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# NotesDB User Guide

*for Release 3.0.3*

## **Versions**

Version	Date	Author	Comment
1.0	18.03.2009	Johannes Fiala	Initial version
1.1	20.03.2009	Johannes Fiala	Added more detailed descriptions, screenshots
1.2	16.07.2010	Johannes Fiala	Added support for Notes Embedded Objects

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## **Introduction**

NotesDB is packaged together with the sample database "sample.nsf", which showcases all the features of NotesDB.

Each version of NotesDB has been tested using the following Lotus Notes versions:

- Lotus Notes R6
- Lotus Notes R8.0
- Lotus Notes R8.5

The following Notes versions are supported:

- Lotus Notes R5
- Lotus Notes R6
- Lotus Notes R6.5
- Lotus Notes R7
- Lotus Notes R8.0
- Lotus Notes R8.5

## **Parts of the NotesDB Package**

NotesDB ships with the following contents:

Filename	Description	NotesDB Edition
notesdb-*.nsf	Central configuration database for the export of Notes databases into relational database systems.	Standard+Enterprise
directory java_ext	includes the basic libraries for the richtext export of data from the Domino HTTP server.	Enterprise
exportdb.mdb	Database to allow export of the relational data into MS Access using ODBC.	Enterprise
HtmlToRichtext.doc	Word-Document with macros allowing conversion of HTML to Word	Enterprise
Directory sample results with sample.nsf	includes the sample results of exporting the database sample.nsf	Enterprise

## **The quick guide: 4 Steps to your converted database in the RDBMS**

This chapter shows you how quickly you can use NotesDB to convert a Notes database into an RDBMS:

You have to do the following steps:

1. Exporting the Notes Database to a relational database
2. Export of Richtext-Items (Enterprise Edition only)
3. Export to MS Access (Enterprise Edition only)
4. Export to MS Word/Richtext (Enterprise Edition only)

### **EXPORTING THE NOTES DATABASE TO A RELATIONAL DATABASE**

You need to do the following steps:

1. Deploy the sample.nsf database to a Notes-server of your choice (you can also run NotesDB on a database on the local filesystem, but if you want to export Richtext items as well, you need a Notes Server with the Domino HTTP task activated)

2. Setup an ODBC datasource for the relational database of your choice.

3. Open the database "notesdb-\*.nsf" (locally or on a Notes server) and open the view "Databases",

Open the sample configuration "c:/dev\_notesdb/notesdb/sample.nsf" (sample for a database on the local filesystem). If you want to run a Notes server, enter the Server name and reduce the path to "notesdb/sample.nsf".

-- Edit the database configuration section

- RDBMS Dialect (supports MySQL und MS SQL Server)
- Enter the ODBC-Datasource-Name and the username/password

-- You record all SQL-statements into a text file.

To activate this, check the checkbox "Export to SQL-files" and enter the target path.

-- You can export file attachments and embedded objects using the option "Export attachments to disc".

-- You can export folder references by checking the checkbox "Export folders"

4. Start the export:

a) Open the view "Databases"

b) Check the database documents you'd like to export.

- c) "Create Metadata Repository" creates all minimum setup tables (and removes existing ones).
- d) "Scan database structure" reads all fields and the maximum field length and stores them.  
Click this button whenever the contents of the Notes database have changed.  
(if fields have been added or the maximum field length of any field has changed).
- e) "Generate DDL" generates the DDL for all relational databases.  
These will be executed automatically in the target relational database using ODBC.  
Additionally, you can find them in the View "DDLs".
- f) "Export data" exports the Notes documents into the target relational database or into the SQL stream.

## EXPORT OF ATTACHMENTS

NotesDB is able to extract all file attachments.

Alle files will be extracted to the configured filepath of the Database configuration -> Attachment configuration options -> Path for attachments.

NotesDB will extract all attachments attached to the document itself or to any of its richtext items.

The attachments will be extracted to a directory for each document.  
By default, NotesDB will use the DocumentUniqueID as a name for each directory.  
You can change the directory name using the "Formula for directories" which will be calculated for each directory.

The filename will be the same filename as used in the document/richtext item.

### EXPORT OF EMBEDDED OBJECTS

*The export of embedded objects is supported in the Enterprise Edition only.*

NotesDB is able to extract all supported embedded objects.

Supported embedded object types include:

- MS Word
- MS Excel

If you miss an embedded object type you'd like to have exported, please contact us for a quote for adding it.

