

Novell DirXML[®] Driver for Lotus Notes*

2.1

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IMPLEMENTATION GUIDE

August 19, 2004



Novell[®]

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U.S. Patent Nos. 5,349,642; 5,608,903; 5,671,414; 5,677,851; 5,758,344; 5,784,560; 5,818,936; 5,828,882; 5,832,275; 5,832,483; 5,832,487; 5,870,561; 5,870,739; 5,873,079; 5,878,415; 5,884,304; 5,919,257; 5,933,503; 5,933,826; 5,946,467; 5,956,718; 6,016,499; 6,065,017; 6,105,062; 6,105,132; 6,108,649; 6,167,393; 6,286,010; 6,308,181; 6,345,266; 6,424,976; 6,516,325; 6,519,610; 6,539,381; 6,578,035; 6,615,350; 6,629,132.
Patents Pending.

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DirXML Driver for Lotus Notes Implementation Guide

[August 19, 2004](#)

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About This Guide

This document is for Lotus Notes administrators, Novell® eDirectory™ administrators, and others who implement the DirXML® Driver for Lotus Notes.

The DirXML Driver for Lotus Notes is designed to automatically let you synchronize data in an eDirectory tree with data stored in a Domino* Directory or another Notes database. This configurable solution gives you the ability to increase productivity and streamline business processes by integrating Lotus Notes and eDirectory.

The guide contains the following sections:

- ◆ **Chapter 1, “Overview,” on page 9**
This section introduces new features and explains the default driver configuration.
- ◆ **Chapter 2, “Installing and Configuring the Driver,” on page 15**
This section covers both the installation process as well as post-installation setup tasks.
- ◆ **Chapter 3, “Upgrading,” on page 31**
This section covers the upgrade tasks.
- ◆ **Chapter 4, “Customizing the Driver,” on page 37**
This section explains how to use driver parameters to customize the data synchronization of the driver. It provides examples for common customizations.
- ◆ **Appendix A, “Using the Movecfg.exe Utility,” on page 65**
This section explains how to use the movecfg.exe utility to assist you in the upgrade process.
- ◆ **Appendix B, “Samples for New Features,” on page 69**
This section provides examples of events from the DirXML engine, such as move or rename for a user, and what command the driver must be given to receive to perform the tasks in Notes, so you can see what transformations your policies need to perform.
- ◆ **Appendix C, “Updates,” on page 77**

Additional Documentation

For documentation on using Nsure™ Identity Manager and the other drivers, see the [Identity Manager Documentation Web site \(http://www.novell.com/documentation/lg/dirxml20\)](http://www.novell.com/documentation/lg/dirxml20).

Documentation Updates

For the most recent version of this document, see the [Drivers Documentation Web Site \(http://www.novell.com/documentation/lg/dirxmldrivers\)](http://www.novell.com/documentation/lg/dirxmldrivers).

Documentation Conventions

In this documentation, a greater-than symbol (>) is used to separate actions within a step and items within a cross-reference path.

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User Comments

We want to hear your comments and suggestions about this manual and the other documentation included with Novell Nsure Identity Manager. To contact us, send e-mail to proddoc@novell.com.

1

Overview

The DirXML[®] Driver for Lotus Notes lets you synchronize data in a Novell[®] eDirectory[™] tree with data stored in a Domino Directory or another Notes database.

The DirXML Driver for Notes is essentially an application programming interface (API) translator that maps object data represented in an XML document between eDirectory and the appropriate Lotus Domino Toolkit for Java* object methods.

In this section:

- ◆ “New Features” on page 9
- ◆ “Notes Driver Basics” on page 11
- ◆ “Driver Components and Configuration” on page 13

New Features

In this section:

- ◆ “Driver Features” on page 9
- ◆ “Identity Manager Features” on page 11

Driver Features

- ◆ **AdminP features.** The driver can support sending requests to the Notes Administration Process (AdminP). These features require Notes 6.0.3 or later.

The following AdminP processes are supported:

- ◆ Delete user

A sample of a command to the driver shim that deletes a user is in “[Sample of Deleting a User](#)” on page 73.

- ◆ Rename user

See “[Move/Rename](#)” on page 60. A sample of a command to the driver shim that renames a user is in “[Sample of Renaming: Modifying a User Last Name](#)” on page 71.

- ◆ Move to new certifier

See “[Move/Rename](#)” on page 60. A sample of a command to the driver shim that moves a user is in “[Sample of Moving a User](#)” on page 72.

- ◆ Recertify user

- ◆ Set Notes password settings

An example of these optional settings are included in “[Sample of Adding a User](#)” on page 69.

- ◆ **New add user options.** The driver provides new options you can use when adding a user. These features require Notes 6.0.3 or later.
 - ◆ **Note explicit policy name**
 - ◆ **Mail file manager name in mail file ACL**
 - ◆ **Mailfile quota warning threshold**
 - ◆ **Roaming user options (roaming cleanup period, etc.)**
 - ◆ **Synchronize Internet password**

A sample of a command to the driver shim that adds a user is in [“Sample of Adding a User” on page 69](#). Examples of some of these new optional settings are included.

- ◆ **Sending console commands.** With appropriate rights given to the driver’s user object in Notes, driver policies can send commands to a Domino server console. See [“Sample of Sending a Command to the Domino Server Console” on page 74](#).
- ◆ **The driver is cross-platform.** The driver runs on the Domino server platforms of Linux, Solaris, and AIX.

When using the driver on these three platforms, you must load it using the Remote Loader, even if the driver is on the same machine as eDirectory.
- ◆ **Notes client is not required.** The 2.0 version of the driver runs on the Domino server.
- ◆ **Named Passwords:** The sample driver configuration uses Named Passwords to protect the certifier passwords. One example is provided in the sample driver configuration. For more information, see [“Using Named Passwords” on page 39](#).
- ◆ **Multiple instances of ndsrep.** The configuration of multiple instances of ndsrep on the same Domino server is handled automatically.
- ◆ **NDSReg is no longer used.** Prior to version 2.0, ndsrep parameters were stored in the Windows* registry using NDSReg. With version 2.0 of the DirXML Driver for Lotus Notes, the ndsrep Domino add-in process reads configuration parameters from a Lotus Notes database (dsrepcfg.nsf), so NDSReg is no longer necessary.

If you are upgrading, you use the movecfg.exe utility to move specific DirXML Driver for Lotus Notes 1.x parameters from the Windows registry to the DirXML Driver for Lotus Notes 2.x parameters location in eDirectory. See [“Upgrading on Windows” on page 31](#).

- ◆ **Support for Identity Manager Password Synchronization:** The ability to set and modify the password is provided for the Notes HTTP password. For the traditional Notes ID file password, the password can be set only when a new user is created.

For information about Password Synchronization, see [“Password Synchronization across Connected Systems”](#) in the *Novell Nsure Identity Manager 2 Administration Guide*.
- ◆ **Support for Role-Based Entitlements:** The driver configuration now provides the option to use Role-Based Entitlements for provisioning.

Using Role-Based Entitlements is a design decision. Before you choose this option, see [“Using Role-Based Entitlements”](#) in the *Novell Nsure Identity Manager 2 Administration Guide*.
- ◆ **Support for Novell Nsure Audit:** The driver makes special use of the ability to specify a status type for any of the status levels defined. For more information, see [“Logging and Reporting Using Nsure Audit”](#) in the *Novell Nsure Identity Manager 2 Administration Guide*.

Identity Manager Features

For information about the new features in Identity Manager, see “[What's New in Identity Manager 2?](#)” in the *Novell Nsure Identity Manager 2 Administration Guide*.

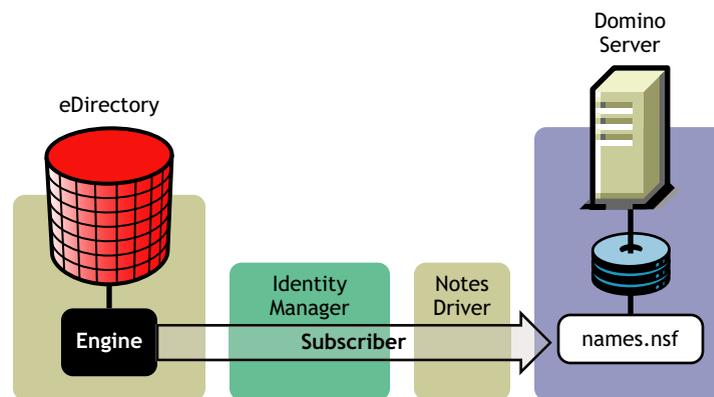
Notes Driver Basics

Identity Manager fundamentals are explained in the *Novell Nsure Identity Manager 2 Administration Guide*. This documentation discusses implementations, additions, or exceptions, specific to the DirXML Driver for Lotus Notes.

Default Data Flow

Subscriber Channel

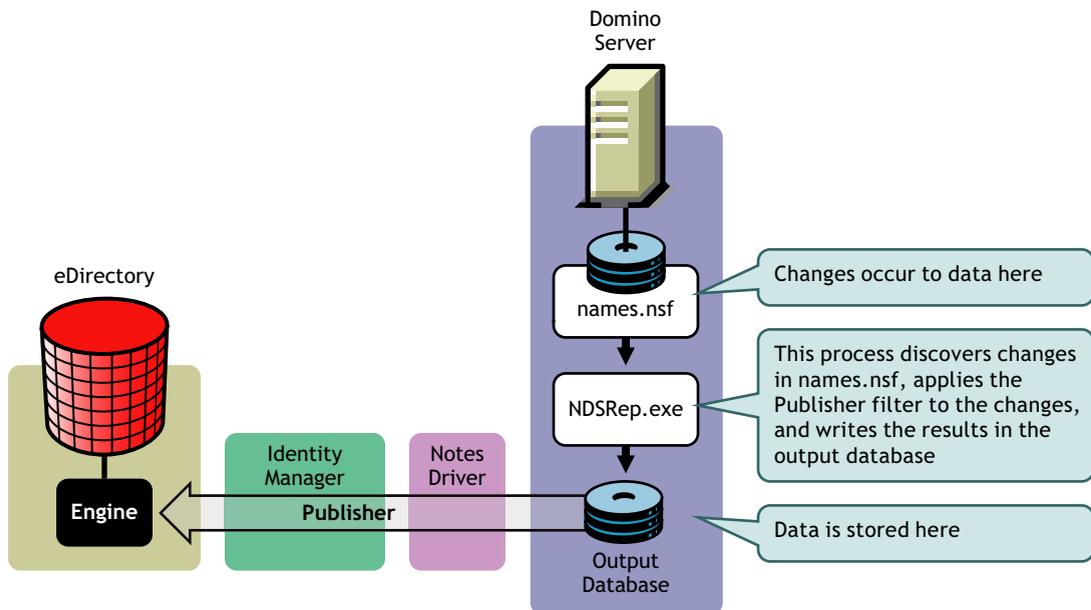
The Subscriber channel is the channel of communication from eDirectory to Lotus Notes. The following illustration shows this data flow:



The driver can be configured to work with Notes databases other than names.nsf.

Publisher Channel

The Publisher channel represents the channel of communication from Lotus Notes to eDirectory. The following illustration shows how this data is published:



Policies

Policies are used to control the synchronization of data between eDirectory and the application, database, or directory. Policies transform an event on a channel input into a set of commands on the channel output. The driver includes the following set of preconfigured policies:

- ◆ Schema Mapping: Mappings have been defined for the Notes address book.
- ◆ Creation: The default Creation policy logic for the Publisher channel and the Subscriber channel is the same. For a User object to be created, Given name and Surname are required. For a Group object to be created, Description, Membership, and Owner are required.
- ◆ Matching: The default Matching policy logic for the Publisher channel and the Subscriber channel is the same. An eDirectory User object is considered to be the same object in Notes when Given name and Surname match in both directories. An eDirectory Group object is considered to be the same object in Notes when the CN is the same in both directories.
- ◆ Placement: The default Placement policy on the Subscriber channel places all User objects from a specified eDirectory container in a specified Notes Organizational Unit, and all Group objects from a specified eDirectory container in a specified Organizational Unit in Notes. The same relationship is typically maintained on the Publisher channel. The container names and OU names for this default Placement policy are collected from the user when importing the default driver configuration.

Driver Components and Configuration

The driver contains the following components:

- ♦ **Default Driver Configuration File:** A driver configuration file is a file you can import to set up default rules, style sheets, and driver parameters. The driver configuration file included with the driver is Notes.xml, with its accompanying .xlf file.
- ♦ **Driver Files:** CommonDriverShim.jar and NotesDriverShim.jar are the Java files that direct synchronization between Notes and eDirectory.
- ♦ **ndsrep:** ndsrep is a Lotus Domino server add-in process to enable data synchronization. ndsrep keeps track of the time of the last successful synchronization within a Notes database, and checks the Lotus Domino Server for changes based on that time stamp. It then reads the changes from the Notes database, determines the event types they represent, and filters the updates based on objects and attributes specified in the Publisher filter in the driver configuration in eDirectory.
- ♦ **dsrepcfg.ntf:** A Notes database template required for the initial startup of the Notes driver shim. The Notes driver shim uses this Notes database template to create a configuration database named dsrepcfg.nsf used by ndsrep to determine the Publisher filter and other driver publication settings.

2

Installing and Configuring the Driver

This section contains a road map for successfully installing and configuring the driver. There are tasks you must do before you install, tasks you only do on the Lotus Domino server side, tasks you only do on the Novell® eDirectory™ and Nsure™ Identity Manager side, and tasks you do after the installation. The order in which you do these tasks is important. Complete the tasks in the order listed.

- ♦ “Where to Install the Driver” on page 15
- ♦ “Meeting Requirements for the Driver” on page 16
- ♦ “Preparing Lotus Notes for Synchronization” on page 17
- ♦ “Setting Up the Driver” on page 18

Where to Install the Driver

You must decide whether to install the driver locally or remotely. After you’ve decided where to install the driver, continue with “Meeting Requirements for the Driver” on page 16.

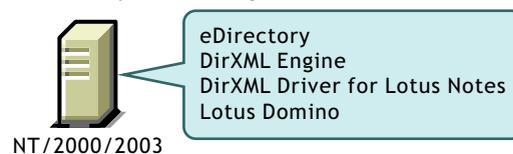
Installing Locally

A local installation installs the driver on the same computer where you have installed the Lotus Domino server, eDirectory, and Identity Manager.

If you are using Linux, Solaris, or AIX, you must always load the driver using Remote Loader, even if the driver is installed on the same machine as eDirectory and Identity Manager.

IMPORTANT: Regardless of whether you pick a local or remote installation, the driver must always run on the same computer where the Lotus Domino server is installed.

Local System Configuration



Local System Configuration

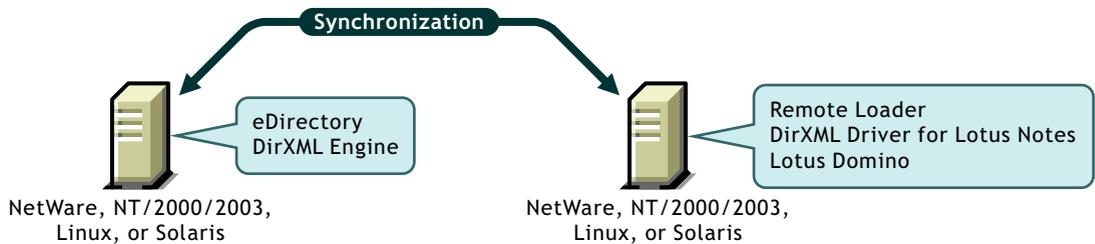


Installing Remotely

A remote installation installs the driver on a different computer than the one where Identity Manager and eDirectory are installed. You should use this option when Domino and eDirectory are not on the same server.

IMPORTANT: Regardless of whether you pick a local or remote installation, the driver must always run on the same computer where the Lotus Domino server is installed.

Remote System Configuration



Meeting Requirements for the Driver

The DirXML Driver for Lotus Notes must always run on the same computer where the Lotus Domino server is installed. This computer must be running the following software:

- ◆ One of the following with Lotus Notes R5.0.8 or later:
 - ◆ Windows NT*
 - ◆ Windows 2000 Server
 - ◆ Windows 2000 Professional

Use the operating system versions required by Lotus Domino.

- ◆ One of the following with Lotus Notes R6 or later:
 - ◆ Windows NT
 - ◆ Windows 2000 Server
 - ◆ Windows 2000 Professional
 - ◆ Windows 2003
 - ◆ Solaris

If you are using the driver on Solaris, you should edit the `/etc/system` file on Solaris to include the following line:

```
set msgsys:msginfo_msgtql=1024
```

NOTE: This and other tips are listed in a document published by Sun*, "Domino on Solaris: Common Tuning Tips" (<http://www.sun.com/third-party/global/lotus/technical>).

- ◆ Linux
- ◆ AIX

If your Notes system is unable to load tasks on the server, you might need to apply PTF 486444 for AIX 5.2.

Use the operating system versions required by Lotus Domino.

Preparing Lotus Notes for Synchronization

Complete the setup tasks in this section to ensure that your Lotus Notes system works with Identity Manager.

- ♦ [“Collecting Configuration Information” on page 17](#)
- ♦ [“Creating Lotus Notes Accounts and Groups” on page 17](#)
- ♦ [“Providing Access to Certifiers and ID Files in the Lotus Notes Infrastructure” on page 17](#)

Collecting Configuration Information

You’ll need to provide a number of system-specific details when you import the driver configuration for Lotus Notes. Some of these details can be collected before you complete the following procedures, and others will be defined during the process.

See the list in [“Creating a Driver Object and Importing the Driver Configuration” on page 24](#).

Creating Lotus Notes Accounts and Groups

- 1** Create a Notes User ID to be used exclusively by the driver and give it manager-level ACL access to the target Notes database (usually names.nsf), the output database created by ndsrep, and certlog.nsf.

- 2** If a Deny Access group doesn’t already exist, create this group.

