Tzunami Deployer
Lotus Notes Exporter Guide

Supports migration of Notes contents into Microsoft SharePoint using Tzunami Deployer

Version 4.0
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PREFACE

This guide provides installation procedures for Tzunami Lotus Notes Exporter and detail steps to extract contents from Lotus Notes using Tzunami Lotus Notes Exporter. The guide also describes how to extract contents non-interactive way using command-line instructions and best practice.

This preface contains the following topics.

- Intended Audience

- Conventions

- Technical Support

- Comments and Suggestions

INTENDED AUDIENCE

Tzunami Notes Exporter Guide is intended for:

- System Administrators who are responsible for exporting Lotus Notes contents and setting migration environment using Tzunami Deployer.
- Project Managers and IT Managers who create and regulate usage of Tzunami Deployer and Tzunami Lotus Notes Exporter.

CONVENTIONS

The following text conventions are used in this document:

- Commands and keywords are given in **boldface**
- Terminal sessions, console screens, or system file names are displayed in `fixed width fonts`

Caution indicates that the described action might result in program malfunction or data loss.

Notes contain helpful suggestions about or references to materials not contained in this manual.

Tips provide information that might help you solve a problem.

TECHNICAL SUPPORT

Before contacting Tzunami Support team, ensure that you are referencing the latest copy of this user guide (Ctrl+Click to follow link) *Tzunami Deployer Lotus Notes Exporter Guide*.

For additional information, please contact Tzunami Support Team at *support@tzunami.com*

COMMENTS AND SUGGESTIONS

Your feedback is important to us and will help us to provide the most accurate and high quality information possible in our documentation. Send us comments or suggestions by email to *support@tzunami.com*. Be sure to include as much of the following as possible:

- The document title.
- The location that the document was accessed from (either downloaded from Tzunami web site or the Tzunami Deployer User Guide and Tzunami Lotus Notes Exporter Guide available in Tzunami Deployer).
- The section or chapter number and the original text found in the document.

When you send information to Tzunami Support Team, you grant Tzunami a right to use or distribute the information internally within Tzunami Development and Support team for diagnostic purpose.

1 INSTALLING TZUNAMI NOTES EXPORTER

This chapter contains information about installing Tzunami Lotus Notes Exporter. It contains the following topics:

- *System Requirements*
- *Installing Tzunami Notes Exporter*
- *Uninstall Tzunami Lotus Notes Exporter*

1.1 SYSTEM REQUIREMENTS

The following requirements must be met in order to use Tzunami Lotus Notes Exporter:

Table 1-1: System Requirements

Components	Minimum Requirements
Computer and processor	2GHz Pentium processor or equivalent
Memory	2 GB (Minimum); 4GB (Recommended)
Hard disk	50Mb (additional space will be required for the Tzunami Deployer projects, which may vary from 10 Mb to 4 GB).
Supported Operating System	Windows 2000/2003/2008/2012, Windows XP, Windows Vista, Windows 7 & Windows 8 & Windows 10.
Supported Architectures	x86 and x64
Network	Intranet/Internet access depending on connectivity requirements
Display	800 x 600, 256 colors (minimum); 1024 x 768 high color, 32-bit (recommended)
Microsoft .NET Framework	Microsoft .Net Framework 3.0

1.2 INSTALLING TZUNAMI NOTES EXPORTER

You must install Tzunami Notes Exporter on a machine having Lotus Notes client or Domino Server v5 or higher (these can be setup before or after the exporter is installed).

> If you are trying to extract local NSF contents using Lotus Notes Client, you must run Lotus Notes Client at least once on the machine after its installation.
>
> If you are trying to extract contents of NSF from the Domino Server using a machine on which Lotus Notes Client is installed, the Lotus Notes Client's Domino settings must be configured to allow accessing the NSF from client machine.

To install Tzunami Lotus Notes Exporter:

1. Unzip the zip file, and run `TzunamiLotusNotesExporter.msi`. The Tzunami Notes Exporter setup wizard (Welcome window) will launch. To advance through the install wizard, click **Next** on the bottom of the window.
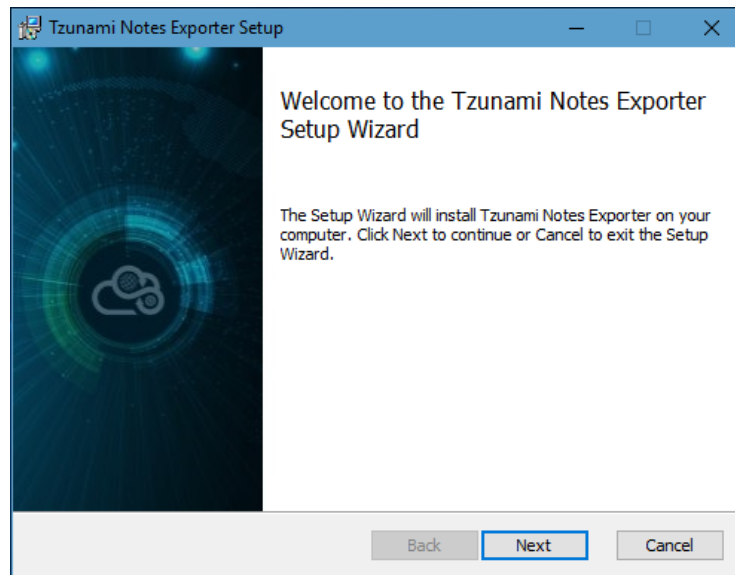
Figure 1-1: Welcome Window

2. In the End-User Licensing Agreement panel, click "**I accept the terms in the License Agreement**" and click **Next** to continue installation.
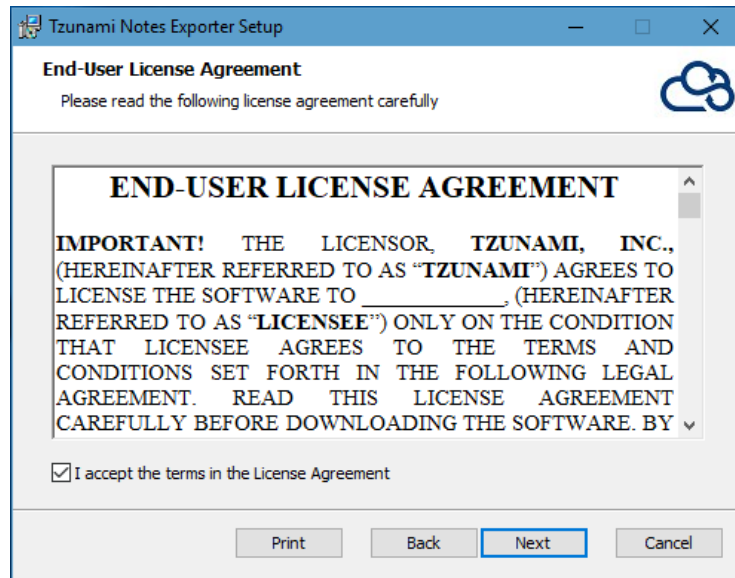
Figure 1-2: End-User Licensing Agreement

You are advised to read the terms of the license carefully before proceeding with the installation. If you decline the license terms, the installation cannot proceed.

3. In the Custom Setup panel and do one of the following:

- To accept the default Destination Folder, click **Next**.