The embedded objects will be extracted to a directory for each document. By default, NotesDB will use the DocumentUniqueID as a name for each directory. You can change the directory name using the "Formula for directories" which will be calculated for each directory.

The filename of the embedded object will be as follows:

- For Embedded objects embedded in the document:  
Embedded\_Document\_<object type >\_<internal filename>.doc
- For Embedded objects in an richtext item:  
Embedded\_RTitem\_<itemname>\_<object type>\_<internal filename>.doc

### EXPORT FOLDER REFERENCES

*The export of folder references is supported in the Enterprise Edition only.*

NotesDB can export all the folders a document is contained in. This enables you to reuse the existing folder infrastructure in the new relational database.

NotesDB does this by searching through all database folders individually. This means, that this feature is independent of the new "Folder References" feature since R5, which keeps track of the folder references in a separate document item.

## **EXPORT OF RICHTEXT-ITEMS**

*The export of richtext items is supported in the Enterprise Edition only.*

You can export Richtext-Items using the Domino HTTP Server with the button "Get richtext data".

Start the export using the Domino HTTP server:

1. Deploy the Notes database to a Domino HTTP server and activate the HTTP-task (lo http).

2. Copy the path java\_ext of the NotesDB package into your local Notes installation directory (e.g. "c:/lotus/java\_ext").

Enter the following into your notes.ini:

JavaUserClasses=c:\lotus\java\_ext

3. Make sure the Notes database is accessible using HTTP.

If your Notes database is not accessible for the user "Anonymous", you have to enter the HTTP username and password into the database configuration.

4. If you want a specific form layout different from the default document (form) layout, you can control this by creating a view "NotesDb-Richtext-<Formularalias>". If NotesDB finds a view with this name for any form, it will export all documents using the form selected in the "Display form" option of this view.

5. If you want to convert all HTML documents into Pdf-Format automatically, you can enter the installation path of htmldoc into Admin -> General Settings. You can buy HTMLDOC here: <http://www.easysw.com/htmldoc>.

6. After this, you only have to press the button "Get Richtext" and NotesDB will retrieve all documents in HTML format and will convert them into Pdf automatically (using htmldoc).

## **EXPORT TO MS ACCESS**

To allow export of your relational data into MS Access, we've provided the database export.mdb.

You have to do the following steps:

1. Create ODBC links to all the desired tables of the ODBC datasource.
2. Run the macro "Pull Data into MS Access".

This macro will export all table ODBC links to local tables inside the MS Access database.

## **EXPORT TO MS WORD**

*The export to MS Word is supported in the Enterprise Edition only.*

To export to MS Word, please open the MS-Word Dokument HtmlToRichtext.doc.

In this Word document, you can find the macro "Konvertierung\_Html\_Rtf".

Enter the path of your HTML-documents (in our sample package "c:\temp\notesdb\attachments").

Then you can run the macro and all the HTML files will be converted to Richtext files automatically.

We hope you enjoy working with NotesDB!

## Features of NotesDB in more detail

### NAME OF THE DATABASE CONFIGURATION

Firstly, you have to give the database configuration a descriptive name:

NotesDB Database Configuration	
Name	Sample Database MS Access brief name/comment regarding this configuration

Picture 1: Name of the database configuration

Field	Description
Name	The name of the database configuration

### CONFIGURE THE SOURCE LOTUS NOTES DATABASE

Source Lotus Notes Database	
Server	(full server name - e.g. Developer1/Acme; leave empty if you want to access a local database)
Path	C:/dev_notesdb/notesdb/sample.nsf (full path to the file on the server or local file system - e.g. notesdb/testdb.nsf or c:/notesdb/testdb.nsf)
database_id	102 (must be unique across all database configurations, numeric values recommended - e.g. 01)
Use form alias for tablename	<input checked="" type="checkbox"/> enabled (if you enable this option, the tablename will include the form alias. don't activate this option, if you have blanks or other special characters in your form aliases of this database)
Filter-Formula	Enter a Formula to filter the documents dynamically. You can enter any valid @Formula-Expression (e.g. Deleted="N" & Inactive="N") The formula will be used for every form which gets exported.