This group is used to hold disabled user accounts.

- 3** Copy and save the Universal ID (UNID) for the Deny Access group you just created.

This string is used by the driver to uniquely identify this object, and you need to specify it when you are importing the driver configuration.

To get the string:

- 3a** View the Document Properties of the group. (You can select the object and right-click to select Document Properties.)

- 3b** Click the Meta tab (the fifth tab from the right).

- 3c** Go to the end of the text in the Identifier field, and copy the character string from the last forward slash to the end. This will always be 32 alphanumeric characters.

For example, if text in the Identifier field is

```
Notes://myserver/87256E530082B5F4/85255E01001356A8852554C200753106/  
16A28402CCEB7A9C87256E9F007EDA9B
```

then the UNID would be

```
16A28402CCEB7A9C87256E9F007EDA9B
```

- 3d** Paste this information into a file for later use when you run the Create Driver Wizard, as noted in [“Creating a Driver Object and Importing the Driver Configuration” on page 24](#).

Providing Access to Certifiers and ID Files in the Lotus Notes Infrastructure

The Notes driver user needs access rights to the following:

- ♦ Its own user certifier ID file for the driver user in Notes

- ◆ The certifier ID files for the certifiers that you want the driver to create users for
- ◆ The server ID file (optional; depends on your configuration)
- ◆ File access to a place where the driver can create new user certifier ID files (optional; depends on whether you want the driver to have this ability)

Setting Up the Driver

Complete these tasks to get the driver installed, configured, and running. (If you are upgrading the driver, see [“Upgrading” on page 31.](#))

- ❑ [“Installing the Driver Shim” on page 18](#)

This procedure refers to the others in this section, to show when they should be completed.

- ❑ [“Creating a Driver Object and Importing the Driver Configuration” on page 24](#)
- ❑ [“Configuring Database Replication Using ndsrep” on page 28](#)
- ❑ [“Migrating and Resynchronizing Data” on page 30](#)
- ❑ [“Activating the Driver” on page 30](#)

Most installations require some customization after installation to handle certification. Refer to [Chapter 4, “Customizing the Driver,” on page 37](#) for more information.

Installing the Driver Shim

- ◆ [“Installing on Windows” on page 18](#)
- ◆ [“Installing on AIX, Linux, or Solaris” on page 20](#)

Installing on Windows

- 1** Install the driver shim, and the Remote Loader if necessary.

You can install the driver shim at the same time you install the DirXML engine, or after.

- 1a** To run the driver locally on the same machine as the DirXML engine, run the Identity Manager installation program and select the DirXML Driver for Lotus Notes.

Instructions are in [“Installation”](#) in the *Novell Nsure Identity Manager 2 Administration Guide*.

- 1b** To run the driver remotely, install the driver shim and Remote Loader on the system where you want to run the driver.

Instructions are in [“Setting Up a Connected System”](#) in the *Novell Nsure Identity Manager 2 Administration Guide*.

- 2** Manually copy the following files to set up the driver.

Filename	Copy from	Copy to
ndsrep.exe	Its installed location (\novell\NDS)	The Domino server executable folder (\Lotus\Domino)
dsrepcfg.ntf	Its installed location (\novell\NDS)	The Domino server data folder (\Lotus\Domino\Data)

Filename	Copy from	Copy to
Notes.jar	\Lotus\Domino	One of the following: <ul style="list-style-type: none"> ◆ If running locally, \Novell\nds\lib ◆ If running remotely, \Novell\RemoteLoader\lib

3 Make sure that the Domino shared libraries directory (for example, c:\lotus\domino) is in the Windows system path, and reboot the computer to make sure this step is complete.

Without this directory in the Windows system path, the JVM* might have difficulty locating the Domino shared libraries required by Notes.jar, such as nxl5be.dll.

4 If the Domino server requires databases to be signed, use a Notes client or Domino Administrator to sign dsrepcfg.ntf with your Domino server's server ID.

5 After installation, create a driver object as explained in [“Creating a Driver Object and Importing the Driver Configuration”](#) on page 24.

6 Set passwords for the driver and Remote Loader for the initial startup of the Remote Loader.

These passwords must be the same as the [Driver Password](#) and [Remote Password](#) you specified when importing the driver configuration, as described in [“Creating a Driver Object and Importing the Driver Configuration”](#) on page 24.

7 Start the driver using iManager.

7a In iManager, select DirXML Management > Overview.

7b Locate the driver in its driver set.

7c Click the driver status indicator in the upper right corner of the driver icon, then click Start Driver.

7d Enter the password for the Notes User that you are using for the driver, if you are prompted to do so. This prompt appears only the first time you start the driver, and whether it appears depends on your driver configuration.

When the driver starts the first time, it does the following:

- ◆ Searches for the Domino Server (specified in the driver parameters at import time)
- ◆ Opens dsrepcfg.nsf. If that file does not exist, the driver creates dsrepcfg.nsf automatically, using the dsrepcfg.ntf database template that is provided with the driver.
- ◆ Writes to dsrepcfg.nsf the Publisher parameters and data specifying an appropriate update database file (usually named ndsrep.nsf), so that ndsrep can read them.

IMPORTANT: If the driver shim initializes with the notes.ini file for a Notes client instead of the Domino server, the driver shim is not able to open dsrepcfg.ntf.

If dsrepcfg.ntf is not found, or the initial dsrepcfg.nsf creation process fails, then the Publisher channel shuts down, and [Step 8](#) cannot be completed.

Ensure that the driver shim initializes properly by modifying the Windows system path to find the notes.ini file for the Domino server before it finds the notes.ini for a Notes client.

8 At the Domino Console, start the ndsrep task:

```
load ndsrep instance
```

The *instance* must be the driver name, or a unique instance name set up for this driver. If the name of your driver includes spaces, then you must put quotes around the name. After ndsrep is loaded, all TELL commands are issued to this instance of ndsrep using the instance name.

A task named DirXML or a similar name is now displayed in the Notes Task Viewer.

- 9 After the initial configuration and startup has been validated, update the Domino server's notes.ini file so that ndsrep is loaded automatically.

For example:

```
ServerTasks=Update,Replica,Router,AMgr,AdminP,ndsrep notesdrv1,  
CalConn,Sched,HTTP,IMAP,POP3
```

If the name of your driver includes spaces, then you must put quotes around the name.

After the first successful startup, the Notes driver and ndsrep can be launched in any order that is convenient for your particular configuration.

For more information about ndsrep, see [“Configuring Database Replication Using ndsrep” on page 28](#).

- 10 Activate the driver, as explained in [“Activating the Driver” on page 30](#).

Data synchronized by the driver should not be used outside of a test environment if you have not purchased the driver.

- 11 If you want to synchronize all objects at once, you must initiate the process as explained in [“Migrating and Resynchronizing Data” on page 30](#).

Otherwise, synchronization takes place on an object-by-object basis, the next time a change is made to the individual object.

- 12 Most installations require some customization after installation to handle certification. Refer to [Chapter 4, “Customizing the Driver,” on page 37](#) for more information.

Installing on AIX, Linux, or Solaris

- 1 After installing Identity Manager, install the driver shim and Remote Loader on the system where you want to run the driver.

For AIX, Linux, and Solaris, you must run the driver using the Remote Loader, even if the driver is running on the same machine as Identity Manager.

In the installation, choose Connected System Server, as described in [“Setting Up a Connected System”](#) in the *Novell Nsure Identity Manager 2 Administration Guide*.

The necessary files for the driver shim are installed in /usr/lib/dirxml.

- 2 Make sure that /usr/lib/dirxml/classes/Notes.jar is linked to the correct directory for your environment.

For example, enter the following:

```
ls -l /usr/lib/dirxml/classes/Notes.jar
```

The link should be something like the following:

```
/usr/lib/dirxml/classes/Notes.jar linked to  
/opt/lotus/notes/60030/linux/Notes.jar
```

In this example, 60030 is the version number of Domino. If you upgrade Domino after installing the driver, you need to check your symbolic links. See [“Troubleshooting Installation” on page 23](#).

- 3 Make sure you have created a user to run the Remote Loader and the driver, as described in [“Creating Lotus Notes Accounts and Groups” on page 17](#).

You cannot run Remote Loader for the Notes driver using root.

- 4 Create a driver object as explained in [“Creating a Driver Object and Importing the Driver Configuration” on page 24](#). Do not start the driver yet.
- 5 Use a Notes client or Domino Administrator to sign dsrepcfg.ntf with your Domino server’s server ID.
- 6 Copy the following files from where they are installed (/usr/lib/dirxml/rules/notes by default), to the location where you intend to launch your driver on the Domino server, such as /local/notesdata, /home/notes, or /user/bin. You might want this location to be in your search path.

Filename	Description
rdxml.startnotes	<p>This script calls the findDomino script, which sets up appropriate Domino operating system environment variables for the Notes driver. Then the rdxml.startnotes script launches the Remote Loader with the Notes driver parameters specified in the rdxml.confignotes file.</p> <p>If the location where the scripts are placed is not in a current search path, you might need to do one of the following:</p> <ul style="list-style-type: none">♦ Modify rdxml.startnotes to include a specific path to the findDomino script.♦ Create a symbolic link for findDomino in /usr/bin.
rdxml.stopnotes	<p>This script stops the Remote Loader that is running the Notes driver.</p>
findDomino	<p>This script is called from the rdxml.startnotes script. When you launch rdxml.startnotes, this script sets up operating system environment variables that indicate the location of a UNIX type of installation of Domino.</p>
rdxml.confignotes (or wherever your configuration is stored)	<p>This configuration is referenced by rdxml.startnotes and rdxml.stopnotes scripts.</p> <p>You might need to modify the rdxml.startnotes script to fit your environment. For example, if you change the name of the configuration file to a name other than rdxml.confignotes, you must revise the last line in the script.</p> <p>You might need to change the configuration ports that are referenced in this file.</p>

These three sample scripts and the sample configuration file are provided to demonstrate how to launch the driver. You can start the Remote Loader for the driver using rdxml.startnotes, and stop the Remote Loader for the driver using rdxml.stopnotes.

The sample scripts work in a variety of situations. If they do not work in your environment, you might need to edit them appropriately.

The sample scripts produce a Remote Loader trace log for the driver that can be used for troubleshooting.

- 7 Modify the scripts and configuration file to fit to your environment, as described in the table in [Step 6](#).

- 8** Make sure that the three scripts noted in [Step 6](#) have file access for execution (for example, `rwXr-Xr-X`).
- 9** Set passwords for the driver and Remote Loader for the initial startup of the Remote Loader.

For example,

```
cd driver_script_directory
./rdxml.startnotes -sp driver_password remote_loader_password
```

These passwords must be the same as the [Driver Password](#) and [Remote Password](#) you specified when importing the driver configuration, as described in [“Creating a Driver Object and Importing the Driver Configuration”](#) on page 24.

- 10** Use `rdxml.startnotes` to start Remote Loader for the driver.

For example,

```
cd driver_script_directory
./rdxml.startnotes
```

The `driver_script_directory` should be the directory where you placed the files in [Step 6](#).

- 11** Start the driver using iManager.

11a In iManager, select DirXML Management > Overview.

11b Locate the driver in its driver set.

11c Click the driver status indicator in the upper right corner of the driver icon, then click Start Driver.

When the driver starts the first time, it does the following:

- ◆ Searches for the Domino Server (specified in the driver parameters at import time)
- ◆ Opens `dsrepcfg.nsf`. If that file does not exist, the driver creates `dsrepcfg.nsf` automatically, using the `dsrepcfg.ntf` database template that is provided with the driver.
- ◆ Writes to `dsrepcfg.nsf` the Publisher parameters and data specifying an appropriate update database file (usually named `ndsrep.nsf`), so that `ndsrep` can read them.

NOTE: If `dsrepcfg.ntf` is not found, or this initial `dsrepcfg.nsf` creation process fails, then the Publisher channel shuts down, and [Step 12](#) cannot be completed.

- 12** At the Domino Console, start the `ndsrep` task:

```
load ndsrep instance
```

The *instance* must be the driver name, or a unique instance name set up for this driver. If the name of your driver includes spaces, then you must put quotes around the name. After `ndsrep` is loaded, all TELL commands are issued to this instance of `ndsrep` using the instance name.

A task named DirXML or a similar name is now displayed in the Notes Task Viewer.

- 13** After the initial configuration and startup has been validated, update the Domino `notes.ini` file so that `ndsrep` is loaded automatically.

For example:

```
ServerTasks=Update,Replica,Router,AMgr,AdminP,ndsrep notesdrv1,
CalConn,Sched,HTTP,IMAP,POP3
```

If the name of your driver includes spaces, then you must put quotes around the name.

After the first successful startup, the Notes driver and `ndsrep` can be launched in any order that is convenient for your particular configuration.

- 14** Activate the driver, as explained in [“Activating the Driver” on page 30](#).

Data synchronized by the driver should not be used outside of a test environment if you have not purchased the driver.

- 15** If you want to synchronize all objects at once, you must initiate the process as explained in [“Migrating and Resynchronizing Data” on page 30](#).

Otherwise, synchronization takes place on an object-by-object basis, the next time a change is made to the individual object.

- 16** Most installations require some customization after installation to handle certification. Refer to [Chapter 4, “Customizing the Driver,” on page 37](#) for more information.

For troubleshooting tips, see [“Troubleshooting Installation” on page 23](#).

Troubleshooting Installation

For Windows:

- ◆ The first time the driver runs, it searches for the Domino Server (specified in the driver parameters at import time), and tries to open dsrepcfg.nsf to write the publisher parameters that ndsrep reads. If dsrepcfg.nsf does not exist, then the NotesDriverShim attempts to create dsrepcfg.nsf using the database template dsrepcfg.ntf that ships with the driver.

If dsrepcfg.nsf is successfully created, and contains data specifying an appropriate update database file (usually named ndsrep.nsf), then you can load ndsrep successfully at the Domino Console.

If dsrepcfg.ntf is not found, or this initial dsrepcfg.nsf creation process fails, then the Publisher channel shuts down, and you can't load the ndsrep task at the Domino console.

You can use a Notes client to create the dsrepcfg.nsf database using the dsrepcfg.ntf template. After doing so, modify the ACL so that the Notes driver user has manager-level access to the database.

For AIX, Linux, and Solaris:

- ◆ If you upgrade Domino after installing the driver, you need to do one of the following:
 - ◆ Check the following symbolic links, and re-create them manually if necessary.

File to link	Symbolic link to create
Notes.jar	<code>/usr/lib/dirxml/classes/Notes.jar</code> Example: <pre>In -s /opt/lotus/notes/latest/your_platform/Notes.jar /user/lib/dirxml/classes/Notes.jar</pre>
ndsrep	<code>/opt/lotus/notes/latest/your_platform/ndsrep</code> Example: <pre>In -s /usr/lib/dirxml/rules/notes/ndsrep /opt/lotus/notes/latest/your_platform/ndsrep</pre>

File to link	Symbolic link to create
dsrepcfg.ntf	/opt/lotus/notes/latest/ <i>your_platform</i> /dsrepcfg.ntf
	Example: In -s /usr/lib/dirxml/rules/notes/dsrepcfg.ntf /opt/lotus/notes/latest/ <i>your_platform</i> /dsrepcfg.ntf

The variable *your_platform* represents the operating system. The following table shows the folder names.

Operating System	Folder Name
AIX	ibmpow
Linux	linux
Solaris	sunspa

- ◆ Back up certain files, and then reinstall the driver. Reinstalling the driver shim re-creates the symbolic links, but it overwrites certain files. If you have made changes to them, you need to make a backup.

Back up the following files:

```
rdxml.startnotes
rdxml.stopnotes
findDomino
rdxml.confignotes (or wherever your configuration is stored)
```

After reinstalling the driver shim, copy the backups to their original location.

- ◆ Even if you don't use the mail functions, you must specify all mail parameters in the driver configuration. If they are not specified, the driver might report errors and stop running.
- ◆ The sample scripts provided (rdxml.startnotes, rdxml.stopnotes, findDomino) produce a Remote Loader trace log for the driver that can be used for troubleshooting.

Creating a Driver Object and Importing the Driver Configuration

Import the driver configuration file to create all necessary eDirectory objects, such as policies, style sheets, and filters, for basic driver configuration. Then you can modify the configuration to fit your specific business needs.

Follow the instructions in “[Creating a Driver Object](#)” in the *Novell Nsure Identity Manager 2 Administration Guide*.

Provide the following information and finish the wizard, then start the driver as described in “[Installing the Driver Shim](#)” on page 18.

The sample driver configuration uses a new feature, flexible prompting, to reduce complexity when importing the configuration. If you choose to install the driver for use with Remote Loader, or if you choose to use Role-Based Entitlements, an additional page is displayed in the wizard where you provide information for those features.