- Click **Browse**, locate and select a destination folder, click **OK,** and then click **Next**.
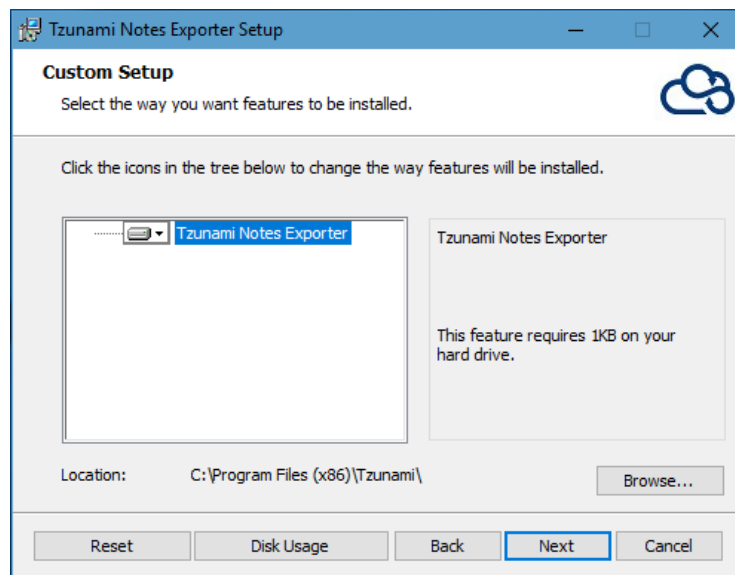
Figure 1-3: Custom Setup Window

4. In the Ready to install Tzunami Notes Exporter panel, click **Install**.
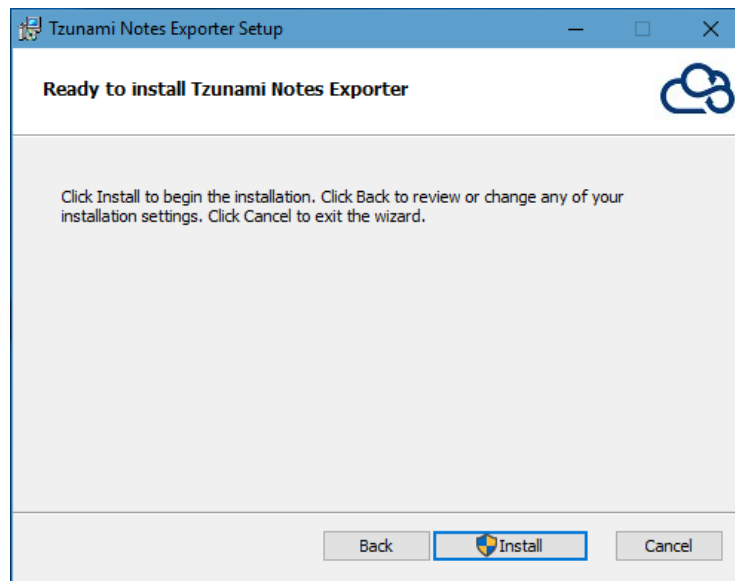
Figure 1-4: Installing Tzunami Notes Exporter Window

5. In the Completed Tzunami Notes Exporter Setup Wizard, to exit the wizard, click **Finish**.
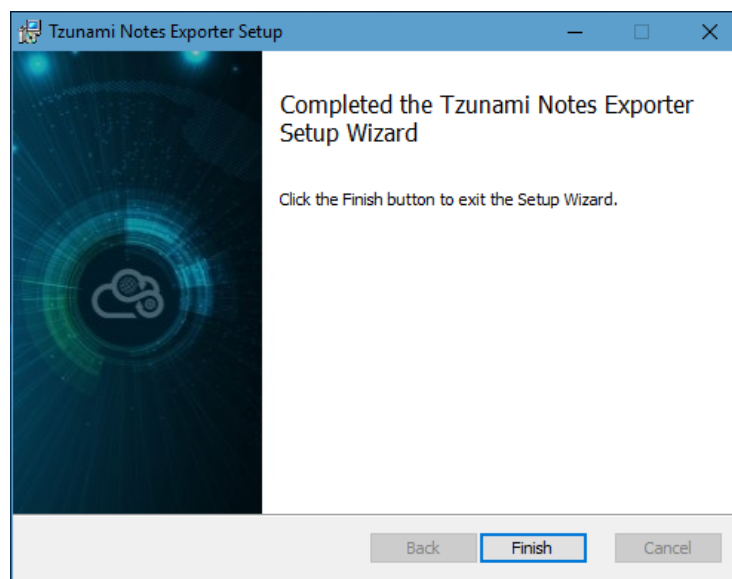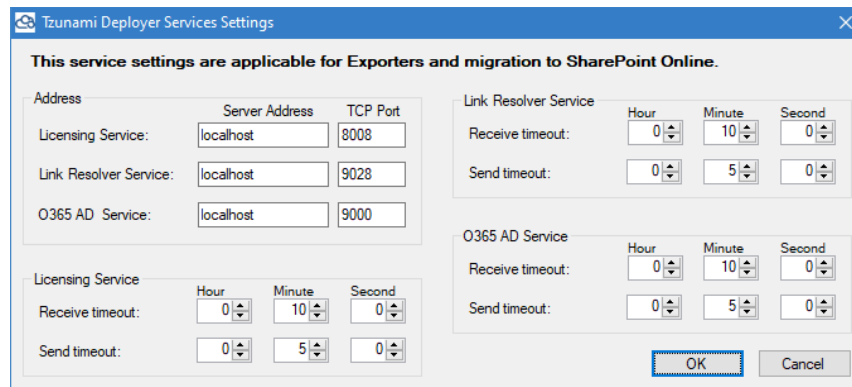
Figure 1-5: Installation Complete Window

When Tzunami Notes Exporter is installed, it comes with a default license that can be used for evaluation purpose only. This license is limited in time and number of operations.

1.3 CONFIGURATION OF TZUNAMI SERVICE SETTINGS

1. When installing **Tzunami Deployer/Exporter/Remote Service** for the first time, a **Tzunami Service Settings** dialog is displayed. In **Tzunami Service Settings,** the Licensing Service, Link Resolver Service and O365 AD Service are pointed to localhost (same machine) and port.

Figure 1-6 Deployer Settings Manager

> User can run the **Settings Manager.exe** application from the installation directory to display this service settings dialog at any time and updated the settings to point the Tzunami services as required.

If these services are installed on another machine, point to that machine with machine name or IP Address and port.

Licensing Service: TCP port 8008 (or the port that the Licensing Service is listening on)

Link Resolver Service: TCP port 9028 (or the port that the Link Resolver Service is listening on)

O365 AD Service: TCP port 9000 (or the port that the O365 AD Service is listening on)**.**

2. Click on **OK**.

1.4 UNINSTALL TZUNAMI LOTUS NOTES EXPORTER

This section of the guide illustrates different ways to remove or uninstall Tzunami Lotus Notes Exporter from your Lotus Notes Server. Here are the two different ways to uninstall Tzunami Lotus Notes Exporters:

- Uninstallation using Installer
- Uninstallation using Control Panel

To uninstall Tzunami Lotus Notes Exporter, user needs to be a Local Administrator in the Lotus Notes Exporter installed machine. Uninstalling Tzunami Lotus Notes Exporter is simple and easy. You can remove or uninstall it in no time. You don't need to reboot your computer once the uninstalling process is complete.

Log files, licensing information files etc. will remain after uninstalling Tzunami Lotus Notes Exporter. You can manually delete those files from your computer if needed. By default logs are located at the "C:\Program Files\Tzunami\Deployer 4.0\Exporter\Logs", or where Tzunami Lotus Notes Exporter is installed. Tzunami Lotus Notes Exporter Options information will be available in "C:\Documents and Settings\All users\Application Data\Local\Tzunami" location.

1.4.1 Uninstallation using Installer

To uninstall Tzunami Lotus Notes Exporter using Installer

1. Close **Tzunami Lotus Notes Exporter**.
2. Unzip the zip file, and run `TzunamiLotusNotesExporter.msi`. The Tzunami Lotus Notes setup wizard (Welcome window) will launch. To advance through the remove installation wizard, click "**Next"** at the bottom of the screen.
3. In the Change, repair or remove installation panel, click "**Remove**" button to proceed to remove Tzunami Lotus Notes Exporter from your computer.
4. In the Ready to remove Tzunami Lotus Notes Exporter panel, click "**Remove"** to remove Tzunami Lotus Notes Exporter from your computer.
5. Click **Finish** to exit the setup wizard.

