



ADSM™ Distributed Storage Manager

ADSMConnect Agent for Lotus Notes on AIX Installation and User's Guide

Version 2



ADSTAR Distributed Storage Manager

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Note

Before using this information and the product it supports, read the general information under "Notices" on page v.

First Edition (August 1997)

This edition applies to Version 2 of the ADSMConnect Agent for Lotus Notes on AIX, 5765–C45, and to any subsequent releases until otherwise indicated in new editions or technical newsletters. Make sure you are using the correct edition for the level of the product.

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About This Book

This publication provides information to help you use the ADSMConnect Agent* for Lotus Notes** on AIX*.

In this publication, we assume that you know how to use your AIX workstation and that you understand the general concepts of the operating system. We also assume that you know how to use Lotus Notes databases.

You might need further assistance by using ADSM after you have installed the ADSMConnect Agent for Lotus Notes. The following publications provide additional information.

Title	Order Number
ADSTAR* Distributed Storage Manager: Using the UNIX** Backup-Archive Clients	SH26-4052
ADSTAR Distributed Storage Manager: Using the Application Programming Interface	SH26-4002
ADSTAR Distributed Storage Manager: Installing the Clients	SH26-4049
ADSTAR Distributed Storage Manager for AIX Installing the Server and Administrative Client	SH35-0136
ADSTAR Distributed Storage Manager for AIX: Administrator's Reference	SH35-0135
Using ADSM to Back Up Databases	SG24-4335
Lotus Notes Release 4.5 on AIX Systems: Installation, Customization and Administration	SG24-4694
ADSTAR Distributed Storage Manager Messages	SH35-0133

Reading Syntax Diagrams

This section describes how to read the syntax diagrams used in this publication.

To read a syntax diagram, follow the path of the line. Read from left to right and top to bottom.

- The ►— symbol indicates the beginning of a syntax diagram.
- The —> symbol at the end of a line indicates the syntax diagram continues on the next line.
- The —► symbol at the beginning of a line indicates a syntax diagram continues from the previous line.
- The —>◄ symbol indicates the end of a syntax diagram.

Syntax items, such as a keyword or variable, can be:

- On the line (required element)
- Above the line (default element)

- Below the line (optional element)

Abbreviations

Uppercase letters denote the shortest acceptable truncation. If an item appears entirely in uppercase letters, it cannot be truncated.

You can type the item in any combination of uppercase or lowercase letters.

In this example, you can enter KEYWO, KEYWORD, or KEYWOrd.

▶—KEYWOrd—▶

Symbols

Enter these symbols exactly as they appear in the syntax diagram.

*	Asterisk
{ }	Braces
:	Colon
=	Equal sign
-	Hyphen
()	Parentheses
.	Period
	Space

Variables

Italicized lowercase items (*var_name*) denote variables.

In this example, you can specify a *var_name* when you enter the **KEYWORD** command.

▶—KEYWOrd—*var_name*—▶

Repetition

An arrow returning to the left means you can repeat the item.

▶—*repeat*—▶

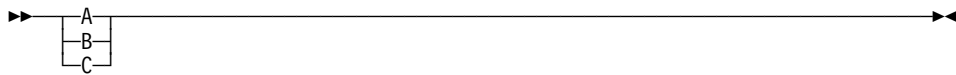
A character within the arrow means you must separate repeated items with that character.

▶—*repeat*—▶

Required Choices

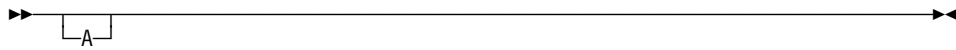
When two or more items are in a stack and one of them is on the line, you *must* specify one item.

In this example, you *must* choose A, B, or C.

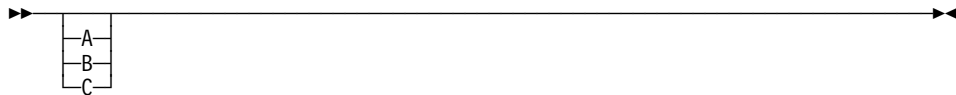


Optional Choice

When an item is below the line, that item is optional. In the first example, you can choose A or nothing at all.



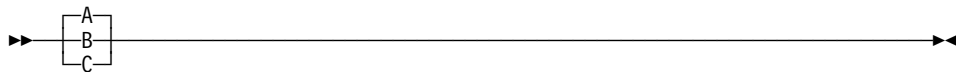
When two or more items are in a stack below the line, all of them are optional. In the second example, you can choose A, B, C, or nothing at all.



Defaults

Defaults are above the line. The default is selected unless you override it. You can override the default by including an option from the stack below the line.

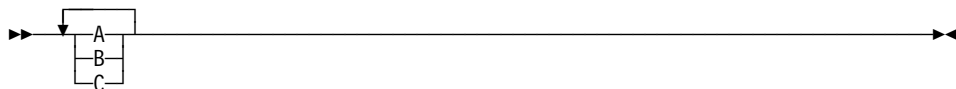
In this example, A is the default. You can override A by choosing B or C. You can also specify the default explicitly.



Repeatable Choices

A stack of items followed by an arrow returning to the left means you can select more than one item or, in some cases, repeat a single item.

In this example, you can choose any combination of A, B, or C.



Chapter 1. Introducing the ADSMConnect Agent for Lotus Notes on AIX

The ADSMConnect Agent for Lotus Notes on AIX is a Lotus Notes application that provides backup and restore of individual notes within a Lotus Notes database. Each Lotus Notes database can consist of two types of notes:

- Non-data notes such as forms and views
- Data notes such as documents

See 1 for the logical components of the ADSMConnect Agent for Lotus Notes.

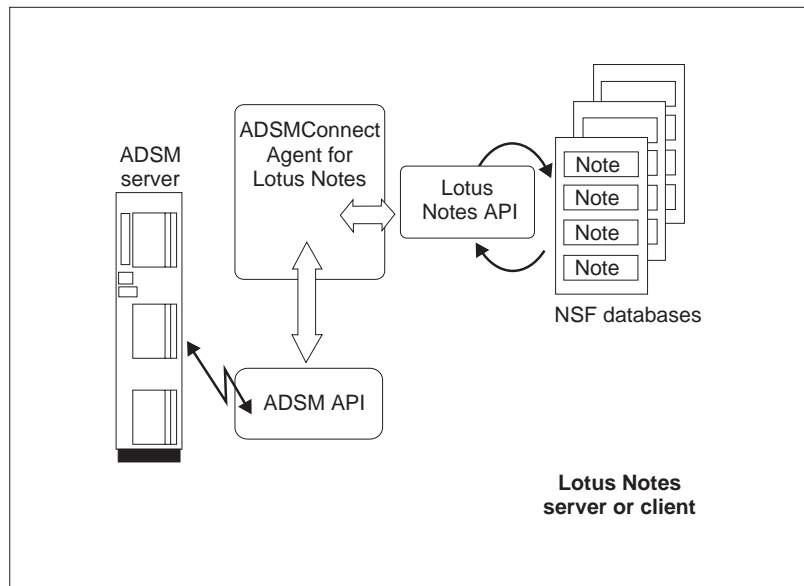


Figure 1. Overview of Components of ADSMConnect Agent for Lotus Notes

The ADSMConnect Agent for Lotus Notes application uses the Lotus Notes API to communicate with the Lotus Notes databases. The ADSMConnect Agent uses the ADSM API to communicate with the ADSM server. The ADSM API is configured in a way similar to the standard ADSM backup-archive client. It has its own **dsm.sys** client system options file and **dsm.opt** client user options file. It is highly recommended that you use a unique node name for the ADSMConnect Agent. Then the ADSM server will view the application as a separate, self-contained workstation client.

The ADSMConnect Agent for Lotus Notes helps you protect your Lotus Notes databases by using the backup and recovery services of ADSM. Commands are available that enable you to:

- Back up only those portions of a database that have changed since the last backup.

- Restore selected documents from a database.
- Restore documents that have been deleted but not yet purged from a database.
- Restore an entire Lotus Notes database.
- Help administer the ADSMConnect Agent log files on AIX.

Some of these tasks can be performed by using a graphical user interface (the Lotus Notes Workspace). Others can be accomplished through a command line interface.

Using the ADSM Backup-Archive Client

You can also use the regular ADSM backup-archive client to back up or restore an entire Lotus Notes database. ADSM can do this because a single Lotus Notes database is self-contained within a single flat file.

The ADSM backup-archive client and the ADSMConnect Agent for Lotus Notes can run simultaneously on the same workstation. This approach is useful because each application provides capabilities that the other does not have.

- The ADSM client can back up or archive an entire database, but not individual portions of it.
- The ADSMConnect Agent for Lotus Notes can back up and restore smaller pieces of data (notes), but it lacks archiving capabilities.

You should give a different node name to the ADSMConnect Agent for Lotus Notes than the one for the ADSM client that resides on the same machine.

There is an important distinction to make in the behavior of the ADSMConnect Agent for Lotus Notes and the ADSM backup-archive client. The ADSMConnect Agent for Lotus Notes can back up and restore individual documents in the Lotus Notes database. The ADSM backup-archive client can only back up and restore an entire Lotus Notes database. For performance reasons, if you have many changes to the database, it would be faster to use the ADSM backup-archive client to back up or restore your database. If you have few changes to the database, it would be faster to use the ADSMConnect Agent to back up or restore your database.

The ADSMConnect Agent also backs up Access Control List (ACL) information, if available, for the Lotus Notes databases. Because there is no way to know whether the database header information was changed or not, all of the header information is backed up every time the database is backed up, even if no notes are actually backed up. This provides the latest header information on the ADSM server.

The Lotus Notes Database

A Lotus Notes database is stored on a server or client workstation as a single notes structured file with a .NSF file extension. A Lotus Notes database is a single, self-contained entity as far as the workstation operating system is concerned. A workstation operating system such as AIX has no knowledge of the structure or contents of a Lotus

Notes database. Lotus Notes databases can become very large files, often growing to hundreds of megabytes in size.

