



# Release Notes

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*Ephesoft Transact Version 4.1.0.0*

*10/12/2016*

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We are pleased to give you Ephesoft Transact v4.1.0.0 October 2016, the most comprehensive suite of Package available.

**Thank you for choosing Ephesoft.**

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## **1. Introduction**

The Ephesoft Transact 4.1.0.0 Release Notes describes the improvements and new features introduced in the package, as well as workarounds for possible issues. Use these release notes for reference as you become more familiar with the product, and for future reference.

## **2. Document Overview**

To help you understand what's new and what is fixed relative to the current release, Ephesoft Transact 4.1.0.0 Release Notes have been structured so that you read only the sections relevant to you.

The improvements have been categorized based on various parameters so that the functionality of the current release is compared describing the version you are upgrading from.

### 3. Release Charter

#	Release Type	Category	Description
1	New Features	Extraction	<ul style="list-style-type: none"> <li>• Cross Section Extraction</li> <li>• Wrapped Data Extraction</li> <li>• Format Conversion</li> <li>• Paragraph Extraction</li> <li>• Machine Learning of Fields</li> <li>• Form Template Editor for Nuance in Application</li> </ul>
		Classification	<ul style="list-style-type: none"> <li>• Keywords based Classification</li> <li>• Machine learning for Document Types</li> <li>• Multidimensional Classification</li> </ul>
		Database	<ul style="list-style-type: none"> <li>• Support for connecting Ephesoft Application &amp; Reporting to Oracle database.</li> </ul>
		Authentication	<ul style="list-style-type: none"> <li>• Support for PIV/CAC</li> <li>• Support for SAML2.0 for SSO</li> </ul>
2	Improvements	Extraction	<ul style="list-style-type: none"> <li>• Table Extraction algorithm and UI revamp</li> <li>• Multiline extraction support in tables</li> <li>• Table Column Extraction Rule UI revamp and extraction support for tables containing horizontal and horizontal + vertically aligned columns</li> <li>• Extraction support for tables with headers wrapped in multiple lines and table data not aligned to the header</li> <li>• OCR confidence being accounted for table extraction</li> </ul>
		Batch Class Management	<ul style="list-style-type: none"> <li>• Ability to view samples for Test Extraction on the UI</li> <li>• Ability to view samples for Test Classification on the UI</li> <li>• Ability to view/download/delete samples for learning from UI</li> <li>• Ability to utilize benefits of a Global Batch Class/Document Types</li> </ul>
		Batch Instance Management	<ul style="list-style-type: none"> <li>• Next Batch Selection</li> <li>• Batch in Suspended status</li> </ul>
		Installer	<ul style="list-style-type: none"> <li>• Ability to run Ephesoft Transact as a Non-Root user</li> <li>• Ability to continue installation offline without Internet access</li> </ul>
3	Bug Fixes		

## 4. Appendix A - New Features

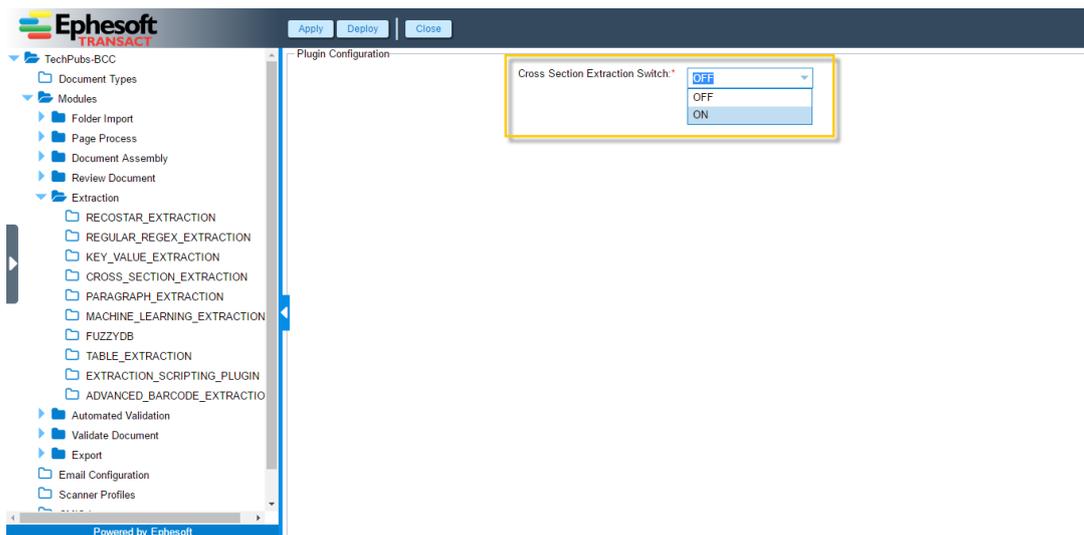
### Extraction

#### Cross Section Extraction

With Ephesoft Transact v4.1.0.0, Cross Section Extraction has been introduced. It is an extraction rule used where a single key pattern is not sufficient for a value as the value lies at the cross section of two keys.

You can use this extraction rule to extract values present at a cross section of two matching regex patterns. The index field values for which **Cross Section Extraction** is configured are extracted using a plugin.

**CROSS\_SECTION\_EXTRATION** Plugin governs the extraction of configured index field while using **Cross Section Extraction**.



By default, the switch is set to **OFF**. If the value of the switch is set to **ON**, the configured index field is extracted.

