Magic Mover for Notes And Attachments to Lightning Experience

Convert attachments and classic notes to Salesforce files and enhanced notes

Summer '19

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Overview

Why convert attachments to Salesforce files?

Files are more versatile and provide better functionality than attachments. Attachments can only be attached to a single record, while files:
- Can be shared with multiple records and users
- Appear in Files home and can be added to Libraries
- Track multiple versions
- Provide file previews of documents, images, PDFs, and more

Salesforce files are optimized for Lightning Experience.
Attachments can't be uploaded in Lightning Experience. Attachments may be visible (and read-only) in Lightning Experience, but only if the org admin has enabled this on each page layout.

Why convert classic notes to enhanced notes?

Enhanced notes are more versatile and provide better functionality than classic notes. Classic notes can only be attached to the records of one object. Enhanced notes, however, can be added to multiple objects, like accounts, opportunity, contact, and lead.

Enhanced notes are optimized for Lightning Experience. They can also be used in Salesforce1.

What do you need to know about the Notes and Attachments Conversion app?

Conversion of notes and attachments is supported for custom objects and the following standard objects:
- Account
- Asset
- Campaign
- Case
- Contact
- Contract
- Entitlement
- Event
- Lead
- Opportunity
- Order
- Product
- Quote
- Service Contract
- Solution
- Task

We do not support converting Email Attachments from attachments to files. In fact, it's fine to leave your email attachments as attachments. Email attachments modeled as attachments can be viewed within Lightning.

What do you need to do before you begin conversion?

This tool is intended to be run by System Administrators, as it requires permissions such as 'Modify All Data', 'Set Audit Fields upon Record Creation' and 'View All Users'.

Before you begin, communicate with your users about the bulk conversion process you'll be undertaking with notes and attachments.

We recommend turning off feed tracking for notes, so Chatter isn't flooded with data during notes migration. From Setup, enter **Feed Tracking** in the Quick Find box, then select **Feed Tracking**. Select the object you want to turn off feed tracking for and deselect All Related Objects.

We also recommend turning off the ability to create new attachments in the old Notes & Attachments related list in Salesforce Classic.
From Setup, enter Files in the Quick Find box, then select General Settings under Salesforce Files > Settings. Enable the preference "Files uploaded to the Attachments related list on records are uploaded as Salesforce Files, not as attachments".

Note: Certain triggers and validation rules may impact migration, so review any triggers in your org related to attachments or notes. If you're looking for an easy way to see a list of potential triggers that could impact migration, you can either: 1) Install the package, navigate to the Configuration tab, and scroll down to the Triggers section or 2) if you're handy with developer console and SOQL, here's a SOQL query that you can use:

```
SELECT Name, TableEnumOrId, NamespacePrefix, ApiVersion, Status, IsValid
FROM ApexTrigger
WHERE TableEnumOrId = 'Attachment'
OR TableEnumOrId = 'ContentDocumentLink'
OR TableEnumOrId = 'ContentVersion'
OR TableEnumOrId = 'Note'
OR TableEnumOrId = 'ContentDocument'
order by TableEnumOrId asc
```

In Classic, on an account, the attachments related list will show attachments related directly to the account, and attachments related to the contacts. Files do not have this rollup behavior, so the files related list on an account won't show the files related to contacts on the account. See this Knowledge Article for more information.

The Attachments related list displays both attachments and files, so don't be alarmed if after migration, you still see a row in the Attachments related list with the old attachment name. It's actually the file showing up in the Attachments related list.

Also, when it comes to sharing rules, attachments and classic notes related to an object are visible to those that have access to the object, except for private attachments & notes which can only be viewed by

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the attachment owner. When an attachment or classic note is converted to a file or enhanced note, those that had access to the attachment or classic note are also granted access to the file or enhanced note.

If you plan to test the attachments and classic notes conversion in a partial sandbox, make sure that the desired attachments are being copied into that partial sandbox.

When testing the migration in a sandbox, make sure that you can receive system emails. To configure email deliverability settings, in the sandbox org, from Setup, enter Deliverability in the Quick Find box, then select Deliverability. For more information on general sandbox considerations, see this help topic.