Management Classes

Because each note is backed up as an individual object, it is important to assign a single management class to all the notes in a given Lotus Notes database. If all the notes in a database are not managed in the same way, then rebuilding an entire database from backup copies of single notes cannot be guaranteed. For more information on management classes, see *ADSTAR Distributed Storage Manager Using the UNIX Backup-Archive Clients* and *ADSTAR Distributed Storage Manager for AIX: Administrator's Reference*. See also "Step 3C: Creating an Include-Exclude Options File (Optional)" on page 14.

Security

The ADSMConnect Agent allows a user to only restore documents that were backed up by that user. The AIX superuser (root) can restore documents backed up by any user.

Users should make sure that they have access to the databases and documents they wish to back up. The ADSMConnect Agent generates an error message if it fails to open the Lotus Notes database. However, The ADSMConnect Agent does not warn users that some documents are inaccessible to them.

Because the ACL information is restored into a newly created Lotus Notes database, the Lotus Notes access restrictions apply in the newly created database. It is not possible for another user to access a note in a newly restored database if it was not possible in the original database.

It is important that different users on the same AIX system do not confuse each other. Therefore, the ADSMConnect Agent DSMNOTES_ variables in the **notes.ini** files should point to the users' own home directories if the users share a Lotus Notes data directory. The ADSMConnect Agent overwrites log and trace files without a warning message, or refuse to open them if the permissions do not allow it.

Each unique Lotus Notes user on the same AIX system should have a unique node name. It is recommended that the node name be specified in the **dsm.sys** under the server stanza that the user is using. If the node name is specified in the **dsm.opt** file, the user gets ADSM virtual root access.

Performance Considerations

The first time you back up an entire Lotus Notes database, the operation is significantly slower using the ADSMConnect Agent for Lotus Notes than with using a regular ADSM client. Extra processing occurs with the ADSMConnect Agent in order to break down the contents of the database into individual notes that can be restored later. You need to decide whether backup and restore through the ADSMConnect Agent for Lotus Notes or a regular ADSM client better serves your purpose for a particular database.

Scheduling

The ADSMConnect Agent for Lotus Notes does not have its own scheduling mechanism. However, Lotus Notes provides a facility through which the ADSMConnect Agent commands can be scheduled to run at some later time. You can also use the scheduling facility of the ADSM backup-archive client to schedule the ADSMConnect Agent commands.

For example, you can set up a Lotus Notes Program form or an ADSM schedule to run a **dsmnotes incr** command on a particular database at a certain time each week.

See the *Lotus Notes Administrator's Guide* (published by Lotus Notes) or *Using the UNIX Backup-Archive Clients* for more information on the automatic scheduling facility.

Compatibility

Note that the ADSMConnect Agent for Lotus Notes on AIX databases are not compatible with the Lotus Notes Backup Agent for other platforms. A Lotus Notes database backed up using other platforms such as ADSMConnect Agent for Lotus Notes on Windows NT or OS/2 Backup Agent cannot be restored using the ADSMConnect Agent for Lotus Notes on AIX and vice versa. The ADSMConnect Agent for Lotus Notes on AIX displays an error message if it discovers an incompatible file format on the ADSM server.

Also, the ADSMConnect Agent for Lotus Notes on AIX does not support the backing up or restoring of a remote Lotus Notes database. You can install the ADSMConnect Agent for Lotus Notes on AIX on all systems that have Lotus Notes databases and use the local system to back up Lotus Notes databases.

Chapter 2. Installing the ADSMConnect Agent for Lotus Notes on AIX

This section provides instructions to install and set up the ADSMConnect Agent for Lotus Notes on AIX on your workstation.

The ADSMConnect Agent for Lotus Notes is ordered separately on a CD-ROM and has its own installation program. The CD-ROM also contains the permanent license.

The installation steps using the CD-ROM are:

- Step 1—Install the ADSMConnect Agent for Lotus Notes (required)
- Step 2—Set up the environment variables
- Step 3—Set up the client options files
- Step 4—Register your workstation with the server

ADSMConnect Agent for Lotus Notes Environment

This section contains client environment information and hardware and software requirements for installing the ADSMConnect Agent for Lotus Notes.

Hardware Requirements

The hardware requirements are:

- RISC RS/6000* workstation
- Disk space of 4 MB
- Minimum recommended memory of 64 MB

Operating System

The operating system requirements are:

- AIX Version 4.2 or later
- AIXWindows*, including Motif** (for end user GUI only)

You do not need to have the ADSM backup-archive client in order to run the ADSMConnect Agent for Lotus Notes.

Software Requirements

The ADSMConnect Agent for Lotus Notes requires the following:

- Access to an ADSM Version 2 server
- Lotus Notes for AIX Version 4.5 or later

Communication Methods

The table below shows the communication protocols that the ADSMConnect Agent for Lotus Notes can use.

<i>Table 2. Communication Software</i>	
Method	Description
TCPIP	Specifies the use of TCP/IP as a communication protocol
SHAREDMEM	Specifies the use of Shared Memory as a communication protocol
SNALU6.2 (APPC)	Specifies the use of SNA LU6.2 (APPC) as a communication protocol

For more information about the communication methods, see *ADSTAR Distributed Storage Manager Installing the Clients*.

Before Installing the ADSMConnect Agent

Important:

The canonical Lotus directory is **/opt/lotus**. If the Lotus Notes software is installed in a different directory, for example, **/mydir/lotus**, you **must** do the following:

```
mkdir /opt
cd /opt
ln -s /mydir/lotus /opt/lotus
```

The following software must also be installed on your system:

C/C++ Libraries

From the C/C++ Compiler

Library /usr/lib/libpthreads.a

From fileset **bos.rte.libpthreads**.

Library /usr/lib/libc_r.a

From fileset **bos.rte.libc**.

Library /usr/lib/libs.a

From fileset **bos.rte.libs**.

Library /usr/lib/libDtHelp.a

From fileset **X11.Dt.lib**.

The above software are standard libraries shipped with AIX.

Step 1: Installing the ADSMConnect Agent for Lotus Notes

The following instructions assume that AIX is already running on the client workstation. The install directory is:

```
/usr/lpp/adsmagent/lnotes
```

To install the ADSMConnect Agent for Lotus Notes on AIX from the CD-ROM, do the following:

- 1** Insert the ADSMConnect Agent CD-ROM into the CD-ROM reader on your workstation.
- 2** From the AIX command line, enter **smitty install** and press the **Enter** key.
- 3** Select **Install and Update Software** on the screen and press the **Enter** key.
- 4** Select **Install and Update from LATEST Available Software** and press **Enter**.
- 5** Select **INPUT device / directory for software**.
- 6** Enter **/dev/cd0** and press **Enter**.
- 7** Select any option and press **Enter** to install.

ADSMConnect Agent Files

Table 3 lists the files that are used by the ADSMConnect Agent for Lotus Notes and are stored in **/usr/lpp/adsmagent/lnotes**.

<i>Table 3. ADSMConnect Agent for Lotus Notes Files</i>	
File Name	Description
README.DSMNOTES	Last minute updates and other special information
dsmnotes	Main executable file for the command-line interface
dsmlog	Executable file for the maintenance of log files (available in the command-line interface only)
libdsmext_r.a	Shared AIX library
libdsmnotes_r.a	Shared AIX library for the GUI
dsm.sys.smp	Sample ADSM API client system options file
dsm.opt.smp	Sample ADSM API client user options file
options.doc	Documentation for ADSM API client options
dsmapioca	Trusted Agent program
agent.lic	Permanent License

The following language files are stored in **/usr/lpp/adsmagent/lnotes/en_US**:

File Name	Description
dsmclient.cat	ADSM API message file
dsmlog.1	dsmlog AIX manual page
dsmlog.cat	dsmlog message file
dsmnotes.1	dsmnotes AIX manual page
dsmnotes.cat	dsmnotes message file
dsmnotes.sdl	ADSMConnect Agent online help resource file

The following symbolic links are created in your system after the installation:

Symbolic Link	Physical File
/etc/dt/appconfig/help/C/dsmnotes.sdl	/usr/lpp/adsmagent/lnotes/en_US/dsmnotes.sdl
/usr/share/man/cat1/dsmnotes.1	/usr/lpp/adsmagent/lnotes/en_US/dsmnotes.1
/usr/share/man/cat1/dsmlog.1	/usr/lpp/adsmagent/lnotes/en_US/dsmlog.1
/bin/dsmnotes	/usr/lpp/adsmagent/lnotes/dsmnotes
/opt/lotus/notes/latest/ibmpow/dsmnotes	/usr/lpp/adsmagent/lnotes/dsmnotes
/bin/dsmlog	/usr/lpp/adsmagent/lnotes/dsmlog
/opt/lotus/notes/latest/ibmpow/dsmlog	/usr/lpp/adsmagent/lnotes/dsmlog
/usr/lib/nls/msg/en_US/dsmnotes.cat	/usr/lpp/adsmagent/lnotes/en_US/dsmnotes.cat
/usr/lib/nls/msg/en_US/dsmnotes.sdl	/usr/lpp/adsmagent/lnotes/en_US/dsmnotes.sdl
/usr/lib/nls/msg/en_US/dsmlog.cat	/usr/lpp/adsmagent/lnotes/en_US/dsmlog.cat
/opt/lotus/notes/latest/ibmpow/libdsmnotes_r.a	/usr/lpp/adsmagent/lnotes/libdsmnotes_r.a
/opt/lotus/notes/latest/ibmpow/libdsmext_r.a	/usr/lpp/adsmagent/lnotes/libdsmext_r.a

Step 2: Setting Environment Variables

Updating Your .profile File

The following variables need to be set in the user's environment to use the ADSMConnect Agent for Lotus Notes.

Add these variables to the **.profile** file.

Note that:

- The PATH needs to include the:
 - Lotus Notes data directory
 - Lotus Notes executables
 - dthelpview facility

- The Notes_ExecDirectory environment variable is required because the ADSMConnect Agent uses the Lotus Notes APIs.
- The ADSM API uses the following unique environment variables to locate files:

DSMI_CONFIG

is the fully qualified name for the **dsm.opt** file.