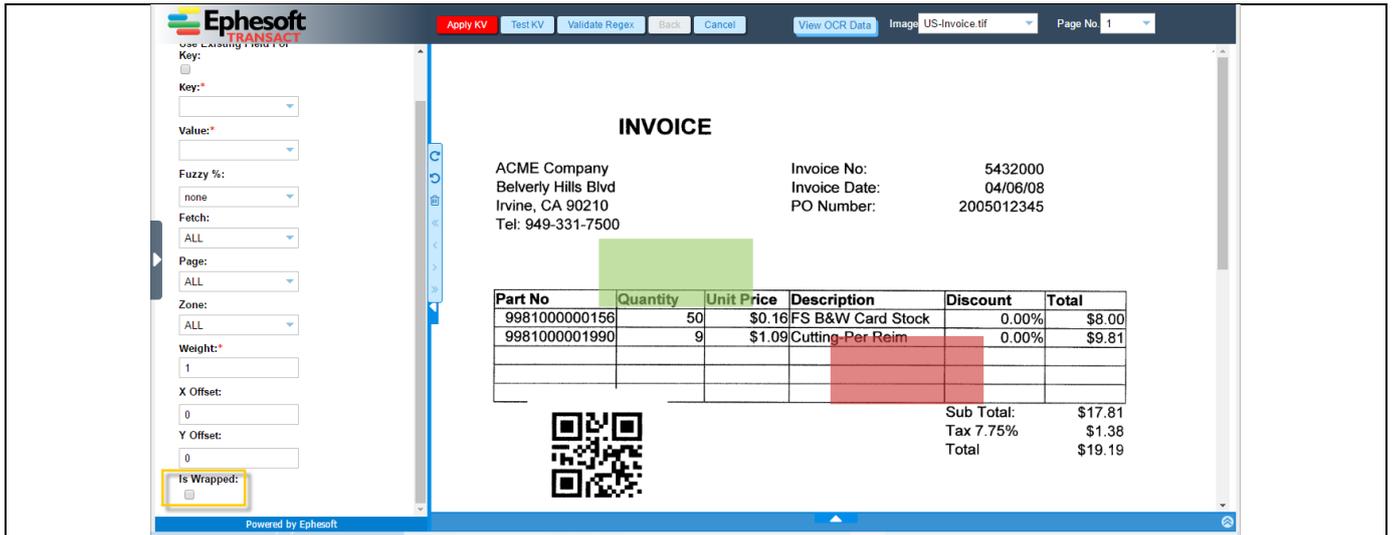
#### Wrapped Data Extraction

Earlier, it was difficult to extract index field values that spanned across multiple rows; for example, addresses.

If a Value Pattern regex does not find a complete match, a value pattern is not found and no Value is returned from the iteration.

To overcome this challenge, **Wrapped Data Extraction** has been introduced in Ephesoft v4.1.0.0. You can now use **Wrapped Data Extraction** to search for regex matches in index fields with values spanning multiple rows.

You can configure the index fields for which **Wrapped Data Extraction** has to be used by selecting **Is Wrapped** on the **Advanced KV Extraction** screen as shown in the image below.

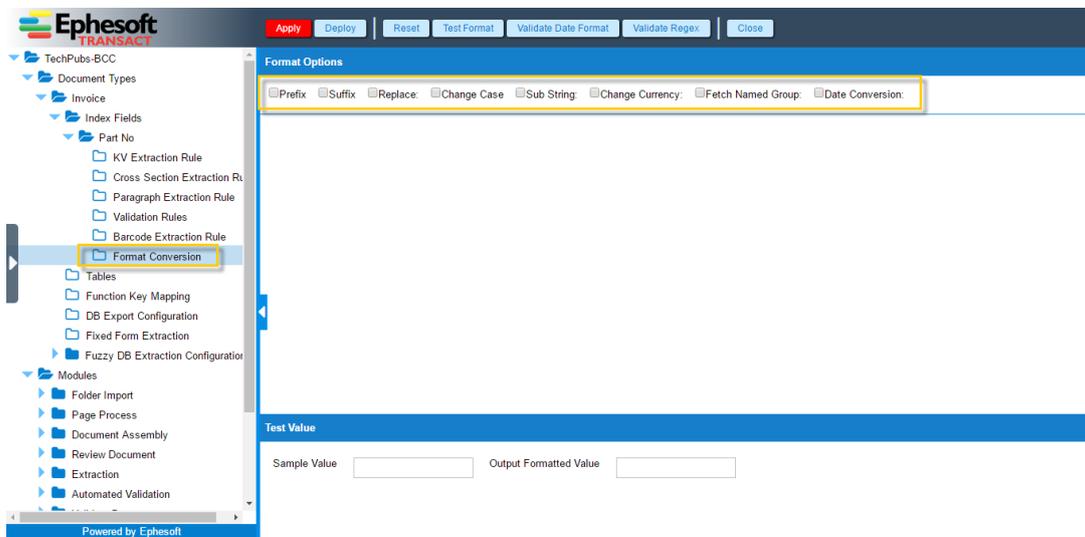


### Format Conversion

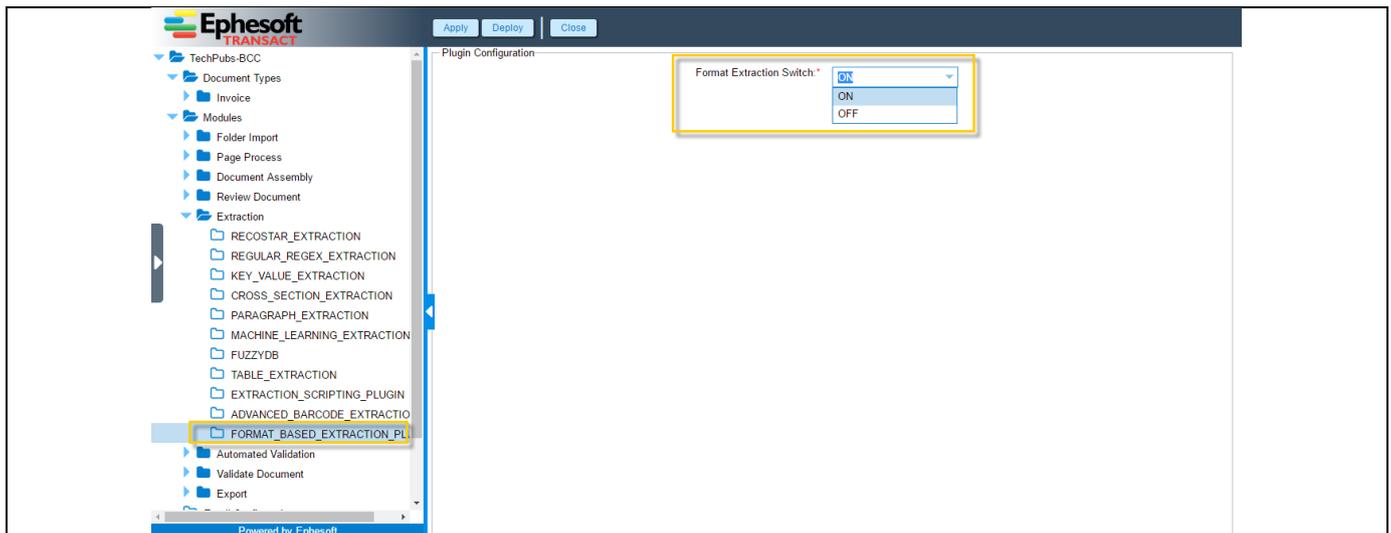
**Format Conversion** enables you, as an administrator of Ephesoft, to configure formatting for different index fields. The values for which format has been configured are formatted after extraction and before validation. The formatted values are saved to the batch.xml file.