Installation and Setup

Setup Prior to Installation

Enable the Org Permission

Before installing the AppExchange package, the Set Audit Fields upon Record Creation org permission is required. When we migrate attachments and files, we set system field values like Created Date, Created By, Last Modified Date, and Last Modified By. These fields are considered audit fields.

Note: If this permission isn't enabled before you install the tool, installation fails.

1. From Setup, enter User Interface in the Quick Find box, then select User Interface.
2. Check Enable "Set Audit Fields upon Record Creation" and "Update Records with Inactive Owners".

Enable the Enhanced Notes feature

If you'll be using this tool to migrate classic notes to enhanced notes, turn on Enhanced Notes for your organization, if it hasn't already been turned on.

1. From Setup, enter `Notes Settings` in the Quick Find box, then select **Notes Settings**.
2. Make sure **Enable Notes** is selected.
3. Click **Save**.

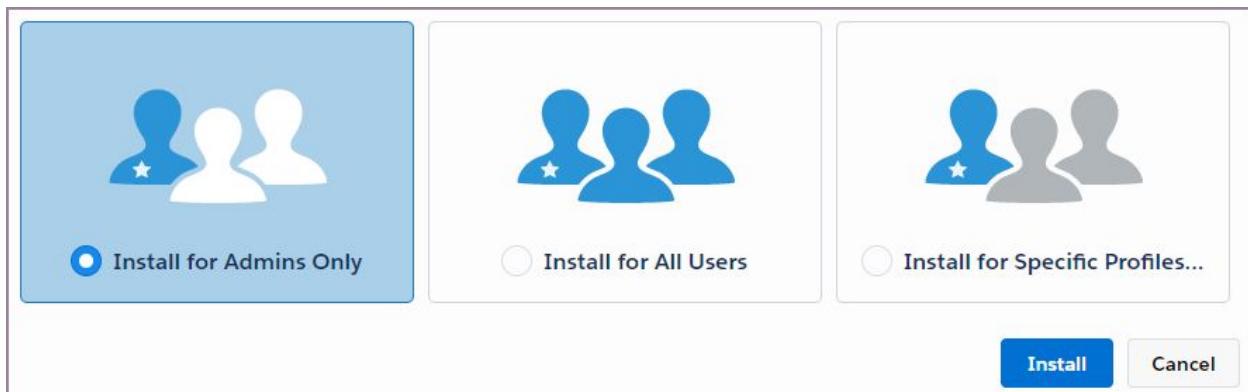Magic Mover for Notes and Attachments to Lightning Experience

Installation

[Install the AppExchange Package](#)

Select **Install for Admins Only** to make the bulk conversion tools available to users with Admin profiles.

Select **Install for All Users** to expose the migration tool to all of your users. Be sure all profiles have the permissions specified by the Setup section of this document.

Select **Install for Specific Profiles** to control who has access to this tool, based on profiles. Be sure those profiles have the permissions specified by the Setup section of this document.

After installing, check the visibility of the tool's tabs to verify that admins and users are seeing what they should.

Setup After Installation

This package includes several tools.
- Admins use the **Attachments to Files** tool to do bulk conversion of attachments in an org.
- Admins use the **Notes Conversion** tool to do bulk conversion of notes in an org.
- Admins use the **Update Page Layouts** tools to update layouts to use the new related lists exclusively.
- Admins use the **Files** tab to access Salesforce Files, to verify that the attachments to files conversion process was executed as expected.
- Admins can also use the **Latest Files & Notes** tool to view files and notes for your organization to verify that the conversion process executed as expected.
- Admins use the **Attachments** tab to quickly view attachments that have been migrated, and those that have not been migrated, which can be useful when verifying the results of a conversion job.
- Admins use the **Configuration** tab to modify parameters used during conversion.

Enable these permissions to use the tools in your org.