DSMI_DIR points to the path containing **dsm.sys** and **dsmapi.ca**. This environment variable must also point to the directory that contains the **en_US** directory (which contains the **dsmclient.cat** file). See example below.

DSMI_LOG

points to the path for the **dsierror.log** file. The error log file contains information about ADSM API errors that occur during processing.

The error log is intended for IBM service personnel to help you diagnose severe errors.

This example assumes that your Lotus Notes data directory is **\$HOME/notesr4**.

```
export LOTUS=/opt/lotus
export PATH=$PATH:$LOTUS/bin:$HOME/notesr4:/usr/dt/bin
export Notes_ExecDirectory=$LOTUS/notes/latest/ibmpow
export DSMI_CONFIG=/usr/lpp/adsmagent/1notes/dsm.opt
export DSMI_DIR=/usr/lpp/adsmagent/1notes
export DSMI_LOG=$HOME
```

Updating Your notes.ini File

The ADSMConnect Agent for Lotus Notes installation program automatically adds the AddInMenus variable to your **notes.ini** file. AddInMenus ties ADSM to the Lotus Notes Workspace. This is required to use the graphical user interface version of the ADSMConnect Agent for Lotus Notes. For example, the entry in your **notes.ini** file might look as follows:

```
AddInMenus=dsmnotes_r
EXTMGR_ADDINS=libdsmext_r.a
```

If these lines are not added to the **notes.ini** file automatically during installation, you can add it manually. Edit the **notes.ini** file in your Lotus Notes data directory (for example, **\$HOME/notesr4**).

You can set the following environment variables in your **notes.ini** file. All of the variables are optional.

DSMNOTES_LOGDIR

ADSMConnect Agent log messages are sent to a file called **log.dsm**. Use DSMNOTES_LOGDIR to point to the directory where the log file is located. For example, the entry in your **notes.ini** file might look as follows:

```
DSMNOTES_LOGDIR=/home/monte/logdir
```

If you do not set this environment variable, the default location for **log.dsm** is the Notes data directory.

If you do not have a Notes data directory, this environment variable is required.

The **log.dsm** file does not wrap, so each log entry is appended to the file. Because this file grows over time, it must be manually managed as appropriate. You can use the **dsmlog** utility to manage the **log.dsm** file.

Note: The ADSM API library messages are found in the **dsierror.log** file (not in the **log.dsm** file).

DSMNOTES_STATS

Use DSMNOTES_STATS to send messages to the screen when a **dsmnotes** command line function is run. The messages show the current status of the command. For example, the entry in your **notes.ini** file might look as follows:

```
DSMNOTES_STATS=verbose
```

If **verbose** is specified, then two types of status indicators can appear on the screen:

- One or more dots (.), indicating that processing is continuing. Depending on the environment, you might experience delays between dots. For example, delays might occur when searching very large Lotus Notes databases for deleted documents. There might also be delays when waiting for off-line media to be mounted.
- Messages showing the result of the command when the command has completed processing. The messages display information such as:
 - The number of documents that have been transferred
 - Whether the **dsmnotes** command completed without any errors

The default is for status messages to not be displayed on your screen. You can specify this by adding the following entry to your **notes.ini** file:

```
DSMNOTES_STATS=quiet
```

Note: Displaying the status messages on your screen affects the performance of **dsmnotes** operations, such as incremental backup and restore.

For these environment variables to take effect, shut down the Notes Workspace and bring it back up.

Step 3: Creating the Options Files

The following sections provide instructions for the root user to set up ADSM. These sections cover only the options essential for creating the three types of ADSM options files. See *ADSTAR Distributed Storage Manager Installing the Clients* for more information about the available options.

Step 3A: Creating the Client System Options Files

The client system options file identifies one or more ADSM servers to contact for services, and specifies required communication options for each server. It can also include authorization options, backup and archive processing options, and scheduling options for each server.

The ADSMConnect Agent includes a sample client system options file named **dsm.sys.smp** that contains the minimum options required to get started using the ADSMConnect Agent. If you choose, you can add other options to the file as part of your initial setup, and you can change or add options later. File **dsm.sys.smp** resides in **/usr/lpp/adsmagent/lnotes/dsm.sys.smp** after the initial code installation.

To create the client system options file, copy **dsm.sys.smp** to **dsm.sys**. The options file must reside in the directory where the environment variable, DSML_DIR, points, which we assume to be **/usr/lpp/adsmagent/lnotes**.

Required and Optional Entries

As the default, your client node contacts the first server identified in the client system options file. Users can specify a different server to contact by entering SERVERNAME option in their own client user options files.

The example below shows a client system options file with three stanzas. The first stanza shows a COMMETHOD of TCPiP. The second stanza shows a COMMETHOD of SNALU6.2. The third stanza shows a COMMETHOD of SHARED MEM.

```
Servername  server_a
  COMMmethod  TCPiP
  TCPPort    1500
  TCPServeraddress  server_a.domain.company.COM
  Passwordaccess  prompt
  Incl excl   /home/deanna/notesr4/backup.ie
  NODename   lnuser_a

Servername  server_b
  COMMmethod  SNALU6.2
  PARTnerluname  raptor
  TPname      appcdel
  CPICMODename  appc
  Passwordaccess  generate
  Mailprog    /usr/bin/xsend root
  SYMBolicdestination  myserver
  Incl excl   /home/deanna/notesr4/backup.ie
  NODename   lnuser_b

Servername  server_c
  COMMETHOD  SHARED MEM
  SHMPort     1510
  NODename   lnuser_c
```

Required Options for TCP/IP: The required options are:

SERVERNAME

A name you want to assign to a server to contact for services. You can obtain server information from your ADSM administrator.

A server name can be as many as 8 characters and is not case sensitive.

COMMMETHOD

For each SERVERNAME entry, use this option to choose the communication method to be used for client server communications. You can specify **TCPIP** for the TCP/IP communication method.

TCPPORT The TCP/IP port address used to communicate with the ADSM server. You can obtain the port address from your ADSM administrator. You do not need to set this option if the port is 1500.

TCPSEVERADDRESS

The TCP/IP internet address for an ADSM server. Contact your ADSM administrator for the server address.

Required Options for SNA LU6.2 (APPC): The required options are:

SERVERNAME

A name you want to assign to a server to contact for services. Contact your ADSM administrator for server information.

A server name can be as many as 8 characters and is not case sensitive.

COMMMETHOD

For each SERVERNAME entry, use this option to choose the communication method to be used for client server communications. You can specify **SNALU6.2** for the SNA LU6.2 communication method.

PARTNERLUNAME

The logical unit name used by the transaction program to identify the ADSM server in the SNA network. Contact your ADSM administrator for this name.

TPNAME A symbolic name for the transaction program name. Contact your ADSM administrator for this name.

CPICMODENAME

The mode for identifying the SNA connection to the gateway and target logical unit. Contact your ADSM administrator for this name.

SYMBOLICDESTINATION

The symbolic name for the ADSM server. Contact your ADSM administrator for this name.

Required Options for Shared Memory: The required options are:

SERVERNAME

A name you want to assign to a server to contact for services. You can obtain server information from your ADSM administrator.

A server name can be as many as 8 characters and is not case sensitive.

COMMMETHOD

For each SERVERNAME entry, use this option to choose the communication method to be used for client server communications. You can specify **SHAREDMEM** for the Shared Memory communication method.

SHMPort **SHMPort** specifies the TCP/IP protocol to be used for the initial connection. The default value is 1510. You can specify a value from 1000 to 32767. Contact your system administrator for this value.

Note: Depending on the AIX software installed, you might be able to establish a maximum of ten concurrent shared memory communications sessions when running ADSM.

Optional Entries: There are many other options you can set in the client system options file. You are not required to set a value for each option. If you do not set a value for an option, ADSM uses a default value. See *ADSTAR Distributed Storage Manager Installing the Clients* for a complete list of options.

NODename

If the ADSM backup-archive client is installed on the same system as the ADSMConnect Agent, it is highly recommended that the ADSMConnect Agent be a separate node from the ADSM backup-archive client. This enables the file spaces for the two functions to be managed separately.

PASSWORDACCESS

Specifies whether users are prompted for a password if an ADSM password is required on your workstation. Your ADSM administrator determines whether passwords are necessary.

Note that the first time you connect to the ADSM server, you must be the root user to establish the password.

You can set PASSWORDACCESS to one of the following:

PROMPT If you want ADSM to prompt users for the ADSM password for your workstation each time they request services from the server. This is the default if you do not modify this option.

GENERATE

If you do not want ADSM to prompt users for a password. The ADSM password for your workstation is encrypted and stored locally. ADSM automatically generates a new password when the current password expires.

MAILPROG

Specifies the program and user ID to which you want ADSM to send a newly-generated password when the old one expires. The program must accept standard input. Enter values for this option only when you choose GENERATE for PASSWORDACCESS.

INCLEXCL Allows you to use an include-exclude options file.

If you do not use the GROUPS and USERS options to limit access, all groups and users on the workstation can use ADSM.

Step 3B: Creating the Client User Options File

The ADSMConnect Agent provides a sample client user options file named **dsm.opt.smp**. You must copy the sample file to create a client user options file. The example below shows a sample client user options file. The server name is defined in the **dsm.sys** file.

```
SErvername server_a
```

The **dsm.opt.smp** file is in directory **/usr/lpp/adsmagent/lnotes/dsm.opt.smp**.

To create a default client user options file, copy **dsm.opt.smp** to **dsm.opt**. The **dsm.opt** file must be pointed to by the DSMI_CONFIG environment variable.

Note: If you must reinstall ADSMConnect Agent, do not copy the **dsm.opt.smp** file if you have already modified your **dsm.opt** file and do not want to overwrite it.

SERVERNAME

If you identified and entered options for more than one ADSM server in your client system options file, you can use this option to specify the one to use for backup-archive services.

If you do not specify a particular server, the client program on your workstation contacts the default server identified in the client system options file.

In the client user options file, you can also set options that determine which formats to use for date, time, and numbers, a language option, and options that affect backup and restore processing.

For more information about setting options in your user options file, see *ADSTAR Distributed Storage Manager Installing the Clients*.