Prefix, Suffix, Replace, Change Case, Sub String, Change Currency, Fetch Named Group, and Date Conversion options are available.

You can use **Format Extraction** to format the extracted values as configured within the respective batch classes and save efforts to format the values manually.



**FORMAT\_BASED\_EXTRACTION\_PLUGIN** governs the formatting of extracted index fields while using **Format Conversion**.

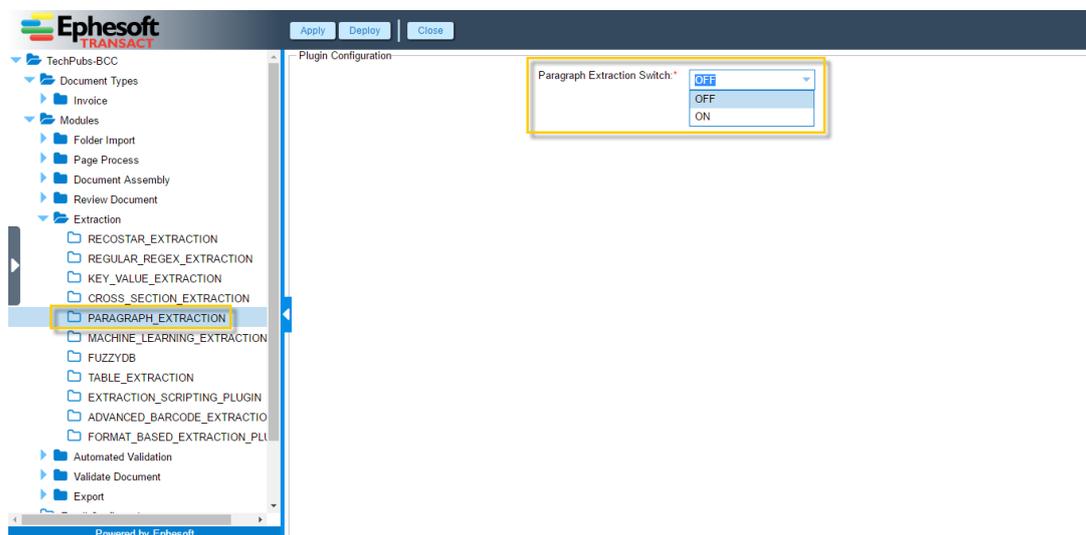


If the value of the switch is set to **ON**, formatting is applied, else not. By default, the switch is set to **ON**.

## Paragraph Extraction

**Paragraph Extraction** is a type of extraction rule where first a paragraph is identified and then from within that paragraph a particular value is extracted using regex pattern matching.

**PARAGRAPH\_EXTRATION** Plugin governs the extraction of configured index field while using **Paragraph Extraction**.

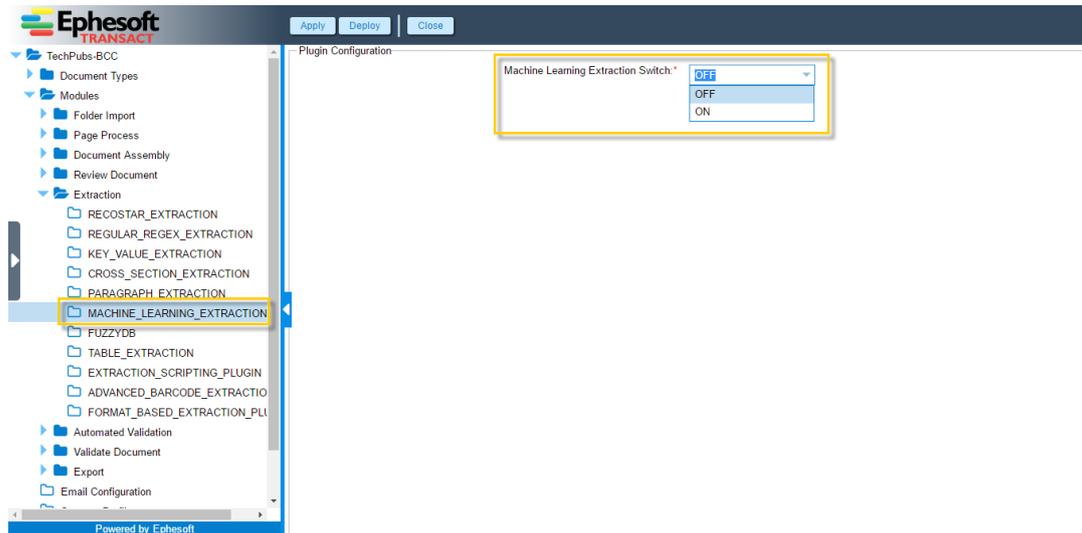


If the value of the switch is set to **ON**, the configured index field is extracted, else not. By default, the switch is set to **OFF**.

## Machine Learning of Fields

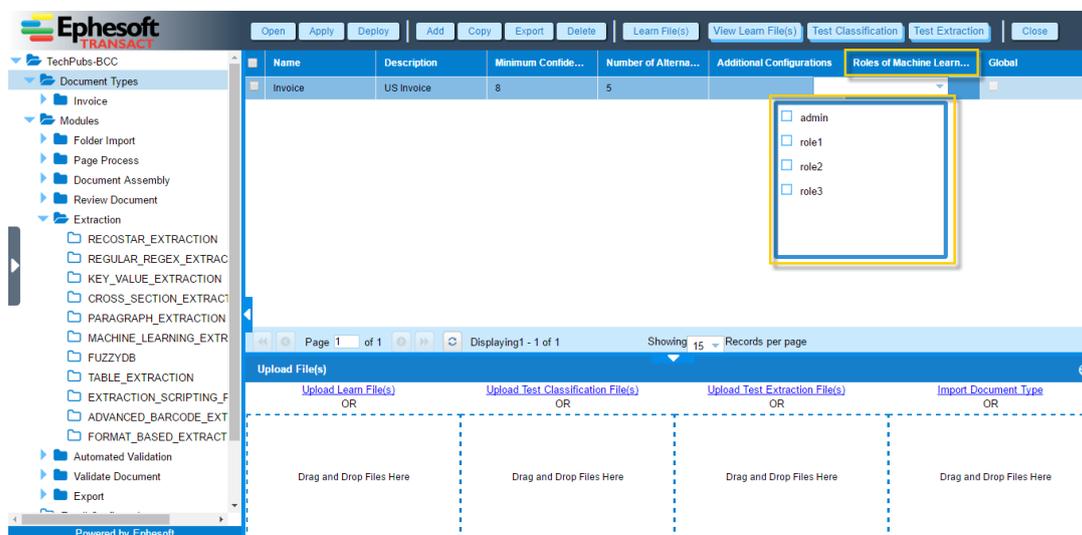
With Ephesoft v4.1.0.0 a new feature, **Machine Learning**, has been implemented to assist you to improve the learning of document fields. You can now enable operators to perform learning of index fields from the **Validate** screen.