Import Prompt	Description
Notes User ID	<p>Enter the Notes User ID this driver will use for Notes Authentication (in fully qualified canonical form: i.e. cn=Notes Driver/o=Organization).</p> <p>This user ID needs administrative rights to the Input database as well as the Output database. We recommend that this ID be specifically created for the driver and used only by the driver. This will prevent the driver from responding to changes made to Notes when this user is used.</p>
Notes User ID File	<p>Enter the full path (on the Domino Server) for the Notes User ID file associated with the Notes User this driver will use for Notes Authentication.</p>
Notes User Password	<p>Enter the password for the Notes User ID this driver will use when authenticating to Notes (for the above user ID file).</p>
Domino Server	<p>Enter the Name of the Domino server this driver will authenticate to (in fully qualified canonical form: i.e. cn=NotesServer/o=Organization).</p>
Notes Server ID File	<p>Enter the full path for the Notes Server ID file associated with the Notes Server this driver will authenticate to.</p>
Default Notes Certifier ID File	<p>Enter the full path (on the Domino server) for the Default Notes Certifier ID file the driver will use at the default certifier. This is usually the root certifier, but can be any certifier with adequate access.</p>
Default Notes Certifier Password	<p>Enter the password for the Default Notes Certifier ID this driver will use when certifying new users.</p> <p>This password is secured using the new Named Passwords feature. See "Using Named Passwords" on page 39.</p>
Notes Organization Name	<p>Enter the name of the Notes Organization (This is usually the o= at the root of the tree).</p>
Notes Domain	<p>Enter the name of the Notes Domain.</p>
Target Notes Database	<p>Enter the relative path and file name (on the Domino server) for the target Notes Database. The path should be relative to the Domino server's data directory.</p>
Is this database a Notes Address Book?	<p>This driver has the capability of interfacing with different Notes databases.</p>
Notes Changelog Database	<p>Enter the relative path and file name (on the Domino server) for the Notes Changelog Database. This file is created by ndsrep. The path should be relative to the Domino server's data directory.</p>
Certify new Notes Users?	<p>Should the driver certify users added to Notes on the subscriber channel?</p>
Notes ID Storage Path	<p>Enter the path (on the Domino server) where the driver should create new user ID files.</p>
Notes Certification Log Database	<p>Enter the relative path and file name (on the Domino server) for the Notes Certification Log Database. The path should be relative to the Domino server's data directory.</p>
Update Address Book with user certifications?	<p>Should Notes update the server entry in the Address Book when a new user is certified in Notes on the subscriber channel?</p>

Import Prompt	Description
Store User ID files in Notes Address Book?	Should Notes store new users IDs in the address book when certifying users added to Notes on the subscriber channel?
Is the Domino Server a North American Server?	Is the Domino server this driver is binding to when certifying new users a North American Domino server? This affects encryption levels. Choose Yes for 128 bit encryption.
ID File Expiration Term	Enter the expiration term (in years) for ID files created by the driver when certifying users added on the Subscriber channel.
Minimum Notes Password Length:	Enter the minimum password length for new Notes user IDs (0 - 16).
Default Notes User ID Password:	Enter the default password for new Notes user IDs.
Default Notes HTTP Password	Enter the default HTTP password for new Notes users.
Create Mail File?	Should the driver create a mail file for users certified to Notes on the subscriber channel?
Mail Database Storage Path:	Enter the relative path where the driver should create new Mail databases. The path should be relative to the Domino Data directory.
Notes Mail Database Template	Enter the relative path and file name (on the Domino server) for the Notes Mail Database Template this driver will use when creating new mail databases. The path should be relative to the Domino server's data directory.
Notes Mail Server	Enter the Name of the Notes Mail Server this driver will create new mail databases on (in fully qualified canonical form: i.e. cn=NotesServer/o=Organization).
Internet Mail Domain	Enter the Internet Mail Domain to be used when generating Internet e-mail addresses.
Deny Access Group Universal Note ID	Enter the Notes Universal ID for the Deny Access Group. This can be found on the Properties sheet for the Group in the Notes Client (32 characters long).
Publisher Channel Poll Rate	Enter the polling interval (in seconds) for how often the publisher channel will check the change log for updates.
Publisher placement destination path for USERS	Enter the eDirectory path where eDirectory users will be created.
Publisher placement destination path for GROUPS	Enter the eDirectory path where eDirectory groups will be created.
Subscriber placement source path for USERS	Enter the eDirectory path (subtree root) where user changes will be detected.
Subscriber placement source path for GROUPS:	Enter the eDirectory path (subtree root) where group changes will be detected.
Detect Event Loop Back?	Select Yes to prevent event loop back from occurring, or No to allow event loop back.
NDSREP Schedule Units	Enter the schedule units for the ndsrep polling interval.
NDSREP Schedule Value	Enter the schedule value for the ndsrep polling interval.

Import Prompt	Description
DNFormat	Enter the distinguished name format.
Check Attributes	Shall all attributes be checked for each object event?
Write Time Stamps	Shall driver time stamps be written to each synchronized object?
Enable Role-Based Entitlement features	<p>Select Yes if you are using the Entitlements Driver and would like to include the role-based entitlement features provided by this driver configuration.</p> <p>This is a design decision. Don't choose this option unless you have reviewed the information about Role-Based Entitlements in the <i>Novell Nsure Identity Manager 2 Administration Guide</i>.</p>
Install Driver as Remote/Local	<p>Configure the driver for use with the Remote Loader service by selecting Remote, or select Local to configure the driver for local use. For information on how to decide, see "Where to Install the Driver" on page 15.</p>
Remote Host Name and Port	<p>(Remote Driver Configuration only)</p> <p>Enter the Host Name or IP Address and Port Number where the Remote Loader Service has been installed and is running for this driver. The Default Port is 8090.</p>
Driver Password	<p>(Remote Driver Configuration only)</p> <p>The Driver Object Password is used by the Remote Loader to authenticate itself to the DirXML server. It must be the same password that is specified as the Driver Object Password on the DirXML Remote Loader.</p>
Remote Password	<p>(Remote Driver Configuration only)</p> <p>The Remote Loader password is used to control access to the Remote Loader instance. It must be the same password that is specified as the Remote Loader password on the DirXML Remote Loader.</p>

Configuring Database Replication Using ndsrep

Complete the following sections to configure replication using ndsrep:

- ◆ “Setting Up ndsrep” on page 28
- ◆ “Loading and Controlling ndsrep” on page 28
- ◆ “Setting Up Multiple Instances of ndsrep” on page 29

Setting Up ndsrep

- 1 Review the information about ndsrep and starting the driver in the steps in “Installing the Driver Shim” on page 18.
- 2 Make sure you have copied the necessary files for your platform, as described in “Installing the Driver Shim” on page 18.
- 3 (Windows only) Add c:\lotus\domino to your system path, then reboot the computer.
- 4 Before trying to load ndsrep, make sure that the DirXML Driver for Lotus Notes has been started at least once.

Loading and Controlling ndsrep

You always load and run ndsrep at the server console on the Domino server. The ndsrep program creates an output database (by default, ndsrep.nsf), detects changes in the address book in the Domino server (or other Notes database), and copies these changes to the output database.

- ◆ **Loading ndsrep:** Load ndsrep in the Domino Server console.

Add ndsrep to the ServerTasks = statement in NOTES.INI and restart the Domino server,

For example:

```
ServerTasks=Update,Replica,Router,AMgr,AdminP,ndsrep notesdrv1,  
CalConn,Sched,HTTP,IMAP,POP3
```

or

Type the following in the Notes Server Console window:

```
load ndsrep instance
```

In either case, if the name of your driver includes spaces, then you must put quotes around the name.

- ◆ **Controlling ndsrep:** Use the TELL commands described in the table.

The following ndsrep TELL commands allow for immediate ndsrep actions. These commands are not stored; ndsrep simply executes the action.

TELL Command	Description
RefreshConfig	Reads ndsrep configuration information from the configuration store.
Replicate	Forces an immediate check for updated notes.
Resume	Sets ndsrep to resume processing timer events and replication.
ShowConfig	Displays ndsrep configuration settings in the console window.

TELL Command	Description
ShowFilter	Displays the first 240 characters of the filter for updated records that ndsrep is using when publishing.
Suspend	Suspends activity until the Resume command is given.

Setting Up Multiple Instances of ndsrep

You can run multiple instances of ndsrep to support multiple drivers running against a single Domino server. You must specify the appropriate driver instance name as a parameter when loading ndsrep. By default, this instance name is the name of the driver.

If the name of your driver includes spaces, then you must put quotes around the name.

Consider the following important issues with setting up ndsrep and multiple instances:

- ◆ To load ndsrep, you must use the appropriate instance name:

```
load ndsrep instance
```

ndsrep will be loaded and referenceable using TELL commands by the value of *instance*.

- ◆ By default, ndsrep stores configuration data for instances in a common Notes database (dsrepcfg.nsf).
- ◆ When modifying notes.ini to auto load multiple instances of ndsrep, simply insert `ndsrep instance` multiple times on the ServerTask line of notes.ini.

For example:

```
ServerTasks=Update,Replica,Router,AMgr,AdminP,  
ndsrep notesdrv1,ndsrep notesdrv2,CalConn,Sched,HTTP,IMAP,POP3
```

- ◆ For custom configurations, you can tell ndsrep to utilize a different configuration database. To do so, use the ndsrep configuration parameter and load ndsrep using the `-f filename` parameter as noted in [ndsrep configuration database](#) and [ndsrep configuration instance](#) in the parameters table in [Chapter 4, “Customizing the Driver,”](#) on page 37

Migrating and Resynchronizing Data

Identity Manager synchronizes data as the data changes. If you want to synchronize all data immediately, you can choose from the following options:

- ◆ **Migrate Data from eDirectory:** Allows you to select containers or objects you want to migrate from eDirectory to an application. When you migrate an object, the DirXML engine applies all of the Matching, Placement, and Create rules, as well as the Subscriber filter, to the object.
- ◆ **Migrate Data into eDirectory:** Allows you to define the criteria Identity Manager uses to migrate objects from an application into Novell eDirectory. When you migrate an object, the DirXML engine applies all of the Matching, Placement, and Create rules, as well as the Publisher filter, to the object. Objects are migrated into eDirectory using the order you specify in the Class list.
- ◆ **Synchronize:** The DirXML engine looks in the Subscriber class filter and processes all objects for those classes. Associated objects will be merged. Unassociated objects are processed as Add events.

To use one of the options explained above:

- 1** In iManager, select DirXML Management > Overview.
- 2** Locate the driver set containing the Notes driver, then double-click the driver icon.
- 3** Click the appropriate migration button.

Activating the Driver

Activation must be completed within 90 days of installation, or the driver will not run.

For activation information, refer to “[Activating Novell Identity Manager Products](#)” in the *Novell Nsure Identity Manager 2 Administration Guide*.

3 Upgrading

In this section:

- ◆ “Upgrading on Windows” on page 31
- ◆ “Upgrading on AIX, Linux, or Solaris” on page 35

Upgrading on Windows

In this section:

- ◆ “Preparing to Upgrade” on page 31
- ◆ “Upgrading the Driver Shim and Configuration from 1.x to 2.x” on page 31
- ◆ “Upgrading the Driver Shim and Configuration from 2.0 to 2.1” on page 34

Preparing to Upgrade

Make sure you have reviewed all TIDs and product updates for the version of the driver you are using.

The new driver shim is intended to work with your existing driver configuration, but this assumes that your driver shim and configuration have the latest fixes.

Upgrading the Driver Shim and Configuration from 1.x to 2.x

- 1** When you install Nsure™ Identity Manager 2, make sure you select the option to install utilities. This installs the movecfg.exe utility necessary for upgrading, noted in [Step 5](#). Instructions are in “[Installation](#)” in the *Novell Nsure Identity Manager 2 Administration Guide*.
- 2** You can install the upgraded driver shim at the same time you install the DirXML engine, or after. To install the driver shim, run the Identity Manager installation program and select the DirXML Driver for eDirectory. Instructions are in “[Installation](#)” in the *Novell Nsure Identity Manager 2 Administration Guide*.

The new driver shim replaces the previous one.

IMPORTANT: Running a new driver with a previous version of the DirXML engine is not supported.

- 3** Convert your existing configuration from 1.x to 2.0 format, using the wizard.
See “[Upgrading a Driver Configuration from DirXML 1.x to Identity Manager Format](#)” in the *Novell Nsure Identity Manager 2 Administration Guide*.
- 4** Unload all instances of ndsrep from the Domino Server Console.
- 5** Use the movecfg.exe utility to upgrade the placement of configuration parameters, as described in “[Using the Movecfg.exe Utility](#)” on page 65.

You can use a batch file such as the example provided in [“Example Batch File to Use” on page 66](#).

The movecfg.exe utility is installed in the utilities directory if you select the option to install Utilities during DirXML installation.

For example, on Windows:

```
C:\novell\nds\DirXMLUtilities
```

IMPORTANT: If you have multiple instances of ndsrep, you must run movecfg.exe once for each one, using the -ndsrep parameter.

6 (Windows only) Copy the following files:

- ◆ Manually copy ndsrep.exe from its installed location (\novell\NDS) to the Domino server executable folder (\Lotus\Domino).
- ◆ Manually copy dsrepcfg.ntf from its installed location (\novell\NDS) to the Domino server data folder (\Lotus\Domino\Data).

On Linux and Solaris, the package install places it in the /usr/lib/dirxml/rules/notes folder and creates a symbolic link for it in the /local/notesdata folder.

- ◆ Manually copy the Notes.jar file from the \Lotus\Domino directory to the \Novell\nds\lib directory (or the \novell\remote\loader\lib directory if running Remote Loader).

NOTE: This is necessary for product updates as well as new releases.

7 If you have previously modified the Domino server’s notes.ini file ServerTasks line to auto-load ndsrep (as described in [“Loading and Controlling ndsrep” on page 28](#)), you must add an instance name (by default, the driver name) as a parameter to ndsrep.

For example:

```
ServerTasks=Router,Replica,Update,Amgr,AdminP,maps,ndsrep notesdrv1,ndsrep notesdrv2
```

NOTE: If you have multiple instances of ndsrep, you must do this for each one.

If the name of your driver includes spaces, then you must put quotes around the name.

For example, if the driver name is CN=Notes Driver, your notes.ini might look like the following:

```
ServerTasks=Router,Replica,Update,Amgr,AdminP,maps,ndsrep notesdrv1,ndsrep "Notes Driver"
```

8 Restart ndsrep, or restart the Domino server.

9 Stop and restart eDirectory and the driver for the system to use the new driver shim file.

At this point, the driver should work even though you have not made changes to the configuration other than converting it to Identity Manager 2 format.

10 If you want to make changes to the driver configuration, such as using named passwords or global configuration values (GCVs) for multiple certifiers, you can do so.

See [“Customizing the Driver” on page 37](#).

NOTE: For an example of the new parameters and new features such as named passwords, review the sample driver configuration.

11 If you are using Lotus Notes 6.0.3, and you want to use the AdminP process features, you need to turn them on by adding the driver parameter named Allow Domino AdminP Support to the Subscriber Options.

For example:

```
<allow-adminp-support display-name="Allow Domino AdminP Support">True</allow-adminp-support>
```

See [Allow Domino AdminP Support](#) in “Subscriber Options” on page 42.

- 12** Consider adding the Publisher Options driver parameter named NDSREP Console Trace Level to your driver configuration.

See [NDSREP Console Trace Level](#) in “Publisher Options” on page 45.

- 13** Consider adding the sample policy named Notes - Return Email Address (NotesReturnEmail.xml) to your driver configuration, in the Command Transformation policy set on the Subscriber channel.

When a new user in eDirectory is synchronized to Notes, this policy is used to write back the Notes e-mail address to eDirectory. In 1.x versions of the driver, this functionality was done differently. If you want to continue to have this functionality with the 2.1 driver version, you must use the new policy.

See [“Importing a Policy to Write Back the Notes E-mail Address for New Users”](#) on page 33.

- 14** Activate the driver. See [“Activating the Driver”](#) on page 30.

- 15** When your changes are complete, restart the driver.

Importing a Policy to Write Back the Notes E-mail Address for New Users

This policy is designed to generate an e-mail address for user Add events on the Subscriber channel. It provides backwards compatibility for functionality that existed in the previous version of the driver. In 1.x versions of the driver, this functionality was done differently.

If you want to continue to have this functionality when upgrading a driver configuration from the 1.x to the 2.x driver version, you must use the new policy. (The policy is already a part of the sample configuration provided with the 2.1 version of the driver.)

The default form of the e-mail address provided by the policy is a concatenation of the Given Name, a space, the Surname, and domain name entered when importing the policy. For example: Joe User@mydomain.com. The policy can be edited after import to customize the form of the e-mail address as needed.

- 1** In iManager, click DirXML Utilities > Import Drivers.
- 2** Select the driver set where your existing driver resides.
- 3** In the list of driver configurations that appears, scroll down to the Additional Policies heading, then select only the item labeled Notes - Return Email Address. Click Next.

A list of import prompts appears.

- 4** Select the name of your existing driver.
- 5** Specify the domain name to be used as the suffix for the e-mail address generated.

For example, mydomain.com.

- 6** Click Next.

A page appears with the message “A driver named *your_driver_name* already exists in the driver set. Select one of the options below.”

- 7** Select the following items:

- ◆ Update Only Selected Policies in That Driver
- ◆ Return Email Address (Subscriber - DirXML Script)

8 Click Next, then click Finish to complete the wizard.

At this point, the new policy has been created as a policy object under the driver object, but is not yet part of the driver configuration. To link it in, you must manually insert it into a policy set.

9 Insert the new policy into the Command Transformation policy set on the Subscriber Channel.

9a Click DirXML Management > Overview. Select the driver set for the driver you are updating.

9b Click the driver you just updated. A page opens showing a graphical representation of the driver configuration.

9c Click the icon for the Command Transformation on the Subscriber channel.

9d Click Insert to add the new policy. In the Insert page that appears, click Use an Existing Policy, then browse for and select the new policy object. Click OK.

9e If you have more than one policy in the policy set, use the arrow buttons   to move the new policy to the correct location in the list.

Upgrading the Driver Shim and Configuration from 2.0 to 2.1

1 Stop the driver.

2 Install the new driver shim.

3 If you are using Lotus Notes 6.0.3 or later, and you want to use the AdminP process features, you need to turn them on by adding the driver parameter named Allow Domino AdminP Support to the Subscriber Options.

For example:

```
<allow-adminp-support display-name="Allow Domino AdminP Support">True</allow-adminp-support>
```

See [Allow Domino AdminP Support](#) in “Subscriber Options” on page 42.

4 Consider adding the Publisher Options driver parameter named NDSREP Console Trace Level to your driver configuration.

See [NDSREP Console Trace Level](#) in “Publisher Options” on page 45.