Step 3C: Creating an Include-Exclude Options File (Optional)

An include-exclude options file contains statements that identify any database files you want to specifically include or exclude from backup services. You can enter broad statements that exclude entire groups of database files. Then, if necessary, you can enter include statements to make exceptions to those broad statements.

Another important use for an include-exclude options file is to use include statements to assign specific management classes to specific database files or groups of database files. ADSM uses a default management class for any database files to which you do not assign a specific management class.

If you do not create an include-exclude options file, ADSM considers all files for backup services and uses the default management class. The example below shows a sample include-exclude options file.

Note: The ADSMConnect Agent for Lotus Notes requires that Lotus Notes database file names end with */.../**.

```
(1) include * special_mc
(2) exclude /notesr4/h*.nsf/.../*
(3) include /notesr4/home.nsf/.../*
(4) include /notesr4/mydbs/*.nsf/.../* personal_dbs
(5) exclude /.../junk.nsf/.../*
```

The statements have the following meaning:

1. The database files below will be assigned to the management class **special_mc**.
2. Exclude all **nsf** files in the Lotus Notes data directory **notesr4** that start with an **h**.
3. Regardless of excluding all database files that start with an **h**, include the database **home.nsf**.
4. Include all databases (***.nsf**) in the subdirectory (**mydbs**) of the Lotus Notes data directory. Include all these nsf files with a management class of **personal_dbs**.
5. Exclude any Lotus Notes database that has a file name of **junk.nsf**.

You can use a wildcard in place of a specific file name. In the sample include-exclude options file, **personal_dbs** identifies the management class to assign to all Lotus Notes databases under the directory **/notesr4/mydbs**.

For more information about management classes, see *ADSTAR Distributed Storage Manager Installing the Clients*.

To create an include-exclude options file, follow these steps:

- 1** Determine your include and exclude requirements.
- 2** Create a file with a name of your choice. The file can be located in any directory to which all users on your workstation have read access.
- 3** Enter your include and exclude statements.
- 4** Enter the name of your include-exclude options file in your client system options file using the INCLEXCL option.

Note: *It is highly recommended that you have a separate include-exclude option file for the ADSMConnect Agent for Lotus Notes.*

Step 4: Registering Your Workstation with the Server

Before users can begin requesting services from an ADSM server, you must register your system. It is recommended that you register a unique node name for each ADSMConnect Agent for Lotus Notes user on your system.

If you plan to do any of the optional setup steps, you can complete those steps before or after you complete this one.

Your ADSM administrator chooses the type of ADSM registration. The ADSMConnect Agent does not offer open registration, therefore, only closed registration is discussed here.

Using Closed Registration

With closed registration, an ADSM administrator must register your workstation as a client node with the server.

With closed registration, you need to provide the following information to your administrator (the administrator might provide some of this information):

- Your node name (it is recommended that you choose a node name that is different from the HOSTNAME.)
- The initial password you want to use, if a password is required
- Contact information, such as your name, user ID, and phone number

Your administrator defines the following for you:

- The ***policy domain*** to which your client node belongs. A policy domain contains policy sets and management classes that control how ADSM manages the database files you back up. A policy domain is defined by your ADSM administrator.
- Whether a root user on your workstation is allowed to choose whether files are compressed before they are sent to the server.
- Whether a root user on your workstation is allowed to delete backup and archive data from ADSM storage, and whether users are allowed to delete archive data.

Chapter 3. Before Using the ADSMConnect Agent

This section provides information you should know before you start using the ADSMConnect Agent for Lotus Notes.

The ADSMConnect Agent enables you to perform the following tasks:

- Back up a database (command-line only)
- Restore selected documents from a database
- Restore documents that have been deleted but not yet purged
- Restore a copy of an entire database
- Set and change the ADSM password
- Manage the ADSMConnect Agent's **log.dsm** file (command-line only)
- Get online help

Some of these tasks can be performed by using a graphical user interface (the Lotus Notes Workspace). Others can be accomplished through a command line interface.

Note that backup and restore can occur only for databases that reside on the node on which the **dsmnotes** command or Lotus Notes Workspace runs.

Security

From the Lotus Notes workspace, you can restore documents to databases on the local Lotus Notes servers. Because Lotus Notes security is honored, you cannot read or write documents in a restored database that the original database would not give you access to.

ADSM security is also honored. To gain access to an ADSM server, you must enter the corresponding ADSM password.

In order to restore a document, you must be logged on as the same user that backed up the document or as the root user.

Path Name Specification

The path names for the **dsmlog** files and the **dsmnotes** log and trace files are normal AIX path names. For example, **FOO** is a different file from **foo**. A relative path name is relative to the current working directory. For example, **foo** is the same as **./foo**. You can also refer to files in the parent directory (**../foo**).

The path names for Lotus Notes databases and directories are treated a little differently for the ADSMConnect Agent. There is a relative path name (**foo**) which is interpreted as relative to the Lotus Notes data directory. Therefore, the file **foo** is not the same as **./foo**, which is still relative to the current working directory. In addition, AIX path names can start with a **~/foo**, which indicates it is in the current user's home directory. The path name **~/bar/foo** indicates the home directory of user **bar**. This can be specified on the command line and, for consistency, in the graphical user interface.

The general rules to follow when a database path name is required are specified below.

A directory

Contains one or more Lotus Notes databases that are being backed up or restored.

A Lotus Notes database

That is being backed up or restored.

/dir/file.nsf or /dir

Back up or restore the indicated database or all databases in the indicated directory.

/file.nsf or /dir

Back up or restore the indicated database, or all databases in the indicated directory, in the home directory of the current user.

user/file.nsf or user/dir

Back up or restore the indicated database, or all databases in the indicated directory, in the home directory of account **user**.

./file.nsf or ./dir

Back up or restore the indicated database, or all databases in the indicated directory, in the current working directory.

../file.nsf or ../dir

Back up or restore the indicated database, or all databases in the indicated directory, in the parent directory of the current working directory.

file.nsf or dir

Back up or restore the indicated database, or all databases in the indicated directory, in the Lotus Notes data directory.

* Back up or restore all databases in the Lotus Notes data directory. Note that the * character is treated specially by most shells and therefore, needs to be protected by a back slash character.

Interrupting the ADSMConnect Agent

If you need to interrupt the **dsmnotes** command, you can use the **Ctrl-C** keys to interrupt the command.

If you are in the graphical user interface, you can stop the operation by quitting Lotus Notes.

What Happens Over Time

Backup versions of notes on an ADSM server are similar to the backup versions of files stored by the ADSM backup-archive client. The file space on an ADSM server in which a set of backup copies of notes resides corresponds to a Notes database.

Whether a particular version of a database can be rebuilt depends on the number of inactive copies that are kept on the ADSM server. When the maximum number allowed

is reached, new backups cause the oldest inactive copies to be rolled off. Once a backup copy of a note has been removed from the ADSM server, it cannot be restored.

For example, suppose you have a Notes database with only two notes in it, **Note A** and **Note B**. **Note A** is updated frequently, while **Note B** seldom changes. An incremental backup is performed on the Notes database each night. Assume the ADSM server keeps one active copy and one inactive copy of a backed up note.

On day one, after the first incremental backup, the ADSM server contains an active copy of **Note A** and an active copy of **Note B**. On day two, **Note A** is updated, while **Note B** is not. After the nightly backup, the ADSM server contains one active and one inactive copy of **Note A** and the original active copy of **Note B**.

On day three, **Note A** is updated again, while **Note B** is not. During the next incremental backup, the current version of **Note A** becomes the active backup copy and the active copy on the ADSM server becomes the inactive copy. Because only one inactive backup copy is maintained on the ADSM server, the inactive copy created on day two is rolled off. The active copy of **Note B** remains unchanged.

Given this scenario, you can rebuild the database to either a day three or a day two version. You cannot rebuild a day one version of the database because the day one version of **Note A** is no longer available. You could restore a day one version of **Note B** because that version is still available on the ADSM server.

This example illustrates the importance of determining the optimal number of backup copies to keep on the ADSM server. Your ADSM administrator might want to set up a separate domain with a suitable default management class specifically for Notes data.

To avoid the need for keeping many backup copies of individual notes on the ADSM server, the ADSM administrator might choose to combine periodic full file backups of Notes databases with more frequent incremental backups. For example, the ADSM backup-archive client could be used to perform full file backups once a week, while the ADSMConnect Agent for Lotus Notes could perform a daily incremental backup. If you needed to rebuild the database later, you could restore the last full file backup with the ADSM backup-archive client. Then you could use the ADSMConnect Agent for Lotus Notes **dsmnotes restore** command with the MERGE=YES option to combine the most recently backed up notes with the Lotus Notes database.

Chapter 4. Using the Command-Line Interface

This section documents the following commands:

dsmlog Saves ADSM and ADSMConnect Agent log files in the Lotus Notes Log databases. This allows the user to manage the log files.

dsmnotes change
Allows you to change the ADSM password without doing a backup or restore operation.

dsmnotes incr
Provides incremental backup capability for the Lotus Notes database.

dsmnotes restdel
Restores backup copies of data documents that have been deleted but not yet purged from the database.

dsmnotes restore
Provides restore capability when the Lotus Notes Workspace is inappropriate.

Using the Command Line

Enter commands for the ADSMConnect Agent on the command line. If you are using the Common Desktop Environment (CDE) on AIXWindows, enter the commands on an AIXterm, `extern`, or a corresponding window.

Within a command, the path variable and the options can be in either order. For example, you might enter either of the following:

```
dsmnotes command path [options]
dsmnotes command [options] path
```

When an option is used, it must start with a hyphen and have no spaces around the equals sign. For example, use:

```
-adsmpw=mypass
```

not one of the following:

```
adsmpw=mypass
-adsmpw = mypass
```

The syntax diagrams show the minimum unique abbreviation for the commands and parameters in uppercase. For example, if you use the MOUNTWAIT option, you can enter MO as the abbreviation for this option.