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Assign the Attachments and Notes Migrator Permission Set to Admins

1. From Setup, enter Permission Sets in the Quick Find box, then select Permission Sets.
2. Create a new permission set.
3. Select System Permissions.
4. Click Edit and enable the following permissions:
   In the Systems section:
   a. Modify All Data
   b. Set Audit Fields upon Record Creation
   In the Users section:
   c. View All Users
5. Click Save.
6. Select App Permissions.
7. Click Edit and enable the following permission:
   In the Content section:
   a. Query All Files
8. Click Manage Assignments.
9. Assign the permission set to anyone who will be using this tool to migrate attachments or notes. This typically includes admins.
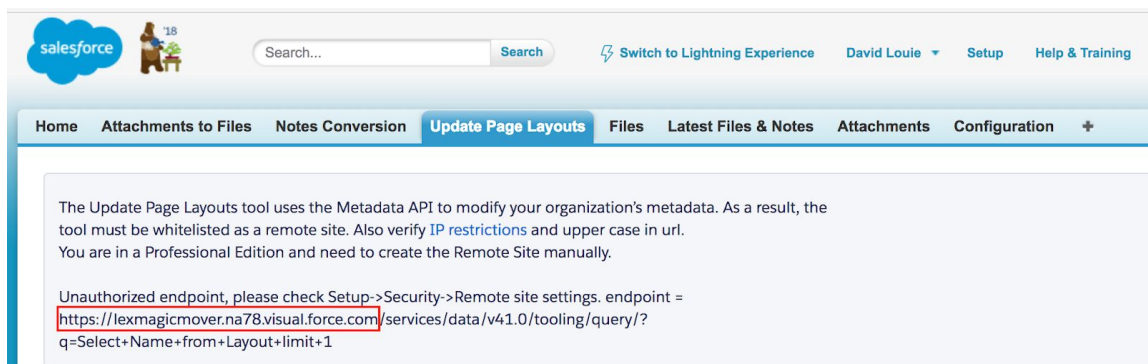

Create a remote site

If you plan to use the Update Page Layout Tool, you'll have to create a remote site because that tool relies on the Metadata API, and in order for the Update Page Layout Tool to use the Tooling API, the page must be whitelisted as a remote site.

Option 1: For Enterprise Edition and above, create the remote site automatically from the Update Page Layout Tool

The Update Page Layout tool has a feature available for Enterprise Edition and above, where we can automatically create the remote site for you.

Option 2: For Professional Edition, or if you prefer to create the remote site manually, do it from Setup.

1. Go to the Update Page Layout tab, and from the error message, copy the first part of the URL before '/services' from the error message. For example:
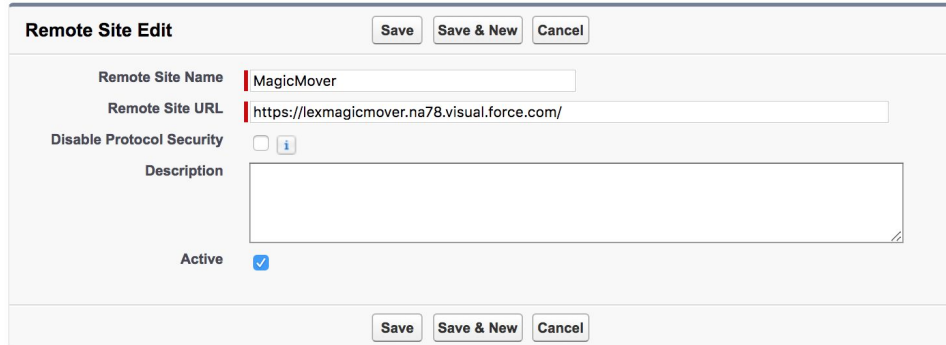
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2. Under Setup, go to Security Controls->Remote Site Settings. Create a new remote site using the URL you copied from Step 1:

Remote Site Edit

Enter the URL for the remote site. All s-controls, JavaScript OnClick commands in custom buttons, Apex, and AJAX proxy calls from salesforce.com.

Remote Site Edit	Save	Save & New	Cancel

Remote Site Name	MagicMover
Remote Site URL	https://lexmagicmover.na78.visual.force.com/
Disable Protocol Security	☐ ⓘ
Description	
Active	☑

	Save	Save & New	Cancel

Access the Magic Mover App from the App Launcher

In order to start converting attachments to files and legacy notes to enhanced notes, the Magic Mover app can be access from the App Launcher. Look for the app 'Attachments and Notes migrator'.