5 When your changes are complete, restart the driver.

Upgrading on AIX, Linux, or Solaris

In this section:

- ◆ [“Upgrading Domino” on page 35](#)

Upgrading Domino

For AIX, Linux, and Solaris, if you upgrade Domino after installing the driver, you need to do one of the following:

- ◆ Check symbolic links, and re-create them manually if necessary.
- ◆ If you have customized the files `rdxml.startnotes`, `rdxml.stopnotes`, `findDomino`, or `rdxml.confignotes`, back them up and then reinstall the driver. Reinstalling the driver shim re-creates the symbolic links, but it overwrites those files.

For more information, see [“Troubleshooting Installation” on page 23](#).

4

Customizing the Driver

This section explains how to customize your driver for your specific business rules.

- ◆ “Determining eDirectory Object Placement When a Notes Object is Moved” on page 37
- ◆ “Automatically Determining Which Certifier to Use” on page 39
- ◆ “Using Named Passwords” on page 39
- ◆ “Using Driver Parameters” on page 40
- ◆ “Overriding Driver Parameters” on page 47
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- ◆ “Synchronizing a Database Other Than Names.nsf” on page 60
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- ◆ “Move/Rename” on page 60
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NOTE: When you customize data synchronization, you must work within the supported standards and conventions for the operating systems and accounts being synchronized. Data containing characters that are valid in one environment, but invalid in another, causes errors.

Determining eDirectory Object Placement When a Notes Object is Moved

A Move is done by Nsure™ Identity Manager relative to either a parent’s association key or dest-dn. Containment in Notes is purely logical, and as such, an OU in Notes never has an association to eDirectory, so it isn’t possible to provide a parent association. Also, the driver shim has no reference of the eDirectory namespace or containment, so it can’t provide a parent dest-dn (destination DN). Therefore, an appropriate parent dest-dn must be provided by a policy.

Notes - Move Sample is a sample Publisher channel policy that contains logic to determine eDirectory™ object placement when an associated Notes object is moved.

This policy is designed to provide the same functionality contained in the sample style sheet named placemove.xsl, provided with earlier versions of the driver.

On a move, the dest-dn is set for a particular source dn. After importing the Notes - Move Sample policy, you have a policy defining a single mapping between source and destination containers. You can define additional mappings by editing the resulting policy.

NOTE: Because of the way Notes manages CN and DN in FullName, it is not possible to distinguish between a Move and a Rename event in ndsrep. Therefore, when ndsrep determines that the FullName item has changed, it generates both a Move and a Rename event.

To add the Notes - Move Sample policy to your driver configuration:

- 1** In iManager, click DirXML Utilities > Import Drivers.
- 2** Select the driver set where your existing driver resides.
- 3** In the list of driver configurations that appears, scroll down to the Additional Policies heading, then select only the item labeled Notes - Move Sample. Click Next.

A list of import prompts appears.

- 4** Select the name of your existing Notes driver.
- 5** Specify one container in Notes and the corresponding container in eDirectory.

The import process uses this information to create one pair of “mappings” between Notes containers and eDirectory containers.

- 5a** Specify the source container from Notes where the move originates.

For example, \MyOrganization\Engineering\Testing.

- 5b** Browse for and select the destination container where the object should be moved to.

For example, Testing.MyOrganization.

- 6** Click Next.

A page appears with the message “A driver named *your_driver_name* already exists in the driver set. Select one of the options below.”

- 7** Select the following:
 - ◆ Update Only Selected Policies in That Driver
 - ◆ Move Sample (Driver - DirXML Script)

- 8** Click Next, then click Finish to complete the wizard.

At this point, the new policy has been created as a policy object under the driver object, but is not yet part of the driver configuration. To link it in, you must manually insert it into a policy set.

- 9** Insert the new policy in a policy set on the Publisher Channel.

Place it where it would be appropriate in your driver configuration. For example, in the Input Transformation or Event Transformation policy set.

- 9a** Click DirXML Management > Overview. Select the driver set for the driver you are updating.

- 9b** Click the driver you just updated. A page opens showing a graphical representation of the driver configuration.

- 9c** Click the icon for the policy set on the Publisher Channel.

- 9d** Click Insert to add the new policy. In the Insert page that appears, click Use an Existing Policy, then browse for and select the new policy object. Click OK.

- 9e** If you have more than one policy in the policy set, use the arrow buttons   to move the new policy to the correct location in the list.

- 10** Complete the “mappings” for all the containers in Notes and eDirectory by editing the XML for the policy.

Follow the example of the first pair that is created for you with the container names you provided in [Step 5](#).

Automatically Determining Which Certifier to Use

Because most Notes environments use more than one certifier, NotesDriverShim can be configured to use different certifiers through policy. The sample Cert.xsl style sheet, located in the dirxml\drivers\lotusNotes\rules directory, is an Output Transformation style sheet that contains logic to determine which Notes Certifier to use based on the src-dn attribute on the <add> tag. Another example provided is the NotesCertifierSelectionSampleSS.xsl sample style sheet.

You can edit the choose/when statements to model your Notes system certifier structure. If using only the root certifier is acceptable, then using Cert.xsl is not necessary, because the driver parameters screen can contain the information for the root certifier.

To use Cert.xsl in your environment, first, change the existing xsl:when statements to match your configuration.

```
<xsl:when test="string($dn) = '\dirxml-ds\provo\notes\eng' ">
  <xsl:attribute name="cert-id">c:\lotus\domino\data\eng.id</xsl:attribute>
  <xsl:attribute name="cert-pwd">certify2eng</xsl:attribute>
  <xsl:attribute name="user-pwd">new2notes</xsl:attribute>
</xsl:when>
```

Add as many xsl:when statements as you need to model your organization's certification structure.

Then change the cert-id and cert-pwd in xsl:otherwise to match your root certifier information.

```
<xsl:otherwise>
  <xsl:attribute name="cert-id">d:\lotus\domino\data\cert.id</xsl:attribute>
  <xsl:attribute name="cert-pwd">certify2notes</xsl:attribute>
</xsl:otherwise>
```

Cert.xsl communicates the certifier information by adding attributes to the add tag in the XML document. If NotesDriverShim doesn't find these attributes, it uses the root certifier information from the driver Parameters passed during initialization.

NOTE: Cert.xsl also shows how to override several other parameters for the driver. See ["Overriding Driver Parameters" on page 47](#) for more information about these parameters.

Using Named Passwords

The DirXML engine provided with Identity Manager 2 supports a new way of securing the passwords you need to use in your driver policies. The sample driver configuration shows an example.

One use for this feature would be to store a password for each of your Notes certifiers. For example, if you had certifiers for Human Resources, Engineering, and Marketing, you could use named passwords to securely store the password for each respective certifier ID file in your driver parameters. In the driver configuration, you would click the Edit XML button and specify driver parameters something like this:

```
<cert-id-password display-name="Certifier Password" is-sensitive="true"
type="password-ref">HR</cert-id-password>

<cert-id-password display-name="Certifier Password" is-sensitive="true"
type="password-ref">Engineering</cert-id-password>

<cert-id-password display-name="Certifier Password" is-sensitive="true"
type="password-ref">Marketing</cert-id-password>
```

When you return to the graphical interface for the driver parameters, each of these passwords has prompts to enter the password and confirm the password. These passwords are stored, encrypted, with the driver configuration. You can reference these passwords by name in your driver policies.

For an example of how to use named passwords, see the sample configuration and also the NotesCertifierSelectionSampleSS.xsl sample style sheet, listed in [“Additional Sample Style Sheets” on page 59](#).

Using Driver Parameters

To change driver parameters, edit the Driver Parameters page.

- 1** In iManager, click DirXML Management > Overview.
- 2** Find the driver in its driver set.
- 3** Click the driver icon to display the Driver Overview page.
- 4** Click the driver icon again to display the Modify Object page.
- 5** Click Driver Configuration.
- 6** Use the information in the tables that follow to upgrade driver parameters.

In this section:

- ◆ [“Driver Options” on page 40](#)
- ◆ [“Subscriber Options” on page 42](#)
- ◆ [“Publisher Options” on page 45](#)

Driver Options

The third column of the following table contains XML text that you should paste into the Driver Parameters XML Editor. The XML text represents exactly what is necessary to display the parameters.

Parameter	Description	XML to Define Driver Parameters
Certifier ID file	The default Notes Certifier ID file that is used to register user objects in the Notes Address Book. The full path of the file should be represented with respect to the operating system hosting Domino.	<code><cert-id-file display-name="Certifier ID File">/local/notesdata/cert.id</cert-id-file></code>
Certifier ID password	The default Notes Certifier ID file password that is used to register user objects in the Notes Address Book. When using the type="password-ref" attribute of this parameter, the password is encrypted and securely stored with the Driver Configuration. When securely stored in this fashion, the password can then be referenced by the DirXML engine or a driver using the key name specified. (In this example, defaultCertPwd.)	<code><cert-id-password display-name="Certifier Password" is-sensitive="true" type="password-ref">defaultCertPwd</cert-id-password></code>
Directory File or Input Database	The file name of the database to be synchronized with eDirectory. Specify this item without full path information.	<code><directory-file display-name="Directory File">names.nsf</directory-file></code>

Parameter	Description	XML to Define Driver Parameters
Notes Address Book	Specify Yes if the input database (directory file) is a Notes Address book; otherwise, specify No.	<is-directory display-name="Notes Address Book? (Yes/No)">Yes</is-directory>
Notes Domain Name	The name of the Notes domain the driver is running against. It might be different from the Notes Organization name, and therefore can't be derived from the server name.	<notes-domain display-name="Notes Domain Name">Provo</notes-domain>
Server ID File	The Notes Server ID file associated with the Notes Server this driver authenticates to (This is optional). The full path of the file should be represented with respect to the operating system hosting Domino. This ID file need not be the server ID file. It can actually be an ID file that has no password (and need not have any access anywhere).	<server-id-file display-name="Server ID File">/local/notesdata/server.id</server-id-file>
Update File of Output Database or ndsrep polling cache	The filename of the database used to cache database changes that need to be published to eDirectory. The default is ndsrep.nsf. Specify this item without full path information. The Driver's Domino add-in process ndsrep creates this database. Within this database, filtered updates are cached before being consumed by the Notes Driver's publisher.	<update-file display-name="Update File">ndsrep.nsf</update-file>
User ID file	The Notes User ID file associated with the Notes User this driver represents (this is required). The full path of the file should be represented with respect to the operating system hosting Domino. The password associated with this user ID file is input in the following user interface section: Driver Configuration > Authentication > Specify the application password	<user-id-file display-name="User ID File">/local/notesdata/notedrv.id</user-id-file>

Subscriber Options

The third column of the following table contains XML text that you should paste into the Driver Parameters XML Editor. The XML text represents exactly what is necessary to display the parameters.

Parameter	Description	XML to Define Driver Parameters
Allow Domino AdminP Support	<p>Specifies that AdminP features can be used. AdminP features are supported only for users of Lotus Notes 6.0.3 or later.</p> <p>If you have Lotus Notes 6.0.3 or later and you want to use the AdminP features, you must add this parameter and set it to Yes.</p> <p>If the parameter does not exist in the driver parameters, the default setting is No.</p> <p>This parameter can be overridden on a command-by-command basis using the attribute Allow AdminP Support described in “Overriding Driver Parameters” on page 47.</p>	<pre><allow-adminp-support display-name="Allow Domino AdminP Support">Yes</allow-adminp-support></pre>
Certify/Register Users	<p>This parameter indicates the default behavior for the driver regarding Notes user account creation. Yes indicates the driver by default attempts to register users in the Notes Address book by certifying them and creating an ID file for each user when add events are received.</p> <p>This default setting can be overridden using the XML <certify-user> attribute tag.</p>	<pre><cert-users display-name="Certify Users? (Yes/No)">Yes</cert-users></pre>
Create Mail DB	<p>This parameter indicates the default behavior for the driver regarding e-mail account creation. Yes indicates the driver by default attempts to create a Notes Mail database when adding a new user.</p> <p>This default setting can be overridden using the XML attribute tag <create-mail>.</p>	<pre><create-mail display-name="Create Mail DB? (Yes/No)">Yes</create-mail></pre>
Default HTTP Password	<p>The default Notes Web (HTTP) password set for newly created Notes users.</p> <p>This default setting can be overridden using the XML attribute tag <user-pwd>.</p>	<pre><default-http-password display-name="Default HTTP Password">notesweb</default-http-password></pre>
Default Notes Password	<p>The default Notes User ID password for newly created Notes users.</p> <p>This default setting can be overridden using the XML attribute tag <user-pwd>.</p>	<pre><default-password display-name="Default Notes Password">notes</default-password></pre>
Expiration Term	<p>The default expiration term (specified in years) for newly created Notes User ID files.</p> <p>This default setting can be overridden using the XML attribute tag <expire-term>.</p>	<pre><expiration-term display-name="Expiration Term in Years">2</expiration-term></pre>

Parameter	Description	XML to Define Driver Parameters
Failed Command Reply Status	<p>If the parameter does not exist in the driver parameters, the default setting is Retry.</p> <p>Possible values are Success, Warning, Error, Retry, or Fatal.</p> <p>This parameter can be used when troubleshooting critical situations.</p>	<pre><retry-status-return display-name="Failed Command Reply Status">Retry</retry-status-return></pre>
ID File Storage Location	<p>This parameter specifies the default Notes User ID file (certifier) storage location that is used when user objects are registered and ID files are created. New ID files are placed in this location. The full path of the folder should be represented in relationship to the operating system hosting Domino.</p> <p>This default setting can be overridden using the XML attribute tag <user-id-path>.</p>	<pre><cert-path display-name="ID File Storage Location" >c:\lotus\domino\data\ids\people</cert-path></pre>
Internet Mail Domain Name	<p>Obsolete in version 2.0.</p>	<pre><internet-mail-domain display-name="Internet Mail Domain Name">mycompany.com</internet-mail-domain></pre>
Mail File ACL Level	<p>The default ACL setting for the newly created mail file of newly created user objects. Valid values are NOACCESS, DEPOSITOR, READER, AUTHOR, EDITOR, DESIGNER, and MANAGER. When no ACL setting is specified, the setting defaults to MANAGER.</p> <p>This default setting can be overridden using the XML attribute tag <mailfile-acl-level>.</p>	<pre><mailfile-acl-level display-name="Mail File ACL Level">MANAGER</mailfile-acl-level></pre>
Mail File Storage Location	<p>A mail storage path relative to the Domino data storage location where mail files are stored if created by the driver. For example, if the parameter is set to "mail," then new mail files created by the driver on the Domino server (running on Linux) are stored in the /local/notesdata/mail folder.</p>	<pre><mailfile-path display-name="Mail File Storage Location">mail</mailfile-path></pre>
Minimum Notes Password Length	<p>The default minimum password length (0-16 characters) for newly created Notes User ID files.</p> <p>This default setting can be overridden using the XML attribute tag <minimum-pwd-len>.</p>	<pre><minimum-pwd-len display-name="Minimum Notes Password Length (0 - 16)">5</minimum-pwd-len></pre>
North American Server	<p>North American Server User ID file (certifier) property. Set to Yes only if the Domino Server is in North America. According to Domino registration requirements, this attribute is required for user ID file creation.</p>	<pre><north-american-flag display-name="Is North American Server?">Yes</north-american-flag></pre>
Notes Mail Server Name	<p>The DN of the Notes Server that holds the mail files.</p> <p>This default setting can be overridden using the XML <mailserver> element as a child of the add event element.</p>	<pre><mail-server display-name="Notes Mail Server Name">cn=Server1/o=Org</mail-server></pre>

Parameter	Description	XML to Define Driver Parameters
Notes Save Failed Reply Status	<p>If the parameter does not exist in the driver parameters, the default setting is Retry.</p> <p>Possible values are Success, Warning, Error, Retry, or Fatal.</p> <p>This parameter can be used when troubleshooting.</p>	<pre><notes-save-fail-action display-name="Notes Save Failed Reply Status">Retry</notes-save-fail-action></pre>
Notes Web (HTTP) Password Set	<p>Set the parameter to Yes to allow the Notes driver to set or to change the Web (HTTP) password attribute on user objects. Set the parameter to No to disallow the Notes driver from setting or changing the web (HTTP) password attribute on user objects.</p> <p>The default is Yes.</p>	<pre><allow-http-password-set display-name="Allow Notes Web (HTTP) password to be set">Yes</allow-http-password-set></pre>
Registration Log File	<p>The Notes Certification log file that is used to record the registration of user objects in the Notes Address Book. Specify this item without full path information.</p>	<pre><cert-log display-name="Registration Log File">certlog.nsf</cert-log></pre>
Store ID in Notes Address Book	<p>This flag indicates the default behavior for the driver regarding attaching user ID files on their respective user objects in the Notes Address Book at registration time.</p> <p>Setting the flag to Yes causes registered user objects in the Notes Address Book to be created with an attached user ID file.</p> <p>Setting the flag to No causes registered user objects in the Notes Address Book to be created without an attached user ID file.</p> <p>This default setting can be overridden using the XML attribute tag <store-useridfile-in-ab>.</p>	<pre><store-id-ab-flag display-name="Store ID in Notes Address Book? (Yes/No)">Yes</store-id-ab-flag></pre>
Template for mail file creation	<p>The .ntf database template to be used when creating a new mail database when the driver creates a user e-mail account. This template must be accessible to the Domino server in the Domino data folder.</p>	<pre><mailfile-template display-name="Template for Mail File creation">mail6.ntf</mailfile-template></pre>
Update Address Book	<p>This parameter indicates the default behavior for the driver regarding placing registered user objects in the Notes Address Book. Setting the flag to Yes causes registered users to be placed in the address book. Setting the flag to No causes users to be registered (meaning that a certifier ID file is created for the user) without the user object being placed into the Notes Address Book.</p> <p>This default setting can be overridden using the XML attribute tag <update-addressbook>.</p>	<pre><update-ab-flag display-name="Update Address Book? (Yes/No)">Yes</update-ab-flag></pre>

Publisher Options

The third column of the following table contains XML text that you should paste into the Driver Parameters XML Editor. The XML text represents exactly what is necessary to display the parameters.