For an explanation of the syntax diagrams that accompany each command, see "Reading Syntax Diagrams" on page vii.

dsmlog

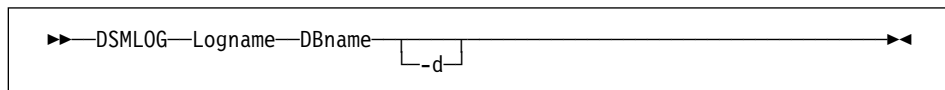
This command saves ADSMConnect Agent log file entries in a Lotus Notes log database file. The entries can then be better managed. For example, you can back up, archive, or delete files in the log database.

This command can also be used to save entries in other ADSM log files:

- dsmerror.log
- dsmsched.log
- dsierror.log

The Lotus Notes log database must already exist; this command does not create a new database. All output is written to standard output.

Syntax



Parameters

- Logname** The path name to the ADSMConnect Agent for Lotus Notes log file, usually **log.dsm** in the Lotus Notes data directory.
- DBname** The path name to the Lotus Notes log database file, usually **log.nsf** in the Lotus Notes data directory.
- d** Deletes the ADSMConnect Agent for Lotus Notes log file after saving the log entries in it. The ADSMConnect Agent for Lotus Notes appends the log entries in the log file and **dsmlog** always saves the whole file. Therefore, if this option is not used, the log entries might be saved more than once.
- The log file is not deleted unless the entries can be copied without errors.

Example

This example of the **dsmlog** command provides the path name to an ADSMConnect Agent Lotus Notes log file, **log.dsm**, and path name to a Lotus Notes log database, **log.nsf**.

```
dsmlog /home/deanna/logBasket/log.dsm log.nsf
```

This example of the **dsmlog** command deletes **log.dsm** after saving the log entries in it.

```
dsmlog /home/deanna/logBasket/log.dsm log.nsf -d
```

dsmnotes change

This command allows the user to change the ADSM password without doing either a backup or restore operation. Changing the ADSM password requires the user to be a root user.

Syntax

```
▶▶—DSMNOTES CHange—-ADSMPW=oldpassword—-NEWADSMpw=newpassword—▶◀
```

Parameters

-ADSMPW=*oldpassword*

The old password. ADSM uses ADSMPW to validate the old ADSM password and then uses NEWADSMPW to set the new ADSM password.

-NEWADSMpw=*newpassword*

The new password. ADSM uses ADSMPW to validate the old ADSM password and then uses NEWADSMPW to set the new ADSM password.

Example

This example shows the setting of the old password to the new password.

```
dsmnotes change -ADSMPW=oldid -NEWADSMPW=newid
```

dsmnotes incr

Use the **dsmnotes incr** command to incrementally back up a Lotus Notes database. If no backup copy of the database file exists on the ADSM server, then a copy of the entire database is sent to the server. If the ADSMConnect Agent for Lotus Notes has previously been used to back up the database, then only the changes in the database since the last backup are sent to the server.

Both documents and design notes, such as forms and views, are backed up. Because each note is backed up as a separate object, individual data notes can be restored later. The database header information such as replication information, Access Control List (ACL), and the database title are also backed up.

Be sure that each note in a given Lotus Notes database is assigned to the same management class. If all of the notes in a database are not managed in the same way, you might not be able to rebuild the entire database from the backup copies of the notes.

Each time a backup operation is performed, summary messages are sent to the **log.dsm** file. When a single database is backed up, the following information is sent to **log.dsm**.

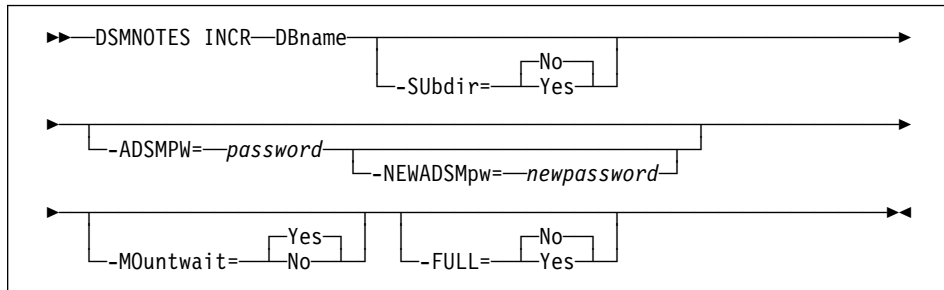
```
dsmnotes incr start
Database: /notes/data/test/abc.nsf
Documents backed up: 100, documents deleted: 1
Total number of bytes sent: 60873
ANS0900I dsmnotes completed
```

If you use a wildcard character in the path name to back up multiple databases, statistics on each database, as well as an overall total, are sent to **log.dsm**.

```
dsmnotes incr start
Database: /notes/data/test/abc.nsf
Documents backed up: 100, documents deleted: 1
Database: /notes/data/test/def.nsf
Documents backed up: 500, documents deleted: 1
Total number of documents backed up: 600
Total number of documents deleted: 2
Total number of bytes sent: 1256.1 KB
ANS0900I dsmnotes completed
```

Note that the **log.dsm** file continues to grow as **dsmnotes** operations send messages to it. You should monitor the size of the file and trim messages or archive the file regularly to control its growth. For information on how to manage the log file, see “dsmlog” on page 22.

Syntax



Parameters

DBname This is a required parameter and indicates one of the following path names:

A directory

That contains one or more Lotus Notes databases that are being backed up. To include subdirectories, specify the SUBDIR=YES option.

A Lotus Notes database

That is being backed up.

In either case, the path name can be either a relative or an absolute path name, with the following cases:

/dir/file.nsf or /dir

Back up the indicated database or all databases in the indicated directory.

~/file.nsf or ~/dir

Back up the indicated database, or all databases in the indicated directory, in the home directory of the current user.

~user/file.nsf or ~user/dir

Back up the indicated database, or all databases in the indicated directory, in the home directory of account **user**.

./file.nsf or ./dir

Back up the indicated database, or all databases in the indicated directory, in the current working directory.

../file.nsf or ../dir

Back up the indicated database, or all databases in the indicated directory, in the parent directory of the current working directory.

file.nsf or dir

Back up the indicated database, or all databases in the indicated directory, in the Lotus Notes data directory.

- * Back up all databases in the Lotus Notes data directory. Note that the * character is treated specially by most shells and therefore, needs to be protected by a back slash character.

-Subdir=value

This parameter is optional. It indicates whether subdirectories are backed up or not. The default is **No**. Possible values are:

- No** If the DBNAME option specifies a directory, only the databases in the specified directory are backed up.
- Yes** If a directory is specified, all databases in the specified directory *and all subdirectories* are backed up.

-ADSMPW=password

This parameter is optional. This parameter is the ADSM password for the ADSM server. If you specified PASSWORDACCESS GENERATE in the client options file, then ADSMPW is ignored. The password is sent to the ADSM server to authenticate the user.

-NEWADSMpw=newpassword

The new password for the ADSM server. The ADSMPW option must also be supplied to authenticate the user, even if PASSWORDACCESS GENERATE was specified in the client options file. This option can be used to change the password for the ADSM server, for example, if the old password has expired. You must be a root user to use this option.

-MOutwait=value

This parameter is optional. This parameter is used if you do not want ADSM to wait for a tape mount if one is necessary. The default is **Yes**. Possible values are:

- Yes** The backup process will wait for a tape mount if one is necessary.
- No** The backup process will not wait for a tape mount. If a tape mount is necessary, the operation is cancelled.

-FULL=value

This parameter is optional. This parameter is used to initiate a complete backup, including notes that have not been modified since the last backup. The default is **No**. Possible values are:

- No** Back up only new and modified notes in the database.
- Yes** Back up all of the notes in the specified database, whether or not they have been modified since the last backup.

Example 1

Task Back up the database **lnotes1.nsf**. Do not wait for tape mounts. This assumes PASSWORDACCESS PROMPT was specified in the client options file.

Command

```
dsmnotes incr /lotus/deanna/lnotes1.nsf -mountwait=no  
-admpw=mypassword
```

Example 2

Task Perform a complete backup of all databases in the directory **/lotus** and in any subdirectories on **/lotus**. In this example, PASSWORDACCESS GENERATE was specified in the client options file.

Command

```
dsmnotes incr /lotus -subdir=y -full=y
```

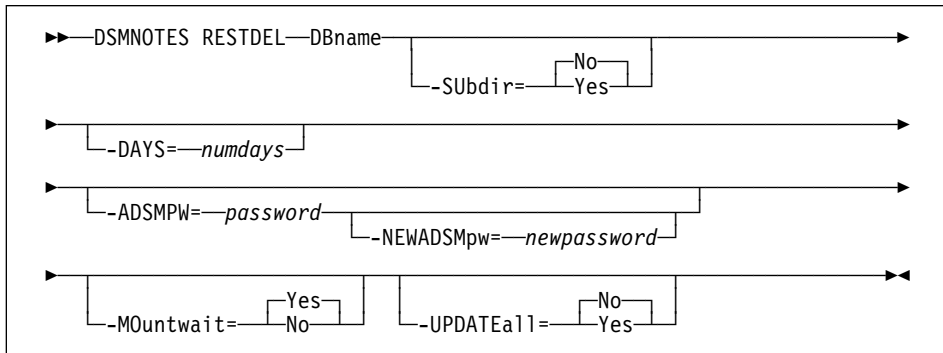
dsmnotes restdel

Lotus Notes documents that are deleted are actually made into **deletion stubs** which cannot be accessed directly but which still reside in the database. The deletion stubs are eventually removed from the database, according to a *purge* value set by the Lotus Notes administrator.

The **dsmnotes restdel** command allows you to restore all data documents saved on the ADSM server for which there exists valid deletion stubs in the indicated Lotus Notes database. The deleted documents are merged into the Lotus Notes database, which must exist.

Note that Lotus Notes deletes the deletion stubs after a user—adjustable time period. After the deletion stub is purged, **dsmnotes restdel** cannot be used to restore the document. Use **dsmnotes restore** to restore the whole database to an earlier version, and then copy the restored documents to the current database.

Syntax



Parameters

DBname This is a required parameter and indicates one of the following path names:

A directory

That contains one or more Lotus Notes databases that are being restored. To include subdirectories, specify the SUBDIR=YES option.