**MACHINE\_LEARNING\_EXTRATION** Plugin governs the **Machine Learning** feature.



If the value of the switch is set to **ON**, machine learning is done, else not. By default, the switch is set to **OFF**.

A new column named **Roles for Machine Learning** has been added to the **Document Types** screen.



The **Roles for Machine Learning** column displays all the available Ephesoft user roles, including admin.

As an Ephesoft administrator, if you want to configure **Machine Learning** for fields, then you must select the user roles from the **Roles for Machine Learning** column that can perform machine learning for the document type.

If there are no user roles assigned under the **Roles for Machine Learning** column for a document type, then it is assumed that **Machine Learning** is not enabled for the fields within that document type.

## Support for Nuance Form Template Editor

In Ephesoft v4.1.0.0, **NUANCE\_EXTRACTION\_PLUGIN** has been enhanced. You can now use the **NUANCE\_EXTRACTION\_PLUGIN** to extract:

- Text data
- Checkbox data
- OCR form data
- Hand-written data
- Barcode data

You can also use the **NUANCE\_EXTRACTION\_PLUGIN** to extract data in multiple languages.

Also, in Ephesoft v4.1.0.0, Nuance has been upgraded to v 19.2.3.

Data extraction through Nuance now happens with the help of template files (\*.tlz). These template files are created using **Nuance Form Template Editor** application installed on Windows systems.

**In Ephesoft v4.1.0.0, Nuance has been upgraded to the latest available version (19.2.3). Support has been provided for Nuance Form Template Editor in Ephesoft.**

## Classification

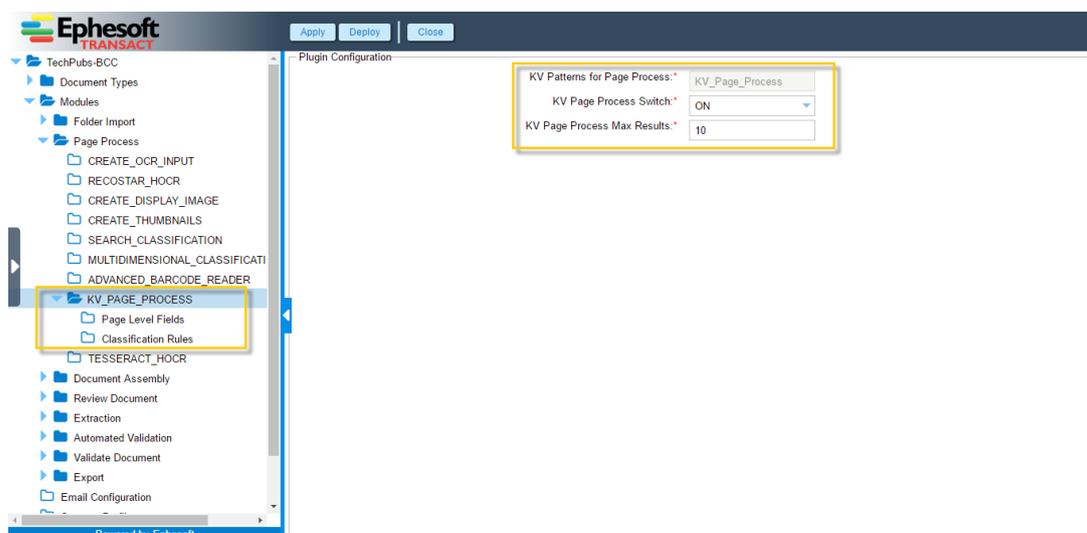
### Keywords Based Classification

Earlier, for you to be able to classify documents using keywords, you would need to specify the rules through **'ScriptPageProcessing'** in SharedFolder.

With Ephesoft v4.1.0.0 a new feature, **Keywords Based Classification**, has been implemented to improve document classification based on keywords often present/not present in the document types.

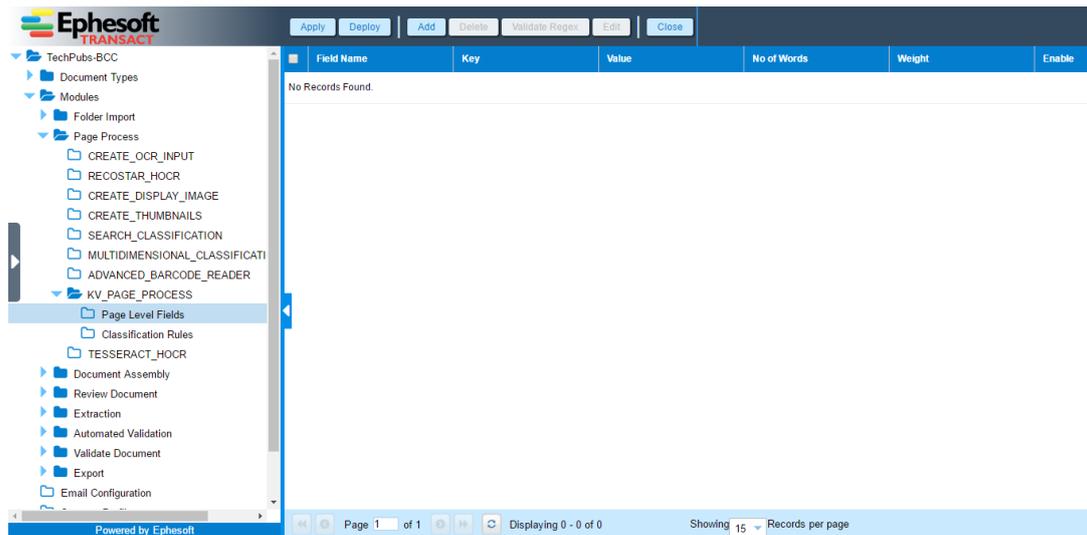
Writing the scripts to classify documents used to be a manual process. **Keywords Based Classification** intends to automate this. You now have an interface to configure the rules enabling classification of documents based on keywords.

**KV\_PAGE\_PROCESS** Plugin within the **Page Process** module governs the classification of documents based on keywords.