You can right-click Tzunami Lotus Notes Exporter setup (`TzunamiLotusNotesExporter.msi`) file and select **Uninstall** to remove or uninstall Tzunami Lotus Notes Exporter from your computer.

1.4.2 Uninstallation using Control Panel

To uninstall Tzunami Lotus Notes Exporter using Control Panel

1. Close **Tzunami Lotus Notes Exporter.**
2. Click **Start** > **Control Panel** > **Add or Remove Programs**.
3. In Add or Remove Programs window, right-click the Tzunami Lotus Notes Exporter application you want to remove, and then click **Uninstall**.

2 TZUNAMI LOTUS NOTES EXPORTER

This chapter contains information about Tzunami Lotus Notes Exporter. It contains the following topics:

- *Overview*
- *Exporting from Lotus Notes*
- *Command-line Export*
- *Logging settings*
- *Best Practice*

2.1 OVERVIEW

Tzunami Lotus Notes Exporter enables you to migrate Lotus Notes content into SharePoint 2007, SharePoint 2010, SharePoint 2013, SharePoint 2016 or SharePoint Online using Tzunami Deployer.

To load Lotus Notes content into Tzunami Deployer, you must first extract the content, using Lotus Notes Exporter, into TDX (Tzunami Deployer Export) and STDX (Separate Tzunami Deployer Export) files. You can then load this TDX file into a Deployer project.

> When working with Deployer on several machines, you can run an export on one machine and load the exported data on another.
>
> Tzunami LotusNotes Exporter is an extension module of Tzunami Deployer. You can work with this module independently of Tzunami Deployer.

2.1.1 Supported Types

With Lotus Notes Exporter users can export Lotus Notes documents as Microsoft InfoPath forms and form templates, SharePoint data items or as documents along with their properties, attachments and embedded objects. For databases constructed from some of the standard templates, the exporter provides suggestions on whether to export as Data Items or as Documents or InfoPath based on the database template. Some of these templates are:

- Doc Library
- Mail
- Discussion
- Address Book
- Journal

2.1.2 Security

In addition to the structure and items, Lotus Notes Exporter extracts security information. The following permissions are used in the exporter:

- Create Documents
- Delete Documents
- Create Private Agents
- Create Personal Folders Views
- Create Shared Folders Views
- Create Lotus Script Java Agents
- Read Public Documents

- Write Public Documents

- Replicate or Copy Documents

Each item is assigned an ACL defining the permissions of the various members according to the roles they were assigned.

The exporter automatically creates default roles that are used during the deployment process. These roles and their respective permissions are based on the default permissions provided by Lotus Notes.

The roles include:

Roles	Definition
No Access	No permissions
Reader	Read Public Documents, Write Public Documents, Replicate or Copy Documents
Editor	Create Documents, Read Public Documents, Write Public Documents, Replicate or Copy Documents
Designer	Create Documents, Read Public Documents, Write Public Documents, Replicate or Copy Documents, Create Private Agents, Create Personal Folders Views, Create Shared Folders Views
Manager	Create Documents, Read Public Documents, Write Public Documents, Replicate or Copy Documents, Create Private Agents, Create Personal Folders Views, Create Shared Folders Views, Create Lotus Script Java Agents
Highest	Create Documents, Delete Documents, Read Public Documents, Write Public Documents, Replicate or Copy Documents, Create Private Agents, Create Personal Folders Views, Create Shared Folders Views, Create Lotus Script Java Agents

2.2 EXPORTING FROM LOTUS NOTES

The Tzunami Lotus Notes Exporter enables you to export Lotus Notes contents to a TDX file.

When exporting, keep the following in mind:

Export in small chunks: When exporting from your source system, perform the export in small chunks of about 40K-50K files each that have a common business logic or some other logic.

Extraction of huge number of items: If the number of items to be extracted is greater than 5K, the exporter will extract the items into separate folders each containing 5K items.

Ensure consistency: Make sure that the content of the different exports do not overlap and that, while exporting, no changes are made to the source data.

To export to a TDX file:

1. In Tzunami Deployer, right-click in the Lotus Notes tab source store area and select **Export Lotus Notes** to TDX.

   Or

   Click **Start > All Programs > Tzunami > Tzunami Notes Exporter**.

   The Welcome screen of the Export Wizard appears.

2. Click **Next**.
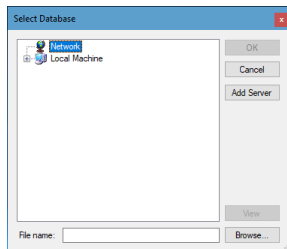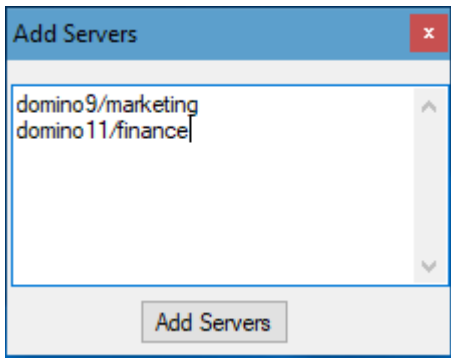
   The Lotus Notes Configurations screen appears for entering export settings. The screen includes five tabs: **General**, **Forms, Advanced, InfoPath** and **Redirection.**
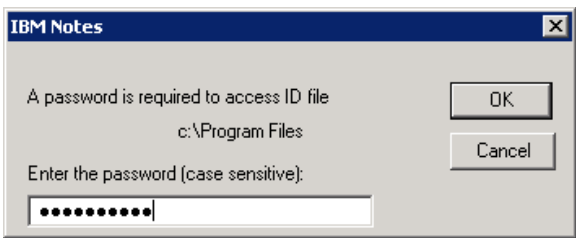
3. Click the **General** tab and enter general information.

Figure 2-1: Lotus Notes Configurations Screen – General Tab

Table 2-1: Lotus Notes Configurations Screen, General Tab – Description of Fields

Field	Description
Notes Database	Click **Browse** to select a Lotus Notes NSF files or Domino database or add Lotus Notes Domino servers. • To select Lotus Notes NSF files from location other than Lotus Notes data directory, click **Browse** at the bottom of Select Database window. The exporter will automatically detect the template of the database that you selected and might suggest appropriate export settings for the template. If you wish to configure the export options automatically, click **Yes** to the message '*Do you want to automatically set the appropriate export options for this database*?' Click **No** to make your own selection. You can change the export options any time before beginning the export. • To connect and export data from cross certified domino servers, click **Add Servers** button. **Add Servers** window will appear. Enter the domino server name. Each domino servers should be entered in the separate line. Domino servers should be in "common name/organization name" format. To update or add domino servers in the list, all server names must be entered again in the Add Servers window. Click **Add Servers. IBM Notes** window will appear**.**

Field	Description
	Enter the correct password to access ID files to connect to domino server. If access process is cancelled, you must run exporter again and close all Notes Client too.
Extract system properties	Check this option if you wish to extract the system properties in the selected database (usually, system property names begin with a '$' sign).
Extract as data item	If you select to extract as data items, each Notes document is extracted as a data item. The document properties and each field in the document will appear as metadata of the data item after deployment in SharePoint. Rich text fields will have two corresponding metadata *<RTFfieldname>.Html* and *<RTFfieldname>.txt* which will represent the HTML and text equivalent of the field.

Attachments of the Notes document will be extracted as attachments of the corresponding data item. In addition, the inline images (if any) in the Notes document will also appear as data item attachments and will be rendered by SharePoint to display in their correct position. |
| Extract as document | If you select this option, each Notes document is extracted as a document. The Notes Document properties will appear as metadata in the exported document.

The embedded objects (for example: OLE objects) in the Notes document will be extracted as embedded objects in the final document.

Document properties (for example: Rich Text field) and attachments in the Notes document will be extracted as metadata and embedded attachments in the final document.

However, the exporter provides additional capabilities to export some selective properties and attachments as separate documents and files based on the option selected in **Advanced Document Export Configuration** window. See below for details.