A Lotus Notes database

That is being restored.

In either case, the path name can be either a relative or an absolute path name, with the following cases:

/dir/file.nsf or /dir

Restore the indicated database or all databases in the indicated directory.

/file.nsf or /dir

Restore the indicated database, or all databases in the indicated directory, in the home directory of the current user.

user/file.nsf or user/dir

Restore the indicated database, or all databases in the indicated directory, in the home directory of account **user**.

./file.nsf or ./dir

Restore the indicated database, or all databases in the indicated directory, in the current working directory.

../file.nsf or ../dir

Restore the indicated database, or all databases in the indicated directory, in the parent directory of the current working directory.

file.nsf or dir

Restore the indicated database, or all databases in the indicated directory, in the Lotus Notes data directory.

* Restore all databases in the Lotus Notes data directory. Note that the * character is treated specially by most shells and therefore, needs to be protected by a back slash character.

-Subdir=value

This parameter is optional. It indicates whether subdirectories are restored or not. This option is not available in the graphical user interface. The default is **No**. Possible values are:

No If the DBNAME option specifies a directory, only the databases in the specified directory are restored.

Yes If a directory is specified, all databases in the specified directory **and all subdirectories** are restored.

-DAYS=numdays

If this option is set to a nonzero value, only documents deleted within the last **numdays** days are restored. If this option is not specified or is set to 0, then all documents that have been deleted but not yet purged from the database are restored.

-ADSMPW=password

The ADSM password for the ADSM server. If you specified PASSWORDACCESS GENERATE in the client options file, then ADSMPW is ignored. The password is sent to the ADSM server to authenticate the user.

—NEWADSMpw=newpassword

The new password for the ADSM server. The ADSMPW option must also be supplied to authenticate the user, even if PASSWORDACCESS GENERATE was specified in the client options file. This option can be used to change the password for the ADSM server, for example, if the old password has expired. You must be a root user to use this option.

-MOUNTwait=*value*

This parameter is used if you do not want ADSM to wait for a tape mount if one is necessary. The default is **Yes**. Possible values are:

Yes The restore process will wait for a tape mount if one is necessary.

No The restore process will not wait for a tape mount. If a tape mount is necessary, the operation is cancelled.

-UPDATEall=*value*

If you specify **Yes** for this option, all of the Lotus Notes documents in the database are updated to have the current date and time. The default is **No**. Possible values are:

No No, do not update the Lotus Notes documents in the database.

Yes Yes, update all of the Lotus Notes documents in the database to have the current date and time. This forces replication to all replica databases.

Example

Task Restore all documents which have been deleted in the past 30 days from the **Inotes2.nsf** database, but not yet purged.

Command

```
dsmnotes restdel /plan/Inotes2.nsf -days=30
```

dsmnotes restore

This command restores all data documents saved on the ADSM server to the indicated Lotus Notes database. If needed, the new database is created. In this case, the database header information and all non-data documents are also restored.

The **dsmnotes restore** command is provided for those times when use of the Lotus Notes Workspace is inappropriate. An example is when the restore needs to be scheduled. Because there is no database view available on the command line, the command line restore is used:

- To rebuild copies of the databases
- To restore a range of notes to a database that was restored from an ADSM client

Restoration of individual notes must be done through the Lotus Notes workspace.

For the options indicating a date, a format of **month/day/year** is used. The **month** field is a numeric value indicating the month of the year from 1 through 12. January is represented by 1 and December is represented by 12. The **day** field is a numeric value indicating the day of the month from 1 through 31. The **year** field is a numeric value indicating the year value of the date.

If the year value is less than 1000, special rules apply. If the year is less than 90, 2000 is added to it. If the year is 90 or more but less than 1000, 1900 is added to it. For example, 1/1/90 is January 1, 1990, but 12/31/89, 12/31/189, and 12/31/2089 all indicate December 31, 2089.

For options indicating a time, a format of **hour:minute:second** is used, with the **second** field being optional. The **hour** field is a numeric value indicating the hour of the day. Twelve is added to the hour value for the afternoon time. For example, 3:00 p.m. is represented by the value 15. The **minute** field is a numeric value indicating the minute of the hour. The **second** field is a numeric value indicating the second of the minute. Both minute and second default to zero. For example, 12:0 is noon, 0:0 is midnight, and 23:59:59 is a second before midnight.

When you restore a backed up Lotus Notes database, you can either restore it to a new database or merge the documents from the backed up database into a database that already exists on your workstation.

If you restore the backed up database to a new database, you can choose to restore either the active version of the database or an inactive version that is closest to a specified date. You must choose a target name for the new database that is not the name of an existing file. The database header is restored along with the views, forms, other non-data documents, and data documents.

If you choose to merge the restored documents into an existing Lotus Notes database, you can select a date and time range from which to draw the documents. This operation is useful if you have used the ADSM backup-archive client to restore a database file and want to update it with any notes that have been incrementally backed up since

the database itself was backed up. Only data documents are restored. Non-data documents such as the ones listed below are **not** restored:

- Views
- Forms
- Database header information

Using collocation when storing documents can help performance when you restore or merge a large number of objects into a database.

Each time a restore operation is performed, summary messages are sent to the **log.dsm** file. When the notes are restored to a single database, the following information is sent to **log.dsm**:

```
ADSMConnect Agent for Lotus Notes Restore Start
Database: /notes/data/test/abc.nsf
Documents restored: 28, overwritten: 0, deletion stubs overwritten: 0
ANS0930I Database Rebuild Done
```

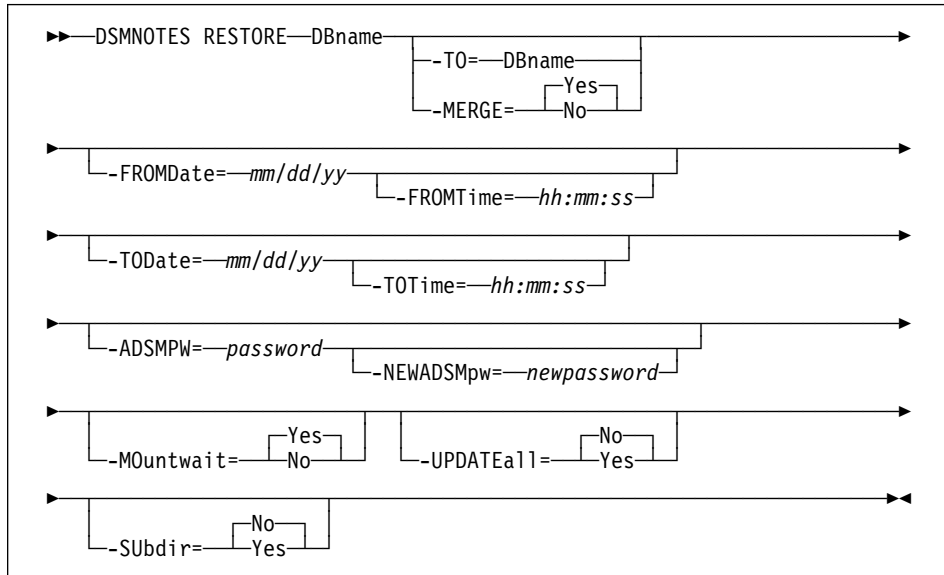
If the DBNAME option specifies a directory, statistics on each database are sent to **log.dsm**:

```
ADSMConnect Agent for Lotus Notes Restore Start
Database: /notes/data/test/abc.nsf
Documents restored: 28, overwritten: 0, deletion stubs overwritten: 0
Database: /notes/data/test/xyz.nsf
Documents restored: 78, overwritten: 0, deletion stubs overwritten: 0
ANS0900I dsmnotes completed
```

Note that the **log.dsm** file continues to grow as **dsmnotes** operations send messages to it. You should monitor the size of the file and trim messages or archive the file regularly to control its growth. For information on how to manage the log file, see “dsmlog” on page 22.

Note: An unsorted view in a rebuilt database might show the documents in a different order from what you would see in the original database. A sorted view is not affected.

Syntax



Parameters

DBname This is a required parameter and indicates one of the following path names:

A directory

That contains one or more Lotus Notes databases that are being restored. To include subdirectories, specify the SUBDIR=YES option.

A Lotus Notes database

That is being restored.

In either case, the path name can be either a relative or an absolute path name, with the following cases:

/dir/file.nsf or /dir

Restore the indicated database or all databases in the indicated directory.

/file.nsf or /dir

Restore the indicated database, or all databases in the indicated directory, in the home directory of the current user.

user/file.nsf or user/dir

Restore the indicated database, or all databases in the indicated directory, in the home directory of account **user**.

./file.nsf or ./dir

Restore the indicated database, or all databases in the indicated directory, in the current working directory.

../file.nsf or ../dir

Restore the indicated database, or all databases in the indicated directory, in the parent directory of the current working directory.

file.nsf or dir

Restore the indicated database, or all databases in the indicated directory, in the Lotus Notes data directory.

* Restore all databases in the Lotus Notes data directory. Note that the * character is treated specially by most shells and therefore, needs to be protected by a back slash character.

-TO=DBname

The documents are restored to the indicated database instead of the database indicated with the DBNAME option. If this option is set, the MERGE option cannot be used. If this option nor the MERGE option is set, then MERGE is implied. The **DBname** value is handled the same way as the DBNAME option. This option cannot be used for a directory operation.

-MERGE=value

Specifying **—merge=yes** merges the restored documents into the database indicated by the DBNAME option. If neither this option nor the TO option is set, then MERGE is implied.

This option cannot be used with the TO option. The default is **Yes**. Possible values are:

Yes Merge the restored documents into an existing database file, given by the DBNAME option. If you specify **yes**, then the TO option cannot be specified.

No Put the restored documents into a new database file.

-FROMDate=mm/dd/yy

This option is used to help specify a date and time range. All notes backed up within this date and time range will be restored. If more than one backup copy of a note is made during that time range, then only the most recently backed up version is restored. If this option is not specified, it defaults to the date the database was first backed up. This option cannot be used with the TO option.