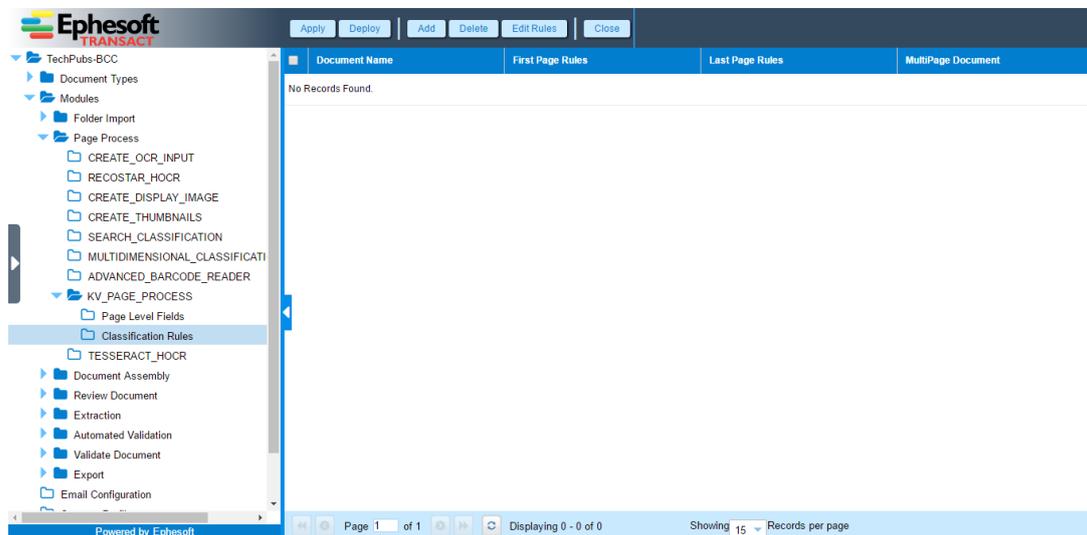


If the value of the switch is set to **ON**, you can classify documents based on keywords, else not. By default, the switch is set to **ON**.

You can use the **Page Level Fields** node within the **KV\_PAGE\_PROCESS** Plugin to define page level fields for a document type.



You can use the **Classification Rules** node within the **KV\_PAGE\_PROCESS** Plugin to set rules to be used for classification of document type based on keywords.



## Machine learning for Document Types

With Ephesoft v4.1.0.0 a new feature, **Machine Learning**, has been implemented to assist you to improve the learning of document types. You can now enable operators to perform learning of document types from the **Review** screen.

**MACHINE\_LEARNING\_EXTRATION** Plugin governs the **Machine Learning** feature.

If the value of the switch is set to **ON**, machine learning is done, else not. By default, the switch is set to **OFF**.

A new column named **Roles for Machine Learning** has been added to the **Document Types** screen.

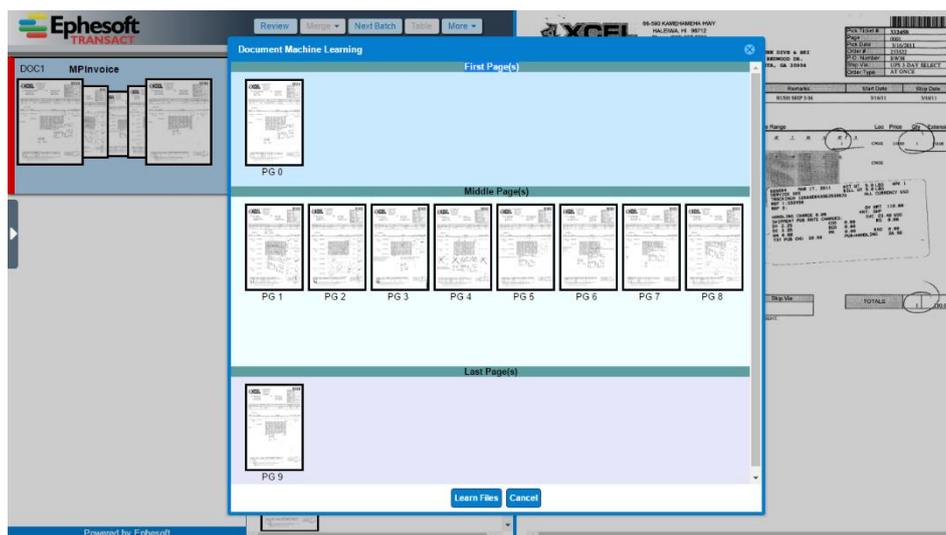
The **Roles for Machine Learning** column displays all the available Ephesoft user roles, including admin.

As an Ephesoft administrator, if you want to configure **Machine Learning** feature for a document type, then you must select the user roles from the **Roles for Machine Learning** column that can perform machine learning for the document type.

If there are no user roles assigned under the **Roles for Machine Learning** column for a document type, then it is assumed that **Machine Learning** is not enabled for the document type.

The user roles defined for machine learning of document types are used for machine learning of index fields within the document type.

You can now enable operators to perform learning of a document type from the **Review** screen. A shortcut (**Shift + z**) has been added to the **Review** screen. Using this shortcut opens the **Document Machine Learning** screen.



From the **Document Learning Screen**, you can choose which page of a document to be learned as **First Page**, **Middle Page** & **Last Page** of the document.

This screen is divided in 3 horizontal panels. The first (top) panel displays a thumbnail of the **First Page** of the document. The last (bottom) panel displays a thumbnail of the **Last Page** of the document. The second (middle) panel displays thumbnails of all other pages. You can drag a page from any panel and drop it to any other panel.

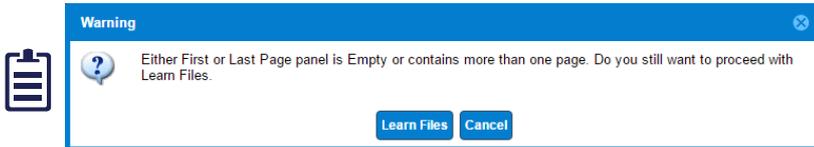
After making relevant changes when you click **LEARN FILES**, temporary files are created but the learning is completed only after the batch has moved from the **Review** state.

**Information**

Temporarily files to be learned is saved, but learn after Batch Review State.

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If there is no page or more than one page in first or last panel of the **Document Learning Screen** and you attempt learning the document, the following warning message is displayed.