Convert Attachments to Files

Bulk Conversion of Attachments to Files (for Admins)

Attachments are organized by the object they're associated to. The first step to converting attachments is to choose which items to convert.

Prioritize Conversion

Prioritize attachment conversion for the objects your business uses most. For instance, if your company is moving the Service Cloud into the new Salesforce Files ecosystem, start by converting the attachments on the Case object.

Target Which Items to Convert

There are several ways to narrow down the number of items to convert.
- Filter the number of items using the date filter and object type filter.
- Select an object for which you want to convert its attachments.
- Combine these methods for an even more targeted set of items.

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Select Items to Convert

To convert attachments, check the box of the object type you want to convert. The number of attachments for that object, for the selected date range, appears in the To Convert column. You can select multiple objects for a single conversion batch.

Confirm the Date Range and Object Type Filter

As you specify which items to convert, use the date filter to target your items more specifically. Optionally, if you'd like to further filter items down by object type, you can do that too. Be sure to click Filter after every change to the filter criteria; that's when the numbers on the page update.

Review Item Totals

As you select objects, keep an eye on the total. The total number of files you are queuing up in each batch displays next to "Total to convert" in the lower right corner.

Orgs have a limit of documents and versions that can be modified in a 24-hour period. For most orgs, this is 200,000. See this help article for more information.

You'll see a warning message if your total for a single batch exceeds 100,000. This daily limit includes any files and file versions your users have created that day, so factor that in as well.

If you do exceed your org's daily limit, you can't convert any more attachments to files, and users in your org can't upload files until the 24-period resets. This would be business stopping (as well as annoying!), so err on the side of caution when converting large numbers of attachments.

If you do hit your daily limit, call Salesforce support for assistance.

Confirmation

You'll receive an email confirmation for each batch you submit for conversion. The email confirms the number of attachments, the number of files successfully converted, and the number of errors. If there are errors, you'll see a sample of attachments that weren't converted. The email includes the first five error messages from that batch.

👉 **Best Practice:** We recommend running a small pilot test of a few attachments before doing your first large bulk conversion job.

Delete Converted Attachments

Once attachments—public or private—have been converted to files, the old attachment can be deleted. Doing so frees up file storage space in your org.

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Converted Public and Private Attachments

These attachments are now available in your org as Salesforce Files. Delete these converted attachments to free up storage space. After you delete converted attachments, you can't recover them.

Refresh

Date 10/29/2017 to 11/28/2017

Total attachments: 27

Converted attachments(can be deleted): 20

Unconverted attachments: 7

OBJECT	QUANTITY	APPROX SIZE (MB)	
Account	4	1	🗑
Contact	3	1	🗑

Previous   Next

Warning: Deleting attachments is permanent—they can't be recovered. But don't panic, because now you have the same document stored as a file!

The Notes & Attachments Related List displays classic notes, attachments, and even Salesforce Files. So if you delete converted attachments, but still see them in the Notes & Attachments Related List, it could be because you're looking at the converted File, which had the same attributes, such as name, created by, and created date as the old attachment.

Tips on Files Visibility for Communities

If you use Communities, you may find that your community users can't see the migrated Salesforce Files. The most likely explanation is that the ContentDocumentLink records related to the File has visibility set to InternalUsers, which means that community users can't see the file.

If you'd like community users to be able to see a file, the related ContentDocumentLink record must have the AllUsers visibility.

Here's an example Apex trigger that sets the ContentDocumentLink visibility to AllUsers:

```
UpdateContentDocumentLinkVisibilityOnInsert on ContentDocumentLink (before
insert) { for(ContentDocumentLink l:Trigger.new)l.Visibility='AllUsers'; }
```

If you'd like to limit this level of visibility to files related to a certain entity, you can add that criteria to the sample code above.

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If you've already migrated files and you'd like to edit the visibility for existing ContentDocumentLink records, a tool like dataloader can be used to make the update.

Tips if you're getting an INSUFFICIENT_ACCESS_ON_CROSS_REFERENCE_ENTITY error

We've had customers report that the conversion fails with the error INSUFFICIENT_ACCESS_ON_CROSS_REFERENCE_ENTITY. The approach that worked in one case is to double check that the user running the conversion job has field level access to the field ContentVersion RecordTypeId. More broadly speaking, when encountering this error, it would be good to check what the field level access level is for all fields on the ContentVersion object.