To configure **Advanced Document Export Configuration**, click **Advanced** button (**Table 2-2**).

If no rendering form is found for a Notes document, it will be extracted as a data item. You can choose whether to export or not documents without a form through the checkbox "Extract documents with no form" described below. |
| Extract as <file format> | Choose either to extract document as DOC or DOCX files.

Select DOCX option for better performance. |

Field	Description
Extract as InfoPath document	Check this option if you wish to extract Notes forms and documents into InfoPath form templates and forms respectively.
	Images in Notes forms and documents are extracted into separate folders inside a folder named '_infoPathImageFolder' for each view.
	OLE objects in the Notes document will not be extracted for this option.
Extract documents with no form	Check this option to extract Notes Document without a form. If this option is selected, Notes Documents without a form will be extracted as data item irrespective of whether you selected to extract as document or data item through the two check boxes explained above.
Extract views as folders	Check this option if you wish the Notes views to be extracted as folders.
	This means that if an item appears in two views, it will appear twice in the export result – once in every folder.
	When you select this option, it is suggested that instead of selecting complete hierarchy from the root, choose specific folders in Folders Screen for efficient extraction.
	If Notes documents contain untitled (hidden) views, they won't be extracted. In order to extract documents inside untitled view(s), it is recommended to extract without selecting 'Extract views as folders' option.
Extract hidden	Check this option to extract hidden views/folders inside the Notes database. Hidden views/folders will be extracted as folders and will have 'IsHidden' metadata set for distinction later.
Extract private	Check this option to extract private views/folders inside the Notes database. Private views/folders will be extracted as folders and will have 'IsPrivate' metadata set for distinction later.
Extract Fields hidden by formula	Check this option to extract fields hidden using formula.

In Lotus Notes, there are some documents that don't have an associated form. One such example is Notes mail messages. Therefore, it is always recommended to select 'Extract documents with no form' option to make sure that documents without forms are not missed out during extraction. When this option is selected, although you can continue with extraction without selecting any form in Forms tab, making individual form selection will ensure complete document extraction. You cannot continue with export if you have neither chosen 'Extract documents with no form' option nor made any selection in Forms tab.

If you are running the exporter on the machine having Domino Server, while selecting the NSF to export, you may sometimes get an error message saying 'This database cannot be opened because a consistency check of it is needed'. In this case, open the selected NSF using Domino Server once before trying to export it.
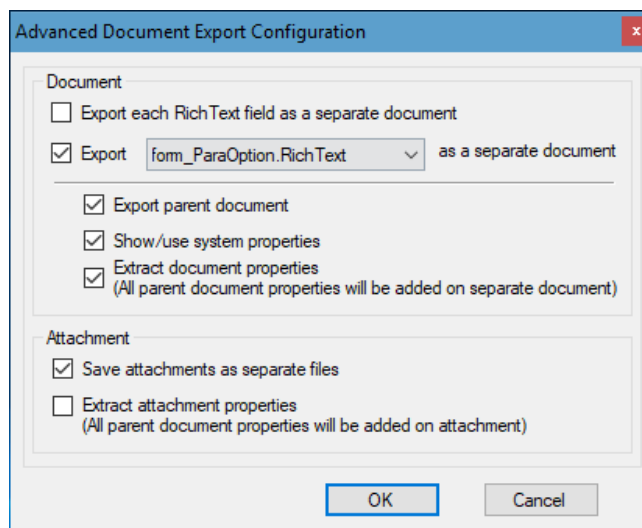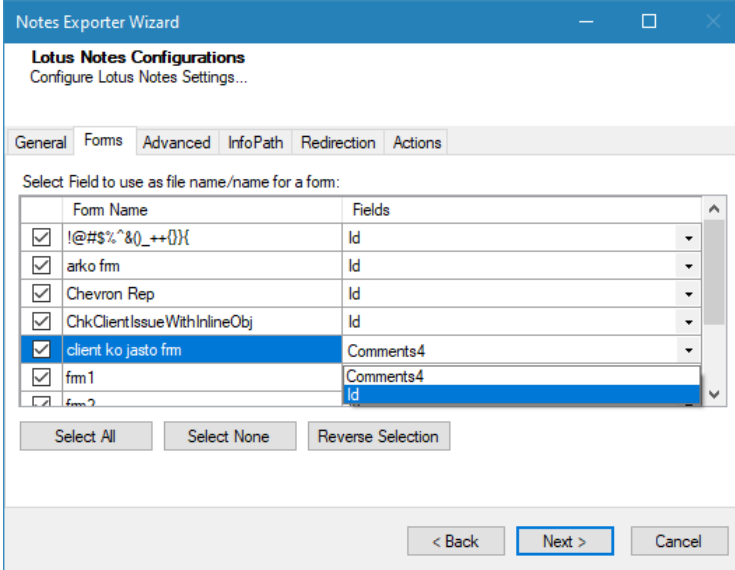
Figure 2-2: Lotus Notes Configurations Screen – Advanced Document Export Configuration

Table 2-2: Advanced Document Export Configuration Window

Field	Description
Document	The setting options under this group are applicable for documents. These advanced options are not applied by default.
Export each Rich Text field as a separate document	Check this option to extract each rich text field present in a Notes document as a separate document. This option extract Rich Text field as separate document only. For more capabilities like adding properties of parent document in the separate document, extract parent document as well etc., please refer the options: • Export parent document. • Show /use system properties. • Extract document properties.
Export <*Select rich text field*> as a separate document	Check this option to extract the selected rich text field as a separate document. You will need to select a rich text field from the drop down for this option. If the selected field is not found in a Notes document, it will not be exported. This option extract selected field as separate document only. For more capabilities like adding properties of parent document in the separate document, extract parent document as well etc., please refer the options: • Export parent document. • Show /use system properties. • Extract document properties.

Field	Description
Export parent document	Check this option to extract parent document as well. If this option is unchecked: • Parent document will not be exported. • Only the separate document will be extracted.
Show /use system properties	Check this option to extract additional system properties of Rich Text field in exported separate document and parent document.
Extract document properties (All parent document properties will be added on separate document)	Check this option to extract properties of parent document into the document exported as separate document.
Attachment	The setting options under this group are applicable for attachments of document.
Save attachments as separate files	Check this option to extract the attachments as separate files.
Extract attachments properties (All parent document properties will be added on attachment)	Check this option to add parent document properties on the attachments extracted as separate files. You must select "Save attachments as separate files" option to add parent document properties on the extracted attachments as separate files.

4. Click the **Forms** tab to specify the forms for which the Notes documents are to be extracted.

Figure 2-3: Lotus Notes Configurations Screen – Forms

Table 2-3: Lotus Notes Configurations Screen, Forms tab – Description of Fields

Field	Description
Select All	Click this button to select all the listed forms. If a form is selected, all the Notes documents that have this form as default form will be extracted.
	You can make individual form selection to export documents of your choice.
Select None	Click this button to deselect all the listed forms.
Reverse selection	Click this button to deselect all the forms you selected, and select all the forms you did not select.
Select Fields to use as file name/name for a form.	Each form has its respective fields listed in a dropdown. Select which field of the form should be used as the file name (in case of document extraction), or as the name (in case of data item extraction) of the extracted item.
	The exporter will make some default suggestions for the field name.
	The dropdown list for each respective form: • Includes only string type fields. • Excludes computed string type fields.