Parameter	Description	XML to Define Driver Parameters
Check Attributes	<p>The ndsrep check and publish attributes parameter. Set to Yes if only modified attributes within the Publisher filter should be sent to eDirectory via the Publisher channel when a Notes object is modified. Set to No if <i>all</i> sync attributes specified within the Publisher filter should be sent to eDirectory via the Publisher channel when a Notes object is modified.</p> <p>The default value is Yes.</p>	<pre><check-attrs-flag display-name="Check Attributes?">Yes</check-attrs-flag></pre>
DNFormat	<p>The Distinguished Name format used by ndsrep. Valid values are SLASH, LDAP, and LDAP_TYPED. The default is SLASH.</p>	<pre><dn-format display-name="DNFormat">SLASH</dn-format></pre>
Enable Loop Back Detection	<p>Loopback detection parameter. Set to Yes to enable loopback detection. Set to No to disable loopback detection.</p>	<pre><loop-detect-flag display-name="Enable Loop Back Detection">Yes</loop-detect-flag></pre>
Loop Back Detection User Name	<p>Loopback detection Notes user name. By default (if this parameter is not present), the Authentication ID contained within Driver Configuration is used as the Loop Back Detection User Name. (This is standard loopback detection functionality). This parameter allows for setting the loopback detection user name to a different value.</p>	<pre><loop-detect-id display-name="Loop Back Detection User Name">CN=Notes Driver/O=ACME</loop-detect-id></pre>
NDSREP Configuration Auto-refresh	<p>The ndsrep Configuration Auto-refresh setting. Valid settings are Yes and No.</p> <p>Set to Yes to have ndsrep automatically detect changes to the publisher configuration parameters.</p> <p>Set to No to have ndsrep ignore changes to the publisher configuration until it is restarted or manually prompted to refresh the configuration.</p> <p>If this parameter is not present, by default auto-refresh is set to Yes.</p>	<pre><auto-refresh-flag display-name="NDSREP Configuration Auto-refresh">No</auto-refresh-flag></pre>

Parameter	Description	XML to Define Driver Parameters
NDSREP Configuration database	<p>The ndsrep configuration database filename created and maintained by the driver. This parameter controls which .nsf database the driver shim uses to write its publication options.</p> <p>The full path of the filename should be represented with respect to the operating system hosting Domino. When using this parameter, ndsrep needs to be loaded with the “-f filename” parameter.</p> <p>ndsrep load example:</p> <pre>load ndsrep NotesDriver2 -f /home/notes/mycfg.nsf</pre> <p>If this parameter is not present, by default the Configuration database filename is set to dsrepcfg.nsf and is normally located in the Domino data folder.</p> <p>If the name of your driver includes spaces, then you must put quotes around the name.</p>	<pre><config-db-name display-name="NDSREP Configuration database">/home/notes/mycfg.nsf</config-db-name></pre>
NDSREP Configuration Instance	<p>The ndsrep configuration instance name created and maintained by the driver within the ndsrep configuration database. This parameter controls which database note the driver shim uses to read and write its publication options within the ndsrep configuration database. When using this parameter, ndsrep utilizes the settings of this configuration instance when loaded with this instance name as a parameter.</p> <p>If this parameter is not present, by default the configuration instance is set to the name of the driver (the driver RDN in eDir).</p> <p>ndsrep load example:</p> <pre>load ndsrep NotesDriver2</pre> <p>If the name of your driver includes spaces, then you must put quotes around the name.</p>	<pre><instance-id display-name="NDSREP Configuration Instance">NotesDriver2</instance-id></pre>
NDSREP Console Trace Level	<p>Possible values are Silent, Normal, Verbose, or Debug.</p> <p>If this parameter is not present, the default setting is Normal.</p>	<pre><ndsrep-console-trace-level display-name="NDSREP Console Trace Level">Normal</ndsrep-console-trace-level></pre>
NDSREP Schedule Units	<p>The ndsrep polling interval unit. Valid values are SECONDS, MINUTES, HOURS, and DAYS. The default value is SECONDS.</p>	<pre><schedule-units display-name="NDSREP Schedule Units">SECONDS</schedule-units></pre>
NDSREP Schedule Value	<p>The ndsrep polling interval unit value. This value is utilized in conjunction with the <schedule-units> configuration parameter.</p>	<pre><schedule-value display-name="NDSREP Schedule Value">30</schedule-value></pre>
Polling Interval	<p>Notes Driver Shim publisher polling interval, specified in seconds.</p>	<pre><polling-interval display-name="Polling Interval (in seconds)">30</polling-interval></pre>

Parameter	Description	XML to Define Driver Parameters
Publication Heartbeat Interval (in seconds)	<p>Publication Heartbeat Interval specified in seconds. This parameter can be used instead of <pub-heartbeat-interval> to provide finer interval size granularity. If no documents are sent on the Publisher channel for this specified interval (duration of time), then a heartbeat document is sent by the driver. A value of 0 indicates that no heartbeat documents are to be sent.</p> <p>If this parameter is not present, by default the publication heartbeat interval is 0.</p>	<pre><pub-heartbeat-interval-seconds display-name="Publication Heartbeat Interval (in seconds)">30</pub-heartbeat-interval-seconds></pre>
Publication Heartbeat Interval	<p>Publication Heartbeat Interval specified in minutes. If no documents are sent on the Publisher channel for this specified interval (duration of time), then a heartbeat document is sent by the driver. A value of 0 indicates that no heartbeat documents are to be sent.</p> <p>If this parameter is not present, by default the publication heartbeat interval is 0.</p>	<pre><pub-heartbeat-interval display-name="Publication Heartbeat Interval (in minutes)">10</pub-heartbeat-interval></pre>
Write Time Stamps	<p>Whether ndsrep writes special driver time stamp on synchronized Notes parameter. Set to Yes to have ndsrep write a driver specific time stamp on all Notes objects that are synchronized. This special driver time stamp is used to more accurately determine Notes object attribute updates. Set to No to have ndsrep determine Notes object attribute updates based on existing Notes object time stamps.</p> <p>The default value is No.</p>	<pre><write-timestamps-flag display-name="Write Time Stamps?">No</write-timestamps-flag></pre>

Overriding Driver Parameters

You can override many of the driver configuration parameters using policies.

An example of two overrides is shown in [“Automatically Determining Which Certifier to Use” on page 39](#). In the Cert.xml sample style sheet, the certifier ID and certifier password are passed as attributes of the <add> XML element. The driver finds those parameters and uses the passed values instead of the default values from the driver parameters. The parameters apply as indicated in the Valid Use column of the following table.

If an attribute overriding a default configuration parameter is present, it is applied to the note regardless of event type. Because these parameters map to items on a note in Lotus Notes, these overrides are passed as attribute tags of the event element, or <add-value> children of the event element in the XML document.

Another example is in the sample driver configuration, in the style sheet named AddAccountNotesOptions.xml. It utilizes global configuration values (GCVs) specified in NotesConfig2GCV.xml to determine which setting to apply.

For items that use Yes or No values, True or False values can also be used.

Parameter	XML Tag	Valid Use	Description
Administration Process Server	adminp-server	As an attribute to an <add>, <modify>, <move>, <delete>, or <domino-console-command> event element.	Specifies the Domino server with which to establish an administration process session. Or specifies the Domino server where a console command should be sent. The default is the local server specified in the driver parameters. Example: adminp-server="myserver1/acme". Requires Notes 6.0.3 or later.
Allow AdminP Support	allow-adminp-support	As an attribute to an <add>, <modify>, <move>, <rename>, or <delete> event element.	Specifies whether the command received by the Notes driver shim should allow issuing AdminP requests if possible. The attribute can be True or False. The default is False if not set with the <allow-adminp-support> driver parameter in the subscriber-options section. This attribute can be used to override Allow Domino AdminP Support in "Subscriber Options" on page 42 , on a command-by-command basis. Example: allow-adminp-support="True". Requires Notes 6.0.3 or later.
Alternate Full Name	AltFullName	As an <add-value> child element of an <add> event.	This element specifies the Alternate Full Name, an attribute in Notes, when registering a new user. Like other user attributes, this can be synchronized using an attribute in eDirectory or inserted in a style sheet. See the Lotus Notes documentation for information on setting AltFullName for a user.
Alternate Organization Unit	alt-org-unit	As an attribute to an <add> event element.	Specifies the alternate Organization Unit when registering a new user in Notes.
Alternate Organization Unit Language	alt-org-unit-lang	As an attribute to an <add> event element.	Specifies the alternate Organization Unit language when registering a new user in Notes.
Certification Expiration Date	cert-expire-date	As an attribute to an <add>, <modify>, or <move> event element.	Specifies the date when a user certifier expires. This attribute can be applied to override the default expiration term specified in the driver parameters. It is used by the Notes Driver shim when processing events that result in AdminP requests that cause the recertification of the user, such as move, rename, or recertify, or on add event when creating new Notes users. The date format should be specified in text using the appropriate format of the locale of the Domino Server. For example, in English, cert-expire-date="1 July 2010". An alternate to this attribute is expire-term.
Certifier ID File	cert-id	As an attribute to an <add> event element	This tag specifies the Notes Certifier ID file that is used to register this user object in the Notes Address Book. The full path of the file should be represented with respect to the operating system hosting Domino. Overrides the default Notes Certifier ID file parameter <cert-id-file> in the driver configuration.

Parameter	XML Tag	Valid Use	Description
Certifier ID File Parameter Reference	drv-param-cert-id	As an attribute to an <add> event element	This tag can be used instead of the Certifier ID file <cert-id> tag. This tag specifies a driver parameter that holds the Notes Certifier ID file that is used to register this user object in the Notes Address Book. The driver parameter tag can have any name, but its value needs to indicate the full path of the certifier ID file with respect to the operating system hosting Domino. Overrides the default Notes Certifier ID file parameter <cert-id-file> in the driver configuration.
Certifier Name	certifier-name	As an attribute to a <move> event element.	Specifies the certifier name required to move a user in Notes from an old certifier to a new certifier. The value is the name of the new certifier where the user is moving to. This attribute should be used in conjunction with old-cert-id or one of its alternates, old-cert-pwd or one of its alternates, cert-id or one of its alternates, and cert-pwd or one of its alternates. The cert-id specified should belong to the certifier-name. Example: certifier-name="/mktg/acme". Requires Notes 6.0.3 or later.
Certifier Password	cert-pwd	As an attribute to an <add> event element	This tag specifies the Notes Certifier ID password to be used with the certifier ID file. The password value is passed in clear text. The Notes Certifier ID file and password are used to register user objects in the Notes Address Book. Overrides the default Notes Certifier ID file password parameter <cert-id-password> in the driver configuration.
Certifier Password Key Name Reference	named-cert-pwd	As an attribute to an <add> event element	This tag can be used instead of the Certifier Password <cert-pwd> tag. This tag specifies a named-password key name that holds the Notes Certifier ID password to be used with the certifier ID file that is used to register this user object in the Notes Address Book. The Notes Certifier ID file and password are used to register user objects in the Notes Address Book. Overrides the default Notes Certifier ID file password parameter <cert-id-password> in the driver configuration.
Certifier Password Parameter Reference	drv-param-cert-pwd	As an attribute to an <add> event element	This tag can be used instead of the Certifier Password <cert-pwd> tag. This tag specifies a driver parameter that holds the Notes Certifier ID password to be used with the certifier ID file that is used to register this user object in the Notes Address Book. The driver parameter tag can have any name, but its value indicates the password of the Certifier ID file. The referenced driver parameter can be a clear-text password or an encrypted named-password. The Notes Certifier ID file and password are used to register user objects in the Notes Address Book. Overrides the default Notes Certifier ID file password parameter <cert-id-password> in the driver configuration

Parameter	XML Tag	Valid Use	Description
Certify User Flag	certify-user	As an attribute to an <add> event element	<p>Applying this tag determines the behavior for the driver regarding Notes user account creation. Its value can be Yes or No. Yes indicates the driver will register this user in the Notes Address book by certifying the user (meaning creating an ID file for the user).</p> <p>Overrides the default Certify Users flag <cert-users> in the driver configuration.</p>
Create Mail File Flag	create-mail	As an attribute to an <add> event element	<p>This tag indicates whether the driver needs to create an e-mail account for this user. Its value can be Yes or No. Yes indicates the driver will attempt to create a Notes Mail database when adding (creating) this new user. Overrides the default Create Mail File flag <create-mail> in the driver configuration.</p>
Database Inheritance for Mail File Template	mail-file-inherit-flag	As an attribute to an <add> event element	<p>This tag specifies whether database structures based on a particular template are updated when that template is updated. Its value can be Yes or No.</p> <p>The default (the absence of this tag) is Yes, meaning True.</p> <p>You can override the default and set this tag to No or False if you don't want a change to a mail file template to affect existing database design.</p>
Delete Windows Group	delete-windows-group	As an attribute to a <delete class="group"> event element.	<p>Specifies whether synchronized Windows groups should be deleted from Windows or not. The value is True or False. Domino has its own capability of synchronizing users and groups with Windows systems. When the Notes Driver shim utilizes AdminP to delete a group, the request can also indicate that this deletion should be synchronized with Windows. By default this attribute is set to False. Example: delete-windows-group="True". Requires Notes 6.0.3 or later.</p>
Delete Windows User	delete-windows-user	As an attribute to a <delete class="user"> event element.	<p>Specifies whether synchronized Windows users should be deleted from Windows or not. The value is True or False. Domino has its own capability of synchronizing users and groups with Windows systems. When the Notes Driver shim utilizes AdminP to delete a user, the request can also indicate that this deletion should be synchronized with Windows. By default this attribute is set to False. Example: delete-windows-user="True". Requires Notes 6.0.3 or later.</p>

Parameter	XML Tag	Valid Use	Description
Deny Access Group ID	deny-access-group-id	As an attribute to a <delete> event element.	Specifies the Notes deny access group UNID for a delete event. When the Notes Driver shim utilizes AdminP to delete users from Notes, it has the capability to attach a deny access group name to that AdminP delete user request, so the deleted user's name is inserted as a member of the specified deny access group. An alternate attribute is deny-access-group-name. Example: deny-access-group-id="7EFB951A3574521F87256E540001F140". Requires Notes 6.0.3 or later.
Deny Access Group Name	deny-access-group-name	As an attribute to a <delete> event element.	Specifies the Notes deny access group name for a delete event. When the Notes Driver shim utilizes AdminP to delete users from Notes, it has the capability to attach a deny access group name to that AdminP delete user request, so the deleted user's name is inserted as a member of the specified deny access group. An alternate attribute is deny-access-group-id. Example: deny-access-group-name="Deny Access". Requires Notes 6.0.3 or later.
Domino Console Command	tell-adminp-process	As an attribute to an <add>, <modify>, <move>, <delete> event element.	Specifies the Domino console command to perform after an AdminP request has been performed by the Notes driver shim. For Domino console commands to succeed, the Notes Driver user must have appropriate Domino Console privileges granted. Example: tell-adminp-process="tell adminp process new". Requires Notes 6.0.3 or later. See the instructions in "Tell AdminP Commands" on page 63 .
Driver Parameter Old Certifier ID	drv-param-old-cert-id	As an attribute to a <move> event element.	Specifies the driver parameter holding the old certifier ID file name required to move a user in Notes from an old certifier to a new certifier. The value is the driver parameter tag. An alternate to this attribute is old-cert-id. This attribute should be used in conjunction with certifier-name, old-cert-pwd or one of its alternates, cert-id or its alternate, and cert-pwd or one of its alternates. Example: drv-param-old-cert-id="mktg-cert-id-file". Requires Notes 6.0.3 or later.
Driver Parameter Old Certifier Password	drv-param-old-cert-pwd	As an attribute to a <move> event element.	Specifies the driver parameter holding the password for the old certifier ID file required to move a user in Notes from an old certifier to a new certifier. The value is the driver parameter tag. An alternate to this attribute is named-old-cert-pwd or old-cert-pwd. This attribute should be used in conjunction with certifier-name, old-cert-id or one of its alternates, cert-id or one of its alternates, and cert-pwd or one of its alternates. Example: drv-param-old-cert-pwd="mktg-cert-id-password". Requires Notes 6.0.3 or later.

Parameter	XML Tag	Valid Use	Description
Enforce Unique Short Name	enforce-unique-short-name	As an attribute to an <add> event element.	Specifies whether to enforce uniqueness of short names when registering a new user in Notes. The value is True or False. The default is False. If specified as True, and the Notes user registration process determines that the short name for the new user already exists, then the new user information is overlaid onto the existing Notes user of the same short name, thereby preventing the existence of a duplicate short name. Example: enforce-unique-short-name="True". Requires Notes 6.0.3 or later.
Extended OU	extended-ou	As an attribute to an <add> event element	The value of the tag is appended to the generated DN based on the selected certifier when registering a user.
Extended OU	extended-ou	As an attribute to an <add> event element	The value of the tag is appended to the generated DN based on the selected certifier when registering a user.
Group Membership Removal	remove-all-group-membership	As an attribute to a <modify> or <delete> event element.	This tag indicates that this user object should be removed from the membership list of all groups in the Notes database, except for groups of type "Deny List" (GroupType=3). Valid values are Yes and No. The absence of this tag defaults to No. This tag only applies to person (user) objects in the Notes Address Book.
ID File Name	user-id-file	As an attribute to an <add> event element	This tag specifies the filename to be used for the user's ID file. The filename does not include the file path. When this tag is absent, a default filename is generated by the Notes driver using the first and last name attributes of the user (FirstNameLastName.id).
ID File Path	user-id-path	As an attribute to an <add> event element	This tag specifies the file path to the Notes User ID file storage location to be used when creating the user's ID file. The new ID file is placed in this location. The full path of the folder should be represented with respect to the operating system hosting Domino. Overrides the default Notes User ID certificate location parameter <cert-path> in the driver configuration.
Immediate	immediate	As an attribute to a <delete> event element.	Specifies whether a delete event performed by AdminP immediately deletes a user from the Notes Address Book (NAB), or waits until the AdminP request is processed at its scheduled interval. The specified value should be True or False. The default is False. Example: immediate="True". Requires Notes 6.0.3 or later.
InternetAddress	InternetAddress	As an <add-value> child element of an <add> event.	This element specifies the user's Internet e-mail address in the Notes Address Book.