Picture 2: Source Lotus Notes database

Field	Description
Name	The name of the database configuration
Server	The name of the Domino server
Path	The full path to the file on the server (which will be populated automatically) or the full path of the local file system.
Database_id	A unique ID for the database configuration document. This will be included in every table name of the generated RDBMS tables.
Use form alias for tablename	if you enable this option, the tablename will include the form alias. don't activate this option, if you have blanks or other special

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	characters in your form aliases of this database
Filter-Formula	Enter a Formula to filter the documents dynamically. You can enter any valid @Formula-Expression (e.g. Deleted="N" & Inactive="N") The formula will be used for every form which gets exported.

### Filter formula support for export

Since release: 2.8.2.0

To allow for more flexible exports, it is now possible to use the "filter formula".

If you enter a filter formula, NotesDB will only export the documents which pass through this filter formula.

You can enter any filter formula you like, the syntax is the Notes Formula Language Syntax. You can filter for timestamps as well as for any field contained in the Notes documents.

Examples:

<b>Filter formula</b>	<b>Description</b>
Form="Person"	to filter for documents created with the form "Person"
@modified >= @date(2007;11;01)	to filter for documents modified after 2007-11-01
@created >= @date(2007;11;01)	to filter for documents created after 2007-11-01
Form="Person" & @created >= @date(2007;11;01)	to filter for documents of form="Person" created after 2007-11-01

## DIRECT RDBMS CONFIGURATION

Next, you can decide whether to create the tables in the target RDBMS automatically. Check "Execute SQL in database" to create them automatically.

Target Lotus Connector Datasource	
Connect to Database	<input checked="" type="checkbox"/> Execute SQL in database
Type	odbc2
RDBMS Dialect	MS Access
datasource	notesdb_access
username	
password	

Picture 3: Target Lotus Connector Datasource (RDBMS system)

Field	Description
Type	<p>Select the type of the RDBMS.</p> <p>The list of supported types consists of the datasources supported by the LSX connectors:</p> <ul style="list-style-type: none"> <li>• Db2</li> <li>• Odbc2</li> <li>• Oracle</li> <li>• Oracle8</li> <li>• Sybase</li> </ul> <p>To support additional RDBMS-dialects behind the ODBC-interface, you can choose the RDBMS dialect as well (see below).</p>
RDBMS dialect	<p>The RDBMS dialect allows you to choose from a list of pre-defined dialects:</p> <ul style="list-style-type: none"> <li>• MS Access</li> <li>• MS SQL</li> <li>• MS SQL Unicode</li> <li>• mySQL</li> <li>• Oracle</li> <li>• Oracle Unicode</li> <li>• postgres</li> </ul> <p>You can add further RDBMS dialects in the Admin interface of NotesDB or contact our support to have them added by our support staff.</p>
Datasource	Name of the datasource

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Username	Username (leave empty, if authentication is not required)
Password	Password

## EXPORT COMPLETE SQL SCRIPTS

Alternatively to creating tables automatically, you can also decide to export SQL scripts (CREATE TABLE statements and full INSERT-statements).

Target Path for SQL-scripts	
Export to SQL-files	<input checked="" type="checkbox"/> Export SQL stream to files
Path for SQL-scripts	c:\temp\notesdb\inserts (if you enter a path here, NotesDB will write the complete SQL-INSERT-scripts into this path)
MIME Charset for SQL-scripts	<input type="text"/> (supported starting with Notes R6, no selection uses the ANSI charset)

Picture 4: Configure path for SQL scripts

Field	Description
Export to SQL-files	Activate this checkbox to export SQL scripts to files
Path for SQL-scripts	The path for the SQL scripts (this path will be created automatically, if it doesn't exist)
MIME Charset for SQL-scripts	This allows you to configure the Character set of the SQL script. This feature is supported for Notes R6 and above. If you do not enter a value, the ANSI charset will be used.

## ATTACHMENT EXPORT

For exporting attachments, you have the following configuration options:

Attachment Configuration options	
Attachments	<input checked="" type="checkbox"/> Export attachments to disc
Path for attachments	c:/temp/notesdb/attachments e.g. c:\temp\attachments
Formula for directories	e.g. @NoteID (default is @DocumentUniqueID); make sure the result will be unique across all documents, otherwise you risk mixing of document attachments.