-FROMTime=hh:mm:ss

This option works with FROMDATE to specify a date and time range. The FROMTIME option can only be used if the FROMDATE option is also used. If this option is not specified, it defaults to **00:00:00**, or midnight of the specified date.

-AFTERDate=mm/dd/yy

This option is the same as the FROMDATE option. This option cannot be used with the TO option.

-AFTERTime=hh:mm:ss

This option is the same as the FROMTIME option.

-TODate=mm/dd/yy

This option is used with FROMDATE to help specify a date and time range. All notes backed up within this date and time range will be restored. If more than one backup copy of a note were made during that time range, then only the most recently backed up version will be restored. If this option is not specified, it defaults to the current date.

-TOTime=hh:mm:ss

This option works with the TODATE option to specify a date and time range. The TOTIME option can only be used if the TODATE option is also used. If this option is not specified, it defaults to **23:59:59**, or a second before midnight of the specified date.

-BEFOREDate=mm/dd/yy

This option is the same as the TODATE option.

-BEFORETime=hh:mm

This option is the same as the TOTIME option.

-ADSMPW=password

The ADSM password for the ADSM server. If you specified PASSWORDACCESS GENERATE in the client options file, then ADSMPW is ignored. The password is sent to the ADSM server to authenticate the user.

-NEWADSMpw=newpassword

The new password for the ADSM server. The ADSMPW option must also be supplied to authenticate the user, even if PASSWORDACCESS GENERATE was specified in the client options file. This option can be used to change the password for the ADSM server, for example, if the old password has expired. You must be a root user to use this option.

-MOutwait=value

This parameter is used if you do not want ADSM to wait for a tape mount if one is necessary. The default is **Yes**. Possible values are:

- Yes** The restore process will wait for a tape mount if one is necessary.
- No** The restore process will not wait for a tape mount. If a tape mount is necessary, the operation is cancelled.

-UPDATEall=value

If you specify **Yes** for this option, all of the Lotus Notes documents in the database are updated to have the current date and time. The default is **No**. This option cannot be used with the TO option. Possible values are:

- No** No, do not update the Lotus Notes documents in the database.
- Yes** Yes, update all of the Lotus Notes documents in the database to have the current date and time. This forces replication to all replica databases.

-Subdir=value

This parameter is optional. Indicates whether subdirectories are restored or not. This option is not available in the graphical user interface. The default is **No**. Possible values are:

No If the DBNAME option specifies a directory, only the databases in the specified directory are restored.

Yes If a directory is specified, all databases in the specified directory *and all subdirectories* are restored.

Examples

Task Restore the last version of the database named **Inotes3.nsf** that was backed up in 1996. Call the new database **Inotes3a.nsf**.

Command

```
dsmnotes restore /plan/proj1/lnotes3.nsf  
-to=/plan/proj1/lnotes3a.nsf -beforedate=1/1/97  
-beforetime=00:00
```

Task Restore all notes that were backed up in April 1996 and merge them into a database named **Inotes4.nsf**. Change the modification date for all notes in the database to the current date.

Command

```
dsmnotes restore -updateall=y -fromdate=4/1/96  
-todate=4/30/96 /plan/lnotes4.nsf
```

Chapter 5. Using the Graphical User Interface

The ADSMConnect Agent for Lotus Notes graphical user interface enables you to perform the following tasks:

- Restore selected documents from a database
- Restore documents that have been deleted but not yet purged
- Restore a copy of an entire database
- Set and change the ADSM password
- Get online help

Note: You can continue to interact with the Lotus Notes Workspace and other processes while the restore operation is taking place. However, you cannot start another restore operation while one is already active.

Using the Lotus Notes Workspace

When you run the Lotus Notes workspace, click on the Actions menu to display the following commands in the pull-down menu:

- ADSM Restore Documents(s)...
- ADSM Rebuild Database...
- ADSM Restore Deleted Documents(s)...

These commands can only be selected when a database is open. If no database is open, the commands are disabled.

Using the ADSMConnect Agent Graphical User Interface

You can move between the fields by clicking on each field separately, or by using the **Tab** key. Only the highlighted field accepts keyboard input. Use the up and down arrow keys to navigate the radio button fields and the space bar to change them.

Restoring Selected Documents from a Database

You can restore backed up copies of individual documents from the ADSM server to a Lotus Notes database on your workstation. The documents must still be present in the database. If the documents have been deleted, see "Restoring Deleted Documents" on page 39.

Note: This operation is only available in the Lotus Notes workspace.

Lotus Notes Workspace

Follow these steps to restore selected documents to your Lotus Notes database.

- 1** Open a view of the database that has the documents you want to restore.
- 2** Check mark the documents you want to restore.
- 3** Click on the Actions menu.
- 4** Select **ADSM Restore Document(s)**.
- 5** If the ADSM Password dialog box displays, type in the ADSM password and click on the **OK** button or press **Enter**.

The ADSM Restore Docs dialog box displays. (Figure 2).

ADSM Restore Docs from /home/kkar

Restore the most recent backup version(s)

Restore older version(s)

Older Version Selection

Restore latest version(s) backed up on or before:

Date:				Time:		
Year	Month	Day		Hour	Minute	
1997	3	20		11	7	

1 document(s) selected for restore

Wait for tape mounting if necessary

Restore Cancel Help

Figure 2. Restoring Specific Documents from a Database

6 Select one of these options:

- **Restore the most recent backup versions(s)**—This option restores each of the selected documents with its most recent backup version.
- **Restore older versions(s)**—This option restores each of the selected documents with the latest version that was backed up before the date and time in the **Older Version Selection** box. Type the date and time from which you want to restore in the **Older Version Selection** box.

7 Select **Wait for tape mounting if necessary** (selected as the default). You can deselect this option if you do not want ADSM to wait for files that are on tape.

Also check to make sure the number of documents selected matches the number of documents you check marked.

8 Click on **Restore** to restore your documents.

9 To see the restored documents, click on the View menu, and select **Refresh** or press **F9**.

Click on **Cancel** at any time to exit the dialog box without restoring any documents.

Click on the **Help** button at any time to get online help.

Restoring Deleted Documents

You can restore deleted Lotus Notes documents from ADSM storage, if the deletion stubs have not been purged from the database. The deleted documents are replaced with documents backed up on the ADSM server.

For further information about restoring deleted documents, see the **dsmnotes restdel** command (“dsmnotes restdel” on page 28).

Lotus Notes Workspace

Follow these steps to restore documents that have been deleted but not yet purged from your Notes database:

1 Open a view of the database that contained the deleted documents.

2 Click on the Actions menu.

3 Select **ADSM Restore Deleted Documents(s)**.

4 If the ADSM Password dialog box displays, type in the ADSM password and click on the **OK** button or press **Enter**.

5 The ADSM Restore Deleted Docs dialog box displays.

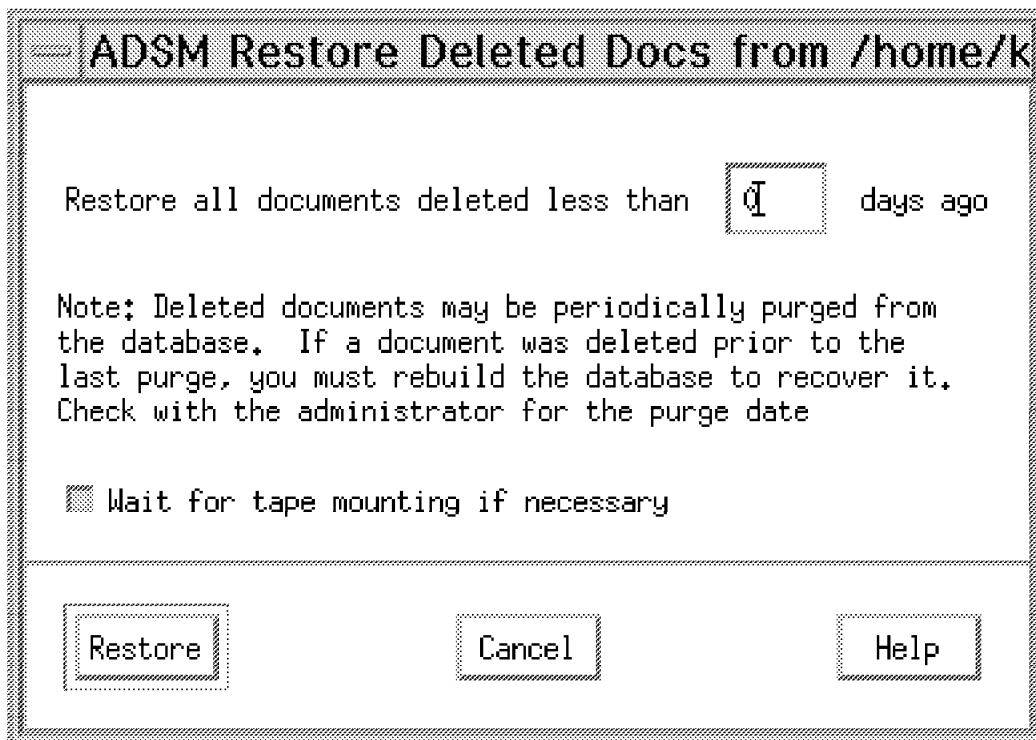


Figure 3. Restoring Data Documents From Deletion Stubs

6 If you want to restore only those documents deleted less than a certain number of days ago, type this number of days in the **Restore all documents deleted less than nnnn days ago** field.

If you leave this field blank, it uses the zero default. Then all the deleted, but not yet purged, documents are restored.

7 Select **Wait for tape mounting if necessary** (selected as the default). You can deselect this option if you do not want ADSM to wait for files that are on tape.

8 Click on **Restore** or press **Enter** to restore your documents.

9 To see the restored documents, click on the View menu, and select Refresh or press **F9**.

Click on the **Cancel** button at any time to exit the dialog box without restoring any documents.

Click on the **Help** button at any time to get online help.

Rebuilding a Database

When you restore a backed up Lotus Notes database, you can either restore it to a new database or merge the documents from the backed up database into a database that already exists on your workstation.

