be a member of that object.

The following sample login script shows an example of a profile login script you might create for users in the Profile object ACCOUNTING. This profile login script would execute after the container login script had executed.

For more detailed information about each type of login script command, see “Login Script Commands and Variables” on page 55.

```

MAP DISPLAY OFF
MAP ERRORS OFF
MAP INS S16:=VOL1:APPL\DB
MAP *5:=VOL1:ACCOUNTS\NEW
MAP *6:=VOL1:ACCOUNTS\RECORDS

@GRPWISE5
MAP DISPLAY ON
MAP
WRITE
IF DAY_OF_WEEK="FRIDAY" THEN
  WRITE "Weekly progress report is due today."
  FIRE 2
END

```

# Sample User Login Script

The following sample login script is an example of a login script created for user Mary. The user login script executes after the container and profile login scripts have executed. In addition, a user login script prevents the default login script from executing for this specific user.

Therefore, you should consider whether any commands in the default login script are necessary for setting the user's environment. If so, determine whether those commands should be placed into one of the other login scripts (container, profile, or user).

For more detailed information about each type of login script command, see "Login Script Commands and Variables" on page 55.

```
MAP DISPLAY OFF
MAP ERRORS OFF
MAP *7:=VOL1:MARY\PROJECTS\RESEARCH
MAP *8:=VOL1:FORMS
REM Mary needs access to FORMS while she's on the
REM troubleshooting team.
SET WP="/u-mjr/b-5"
SET USER="mrichard"
#SEND /A=N
```

# Sample Default Login Script

The default login script executes the first time User object Admin logs in. It also executes for any users who do not have user login scripts.

You can't modify the default login script because it is coded into the Novell Login utility. Instead, you can create container, profile, or user login scripts.

The following sample of the default login script lists its contents and lets you find out more information about each command in the default login script.

For more detailed information about each type of login script command, see "Login Script Commands and Variables" on page 55.

```
MAP DISPLAY OFF
MAP ERRORS OFF
MAP *1:=%FILE_SERVER/SYS:
MAP *1:=%FILE_SERVER/SYS:%LOGIN_NAME
IF "%LOGIN_NAME"="SUPERVIS" OR "%LOGIN_NAME"="ADMIN" THEN
MAP *1:=%FILE_SERVER/SYS:SYSTEM
MAP INS S1:=%FILE_SERVER/SYS:PUBLIC
MAP INS S2:=%FILE_SERVER/SYS:PUBLIC/%MACHINE/%OS/%OS_VERSION
MAP DISPLAY ON
MAP
```



# C

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