Convert Classic Notes to Enhanced Notes

Bulk Conversion of Classic Notes to Enhanced Notes (for Admins)

Notes are organized by the object they're associated to. The first step to converting notes is to choose which items to convert.

Prioritize Conversion

Prioritize attachment conversion for the objects your business uses most. For instance, if your users regularly attach notes to accounts, start by converting the notes on the Account object.

Target Which Items to Convert

There are several ways to narrow down the number of items to convert.
- Filter the number of items using the date filter and object type filter
- Select an object for which you want to convert its notes.
- Combine these methods for an even more targeted set of items.
- Convert by related record ID or note ID.

Select Items to Convert

To convert notes, decide which of the three methods you want to use.

The recommended method is to convert by object type. Just like attachment conversion, check the box of the object type you want to convert. The number of notes for that object, for the selected date range, appears in the To Convert column. You can select multiple objects for a single conversion batch.

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Confirm the Date Range and Object Type Filter

As you specify which items to convert, use the date filter to target your items more specifically. Optionally, if you'd like to further filter items down by object type, you can do that too. Be sure to click Filter after every change to the filter criteria; that's when the numbers on the page update.

Review Item Totals

As you select objects, keep an eye on the total. The total number of files you are queuing up in each batch displays next to "Total to convert" in the lower right corner.

Orgs have a limit of notes and files that can be modified in a 24-hour period. For most orgs, this is 200,000. The limit for "Content: maximum number of documents and versions in a 24–hour period" is listed in the Salesforce Developer Limits Quick Reference.

Note: For sandbox orgs, the limit is 2,500. Contact *Salesforce Customer Support* to change this limit for migration purposes.

You'll see a warning message if your total for a single batch exceeds 100,000. This daily limit includes any files and file versions your users have created that day, so factor that in as well.

If you do exceed your org's daily limit, you can't convert any more notes, and users in your org can't create new notes until the 24-period resets. This would be business stopping (as well as annoying!), so err on the side of caution when converting large numbers of notes.

If you do hit your daily limit, call Salesforce support for assistance.

Confirmation

You'll receive an email confirmation for each batch you submit for conversion. The email confirms the number of notes, the number of notes successfully converted, and the number of errors. If there are errors, you'll see a sample of notes that weren't converted. The email includes the first five error messages from that batch.

👉 **Best Practice:** We recommend running a small pilot test of a few notes before doing your first large bulk conversion job.

Delete Converted Notes

Once classic notes have been converted to enhanced notes, you can delete the old notes. Do this to free up file storage space in your org and to prevent any confusion among your users as to which notes are current.

Deleting notes is permanent—they can't be recovered. But don't panic, because you now have the same info, just stored as enhanced notes!

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Update Page Layouts

Once you have converted all the classic notes and attachments in your org, including private attachments and notes, you are ready to update your page layouts.

The Notes & Attachments related list was already on your page layouts, and it remained there so that users could see their notes and attachments.

You also need the Notes related list for enhanced notes and the Files related list for files. Using this tool, you can easily accomplish all these tasks.

When you're done, there won't be any confusion about which related list to use. All the previous notes and attachments will have been converted to enhanced notes and files, and will be visible in the new related lists.

View Latest Files & Notes

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From the **Latest Files & Notes** tab, users can see the latest files and notes across the organization, sorted by last modified date. This tool could be useful if you're looking to verify the results of the data migration job.

Keep in mind that when attachments and notes are converted, the original last modified date is preserved, so if you're looking for a converted file or attachment which was last modified a few months ago, the converted file or attachment will also have a last modified date of a few months ago.

Attachments Tab

The Attachments tab can be used to quickly view attachments that have been migrated, and those that have not been migrated. This information can be useful when verifying the results of a conversion job.

From the Attachments tab, attachments can be filtered by date and whether the attachment has been migrated or not.

For attachments that have not been migrated yet, from the Attachments tab, you can select individual attachments to migrate. This could be useful if you're trying to test the attachments migration tool on a few selected files, or if you have a few large attachments that are causing issues during a mass conversion.