Parameter	XML Tag	Valid Use	Description
Language of Alternate Full Name	AltFullNameLanguage	As an <add-value> child element of an <add> event.	This element specifies the language used for the Alternate Full Name when registering a new user. Like other user attributes, this can be synchronized using an attribute in eDirectory or inserted in a style sheet. See the Lotus Notes documentation for information on setting AltFullNameLanguage for a user.
Mail File Size Quota	mail-file-quota	As an attribute to an <add> event element	This tag specifies the value of the mail file quota (size in MegaBytes), that is applied to the e-mail database file when it is created.
Mail File Size Quota	mail-file-quota	As an attribute to an <add> event element	This tag specifies the value of the mail file quota (size in KB) that is applied to the e-mail database file when it is created.
Mail Server	mail-server	As an attribute to an <add> event element.	Specifies the mail server to be used to create a mailfile for a new user. This attribute overrides the value specified in the driver parameters. Example: mail-server="CN=ms2/O=acme"
Mail System	mail-system	As an attribute to an <add> event element.	Specifies the mail system type set for the new user being created. Valid values are NOTES, POP, INTERNET, OTHER, NONE. The default value is NOTES. Requires Notes 6.0.3 or later.
MailDomain	MailDomain	As an <add-value> child element of an <add> event.	This element specifies the name of the Notes Mail Domain when creating an e-mail database file.
MailFile	MailFile	As an <add-value> child element of an <add> event.	This element specifies the filename to be used when creating the user's e-mail database file. The filename does not include the file path. When this tag is absent, a default filename is generated by the Notes driver using the first and last name attributes of the user (FirstNameLastName.nsf).
MailFile ACL control	mailfile-acl-level	As an attribute to an <add> event element	The default ACL setting for the newly created mail file of newly created user objects. Valid values are: NOACCESS, DEPOSITOR, READER, AUTHOR, EDITOR, DESIGNER, and MANAGER. Values can be specified either as the Java ACL constant or the role name ¹ . This attribute should be added in the same rule where the certification attributes are calculated and set and it should be added using the same XSL constructs. Overrides the default Mail File ACL Level parameter <mailfile-acl-level> in the driver configuration.

Parameter	XML Tag	Valid Use	Description
MailFile ACL control	mailfile-acl-level	As an attribute to an <add> event element	The default ACL setting for the newly created mail file of newly created user objects. Valid values are: NOACCESS, DEPOSITOR, READER, AUTHOR, EDITOR, DESIGNER, and MANAGER. Values can be specified either as the Java ACL constant or the role name ¹ . This attribute should be added in the same rule where the certification attributes are calculated and set and it should be added using the same XSL constructs. Overrides the default Mail File ACL Level parameter <mailfile-acl-level> in the driver configuration.
Mailfile ACL Manager ID	mail-acl-manager-id	As an attribute to an <add> event element.	Specifies the UNID of a user to be given manager credentials on the ACL of the mailfile of the newly created user. An alternate is mail-acl-manager-name. Example: mail-acl-manager-id="BB888BB0C35D13EC87256EA8006296CE"
Mailfile ACL Manager Name	mail-acl-manager-name	As an attribute to an <add> event element.	Specifies the name of a user to be given manager credentials on the ACL of the mailfile of the newly created user. An alternate is mail-acl-manager-id. Example: mail-acl-manager-name="CN=Notes Admin/O=acme".
Mailfile Action	mail-file-action	As an attribute to a <delete> event element.	Specifies the AdminP action to perform on the mailbox of a deleted user. This action is included in an AdminP user delete request. Acceptable values are ALL, HOME, and NONE. The default value is NONE. ALL indicates to delete the mailbox on the home mail server and all mailbox replicas. HOME indicates to delete the mailbox on only the home mail server. All AdminP delete mailbox requests must be approved by a Domino Administrator before they are performed. Example: mail-file-action="ALL". Requires Notes 6.0.3 or later.
Mailfile Quota Warning Threshold	mail-quota-warning-threshold	As an attribute to an <add> event element.	Specifies the value of the mail file quota warning threshold (size in kilobytes), that is applied to the e-mail database file when it is created. Example: mail-quota-warning-threshold="120000"
Mailfile Subdirectory	mail-file-subdir	As an attribute to an <add> event element.	Specifies the subdirectory below the Domino server's data directory where the mailfile of a new user should be created. Example: mail-file-subdir="mail-dbs"
MailFileTemplate	mailfile-template	As an attribute to an <add> event element	This tag specifies the filename of the .ntf database template to use when creating the user's new mail file for an e-mail account. This template must be accessible to the Domino server in the Domino data folder. Overrides the default Mail File Template <mailfile-template> in the driver configuration.
MailServer	MailServer	As an <add-value> child element of an <add> event.	This element specifies the name of the Notes Server where the mail file should be created when creating an e-mail account (mail database file).

Parameter	XML Tag	Valid Use	Description
Name Expiration Date	name-expire-date	As an attribute to a <modify> event element.	Specifies the specific date when an old user name will expire after a move user is performed by AdminP. This attribute only has effect when moving non-certified (web) users. This attribute can be applied to override the default expiration term of 21 days. The date format should be specified in text using the appropriate format of the locale of the Domino Server. For example, in English, name-expire-date="1 July 2010". An alternate to this attribute is name-expiration-days. Requires Notes 6.0.3 or later.
Name Expiration Days	name-expiration-days	As an attribute to a <modify> event element.	Specifies the specific number of days an old user name can be used before expiration after a move user is performed by AdminP. This attribute only has effect when moving non-certified (Web) users. This attribute can be applied to override the default expiration term of 21 days. An alternate to this attribute is name-expiration-date. Example: name-expiration-days="14". Requires Notes 6.0.3 or later.
Name Expiration Days	name-expiration-days	As an attribute to a <modify> event element.	Specifies the specific number of days an old user name can be used before expiration after a move user is performed by AdminP. This attribute only has effect when moving non-certified (web) users. This attribute can be applied to override the default expiration term of 21 days. An alternate to this attribute is name-expiration-date. Example: name-expiration-days="14". Requires Notes 6.0.3 or later.
Named Old Certifier Password	named-old-cert-pwd	As an attribute to a <move> event element.	Specifies the named password for the old certifier ID file required to move a user in Notes from an old certifier to a new certifier. The value is the named password to be retrieved from the driver configuration. An alternate to this attribute is drv-param-old-cert-pwd or old-cert-pwd. This attribute should be used in conjunction with certifier-name, old-cert-id or one of its alternates, cert-id or one of its alternates, and cert-pwd or one of its alternates. Example: named-old-cert-pwd="mktgNamedPwd". Requires Notes 6.0.3 or later.
No ID File	no-id-file	As an attribute to an <add> event element.	Specifies whether the Notes registration process creates an ID file for the new user. The value is True or False. The default is False. Example: no-id-file="True". Requires Notes 6.0.3 or later.
Notes Explicit Policy Name	notes-policy-name	As an attribute to an <add> event element.	Specifies an explicit policy name to attach to a user when the user is registered. This attribute does not execute Notes registration policies, or any other policies at registration time. Requires Notes 6.0.3 or later.
Notes HTTP Password	HTTPEndword	As an <add-value> child element of an <add> or <modify> event.	This element specifies the user's Web (HTTP) password for Notes. This setting is ignored if the Allow HTTP Password Set parameter <allow-http-password-set> is set to No (or False)

Parameter	XML Tag	Valid Use	Description
Notes Minimum Password Length	minimum-pwd-len	As an attribute to an <add> event element	This tag specifies a minimum password length to apply to the User ID file of newly registered users. Value can be 0 - 16. Overrides the default Notes User ID minimum password length parameter <minimum-pwd-len> in the driver configuration.
Notes Password	user-pwd	As an attribute to an <add> event element	The user's Notes password used to create the user's ID file (certifier). Overrides the default Notes Password parameter <default-password> in the driver configuration.
Notes Password Change Interval	notes-password-change-interval	As an attribute to an <add>, or <modify> event element.	Specifies a Notes user's password change interval. The value of this attribute is a number. The change interval specifies the number of days at which the user must supply a new password. The value defaults to zero. When this attribute is attached to a user add or modify event, an AdminP 'Set Password Information' request is generated. Example: notes-password-change-interval="120". Requires Notes 6.0.3 or later.
Notes Password Check Setting	notes-password-check-setting	As an attribute to an <add>, or <modify> event element.	Specifies a Notes user's password check setting. When this attribute is attached to a user add or modify event, an AdminP 'Set Password Information' request is generated. Acceptable values are PWD_CHK_CHECKPASSWORD, PWD_CHK_DONTCHECKPASSWORD, and PWD_CHK_LOCKOUT. Example = notes-password-check-setting="PWD_CHK_CHECKPASSWORD". Requires Notes 6.0.3 or later.
Notes Password Force Change	notes-password-force-change	As an attribute to an <add>, or <modify> event element.	Specifies whether a Notes user is forced to change his or her password on next login. The value of this attribute is True or False. If set to True, the user is forced to change their password on next login. If set to False (default), the user is not forced to change the password on next login. When this attribute is attached to a user add or modify event, an AdminP 'Set Password Information' request is generated. Example: notes-password-force-change="True". Requires Notes 6.0.3 or later.
Notes Password Grace Period	notes-password-grace-period	As an attribute to an <add>, or <modify> event element.	Specifies a Notes user's password grace period. The value of this attribute is a number. The grace period specifies the number of days an old password is valid after it has expired. The value defaults to zero. When this attribute is attached to a user add or modify event, an AdminP 'Set Password Information' request is generated. Example: notes-password-grace-period="10". Requires Notes 6.0.3 or later.

Parameter	XML Tag	Valid Use	Description
Old Certification ID	old-cert-id	As an attribute to a <move> event element.	<p>Specifies the old certifier ID file required to move a user in Notes from an old certifier to a new certifier. The value is the full path and filename of the old certifier ID file. An alternate to this attribute is drv-param-old-cert-id.</p> <p>This attribute should be used in conjunction with certifier-name, old-cert-pwd or one of its alternates, cert-id or one of its alternates, and cert-pwd or one of its alternates. Example: old-cert-id="c:\lotus\domino\data\mktgcert.id". Requires Notes 6.0.3 or later.</p>
Old Certification Password	old-cert-pwd	As an attribute to a <move> event element.	<p>Specifies the password for the old certifier ID file required to move a user in Notes from an old certifier to a new certifier. The value is the password string. An alternate to this attribute is drv-param-old-cert-pwd or named-old-cert-pwd. This attribute should be used in conjunction with certifier-name, old-cert-id or one of its alternates, cert-id or one of its alternates, and cert-pwd or one of its alternates. Example: old-cert-pwd="mktg-password1". Requires Notes 6.0.3 or later.</p>
Recertify User	recertify-user	As an attribute to a <modify> event element.	<p>Causes a recertify user request to be sent to AdminP. The attribute value is specified as True or False. Proper certifier ID and password attributes (cert-id, cert-pwd, or equivalents) must be provided or the default certifier is applied to the AdminP recertification request.</p> <p>This attribute should be used in conjunction with cert-id or its alternate, and cert-pwd or one of its alternates. May be used in conjunction with expire-term or cert-expire-date elements for specify the new expiration term of the user's certifier. Example: recertify-user="True". Requires Notes 6.0.3 or later.</p>
Registered Users in Notes Address Book	update-addressbook	As an attribute to an <add> event element	<p>This tag specifies if the driver puts registered user objects in the Notes Address Book. Setting the tag to Yes causes registered users to be placed in the address book. Setting the tag to No will cause users to be registered (that is, a certifier ID file is created for the user) without the user object being placed into the Notes Address Book.</p> <p>Overrides the default Update Address Book parameter <update-ab-flag> in the driver configuration.</p>
Roaming Cleanup Period	roaming-cleanup-period	As an attribute to an <add> event element.	<p>Specifies the Notes client's cleanup interval in days for a roaming user when the roaming user's cleanup setting is set to "CLEANUP_EVERY_NDAYS". This attribute should be used in conjunction with roaming-user="True", and roaming-cleanup-setting="EVERY_NDAYS". Example: roaming-cleanup-period="90". Requires Notes 6.0.3 or later.</p>

Parameter	XML Tag	Valid Use	Description
Roaming Cleanup Setting	roaming-cleanup-setting	As an attribute to an <add> event element.	Specifies the roaming user cleanup process for Notes client data. Valid values are AT_SHUTDOWN, EVERY_NDAY, NEVER, and PROMPT. Default value is NEVER. This attribute should be used in conjunction with roaming-user="True". Example: roaming-cleanup-setting="AT_SHUTDOWN". Requires Notes 6.0.3 or later.
Roaming Server	roaming-server	As an attribute to an <add> event element.	Specifies the name of the Domino server to store the roaming user data. This attribute should be used in conjunction with roaming-user="True". Example: roaming-server="CN=myserver2/O=acme". Requires Notes 6.0.3 or later.
Roaming Subdirectory	roaming-subdir	As an attribute to an <add> event element.	Specifies the subdirectory below the Domino server's data directory where user roaming data is stored. The last character of the value should be a file path separator (/ or \). Example: roaming-subdir="roamdata\". Requires Notes 6.0.3 or later.
Roaming User	roaming-user	As an attribute to an <add> event element.	Specifies whether the Notes registration process creates this user with roaming capabilities. The value is True or False. The default is False. Example: roaming-user="True". Requires Notes 6.0.3 or later.
Store User ID File In Notes Address Book	store-useridfile-in-ab	As an attribute to an <add> event element	This tag specifies if the driver attaches the user ID file for this user onto its user object in the Notes Address Book at registration time. Setting the tag to Yes causes this registered user object in the Notes Address Book to be created with an attached user ID file. Setting the tag to No causes this registered user object in the Notes Address Book to be created without an attached user ID file. Overrides the default Store UserID in Address Book parameter <store-id-ab-flag> in the driver configuration.
Synchronize Internet Password	sync-internet-password	As an attribute to an <add> event element.	Specifies whether a user's Internet password (HTTPPassword) is synchronized to match the user's Notes Client ID password, by means of the background processes of the Domino server. The value is True or False. The default is False. Example: sync-internet-password="True". Requires Notes 6.0.3 or later.
User ID file certifier type	cert-id-type	As an attribute to an <add> event element	This tag specifies the User ID file certifier type when user ID files are created at user registration time. Valid values are ID_FLAT, ID_HIERARCHICAL, and ID_CERTIFIER. The absence of this tag sets the default certifier type of ID_HIERARCHICAL.
User ID file Expiration Term	expire-term	As an attribute to an <add> event element	This tag specifies the expiration term (specified in years) for the Notes User ID file of this user. Overrides the default Expiration Term parameter <expiration-term> in the driver configuration.

¹ ACL Description

Notes Java ACL Constant

NOACCESS
DEPOSITOR
READER
AUTHOR
EDITOR
DESIGNER
MANAGER

ACL.LEVEL_NOACCESS
ACL.LEVEL_DEPOSITOR
ACL.LEVEL_READER
ACL.LEVEL_AUTHOR
ACL.LEVEL_EDITOR
ACL.LEVEL_DESIGNER
ACL.LEVEL_MANAGER

Additional Sample Style Sheets

Style sheets are XSLT documents that define transformations or modifications of XML documents. You can configure and create rules, policies, and style sheets using iManager.

Identity Manager provides the following additional samples:

- ♦ **NotesMoveSample.xml:** This sample policy is a Publisher channel policy that contains logic to determine eDirectory™ object placement when an associated Notes object is moved.

In the Import Drivers wizard, this policy is named Notes - Move Sample and is available under the Additional Policies heading. See [“Determining eDirectory Object Placement When a Notes Object is Moved” on page 37.](#)
- ♦ **NotesReturnEmail.xml:** This sample policy is a Command Transformation policy designed to generate an e-mail address for user Add events on the Subscriber channel.

It is necessary only when upgrading the driver shim and configuration from 1.x to 2.x. (The policy is already a part of the sample configuration provided with the 2.1 version of the driver.)

In the Import Drivers wizard, this policy is named Notes - Return Email Address and is available under the Additional Policies heading. See [“Importing a Policy to Write Back the Notes E-mail Address for New Users” on page 33.](#)
- ♦ **Cert.xml:** An Output Transformation style sheet that contains logic to determine which Notes certifier to use based on the src-dn attribute on the <add> tag.

See [“Automatically Determining Which Certifier to Use” on page 39](#) for more information.
- ♦ **Override.xml.** Shows an example of how to use attributes to override parameters. See the list in [“Overriding Driver Parameters” on page 47.](#)
- ♦ **Placemove.xml:** An Input Transformation style sheet that contains logic to determine placement containment when synchronizing a move from Lotus Notes to eDirectory.

See [“Determining eDirectory Object Placement When a Notes Object is Moved” on page 37](#) for more information.
- ♦ **AddUniqueName.xml.** Simple example of how a unique name can be created for a Notes user.
- ♦ **EntitlementGrpCmdCompletionSS.xml.** If you choose to use Role-Based Entitlements when importing the sample configuration, this style sheet is included. This is an example of how to process the payload of an <operation-data> element.
- ♦ **NotesCertifierSelectionSampleSS.xml.** Based on Cert.xml, this shows an enhanced sample of how to utilize multiple Notes certifiers. It demonstrates using named passwords in multiple ways. See [“Automatically Determining Which Certifier to Use” on page 39](#) and [“Using Named Passwords” on page 39.](#)

NOTE: Most of these are located in the product distribution in nt/dirxml/drivers/lotusNotes/rules. Some of them are used in the sample driver configuration.