5. Click the **Advanced** tab to enter advanced export information.

Figure 2-4: Lotus Notes Configurations Screen – Advanced

Table 2-4: Lotus Notes Configurations Screen, Advanced tab – Description of Fields

Field	Description
Versions	
Extract versions	Check this option if you wish to export Notes documents with versioning relationships maintained. If you do not check this option, the exporter will extract all the documents as independent documents without any versioning relationship between them.
Max number of versions	You can enter the number of versions you would like to

	export for each document. Setting this value to zero will export all versions. If number of maximum versions is specified, number of versions from latest version are exported.
Rendering	
Extract pass-through HTML	Check this option if you wish to extract 'Pass-Thru HTML' text as a part of the output. If there is a normal text between 'Pass-Thru HTML' it is extracted normally. 'Pass-Thru HTMLs' are design HTML codes in Notes documents/forms which are rendered by the browser during display. They usually do not represent the actual document contents.
Use Form hidden flag for field (Override the settings of field 'Previewed for reading' and 'Opened for reading' of Document by its Form)	Check this option if you wish to override the settings of field 'Previewed for reading' and 'Opened for reading' of Document by its Form

6. Click the **InfoPath** tab for configuring the advanced options if you wish to extract Notes contents into InfoPath contents. In order to configure these options, you will need to first select the option *'Extract as InfoPath document'* in the *General* tab.
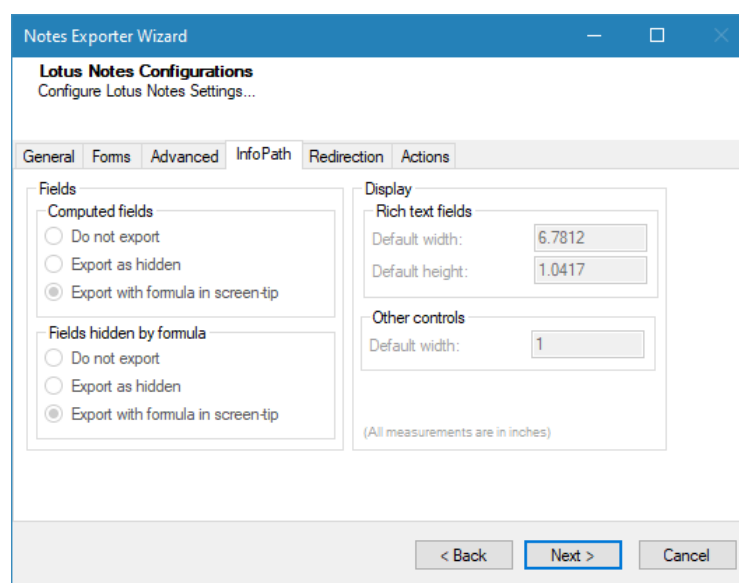

Figure 2-5: Lotus Notes Configurations Screen – InfoPath

Table 2-5: Lotus Notes Configurations Screen, InfoPath – Description of Fields

Field	Description
Computed Field	Computed fields are used to automatically enter data, such as the author's name or the date, in a field. These fields require formulas to supply their values.
a. Do not export	Select 'Do not export' option if you do not wish to extract the computed fields on Notes form to the InfoPath form template.

Field	Description
b. Export as hidden	Select 'Export as hidden' option if you wish to extract the computed fields on Notes form to be hidden from the user view in form-fill mode, and visible only in the InfoPath designer mode on the exported form template. In this mode, the formula for the computed field is preserved in the screen-tip of the corresponding hidden control.
c. Export with formula in screen-tip	Select 'Export with formula in screen-tip' option if you wish to extract the computed fields on Notes form to display in the screen-tip of the corresponding control in the exported InfoPath form template.
Fields hidden by formula a. Do not export b. Export as hidden c. Export with formula in screen-tip	Fields hidden by formula are those fields that have an associated formula which is calculated run-time to decide if the field is to be hidden under the given conditions. The options to handle these fields are similar to that of computed fields as explained above.
Display	
Rich text fields	Enter width and height (in inches) in order to change default rich text field size on the exported InfoPath form template. If these fields are left blank, the exporter will take the default values for control size i.e. Width = 1 inch, Height = 0.25 inch.
Other controls	Enter the width (in inches) in order to change the default size of the controls other than rich text fields such as text box. If these fields are left blank, the exporter will take the default values for control size i.e. Width = 1 inch.

7. Tzunami Lotus Notes Exporter supports redirection of Notes DocLinks to target documents in the SharePoint or Domino Web Server based on the best target location. Click the Redirection tab to configure URL redirection parameters for Notes DocLinks. For more details on DocLink redirection, please refer to Tzunami URL Redirector Administration Guide.

Figure 2-6: Lotus Notes Configurations Screen – Redirection

Table 2-6: Lotus Notes Configurations Screen, Redirection tab – Description of Fields

Field	Description
Enable URL Redirection	Check this option to enable redirection of Notes DocLinks to target SharePoint document. If this option is checked Notes document links preceded with Notes:/// will be formatted to HTTP links.
Redirector Server Name	This parameter must be supplied if you wish to enable URL redirection. This represents the host name of the machine hosting Tzunami URL Redirector tool.
	It is highly recommended that once this parameter is set and export is conducted, it should not be changed later. Notes links are converted to HTTP links based on this parameter. Changing this will result in generation of HTTP links which differ from those generated by earlier export sessions. This may require you to configure an additional entry in your DNS server to point the new server name to the machine hosting Tzunami URL Redirector tool.

Tzunami Notes URL Redirector tool is needed for providing conditional redirection of a Notes DocLinks to the best location of the target.

8. Click on **Actions** tab.

The **Actions** tab allows you to use different actions that can be taken in the exporter.

- **Auto Pause:** The export process is paused and resumed using this functionality at a set time each day. The feature can be turned on or off using the **Use Auto Pause** check box. The feature can be checked by the user, who can also select the pause and resume times. The user can deselect it to turn off the feature.
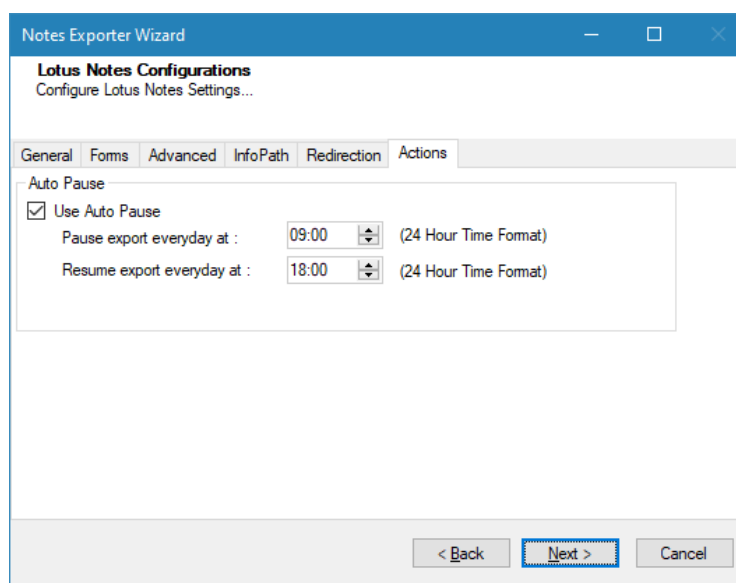
Figure 2-7: Lotus Notes Configurations Screen – Actions Tab

**Table 2-7: Lotus Notes Configurations, Actions Tab - Description of fields**

Field	Description
Auto Pause	
Use Auto Pause	To use the auto-pause and resume feature, select this option. To turn off this function, uncheck this box.
Pause export every day at	Set the daily time that the export process should pause.
Resume export every day at	Set the daily time for restarting the interrupted export operation.

The settings for actions are only applied to this exporter instance that is currently executing when the user clicks the **Next** button.