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Also, you can perform **Document Machine Learning** (using **Shift + z** shortcut) only if the **Document Classification Type** is **Search Classification** or **Multi-Dimensional Classification**.

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It is important to note that **Document Machine Learning** is not applicable for **Global Document Types**.

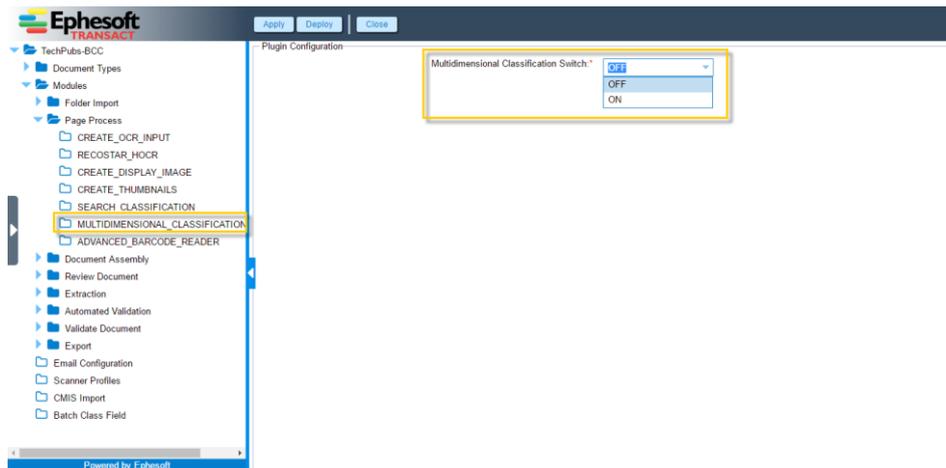
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## Multidimensional Classification

With Ephesoft v4.1.0.0, an enhancement has been done to implement a new classification mechanism.

**Multidimensional Classification** has been introduced to improve accuracy of classification with Ephesoft.

**MULTIDIMENSIONAL\_CLASSIFICATION\_PLUGIN** in the **Document Assembly** module governs this feature.



This plugin has only one configuration which is switch. If the value of the switch is set to ON, multidimensional classification is used to classify documents, else not. By default, the switch is set to OFF.

## Database

### Support for Connecting Ephesoft Application & Reporting to Oracle database.

Earlier, Ephesoft supported the following databases:

- MySQL
- Maria DB
- SQL Server

Support for Oracle database has been introduced in Ephesoft v4.1.0.0.

You can now install Ephesoft with Oracle database. Oracle database is not shipped with Ephesoft Installer. You will be prompted by the installer to enter the credentials needed to connect with an existing Oracle database instance on the system.

Ephesoft supports the following Oracle versions:

- Oracle 12c
- Oracle 11.2.0.x

It is important to note that Oracle database is supported only for fresh installation of Ephesoft v4.1.0.0. No upgrades are supported.



Also, table and column names with more than 30 characters are not supported by Oracle database.

The following changes have made to achieve this:

- **Domain Layer:** The default naming strategy has been overridden to create tables and columns with shortened names in case of Oracle database. Sequences are created for `batch_instance` and `batch_class_id` column.

- **Reporting (ETL and Logi info Reports):** Separate set of ETL scripts and Logi info reports are maintained for Oracle database.
- **Database Schema and Patch:** Oracle-compatible SQL files have been created.

## Authentication

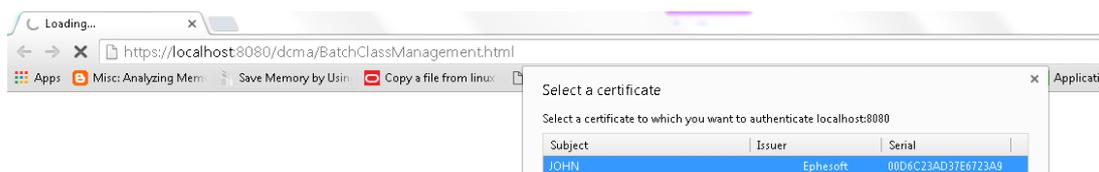
### Support for PIV/CAC

With Ephesoft v4.1.0.0, Personal Identity Verification (PIV)/Common Access Card (CAC) Authentication Solution is now supported. The PIV/CAC Authentication Solution provides a vital layer of security to effectively thwart illicit access, retrieval, capture or copying of sensitive documents and data using digital Multifunction Printers (MFPs).

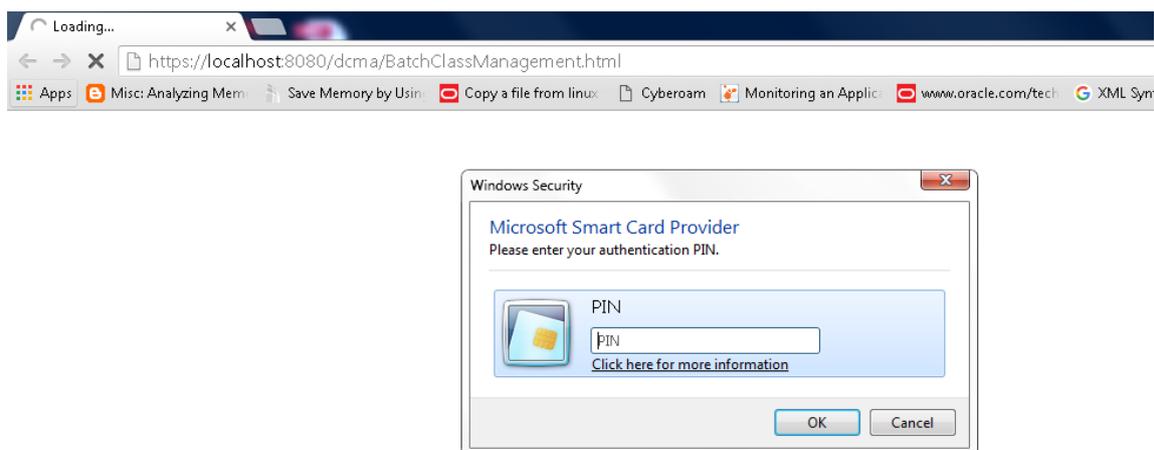
Common Access Card (CAC) is a smart card used by employees and other personnel in the United States Department of Defense (DoD). CAC includes a picture of the user along with other information such as their name. DoD employees wear the CAC as a badge and can show it to guards to prove their identity. They can also use it as a smart card to log onto systems.

Personal Identity Verification (PIV) card is a specialized smart card used by personnel in United States federal agencies. Just as a CAC does, the PIV card includes a picture of the user along with their name. A PIV can be used for visual verification of users, and then as a smart card when users log onto their computer.