You can use either the Lotus Notes Workspace or the command line to rebuild a Notes database. For information on the command, see “dsmnotes restore” on page 31.

Lotus Notes Workspace

Follow these steps to rebuild a database or merge selected documents into a database that already exists:

- 1** Open a view of the database that you want to rebuild. If the database no longer exists, you must restore it using the **dsmnotes restore** command on the command line. For examples of this command, see “dsmnotes restore” on page 31.

After performing the **dsmnotes restore** command, return to your Lotus Notes workspace.

- 2** Click on the Actions menu.

- 3** Select **ADSM Rebuild Database**.

- 4** If the ADSM Password dialog box displays, type in the ADSM password and click on the **OK** button or press **Enter**.

The ADSM Rebuild Database dialog box appears as shown in Figure 4 on page 42.

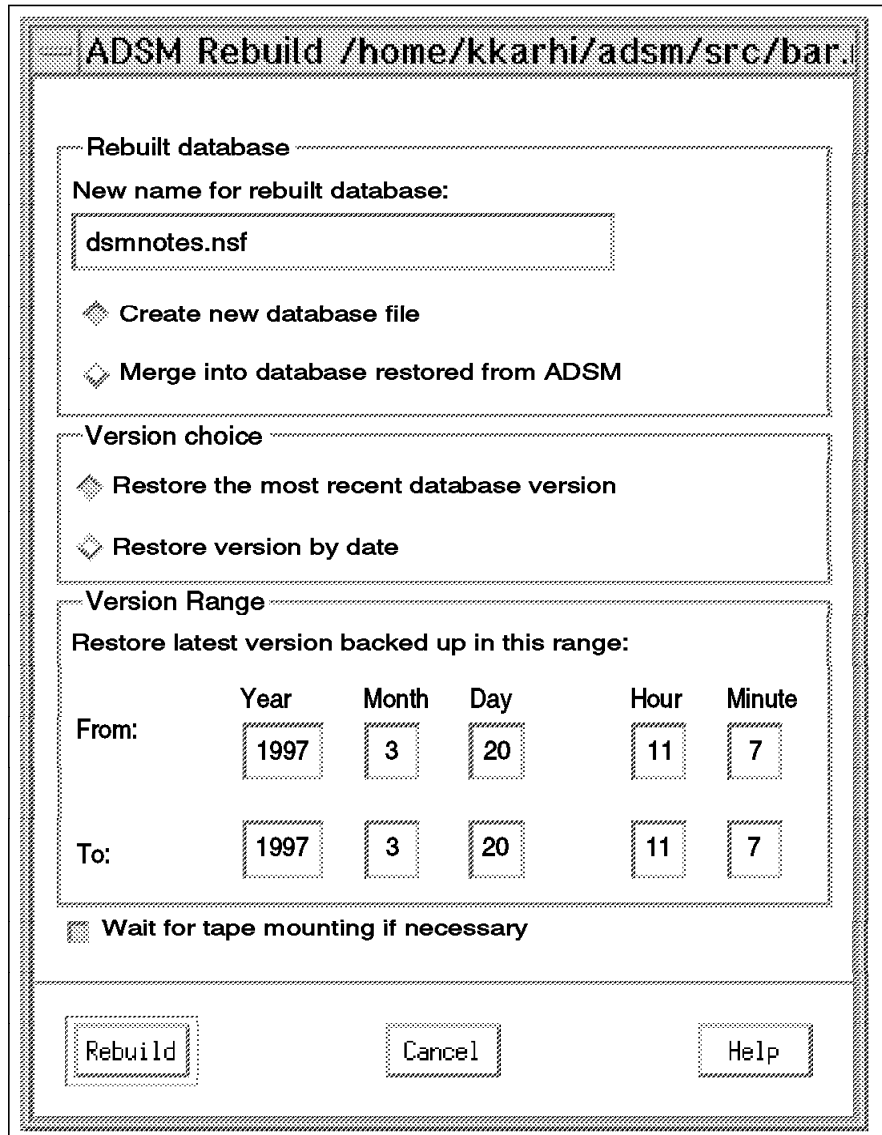


Figure 4. Rebuilding a Database

5 In the box labeled **Rebuilt database**, use the default name, or type another name in the **New name for rebuilt database** field.

Select one of these options:

- **Create new database file**—ADSM restores the entire database from backup copies of individual Lotus Notes documents into the new database.

You must choose a name that is not the name of an existing file. For information on path names, see “Path Name Specification” on page 17.

- **Merge into database restored from ADSM**—You can select this option if you have restored a backup version of the database through the ADSM backup-archive client.

This option merges a backup version of individual Lotus Notes documents into a Lotus Notes database restored by the ADSM backup-archive client.

6 Select one of these options: in the **Version choice** box:

- **Restore the most recent database version**—This option restores all of the documents in the database with their most recent backup versions.
- **Restore version by date**—This option restores all the documents in the database with the latest versions that were backed up within the dates and times in the **Version Range** box. Type the **From** and **To** dates and times, which you want to restore, in the **Version Range** box.

Note: This option can only be used if **Merge into database restored from ADSM** is selected.

7 Select **Wait for tape mounting if necessary** (selected as the default). You can deselect this option if you do not want ADSM to wait for files that are on tape.

8 Click on the **Rebuild** button or press **Enter** to rebuild the database.

9 Open the rebuilt database in the Lotus Notes workspace to view the restored documents. If **Merge into database restored from ADSM** was selected, click on the View menu, then select **Refresh** or press **F9** to see the documents that were merged into the database.

Click on the **Cancel** button at any time to exit the dialog box without rebuilding the database.

Click on the **Help** button at any time to get online help.

Entering and Changing the ADSM Password

Each time you access a Lotus Notes database, whether to back it up or to restore documents to it, ADSM needs to know your password. You must be a root user to change the ADSM password.

To supply your password on the command line, use the ADSMPW option with the command you are entering. In the Lotus Notes Workspace, ADSM brings up the dialog box shown in Figure 5 on page 44.

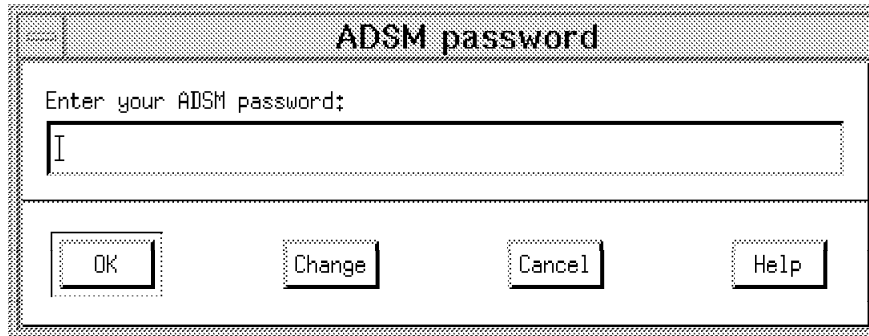


Figure 5. Entering Your Password

1 Type the password for your ADSMConnect Agent for Lotus Notes in the **Enter your ADSM password** field.

2 Click on the **OK** button or press **Enter**.

Click on the **Change** button and the dialog box in Figure 6 on page 45 appears.

Click on the **Cancel** button at any time to exit the dialog box.

Click on the **Help** button at any time to get online help.

If your password has expired or you clicked on the **Change** button, ADSM provides the dialog box shown in Figure 6 on page 45. Enter your old password and a new one, then click on **OK**.

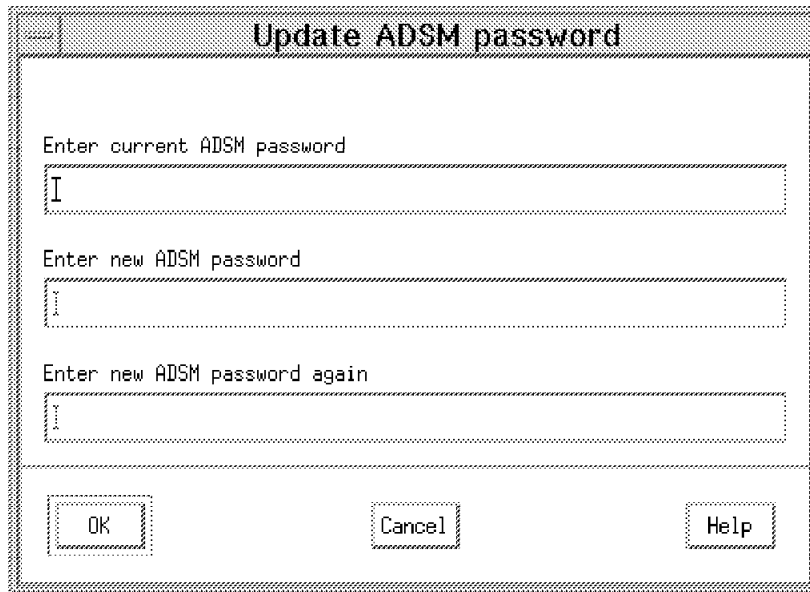


Figure 6. Changing Your Password

- 1** In the **Enter current ADSM password** field, type the current password for your ADSMConnect Agent for Lotus Notes. If you already typed your password in the **ADSM Password** dialog box, you can skip this field now.
- 2** In the **Enter new ADSM password** field, type the new password for your ADSMConnect Agent for Lotus Notes.
- 3** In the **Enter new ADSM password again** field, retype the new password for your ADSMConnect Agent for Lotus Notes again. This verifies the new password.
- 4** Click on the **OK** button or press **Enter** to update your ADSMConnect Agent password and to proceed with your request.

Click on the **Cancel** button at any time to exit the dialog box without updating your password and to cancel your request.

Click on the **Help** button at any time to get online help.

To update an expired password or to change a password from the command line, you can use the NEWADSM PW option with the **dsmnotes incr**, **dsmnotes restdel**, or **dsmnotes restore** command, or use the **dsmnotes change** command.

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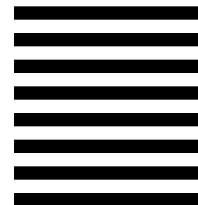
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