Synchronizing a Database Other Than Names.nsf

Although the driver is intended as a directory synchronization driver for the Notes directory, it is possible to configure the driver to use a Notes database other than names.nsf. In this case, you need to make sure that the Schema Mapping policy is appropriate for the schema in the target database.

Schema Mapping Type and Form

In a Notes names and address book, each document contains a Type field as well as a Form field. The Type field supports the LDAP Server on Notes by providing a class name. The Form field is a standard Notes document field that indicates which form should be used to display the document. The Form item is not required, and if it is not present, the Notes client uses a default form.

Identity Manager does not provide the ability to map a single DS attribute to multiple target application attributes. This means that the Schema Mapping policy can't be used to map the object class to Form and Type. To handle this, the Driver Configuration asks if the directory database is really a Notes directory. If it is, the class name on DSEntry (translated into the Notes namespace) is used as the value for Type.

The object-class attribute on the DSAttribute object can be used to update the Form item if specified in the Schema Mapping policy. This provides a way to set both of those attributes, as well as providing mappings to allow the Type and Form values to differ. If the Schema Mapping policy contains a mapping between an eDirectory attribute and Form, it might be necessary to translate the content of the eDirectory attribute. This can be done by using an Output Transform policy. Conversely, an Input Transform policy is used to translate content from the Notes namespace to the eDirectory namespace.

If the directory source is not a Notes Directory, no Type item is written by the driver. Instead, the Class Name attribute is written to the Form item. If a Form item appears in the filter, the driver and ndsrep will ignore it.

If the driver is configured against the Notes directory, the translated values for classname are written to a Type item in the Notes database, and Form can be included in the Schema Mapping policy. If the driver is configured against a Notes database other than the directory, the translated values for classname are written to a Form item in the Notes database, and Form might not be included in the Schema Mapping policy.

Move/Rename

Move and Rename events are not supported in the default configuration. However, you can synchronize a Move or Rename event in Notes across the Publisher channel and into eDirectory if you modify the default Schema Map and the default Publisher Filter, and add a policy.

In addition, you can synchronize a Move or Rename event on the Subscriber channel if you have Notes 6.0.3 or later, enable AdminP support, and add policies that provide the necessary attributes.

In this section:

- ◆ [“Subscriber Channel” on page 61](#)
- ◆ [“Publisher Channel” on page 62](#)
- ◆ [“Considerations for Using AdminP” on page 62](#)

Subscriber Channel

In this section:

- ◆ [“Moving a User” on page 61](#)
- ◆ [“Modifying a User Name in eDirectory \(a Rename Event in Notes\)” on page 61](#)
- ◆ [“Renaming a Group” on page 62](#)

Moving a User

- 1** Make sure you are using Notes 6.0.3 or later and have reviewed [“Considerations for Using AdminP” on page 62](#).
- 2** Make sure you have turned on support for the AdminP process, by adding the following parameter to the Subscriber Options in the driver parameters:

```
<allow-adminp-support display-name="Allow Domino AdminP Support">True</allow-adminp-support>
```

See [Allow Domino AdminP Support in “Subscriber Options” on page 42](#).

- 3** Create driver policies that add the following attributes to the move event:
 - ◆ The certifier name of the destination certifier in Notes.
 - ◆ The certifier ID and a password for the destination certifier in Notes (the certifier that the user is going to)
 - ◆ The old certifier ID and password for the source certifier in Notes (the certifier that the user is coming from)

A sample of a command to the driver shim that moves a user is included in [“Sample of Moving a User” on page 72](#).

Modifying a User Name in eDirectory (a Rename Event in Notes)

When a user’s given name, middle initial, or surname changes in eDirectory, this event can cause the Rename of an object in Lotus Notes. If you have Notes 6.0.3 or later with AdminP support enabled, you can perform the Rename in Notes.

- 1** Make sure you are using Notes 6.0.3 or later and have reviewed [“Considerations for Using AdminP” on page 62](#).
- 2** Make sure you have turned on support for the AdminP process, by adding the following parameter to the Subscriber Options in the driver parameters:

```
<allow-adminp-support display-name="Allow Domino AdminP Support">True</allow-adminp-support>
```

See [Allow Domino AdminP Support in “Subscriber Options” on page 42](#).

- 3** Create driver policies that provide the correct certifier and password for the Notes user that is being renamed.

If a certifier and password are not specified in the event, the default certifier and password specified in the driver parameters are used.

A sample of a command to the driver shim that renames a user is included in [“Sample of Renaming: Modifying a User Last Name” on page 71](#).

Renaming a Group

If you have Notes 6.0.3 or later with AdminP support enabled, you can rename groups. Rename events from eDirectory for groups do not require you to create any additional driver policies.

Rename events from eDirectory can be applied only to group objects in Notes. (For users, the driver shim uses an appropriate modify event to rename a user in Notes, as described in [“Modifying a User Name in eDirectory \(a Rename Event in Notes\)”](#) on page 61.)

- 1 Make sure you are using Notes 6.0.3 or later and have reviewed [“Considerations for Using AdminP”](#) on page 62.
- 2 Make sure you have turned on support for the AdminP process, by adding the following parameter to the Subscriber Options in the driver parameters:

```
<allow-adminp-support display-name="Allow Domino AdminP Support">True</allow-adminp-support>
```

See [Allow Domino AdminP Support](#) in [“Subscriber Options”](#) on page 42.

Publisher Channel

To enable the one-way object move/rename synchronization:

- 1 Modify the schema mapping to map eDirectory Full Name to Notes FullName.
- 2 Enable the Full Name attribute in the Publisher filter.
- 3 Make sure that the Full Name attribute in the Subscriber filter is *not* enabled.
- 4 Make sure that the Public/Private AB setting is Yes in the driver configuration parameters.
- 5 Use a policy in your driver configuration like the one described in [“Determining eDirectory Object Placement When a Notes Object is Moved”](#) on page 37.

After these modifications have been made, ndsrep detects changes to FullName. Because FullName contains both name and location information in a single attribute, ndsrep cannot distinguish between a Move and a Rename. Therefore, a change to FullName initiates both a Move and a Rename event to be synchronized into eDirectory.

Considerations for Using AdminP

AdminP support provides several new features, but to use them effectively you must keep in mind the following:

- ◆ You need to have an understanding of AdminP and of Notes administration.
- ◆ A success message returned to the driver for an AdminP request means only that the request was successfully received by AdminP, not that it was completed successfully.
- ◆ AdminP requests made by the driver are not completed until AdminP attempts the action. The timing depends on the configuration of the Administration Process by the Notes administrator, the Domino server network, and the complexity of the action requested.
- ◆ Some AdminP requests require manual approval by the Notes administrator before they are completed.
- ◆ AdminP requests typically include the FullName of the Notes user (or ListName for a group). The driver sends requests based on the FullName of the user at the time the request was initiated, but AdminP does not necessarily complete the request right away, and other requests that affect the FullName of the same user object might be waiting to be processed. If the

FullName of the user is changed by a request, a subsequent request might fail because AdminP can't find the user.

For example, consider this scenario:

- ◆ You send a request from the driver to change a user's first name in Notes, and you use the AdminP feature to also rename the user object (changing FullName).
- ◆ You immediately send a second request from the driver to change the same user's last name in Notes and also rename the user object (changing FullName).

Both requests are received by AdminP. Both requests refer to the user with the same FullName. At midnight, AdminP begins processing the requests. The first one succeeds. However, the second one fails because the FullName was changed by the first request.

To help you use AdminP effectively, the following features are provided:

- ◆ You can cause the driver to send commands directly to the Domino Console. For example, you can issue a command to process all AdminP requests immediately. See [“Tell AdminP Commands” on page 63](#), and [Domino Console Command](#) in [“Overriding Driver Parameters” on page 47](#).
- ◆ You can enable or disable AdminP support for an individual command. See [Allow AdminP Support](#) in [“Overriding Driver Parameters” on page 47](#).

Tell AdminP Commands

When the driver issues a request to the Domino AdminP process, these requests are delayed until the AdminP process completes them. (Refer to Notes documentation for information about administration processing intervals.)

If desired, you can attach a “tell-adminp-process” attribute to an event. If the event contains AdminP tasks that need to be performed, the command you specify is sent to the Domino server console. The attribute is described in [Domino Console Command](#) in [“Overriding Driver Parameters” on page 47](#).

For example, when sending a Move user event, you could include the following attribute on the move event:

```
tell-adminp-process="tell adminp process new"
```

This example command causes the driver to request the AdminP process to process all the new tasks, which would include the move that was requested in that event.

To use tell-adminp-process commands:

- 1** Make sure you are using Notes 6.0.3 or later.
- 2** Make sure you have turned on support for the AdminP process, by adding the following parameter to the Subscriber Options in the driver parameters:

```
<allow-adminp-support display-name="Allow Domino AdminP Support">True</allow-adminp-support>
```

See [Allow Domino AdminP Support](#) in [“Subscriber Options” on page 42](#).

- 3** Make sure the Notes user for the driver has rights to send commands to the Domino server console.
- 4** Make sure that the event contains AdminP tasks.

The tell-adminp-process command is sent only if AdminP tasks need to be performed as part of the event.

5 Use the correct syntax.

Samples of using tell-adminp-process commands are included in [Appendix B, “Samples for New Features,”](#) on page 69.

6 To find out whether the AdminP request was completed successfully, use Lotus Notes tools such as the Domino Administrator.

Completion of a command by the Notes driver shim involving an AdminP request does not mean that the command has been successfully completed. It means only that the request has been made to AdminP.

For example, the driver might successfully make a request to AdminP to move a user. However, if incorrect certifiers were specified in the event, the move would fail when the AdminP process attempts it.

A

Using the Movecfg.exe Utility

The movecfg.exe utility is a Windows console command line utility to be utilized when upgrading the DirXML[®] Driver for Lotus Notes 1.x to version 2.1. It is installed if you select the option to install utilities during Nsure™ Identity Manager installation.

The movecfg.exe utility is used to move specific DirXML Driver for Lotus Notes 1.x parameters from the Windows registry to the DirXML Driver for Lotus Notes 2.x parameters location in eDirectory.

If you have multiple instances of ndsrep, you must run movecfg.exe once for each one, using the -ndsrep parameter.

With version 2.1 of the DirXML Driver for Lotus Notes, the ndsrep Domino add-in process reads configuration parameters from a Lotus Notes database (dsrepcfg.nsf). Prior to version 2.0, these parameters were stored in the Windows registry (HKEY_LOCAL_MACHINE\SOFTWARE\NOVELL\VRD\DOMINO).

This utility attempts to move the necessary parameters from the Windows registry to the Lotus Notes Driver object (that is being upgraded) in eDirectory. It also attempts to place the LastEventTimeStamp for ndsrep that is stored in the registry into a Lotus Notes database (dsrepcfg.nsf). The LastEventTimeStamp is not stored as a driver parameter in eDirectory. For this reason it is placed directly into the ndsrep configuration database (dsrepcfg.nsf).

You can use a batch file such as the example provided in [“Example Batch File to Use” on page 66](#).

In this section:

- ◆ [“Prerequisites” on page 65](#)
- ◆ [“Example Batch File to Use” on page 66](#)
- ◆ [“Using the Movecfg.exe Utility” on page 67](#)
- ◆ [“Troubleshooting” on page 68](#)

NOTE: This utility is not localized for specific languages. All parameter descriptions that are imported into a specified driver are in English.

Prerequisites

- ◆ DirXML utilities installed. The movecfg.exe utility is installed only if you select the Utilities option during DirXML install.
- ◆ Run movecfg.exe from the Domino Server machine. The movecfg.exe utility should be executed from the same Domino Server that launches ndsrep.
- ◆ Domino Server active. The Domino Server must be up and running.
- ◆ LDAP access to eDirectory. LDAP access is required to eDirectory. User name (in LDAP form) and password must be passed as parameters to movecfg. If a password is not passed,

movecfg will prompt for it. The password is not encrypted, so clear text passwords must be accepted by the LDAP server, or the LDAP server bind will fail.

- ◆ Lotus Notes ID file password. When the movecfg utility attempts to create (or update) the ndsrep configuration database (dsrepcfg.nsf), it prompts for the Lotus Notes password of the Notes ID file that last accessed the Domino server (or possibly client) from this machine (this Notes ID file is referenced from the notes.ini file). If this password is entered correctly, the ndsrep configuration database (dsrepcfg.nsf) can then be appropriately updated with the LastEventTimeStamp copied from the ndsrep configuration in the registry. For dsrepcfg.nsf to be initially created by movecfg.exe, dsrepcfg.ntf (which is distributed with the DirXML Driver 2.0 for Lotus Notes) must be available to the Domino Server (at c:\Lotus\Domino\Data\dsrepcfg.ntf).
- ◆ Multiple Lotus Notes driver instances. If you have more than one Lotus Notes driver connected to the same Domino server, movecfg.exe must be run once for each instance of the Lotus Notes driver that is being converted. To convert Lotus Notes Driver parameters which are not the default driver parameters (but are the 2nd, 3rd, 4th, etc. Notes driver parameters) the -ndsrep parameter must be utilized.

Example Batch File to Use

You can run the movecfg.exe utility with a batch file like the following example:

```
@echo off
REM *****
REM
REM Name: MoveCfg1to2.bat
REM Description: Sample batch file to demonstrate the usage and launch parameters
REM               of movecfg.exe
REM               See movecfg.txt for descriptions of movecfg.exe usage parameters
REM
REM Copyright (C) 2003-2004 Novell, Inc., All Rights Reserved
REM
REM *****
setlocal

REM echo on

REM SAMPLE CALL 1
call movecfg.exe -host server.acme.com -port 389 -edir-dn cn=admin,o=acme -edir-pwd acmePass
-driverDN cn=NotesDriver,cn=DriverSet1,o=acme -noteSvr cn=Dominol/o=acme -timeout 15

REM SAMPLE Call 2: When converting a second or third Notes driver on the same machine, use the
-ndsrep parameter
REM call movecfg.exe -host server.acme.com -port 389 -edir-dn cn=admin,o=acme -edir-pwd
acmePass -driverDN cn=Notes2Driver,cn=DriverSet1,o=acme -noteSvr cn=Dominol/o=acme -timeout 15
-ndsrep Notes2Driver
```

Using the Movecfg.exe Utility

```
movecfg -host <ldap host name/address> -port <port number> -edir-dn
<login dn> -edir-pwd <password> -driverDN <driverDN> -noteSvr
<Domino Server Name> [-ndsrep] <NDSREP instance name> [-timeout] <timeout>
[-f] <ndsrep config db>
```

Example:

```
movecfg -host ldapsvr.mycompany.com -port 389 -edir-dn cn=admin,o=MyOrg
-edir-pwd secret -driverDN cn=myDriver,cn=MyOrgUnit,O=MyOrg -noteSvr
CN=MyDomino/O=MyOrg
```

Parameter Name	Required or Optional	Description
-host <ldap host name/address>	Required	The DNS host name or the IP address of the LDAP host of the eDirectory Server.
-port <port number>	Optional	LDAP port of the LDAP host specified by the -host parameter. Default = 389
-edir-dn <login dn>	Required	The fully qualified LDAP distinguished name of the eDirectory user that updates the driver configuration. It must be in LDAP form. Example: cn=DirXMLAdmin,cn=eng,o=acme
-edir-pwd <password>	Optional	The password matching the user object specified by the -edir-dn login object. If a password is not supplied, a password prompt is presented.
-driverDN <driverDN>	Required	The fully qualified LDAP distinguished name of the driver that needs its parameters updated. It must be in LDAP form. Example: cn=NotesDriver1,cn=DirXMLDriverSet,o=acme
-noteSvr <Domino Server Name>	Required	The Domino Server Name. Example cn=NoteSrv/o=acme
[-ndsrep] <NDSREP instance name>	Optional	The name of the Driver configuration instance to be stored in the ndsrep configuration database (dsrepcfg.nsf). By default this is set to the relative distinguished name of the Driver (such as NotesDriver1).
[-timeout] <timeout>	Optional	The timeout value when attempting to connect and communicate with the LDAP host.
[-f] <ndsrep config db>	Optional	The name of the ndsrep configuration database. Default = dsrepcfg.nsf

Troubleshooting

If the movecfg utility is not successful in updating your outdated Lotus Notes Driver configuration, try following the manual process outlined here.

- 1** Shut down the Domino Server where ndsrep is launched.
- 2** Shut down the DirXML Driver for Lotus Notes that is to be upgraded.
- 3** Copy the following text from this document, and paste it into the <publisher-options> section of the Lotus Notes Driver configuration.

```
<publisher-options>
  <polling-interval display-name="Polling Interval (in seconds)">30</polling-interval>
  <loop-detect-flag display-name="Enable Loop Back Detection">Yes</loop-detect-flag>
  <schedule-units display-name="NDSREP Schedule Units">SECONDS</schedule-units>
  <schedule-value display-name="NDSREP Schedule Value">30</schedule-value>
  <dn-format display-name="DNFormat">SLASH</dn-format>
  <check-attrs-flag display-name="Check Attributes?">Yes</check-attrs-flag>
  <write-timestamps-flag display-name="Write Time Stamps?">No</write-timestamps-flag>
</publisher-options>
```

- 4** Use the regedit utility on Windows to view each ndsrep configuration value. The regedit key values are under \HKEY_LOCAL_MACHINE\SOFTWARE\NOVELL\VRD\DOMINO.
Update the new Lotus Notes Driver publisher-options configuration values to match the corresponding values stored within the Windows registry.
- 5** Start the Lotus Notes Driver and the Domino Server.

B

Samples for New Features

The driver supports using AdminP process such as Delete, Move, and Rename. These features require you to use Notes 6.0.3 or later, turn on AdminP support for the driver (see [Allow Domino AdminP Support](#) in “Subscriber Options” on page 42), and make changes to your driver policy.

The driver also supports sending commands to the Domino server console.

This section provides examples of the event produced by the DirXML[®] engine, and the command that must be given to the driver shim. Policy samples are not provided, but the example shows how the event must be transformed and shows attributes that need to be provided by policies.