After the setup, If the PIV card is attached to the client system, and you try to access the DCMA page, then browser prompts you to select a certificate.



After selecting a certificate, you are prompted to enter the authentication PIN.



You need to make sure that user corresponding to the certificate is present in MSAD/LDAP with proper roles i.e. roles valid for Ephesoft Transact application. If the user does not exist in MSAD/LDAP or correct roles are not assigned, then user will not be authenticated/authorized.

**Support for SAML2.0 for SSO**

Ephesoft v4.1.0.0 enables you to configure Ephesoft with Spring Security, both with and without SAML (Security Assertion Markup Language) integration.

SAML is an XML-based, open-standard data format for exchanging authentication and authorization data between parties, in particular, between an identity provider (IdP) and a service provider (end user).



- Horizontal columns and their corresponding values

Vertical columns and their corresponding values.

**Extraction Support for Tables with Headers Wrapped in Multiple Rows and Table Data Not Aligned to Header**

There are tables where data in the column is not aligned under the header.

Earlier, column header extraction rules used to fail while trying to extract data for such tables. Column coordinate and regex based extraction could be used in such cases but they had their own limitations. They both used to fail if column ordering changed. Column coordinate extraction also used to fail if data was found slightly left or right of the defined column boundaries.

Ephesoft Transact v4.1.0.0 has been enhanced to support tables with above attributes. You now have more configuration options for extraction of such tables.

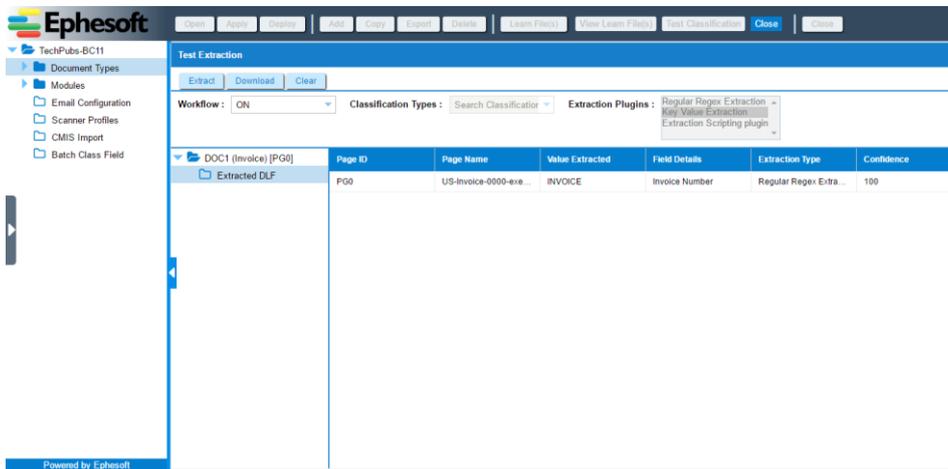
**OCR Confidence Being Accounted for Table Extraction**

With Ephesoft Transaction v4.1.0.0, OCR Confidence is being accounted for while performing table extraction.

**Batch Class Management**

**Ability to view samples for Test Extraction on the UI**

Earlier, the **Test Extraction** screen used to display the batch class tree pane as shown in the image below.



Now, the batch class tree pane is hidden and the **Test Extraction** screen covers the whole window.

Page ID	Page Name	Value Extracted	Field Details	Extraction Type	Confidence
100	US-Invoice-00...	5432000	Invoice No	Regular Rege...	100

Part No	Quantity	Unit Price	Description	Discount	Total
9981000000156	50	\$0.16	5 B&W Card Stock	0.00%	\$8.00
9981000001995	9	\$1.09	Cutting-Per Reem	0.00%	\$9.81
				Sub Total	\$17.81
				Tax 7.75%	\$1.38
				Total	\$19.19

The **Test Extraction** screen has two sections.

- Results grid on the left
- Image view pane on the right

When the user clicks **Extract**, results are displayed row-wise in the results grid on the left and the corresponding image is displayed in the image view pane on the right. Overlays appear on the displayed image based on the extracted values.



By default, the first row from the results grid is selected and the image view pane displays the image corresponding to the first result.

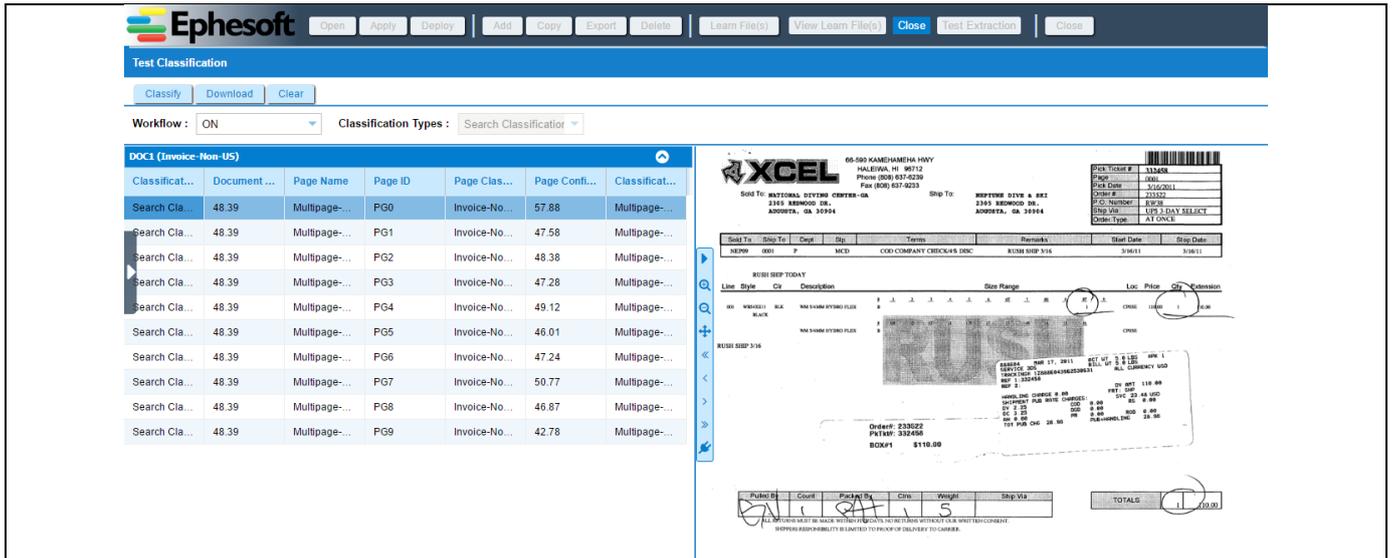
There are two options available for extracted values:

- Extracted DLF
- Data Table

### Ability to view samples for Test Classification on the UI

Earlier, the **Test Classification** screen used to display the batch class tree pane as shown in the image below.