9. Click **Next**. The Folders screen appears
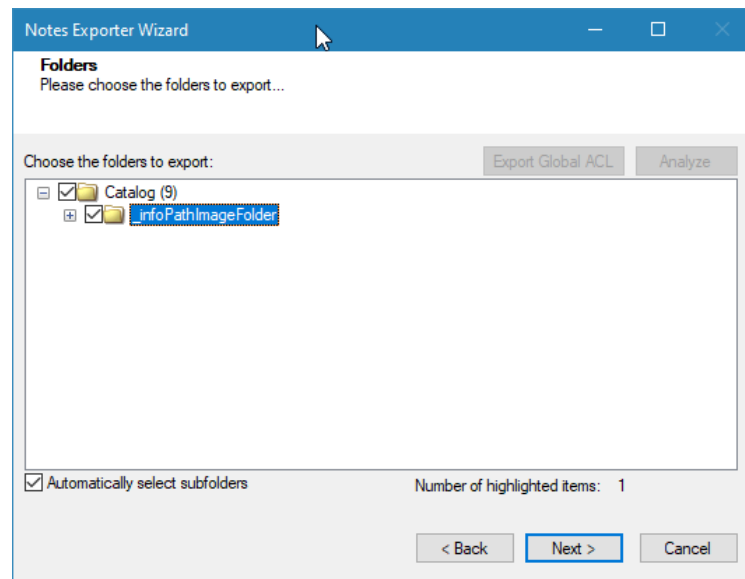
Figure 2-8: Folder Selection Screen

10. Navigate the folders and select the folders to export. If you opted to export hidden views as folders, you can see them inside the folder named 'Hidden folders'.

You can automatically select all subfolders of a selected folder by checking 'Automatically select subfolders'.

In Lotus Notes the same item may appear under different views. While exporting views as folders, rather than selecting the root folder and automatically selecting all subfolders, you should carefully choose specific folders to export, thus significantly reducing the export time and prevent item duplicity in different folders. It is a best practice to choose specific folders to export rather than selecting the root folder and exporting the entire hierarchy.

11. Click **Next**. The Filter screen appears.
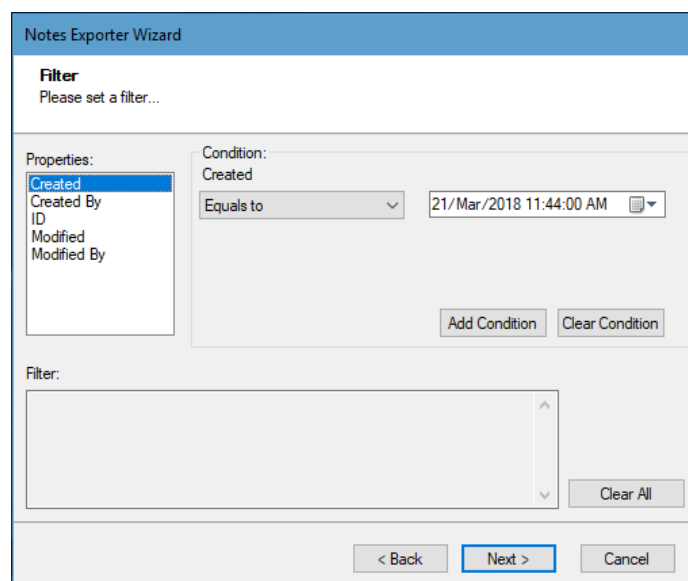
Figure 2-9: Filter Screen

12. Set up filtering as follows:

   a) In the Properties field, select a property.

   b) In the Condition field, select a condition from the dropdown list and enter or select values in the corresponding field.

   c) Click **Add Condition**. The condition is added to the Filter area, displaying the full filter expression.

You can only add one condition per property.

You can edit a condition for a property by selecting the property and modifying the condition type or values that are currently assigned to it.

You can remove a condition from a property or all the conditions from all the properties by clicking **Clear Condition** or **Clear All**, respectively.

This option works only for Data Items.

If multiple conditions are applied, only items that match all conditions are exported.

13. Click **Next**. The Destination Folder screen appears.

Figure 2-10: Destination Folder Screen

Specify where to export the files and generated TDX information. Make sure you are saving to a folder with a descriptive name and under a well-organized file system hierarchy. It is recommended to export to a folder that is as close to the root as possible.

When exporting deep hierarchy, the property which store the path for exported folder/files may exceed the maximum character supported by the property (typically 260 characters defined in the Windows API). To overcome such condition, it is recommended to export to a folder that is as close to the root as possible.

Starting in Windows 10, version 1607, MAX_PATH limitations have been removed from common Win32 file and directory functions. Please, refer information published by Microsoft

from following link and consult with your system administrator to remove the limitation whenever possible.

https://docs.microsoft.com/en-us/windows/win32/fileio/maximum-file-path-limitation?tabs=registry

Click **Save** under **Export specification file** for saving export specification details as XML files which allows running the exporter from the command-line mode. See the section '**Command-line Export**' below for more details.

While running exporter from command-line for a network machine (Lotus Domino) it asks for Server Password and after it is provided, command line execution begins.

14. Click **Next**.

If the export folder already exists, a warning appears, informing you that the destination folder already exists and if you continue all existing information will be deleted.

Clicking **OK** confirms overwrite and clicking **Cancel** returns you to the Destination Folder screen to change the destination folder.

An Exporting screen appears with a progress bar and execution report, and the export process begins. During the export process, a **Pause** button is displayed. Users can manually pause and resume the export process (despite of scheduled pause/resume time) by clicking on **Pause/Resume** button.
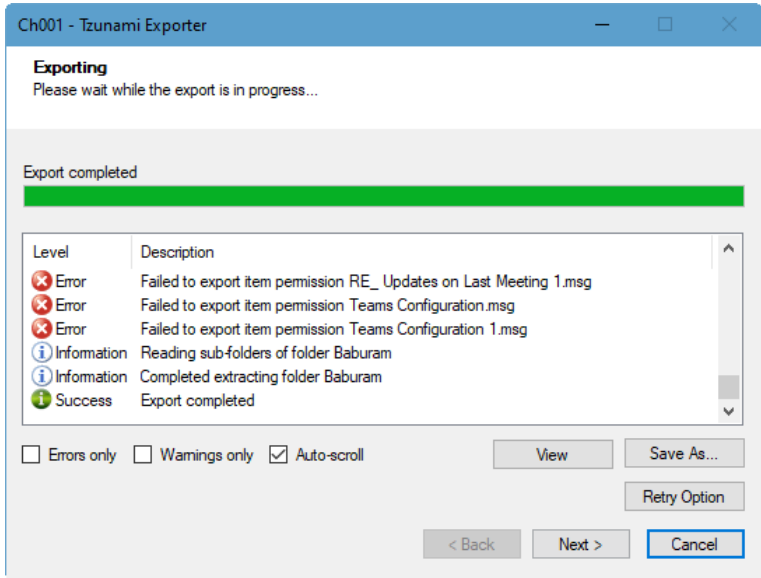
Figure 2-11: Exporting Screen

You can save the export report by clicking **Save as**… after export is complete.

You can check **Auto-scroll** to display the latest progress messages, as they appear.

You can display only export errors by checking **Errors only**.

You can display only export warnings by checking **Warnings only**.

15. Click **Retry Option**, if there are failed item(s).

16. Click **Next**. The Export Complete screen appears.

17. Click **Done**. The Export wizard is closed.

After the extraction process completes successfully, you are prompted to load the exported data into the current Tzunami Deployer project. Clicking **Yes** begins the process of loading the content from the previously exported TDX file into the project. For more information about loading sources, refer to the _**Tzunami Deployer User Guide**_.

2.3 COMMAND-LINE EXPORT

Tzunami Exporter for Lotus Notes provides ability to run export sessions non-interactively using command line instructions. This allows administrators to plan and schedule long running migration jobs through scripts, batch files and schedulers according to needs and organizational timetables. To run the exporter in batch mode you will need exporter specification file explained in the 'Choose Destination Folder' step of the export wizard. The file contains all the export option details including:

- Source ECM connectivity information (Server Address, User Name, Password etc.)

- Items to export

- Destination and Log Folder

- Filter

- Exporter specific options

This file can be edited to suit your needs however the XML schema of the file should not be altered. It is recommended that you generate a sample specifications file in the Destination Folder Screen selection step of the export wizard and use it as a template to create your own specification file.