Refer to [“Move/Rename”](#) on page 60 and [“Tell AdminP Commands”](#) on page 63 for more information.

In this section:

- ◆ [“Sample of Adding a User”](#) on page 69
- ◆ [“Sample of Renaming: Modifying a User Last Name”](#) on page 71
- ◆ [“Sample of Moving a User”](#) on page 72
- ◆ [“Sample of Deleting a User”](#) on page 73
- ◆ [“Sample of Sending a Command to the Domino Server Console”](#) on page 74

Sample of Adding a User

This section shows a sample of the events when creating user John Doe in eDirectory™.

In this section:

- ◆ [“Add Event Produced by the DirXML Engine”](#) on page 69
- ◆ [“Add Event Received by the Notes Driver Shim”](#) on page 70

Add Event Produced by the DirXML Engine

```
<nds dtdversion="2.0" ndsversion="8.x">
  <source>
    <product version="2.0.5.38 ">DirXML</product>
    <contact>Novell, Inc.</contact>
  </source>
  <input>
    <add class-name="User"
      event-id="MYSERVER-NDS#20040603175534#1#1"
      qualified-src-dn="O=DirXML\OU=Notes\OU=Users\OU=sales\CN=John Doe"
      src-dn="\mytree\DirXML\Notes\Users\sales\John Doe"
      src-entry-id="38727">
    <association state="pending"></association>
  </input>
</nds>
```

```

<add-attr attr-name="CN">
  <value naming="true" timestamp="1086285300#20" type="string">John Doe</value>
</add-attr>
<add-attr attr-name="Surname">
  <value timestamp="1086285300#3" type="string">Doe</value>
</add-attr>
<add-attr attr-name="Given Name">
  <value timestamp="1086285334#1" type="string">John</value>
</add-attr>
</add>
</input>
</nds>

```

Add Event Received by the Notes Driver Shim

The required attributes are shown in bold. The optional attributes are shown in italics.

```

<nds dtdversion="2.0" ndsversion="8.x">
  <source>
    <product version="2.0.5.38">DirXML</product>
    <contact>Novell, Inc.</contact>
  </source>
  <input>
    <add
      expire-term="5"
      certify-user="Yes"
      class-name="Person"
      create-mail="Yes"
      dest-dn="cn=John Doe/ou=sales/o=dirxml"
      drv-param-cert-id="sales-cert-id-file"
      drv-param-cert-pwd="sales-cert-id-password"
      enforce-unique-short-name="No"
      event-id="MYSERVER-NDS#20040603175534#1#1"
      internet-password-force-change="Yes"
      mail-acl-level="MANAGER"
      mail-acl-manager-name="CN=Notes Driver/O=dirxml"
      mail-file-quota="120000"
      mail-quota-warning-threshold="100000"
      notes-password-change-interval="100"
      notes-password-check-setting="PWD_CHK_CHECKPASSWORD"
      notes-password-grace-period="5"
      notes-policy-name="/EmployeePolicy"
      qualified-src-dn="O=DirXML\OU=Notes\OU=Users\OU=sales\CN=John Doe"
      roaming-cleanup-period="90"
      roaming-cleanup-setting="REG_ROAMING_CLEANUP_EVERY_NDAYS"
      roaming-server="cn=myserver/o=dirxml"
      roaming-subdir="Roaming\JohnDoe"
      roaming-user="Yes"
      src-dn="\mytree\DirXML\Notes\Users\sales\John Doe"
      src-entry-id="38727"
      sync-internet-password="Yes">
      <add-attr attr-name="FullName">
        <value naming="true" timestamp="1086285300#20" type="string">John Doe</value>
      </add-attr>
      <add-attr attr-name="LastName">
        <value timestamp="1086285300#3" type="string">Doe</value>
      </add-attr>
      <add-attr attr-name="FirstName">
        <value timestamp="1086285334#1" type="string">John</value>
      </add-attr>
      <add-attr attr-name="InternetAddress">

```

```

        <value>John Doe@dirxml.com</value>
    </add-attr>
</add>
</input>
</nds>

```

Sample of Renaming: Modifying a User Last Name

This section shows a sample of the events when changing a last name from Doe to Doerr in eDirectory. Refer to [“Move/Rename” on page 60](#) for more information.

In this section:

- ◆ [“Modify Event Produced by the DirXML Engine” on page 71](#)
- ◆ [“Modify Event Received by the Notes Driver Shim” on page 71](#)

Modify Event Produced by the DirXML Engine

```

<nds dtdversion="2.0" ndsversion="8.x">
  <source>
    <product version="2.0.5.38 ">DirXML</product>
    <contact>Novell, Inc.</contact>
  </source>
  <input>
    <modify class-name="User"
      event-id="MYSERVER-NDS#20040603175500#1#3"
      qualified-src-dn="O=DirXML\OU=Notes\OU=Users\OU=sales\CN=John Doe"
      src-dn="\mytree\DirXML\Notes\Users\sales\John Doe"
      src-entry-id="38727"
      timestamp="1086291578#2">
      <association state="associated">BB888BB0C35D13EC87256EA8006296CE</association>
      <modify-attr attr-name="Surname">
        <remove-value>
          <value timestamp="1086285300#3" type="string">Doe</value>
        </remove-value>
        <add-value>
          <value timestamp="1086291578#2" type="string">Doerr</value>
        </add-value>
      </modify-attr>
    </modify>
  </input>
</nds>

```

Modify Event Received by the Notes Driver Shim

The required attributes are shown in bold. The optional attributes are shown in italics.

```

<nds dtdversion="2.0" ndsversion="8.x">
  <source>
    <product version="2.0.5.38 ">DirXML</product>
    <contact>Novell, Inc.</contact>
  </source>
  <input>
    <modify class-name="Person"
      drv-param-cert-id="sales-cert-id-file"
      drv-param-cert-pwd="sales-cert-id-password"
      event-id="MYSERVER-NDS#20040603175500#1#3"

```

```

qualified-src-dn="O=DirXML\OU=Notes\OU=Users\OU=sales\CN=John Doe"
src-dn="\mytree\DirXML\Notes\Users\sales\John Doe"
src-entry-id="38727"
tell-adminp-process="tell adminp process all"
timestamp="1086291578#2">
<association state="associated">BB888BB0C35D13EC87256EA8006296CE</association>
<modify-attr attr-name="LastName">
  <remove-value>
    <value timestamp="1086285300#3" type="string">Doe</value>
  </remove-value>
  <add-value>
    <value timestamp="1086291578#2" type="string">Doerr</value>
  </add-value>
</modify-attr>
</modify>
</input>
</nds>

```

Sample of Moving a User

This section shows a sample of the events when moving John Doerr from the OU=sales to OU=mktg in eDirectory. Refer to [“Move/Rename” on page 60](#) for more information.

In this section:

- ◆ [“Move Event Produced by the DirXML Engine” on page 72](#)
- ◆ [“Move Event Received by the Notes Driver Shim” on page 73](#)

Move Event Produced by the DirXML Engine

```

<nds dtdversion="2.0" ndsversion="8.x">
  <source>
    <product version="2.0.5.38 ">DirXML</product>
    <contact>Novell, Inc.</contact>
  </source>
  <input>
    <move class-name="User"
      event-id="MYSERVER-NDS#20040603175500#1#1"
      old-src-dn="\mytree\DirXML\Notes\Users\sales\John Doerr"

      qualified-old-src-dn="O=DirXML\OU=Notes\OU=Users\OU=sales\CN=John Doerr"

      qualified-src-dn="O=DirXML\OU=Notes\OU=Users\OU=mktg\CN=John Doerr"
      src-dn="\mytree\DirXML\Notes\Users\mktg\John Doerr"
      src-entry-id="38727"
      timestamp="1086285300#1">
      <association state="associated">BB888BB0C35D13EC87256EA8006296CE</association>
      <parent qualified-src-dn="O=DirXML\OU=Notes\OU=Users\OU=mktg"
        src-dn="\mytree\DirXML\Notes\Users\mktg" src-entry-id="36691"/>
    </move>
  </input>
</nds>

```

Move Event Received by the Notes Driver Shim

The required attributes are shown in bold. The optional attributes are shown in italics.

```
<nds dtdversion="2.0" ndsversion="8.x">
  <source>
    <product version="2.0.5.38 ">DirXML</product>
    <contact>Novell, Inc.</contact>
  </source>
  <input>
    <move   certifier-name="/mktg/dirxml"
          class-name="Person"
          drv-param-cert-id="mktg-cert-id-file"
          drv-param-cert-pwd="mktg-cert-id-password"
          drv-param-old-cert-id="sales-cert-id-file"
          drv-param-old-cert-pwd="sales-cert-id-password"
          event-id="MYSERVER-NDS#20040603175500#1#1"
          old-src-dn="\mytree\DirXML\Notes\Users\sales\John Doerr"
          qualified-old-src-dn="O=DirXML\OU=Notes\OU=Users\OU=sales\CN=John Doerr"
          qualified-src-dn="O=DirXML\OU=Notes\OU=Users\OU=mktg\CN=John Doerr"
          src-dn="\mytree\DirXML\Notes\Users\mktg\John Doerr"
          src-entry-id="38727"
          tell-adminp-process="tell adminp process all"
          timestamp="1086285300#1">
    <association state="associated">BB888BB0C35D13EC87256EA8006296CE</association>
    <parent qualified-src-dn="O=DirXML\OU=Notes\OU=Users\OU=mktg"
          src-dn="\mytree\DirXML\Notes\Users\mktg" src-entry-id="36691"/>
  </move>
</input>
</nds>
```

Sample of Deleting a User

This section shows a sample of the events when deleting John Doerr from eDirectory.

In this section:

- ◆ [“Delete Event Produced by the DirXML Engine” on page 73](#)
- ◆ [“Delete Event Received by the Notes Driver Shim” on page 74](#)

Delete Event Produced by the DirXML Engine

```
<nds dtdversion="2.0" ndsversion="8.x">
  <source>
    <product version="2.0.5.38 ">DirXML</product>
    <contact>Novell, Inc.</contact>
  </source>
  <input>
    <delete class-name="User"
          event-id="MYSERVER-NDS#20040603195215#1#6"
          qualified-src-dn="O=DirXML\OU=Notes\OU=Users\OU=mktg\CN=John Doerr"
          src-dn="\mytree\DirXML\Notes\Users\mktg\John Doerr"
          src-entry-id="38727"
          timestamp="1086292335#6">
    <association state="associated">BB888BB0C35D13EC87256EA8006296CE</association>
  </delete>
</input>
</nds>
```

Delete Event Received by the Notes Driver Shim

The required attributes are shown in bold. The optional attributes are shown in italics.

```
<nds dtdversion="2.0" ndsversion="8.x">
  <source>
    <product version="2.0.5.38 " >DirXML</product>
    <contact>Novell, Inc.</contact>
  </source>
  <input>
    <delete class-name="Person"
      delete-windows-user="false"
      deny-access-group-id="7EFB951A3574521F87256E540001F140"
      event-id="MYSERVER-NDS#20040603195215#1#6"
      immediate="true"
      mail-file-action="MAILFILE_DELETE_ALL"
      qualified-src-dn="O=DirXML\OU=Notes\OU=Users\OU=mktg\CN=John Doerr"
      src-dn="\mytree\DirXML\Notes\Users\mktg\John Doerr"
      src-entry-id="38727"
      tell-adminp-process="tell adminp process all"
      timestamp="1086292335#6">
      <association state="associated">BB888BB0C35D13EC87256EA8006296CE</association>
    </delete>
  </input>
</nds>
```

Sample of Sending a Command to the Domino Server Console

This section shows an example of using the driver's ability to send a command to the Domino server console and receive a response.

In this section:

- ◆ [“Domino Console Command as Received by the Driver Shim” on page 74](#)
- ◆ [“Command Response Returned by the Notes Driver Shim” on page 74](#)

Domino Console Command as Received by the Driver Shim

```
<nds dtdversion="1.0" ndsversion="8.5" xmlns:notes="http://www.novell.com/dirxml/notesdriver">
  <input>
    <notes:domino-console-command event-id="0">show server -xml</notes:domino-console-command>
  </input>
</nds>
```

Command Response Returned by the Notes Driver Shim

Responses are truncated after 32000 characters.

```
<nds dtdversion="2.0" ndsversion="8.x" xmlns:notes="http://www.novell.com/dirxml/notesdriver">
  <source>
    <product build="20040602_1644" instance="NotesDriver" version="2.1">DirXML Driver for
Lotus Notes</product>
    <contact>Novell, Inc.</contact>
  </source>
  <output>
    <notes:domino-console-response event-id="0">
      <server platform="Windows/32" time="20040603T141140,48-06" version="Release 6.5">
        <name>myserver/dirxml</name>
```

```

<title>MyServer Domino Server</title>
<directory>C:\Lotus\Domino\Data</directory>
<partition>C.Lotus.Domino.Data</partition>
<uptime days="6" hours="1" minutes="52" seconds="38"/>
<transactions hour="80" minute="2" peak="3614"/>
<sessions peaknumber="5" peakttime="20040528T130914,23-06"/>
<transactions count="35797" maxconcurrent="20"/>
<threadpool threads="40"/>
<availability index="100" state="AVAILABLE"/>
<mailtracking enabled="0" state="Not Enabled"/>
<mailjournaling enabled="0" state="Not Enabled"/>
<sharedmail enabled="0" state="Not Enabled"/>
<mailboxes number="1"/>
<mail dead="0" pending="0"/>
<tasks waiting="0"/>
<transactionlogging enabled="0"/>
<hosting enabled="0"/>
<faultrecovery enabled="0" state="Not Enabled"/>
<activitylogging enabled="0" state="Not Enabled"/>
<controller enabled="0" state="Not Enabled"/>

<diagnosticdirectory>C:\Lotus\Domino\Data\IBM_TECHNICAL_SUPPORT</diagnosticdirectory>
  <consolelogging enabled="0" state="Not Enabled"/>

<consolelogfile>C:\Lotus\Domino\Data\IBM_TECHNICAL_SUPPORT\console.log</consolelogfile>
  </server>
  </notes:domino-console-response>
  <status event-id="0" level="success"/>
</output>
</nds>

```


C

Updates

This section contains information about documentation content changes that have been made in this guide.

The information is grouped according to the date the documentation updates were published.

The documentation is provided on the Web in two formats: HTML and PDF. The HTML and PDF documentation are both kept up-to-date with the documentation changes listed in this section.

If you need to know whether a copy of the PDF documentation you are using is the most recent, the PDF document contains the date it was published in the Legal Notices section immediately following the title page.

The documentation was updated on the following dates:

- ◆ “[March 18, 2004](#)” on page 77
- ◆ “[April 26, 2004](#)” on page 78
- ◆ “[August 3, 2004](#)” on page 78
- ◆ “[August 19, 2004](#)” on page 78

March 18, 2004

- ◆ The following item has been added to “[Installing the Driver Shim](#)” on page 18:

Make sure that the Domino shared libraries directory (for example, C:\Lotus\Domino) is in the Windows system path.

Without this directory in the Windows system path, the JVM might have difficulty locating the Domino shared libraries required by Notes.jar, such as nxlsbe.dll.

- ◆ The following has been added to [Step 7](#) about the notes.ini file, in “[Upgrading on Windows](#)” on page 31:

If the name of your driver includes spaces, then you must put quotes around the name.

For example, if the driver name is CN=Notes Driver, your notes.ini might look like the following:

```
ServerTasks=Router,Replica,Update,Amgr,AdminP,maps, ndsrep  
notesdrv1,ndsrep "Notes Driver"
```

- ◆ References to Password Synchronization 2.0 have been changed to Nsure™ Identity Manager Password Synchronization, to indicate that the new Password Synchronization functionality is not a separate product, but is a feature of Identity Manager.
- ◆ References to DirXML 2.0 have been changed to Identity Manager 2. The engine and drivers are still referred to as the DirXML engine and DirXML drivers.

April 26, 2004

- ◆ In the New Features section, it is noted that the driver supports Password Synchronization for set and modify for the Notes HTTP password. For the Notes ID file password, the password can be set only when it is created.
- ◆ Minor editorial changes were made.

August 3, 2004

- ◆ More items added to [“New Features” on page 9](#) for the 2.1 version of the driver.
- ◆ More information added to [Chapter 3, “Upgrading,” on page 31](#).
- ◆ [“Determining eDirectory Object Placement When a Notes Object is Moved” on page 37](#) has been updated to reflect the new Move functionality available with Notes 6.0.3 or later and the driver’s AdminP features.
- ◆ A few new parameters have been added to [“Using Driver Parameters” on page 40](#). Also, the lists are now in alphabetical order.
- ◆ Many new override parameters have been added to [“Overriding Driver Parameters” on page 47](#). Also, the list is now in alphabetical order.
- ◆ Samples of using the driver’s new AdminP features have been added in [Appendix B, “Samples for New Features,” on page 69](#).
- ◆ Improved the information about the scripts in [“Installing on AIX, Linux, or Solaris” on page 20](#).
- ◆ Windows 2003 is now supported for both the DirXML engine and the DirXML Driver for Lotus Notes, and the following sections have been updated to reflect that:
 - ◆ [“Where to Install the Driver” on page 15](#)
 - ◆ [“Meeting Requirements for the Driver” on page 16](#)
- ◆ A section was added, [“Considerations for Using AdminP” on page 62](#).
- ◆ Some suggestions for troubleshooting were added to [“Troubleshooting Installation” on page 23](#).

August 19, 2004

- ◆ The installation for AIX, Linux, or Solaris was given its own section with new information added: [“Installing on AIX, Linux, or Solaris” on page 20](#). A few other minor changes were made throughout the book to reflect use on those platforms.
- ◆ A new section was added, [“Upgrading Domino” on page 35](#).
- ◆ Some suggestions for troubleshooting were added to [“Troubleshooting Installation” on page 23](#).