**Picture 5: Attachment configuration options**

Field	Description
Attachments	Activate the checkbox "Export attachments to disc" to export attachments.
Path for attachments	This denotes the full path to write the attachments to. e.g.: c:\temp\attachments  NotesDB creates this path automatically, if it doesn't exist already.  NotesDB creates a subdirectory with the database_id (e.g. db_102) for each database configuration.  The attachments get saved in a separate folder for each document. The DocumentUniqueID (NotesUNID) is used to make each folder unique.
Formula for directories	This allows you to enter a formula for the document folder used.  You can enter any formula you like. You have to make sure, that this formula makes it possible to uniquely identify the correct folder for each document.  Since release: 2.9.3.0 (2008-10-13)
Prefix for attachment names	A prefix to be set before each attachment filename.

## EXPORT FOLDER REFERENCES

NotesDB can export all the folders a document is contained in. This enables you to reuse the existing folder infrastructure in the new relational database.

This feature is available in the NotesDB Enterprise Edition only.

NotesDB does this by searching through all database folders individually. This means, that this feature is independent of the new "Folder References" feature since R5, which keeps track of the folder references in a separate document item.

Folder Configuration options	
Export folders	<input type="checkbox"/> Export folders

**Picture 6: Export folder references**

Check the checkbox "Export folders" to export folder references into a separate table.

## AUTOMATIC RECOVERY OF NOTESDB

After a crash of the Notes client (e.g. due to memory leaks in the Notes client), you have the option to restart with the last document exported automatically.

Supported since: NotesDB 2.8.2.0

The export is able to resume from exceptions or other errors.

During run of the export, the DocumentUniqueID of every exported document is stored in the "Database configuration" (see section "Richtext automatic recovery configuration").

If NotesDB crashes for any reason, during next run it will automatically continue with the document last exported correctly.

The recovery information for the NotesDB standard export and for the richtext export is managed separately, to allow you to recover for both export types.

Automatic recovery information	
When exporting larger databases (especially using rtplib) you might experience the error message "Out of memory". In this case, you only have to restart the PC and then run the export again. NotesDB will ask you whether it should resume the export with the last document or start over again.	
form_id	<input type="text"/>
fieldgroup_id	<input type="text"/>
Document-UNID	<input type="text"/>

Picture 7: Automatic recovery information (Standard export)

Richtext Automatic recovery information	
When exporting larger databases (especially using rtplib) you might experience the error message "Out of memory". In this case, you only have to restart the PC and then run the export again. NotesDB will ask you whether it should resume the export with the last document or start over again.	
form_id	<input type="text"/>
Restart Document-UNID	<input type="text"/>
Next Document UNID	<input type="text"/>
	This UNID is for use only if NotesDB cannot recover automatically due to errors in processing the "Restart Document-UNID". Please copy the "Next Document UNID" into the "Restart Document-UNID" to skip the erroneous document.

Picture 8: Richtext Automatic recovery information (Richtext export)

## Extended features of NotesDB

### RDBMS-SPECIFIC CONFIGURATION

NotesDB allows you to configure the RDBMS dialect exhaustively.  
 You can configure the RDBMS dialect as well as the RDBMS-specific data types.

#### RDBMS-specific Configuration

RDBMS identifier:	MS Access
DROP TABLE Syntax:	DROP TABLE {Stablename};
Limit for VARCHAR fields	250
maximum row size	400000
maximum fields per row	100
fieldlength adjustment factor	10 (10 = 10 percent more)
allow nonalphabetic characters in fieldnames	<input checked="" type="checkbox"/> allow
escape character for \$-sign in fieldnames	
maximum length for tablename	
maximum length for columnname	

Enclose field names in DDL/DML using:

leading character	[
trailing character	]

Escape Characters

for backslash (\)	
for single quotes (')	
for double quotes (")	

**Picture 9: RDBMS-specific configuration for MS Access**

### Support for RDBMS-specific data types

We allow for RDBMS-specific mappings of NotesFieldTypes to RDBMS data types. This means, you can enter the RDBMS specific names for CLOB/BLOB field types.

Additionally, this will also allow for Unicode specific data type mappings (NVARCHAR, NCHAR, NTEXT, ...).

### Support for RDBMS-specific escape character configuration

Added RDBMS specific escape character configuration:

You can now enter the escape characters for backslash (\), single quotes (') and double quotes (") in the RDBMS specific configuration.

### Bypass the automatic field name correction for non-alphabetic field names

You can bypass the automatic field name correction routine for non-alphabetic field names using the RDBMS specific configuration.

This is turned on by default now, so if you use NotesDB 2.9, you don't have to worry regarding this.

If you face troubles with special characters in field names, simply disable this in the RDBMS specific configuration.