Once the specification file is ready, you can run the exporter from command line using command:

TzunamiExporter.exe [-r <*ResultFile*>] -s <*ExportSpecificationsFile*>

Usage

Field	Description
-r	Outputs export results into an XML file [Optional]
-s	XML file containing export specifications

For example:

C:\User\Administrator> "C:\Program Files (x86)\Tzunami\Deployer 4.0\Exporters\Lotus Notes \TzunamiExporter.exe" -s "D:\Spec Files\specs1.xml"

C:\Program Files (x86)\Tzunami\Deployer 4.0\Exporters\Lotus Notes> TzunamiExporter.exe -s "D:\Spec Files\specs1.xml"

Based on your needs you can create number of specification files and use them to run multiple export sessions as batch commands.

You will need to provide absolute path for **TzunamiExporter.exe** and *ExportSpecificationsFile* in the command if you are not running from the exporter installation directory.

In Microsoft Windows 10, Windows 8, Windows 7, Windows Vista, Windows Server 2003 and Windows Server 2008/2012 environment, if USG (Universal Security Group) is enabled,

Users with low privileges sometimes cannot export ECM contents. To export contents using command line, User must run with elevated or administrative privileges.

To export contents with elevated or administrative privileges, you can run the exporter from command line using command:

RUNAS /trustlevel:"Unrestricted" "<ExporterInstallationDirectory>\TzunamiExporter.exe" –s "<Spec file path>\Specfilename.xml "

For example:

RUNAS /trustlevel:"Unrestricted" "C:\Program Files (x86)\Tzunami\Deployer 4.0\Exporters\Lotus Notes\TzunamiExporter.exe" -s "D:\Spec Files\specs1.xml "

2.4 LOGGING SETTINGS

In Tzunami Exporter, log is written in a persistent medium having as much information as possible about events that occur while the software runs. That information plays a vital role while diagnosing if any issue occurs during the export process. Hence, it is worth mentioning that logger writes each and very details during.

Tzunami Inc provides the settings for writing logs. There are the following log levels that the user can change before running the tool.

1. Go to installation directory of the exporter and open **TzunamiExporter.exe.config** file in an editor.

2. Locate the key and set corresponding values as mentioned below:

   - **LogLevel:** Set the esteem to "Debug" or "High" or "Normal" or "low" or "none".


```
188        <!-- LogLevel : None = 0, Low = 1, Normal =
           2, High = 3, Debug = 4,-->
189        <add key="LogLevel" value="Debug"/>
190      </appSettings>
191      <report>
```
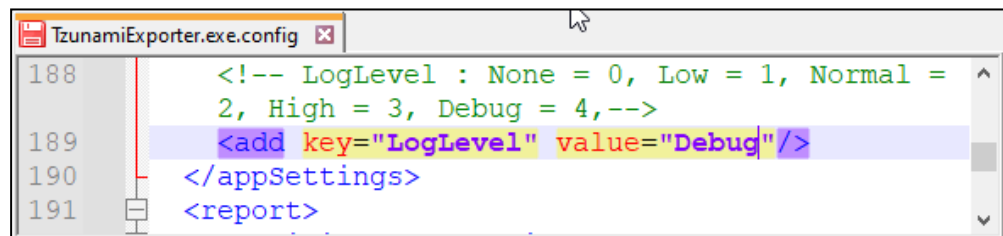
Figure 2-12 Log level Settings

   - **Debug:** Writes logs as much as possible. So, this setting includes the maximum level of verbosity. By default, the tool is packaged with this setting.

   - **High:** Writes logs as much as possible for warnings and errors. However, it will not log possible diagnostic information.

   - **Normal:** Writes logs for anticipated errors and warnings.

   - **Low:** Critical errors are logged. There will be as low as possible information logged.

   - **None:** No such logs are written.

3. Save the file. Then run the exporter.

2.5 BEST PRACTICE

Due to the technological differences between Lotus Notes and SharePoint, the following best practices should be taken into consideration while exporting:

- Extract Lotus Notes content based on source template. If your database is not generated from one of the standard templates, or if you are not sure about the database template that you are extracting, carefully analyze the contents and decide the export type based on the equivalent list/library available in SharePoint. The exporter will make some automatic suggestions to help you choose the export type if the database template is known. Here are some suggestions:

Table 2-8 Target Structure Guidelines

Templates	Type
Document Libraries	Extract as Documents OR InfoPath Document
Calendars	Extract as Data Items OR InfoPath Document
Mails	Extract as Data Items
To Do Lists	Extract as Data Items
Address Book	Extract as Data Items
Discussions	Extract as Data Items

These are just some suggestion based on the nature of the template. You may still want to analyze the database and consult a SharePoint expert to decide which export options would be best for you. You may also try exporting contents under different options till you know what is best for your scenario.

- It is recommended that you close the Lotus Notes application prior to starting the export. Lotus Notes imposes some limitation on the number of resource instances (in-memory segments, handles etc.) that can be allocated at a time. This may affect your export especially if you are doing bulk export which might require high resources. Closing Lotus Notes applications during export will make all resources available to the exporter, thus reducing the chances of export failures.

- As much as possible do not run other applications on the exporter machine while the export is in progress.

- Make sure that you are logged into the machine with admin rights where you are running the export for the first time. The exporter may need to register some environment variable(s) to configure the export environment. This will need admin access. Once these settings are done on a machine, a user with non-administrative rights can also use the exporter.

- If you are connecting the Lotus Domino Server via Lotus Client, during export of huge database from a Domino Server, it is recommended to run the exporter in a machine where the Lotus Domino Server is installed so that exporter can select the

database locally. The reason to do so is generally it takes much longer time to extract large size database from the Server (Network).

- While exporting:

   1. **Export in small chunks**. When exporting from your source system, perform the export in small chunks of about 40K-50K files each that have a common business logic or some other logic.

   2. **Ensure consistency**. Make sure that the content of the different exports do not overlap and that, while exporting, no changes are made to the source data.

- When extracting as document it is recommended that you choose to extract as DOCX (in the advanced settings) if there is no strict need to extract in DOC format. This will speed up the export process and reduce resource consumption during export.

- It is recommended that you select "Extract documents with no form" checkbox. In Lotus Notes, there are some documents that don't have an associated form. One such example is Notes mail messages. If you do not check this option, these documents will not be extracted. Note that documents without a form will be extracted as data items. This may create documents as well as data items in the same folder. You should deploy the two types of items into separate lists in SharePoint.

- Make sure that you have enough disk space in the System drive of the machine where you are running the exporter. The free disk space should be at least two to three times the size of the database that you are exporting.

- While exporting views as folders, it is highly recommended that you choose specific folders rather than selecting the root folder and exporting the entire hierarchy. Carefully choose the specific folders to export will significantly reduce export time and prevent item duplicity in different folders.

- When extracting as document it is recommended not to select "Save attachments as separate files" if there is a close relation between the parent document and its attachments. If however the parent document is just acting as a container for different objects and files you may want to use this option. Please be aware of the fact that extracting attachments as separate files will effectively break their relationship with the parent document.

- Do a small test migration first. Before you start large scale migration, perform a small migration to a test site and make sure that you understand how the Deployer and the Lotus Notes Exporter function; how data is mapped from the source to the destination items and which migration option suit you best. You can refer to details about Deployer features in the Tzunami Deployer User Guide.

- If a rendering form is not found for a document, it will be extracted as a data item, even if you opted to extract as document. This may create two types of item in the

same exported folder. In such cases Tzunami recommends the migration of each type of item to a different list since documents and data items cannot be deployed to a single list in SharePoint.

- Some Lotus Notes content will map to standard SharePoint templates such as Document Library, Calendars, Discussions and Tasks. Others will require customized template selection to accommodate additional data columns or content types that are not standard in SharePoint.

- Considering the SharePoint limitation for custom roles, the Exporter will extract Lotus Notes custom roles as Groups. Any Access Control List in Notes content must be mapped to permissions in the corresponding SharePoint sites, lists, libraries, and even individual data documents during deployment.

- While deploying as InfoPath:

  1. **Not selecting 'Extract views as folders' option**: if you are exporting Notes documents as InfoPath <u>without</u> selecting the option 'Extract views as folders', it is **not** recommended to deploy the top level folder with database (NSF) name as root site in the target SharePoint for full browser support.