The 'Supported' column is checked if we support migrating that attachment, based on the parent object. The list of objects we support can be found in the section '[What do you need to know about the Notes and Attachments Conversion app?](#)'

Example Project Plan

Here's an example project plan for testing and executing on a conversion of attachments and classic notes to files and enhanced notes:

1. In a sandbox, test the conversion of Notes and Attachments. If the sandbox isn't a full copy, make sure that it contains notes and attachments that can be converted.
2. In the sandbox, add the Files related list and Notes related list to relevant page layouts

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3. In the sandbox, perform a round of acceptance testing
4. From a change management perspective, send an email to affected users informing them that you'll be converting notes and attachments, and educate them that going forward they'll be using the Files related list and Notes related list.
5. In your production environment, convert Notes and Attachments. Some customers like to stage this over time, by object.
6. In your production environment, add the Files related list and Notes related list to relevant page layouts.
7. In your production environment, perform a round of acceptance testing.
8. Once everything is to your satisfaction, optionally delete the legacy attachments and notes.
9. Upon completion of the conversion, let the affected users know that the conversion is complete.

Advanced: Configuration Tab

The Configuration Tab has advanced settings and diagnostic tools for those that are having issues with using the Magic Mover with default settings.

Some organizations have a lot of attachments and classic notes, or have customizations or configurations that impact the performance of the migration jobs. In addition, the size of your attachments can also impact performance of the migration jobs. For these organizations, we offer the ability to configure parameters for the migration jobs from the **Configuration** tab.

- **Batch size - Attachments migration job**: Default value is 100 objects per batch. If you find that you're having issues migrating attachments, try decreasing the value.
- **Batch size - Notes migration job**: Default value is 100 objects per batch. If you find that you're having issues migrating classic notes, try decreasing the value.

Some organizations have a large number of object page layouts and find it useful to modify the page size for the **Update Page Layouts** tool. From the **Configuration** tab, the **Update Page Layout Page Size** can be modified. The default value is 100.

If you're having issues with the migration jobs timing out and you don't want to try to set batch sizes yourself, you can try to check the **Enable Dynamic Batch Size** checkbox. When this checkbox is checked, if the migration job fails due to large batch sizes, the job will be rerun with smaller batch sizes, down to a batch size of 1. After that, the job will stop and send the admin an email with recommendations on how to proceed.

The setting **Set record owner id for all converted records** is used during notes and attachments conversion. When an attachment or note is converted, the Created By field will be set to the specified value, rather than the original attachment owner. This setting could be useful if you have attachments or notes created by users whom are no longer in the system.

The setting **Set record owner id for certain converted records** takes the ability to specify a record owner id one step further. With the prior setting, all attachments and notes converted will take on the specified record owner id. With this setting, you can specify a prefix, such as '035' to catch all attachments created by Self Service Portal Users, then use the specified record owner id as the owner for

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the converted attachment. This setting is useful if those particular users whom originally owned the attachment no longer exist in the system.

The setting **Limit attachments size conversion** allows a user to specify a maximum file size for the conversion job. If an attachment is greater than the maximum file size, the conversion job will skip the attachment. This could be useful when troubleshooting attachments conversion.

The setting **Schedule migration over multiple days** allows you to schedule the migration job over multiple days.

The settings **Set timeout for Attachments to Files filter** and **Set timeout for Notes Conversion filter** allows you to specify timeout values in milliseconds for the queries used in the Attachments to Files tool and Notes Conversion tool, respectively. If you get a timeout error from those tools when searching for objects, try setting the timeout value to a larger value.

If your conversion job gets stuck and you'd like to kill the job, feel free to use the button **Reset Attachment conversion** and **Reset Notes conversion**. These buttons will kill the running Apex jobs that are executed in order to convert Attachments and Files.

For further diagnostic purposes, **Apex Jobs** related to the Attachments to Files and Notes Conversion migrations are also listed on this Configuration page.

Also, the **Triggers** section lists triggers on attachments, notes, and files that could impact the conversion jobs. As mentioned at the beginning of the document, we recommend reviewing these triggers to see if they need to be disabled or modified in order for the conversion jobs to complete successfully.

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