  2. **Selecting 'Extract views as folders' option**: If you are exporting Notes documents as InfoPath <u>with</u> 'Extract views as folders' option selected, it is **not** recommended to deploy folders with view name (under the folder with database name) as root site in the target SharePoint for best turnout.
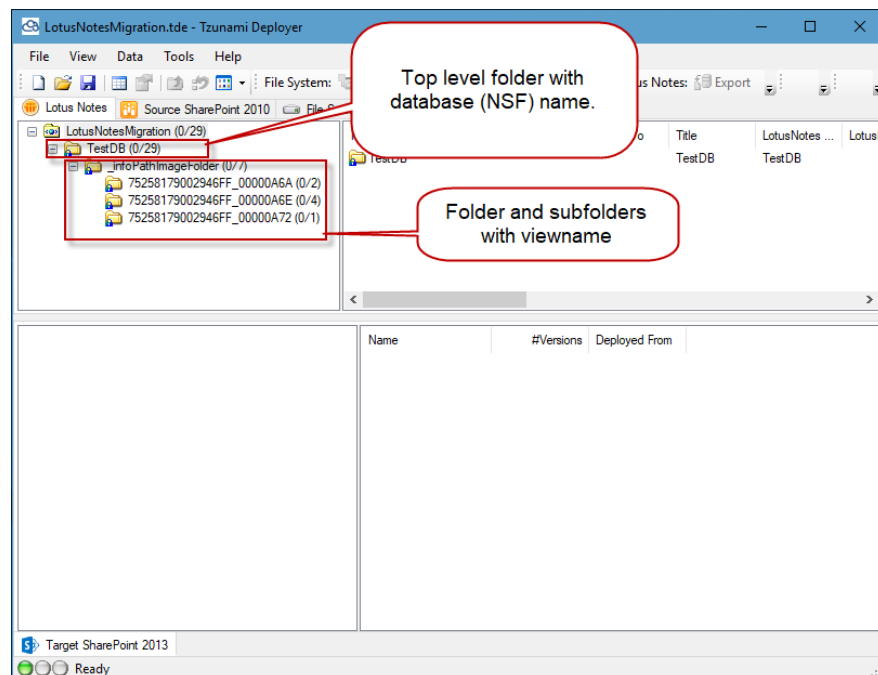
Figure 2-13 InfoPath Deployment (with 'extract views as folders' option selected)

Refer section 3.1 for prerequisites.

3 INFOPATH MIGRATION

The most common usage of InfoPath is to integrate it with Microsoft SharePoint technology using InfoPath Form Services (included in the enterprise commercial version of MOSS 2007 and SPS 2010) or as the separate Microsoft Office Forms Server 2007 and Microsoft Office Server 2010 product. In SharePoint, a "Form Library" can be created and developed by using InfoPath. InfoPath fields are exported as "Columns" in the library and can be directly read in SharePoint or be used as part of web services results in workflow development. InfoPath Forms Services (or Office Forms Services) is a component of SharePoint (MOSS 2007 and SPS 2010) which allows Microsoft Office InfoPath forms to be hosted in a SharePoint web site and served using a browser based interface.

Lotus Notes forms are similar to InfoPath form templates and are used for creating documents in Notes. It provides extended facilities to incorporate validations and business logic using Lotus scripts and inbuilt functions. It is because of this similarity that InfoPath forms are natural targets for migrating Notes forms and documents.

3.1 PREREQUISITES

1. Microsoft InfoPath Form Services should be activated

2. SharePoint (MOSS 2007 and SPS 2010) Enterprise Web application features must be installed and activated so as to use InfoPath services in browser.

3. **SharePoint Form Library setting**

   If the InfoPath client application has been installed on a PC, it will be used by default to open forms that have been stored in a SharePoint Form Library unless the setting 'Display as a Web page' has been set on that SharePoint Form Library. This setting will force forms to open in a browser even if the InfoPath client has been installed on the PC from where the form is being opened. To enable this setting:

   a) Click Settings on the Form Library menu bar and choose Form Library Settings from the drop-down menu.

   b) On the Customize <Form Library Name> page under the General Settings category, click 'Advanced settings'.

   c) On the Form Library Advanced Settings: <Form Library Name> page under the Browser-enabled Documents category, choose Display as a Web page

4. **InfoPath Form Services setting:**

   Regardless of whether an InfoPath form template has been forced to open in a browser through the SharePoint Form Library setting (discussed above), if an administrator has disabled the setting to Render form templates that are browser-enabled by users from SharePoint Central Administration, users will not be able to

open InfoPath forms in a browser. Setting in SharePoint Central Administration to enable this setting:

a) Open SharePoint Central Administration.

b) Click the Application Management tab.

c) On the Application Management page under the InfoPath Forms Services category, click Configure InfoPath Forms Services.

d) On the Configure InfoPath Forms Services page under the User Browser-enabled Form Templates category, check Render form templates that are browser-enabled by users.

5. **InfoPath form template Browser-Compatibility:**

If you are using InfoPath client application, the InfoPath template must be configured to be browser compatible along with the SharePoint.

In InfoPath, make sure you set the following parameters to make the template browser compatible:

a) When creating a new template, in Design a Form Template wizard, check the "Enable browser-compatible features only".

b) In **Tools > Form Options > Compatibility**, make sure the checkbox that states "Design a form template that can be opened in a browser or InfoPath" is checked.

3.2 KNOWN ISSUES AND WORKAROUNDS

Browser-Enable InfoPath Form template in SharePoint (MOSS 2007 and SPS 2010):

A Browser enabled InfoPath form template allows you to access and modifies the item directly from the web browser like Internet Explorer. In order to publish an InfoPath Form template that is browser enabled, the InfoPath template must be configured to be browser compatible along with the SharePoint.

Message: '*This form template is browser-compatible, but it cannot be browser-enabled on the selected site*' - If this message is ignored during form publishing, then you will not be able to open or fill out the form using a browser, not even if you configure InfoPath Forms Services after you have published the form template.

Workaround: Make sure that:

1. InfoPath Forms Services has been installed on the server.

2. Form Services feature on the site collection is activated.

3. The policy in Central Admin allows you to browser enable the form templates.

Message: *'Requested registry access is not allowed'* - If you encounter this message while opening browser-enabled InfoPath *form* templates or forms, probably you have insufficient permissions for the groups `WSS_WPG` and `WSS_ADMIN_WPG` in the Application pool identity.

Workaround: Go to:

1. Internet Information Services (**IIS > Application Pools > <Particular application pool>**)

2. Right-click **Properties >Identity tab**

3. Select '**Configurable**' and provide the administrative user credential.

4. Restart the IIS.

It is generally recommended that when creating a new web application, during creation of an application pool, select a security account for this application pool as 'Configurable' and give the associated user credential instead of 'Predefined'; to get rid of registry access message.

Message: *'The form cannot be displayed because session state is not available'* - Whether you are working with forms in custom workflows or simply trying to publish a form to a form library in MOSS 2007 and SPS 2010, you may encounter this error message.

Workaround: You need to uncomment the following line in the 'web.config' file for the intended web application:

```
<!-- <add name="Session"
type="System.Web.SessionState.SessionStateModu
le"/> -->
```

Lotus Notes Form Template Library

'`LotusNotesFormTemplateLibrary`' is a form library used internally by Tzunami Deployer to store and manipulate the InfoPath form template (XSN) files. Deployer will create this library automatically during the initial migration. It is recommended not to delete this form library for correct deployment of InfoPath forms (XML documents). However, if the library is deleted, the site content types (under the group "Lotus Notes Forms Content Types" of Site or Site Collection, depending on where the user opted to deploy in SharePoint) associated with each templates in the library has to be removed as well, before migrating it again.

Shared Image handling:

Currently, Lotus Notes Exporter doesn't extract shared images in a Notes documents i.e. images inserted from other database.

4 COPYRIGHT AND TRADEMARK

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