Now, the batch class tree pane is hidden and the **Test Classification** screen covers the whole window.



The **Test Classification** screen has two sections.

- Results grid on the left
- Image view pane on the right

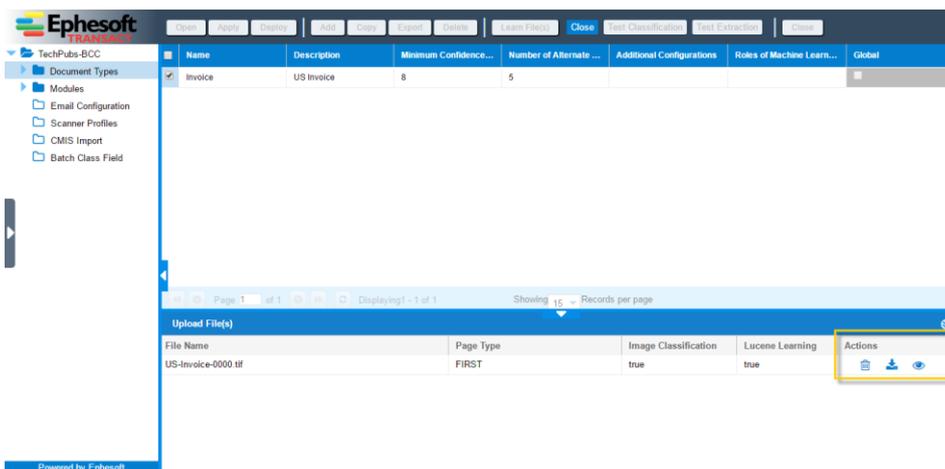
When the user clicks **Classify**, results are displayed row-wise in the results grid on the left and the corresponding image is displayed in the image view pane on the right. Overlays appear on the displayed image based on the extracted values.

By default, the first row from the results grid is selected and the image view pane displays the image corresponding to the first result.

### Ability to View, Download, and Delete Samples for Learning from UI

Earlier you were unable to view learned files from Ephesoft User Interface. A new feature has been added that enables you to view files that were learned and used for Test Classification and Test extraction and correlate and map the results for those.

A new column **Actions** has been added to the **Upload File(s)** grid.



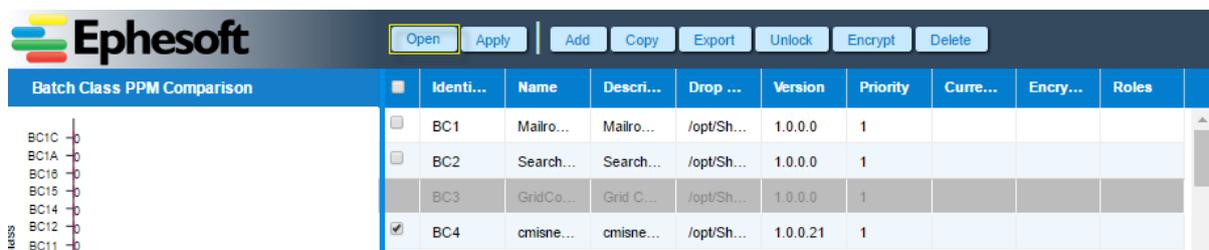
The **Actions** column provides the following options to you.

- **Delete Learned Image** -  - You can use this option to delete selected rows from the **Upload File(s)** grid. This deletes the respective learned images from file system and updates the indexes as well.  
  
This is useful when you have done some invalid learning and wish to make amends. You do not have to access the folder structure to delete the learned images. You can directly delete the files from the Upload File(s) grid.
- **Download Image** -  - You can use this option to download the select learned image to your local disk.
- **Pop Out Image** -  - You can use this option to view the selected learned image in a separate pop-up window, as shown below.

### Ability to Utilize Benefits of a Global Batch Class and Document Types

Earlier, the following three default batch classes were provided with Ephesoft

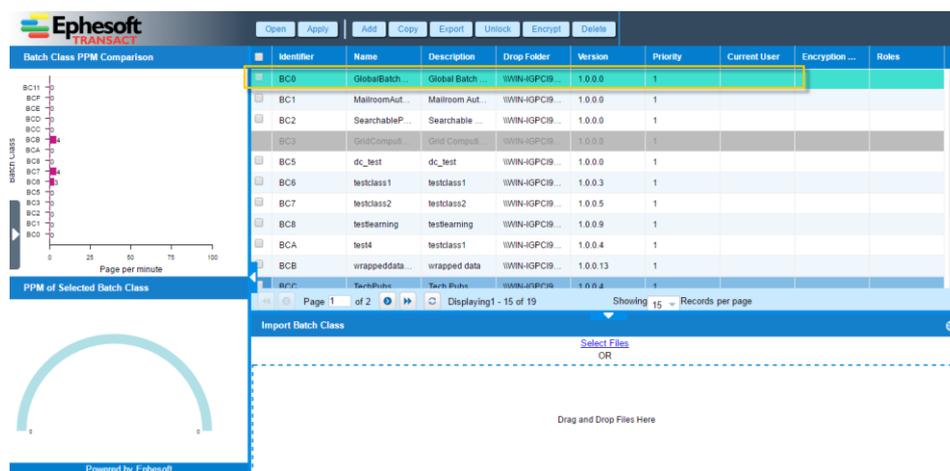
- BC1: **MailroomAutomationTemplate** - Mailroom Automation Template
- BC2: **SearchablePDFTemplate** - Searchable PDF Template
- BC3 (Disabled): **GridComputingTemplate** - Grid Computing Template



Batch Class PPM Comparison	Ident...	Name	Descri...	Drop ...	Version	Priority	Curre...	Encry...	Roles
<input type="checkbox"/>	BC1	Mailro...	Mailro...	/opt/Sh...	1.0.0.0	1			
<input type="checkbox"/>	BC2	Search...	Search...	/opt/Sh...	1.0.0.0	1			
<input type="checkbox"/>	BC3	GridCo...	Grid C...	/opt/Sh...	1.0.0.0	1			
<input checked="" type="checkbox"/>	BC4	cmisne...	cmisne...	/opt/Sh...	1.0.0.21	1			

In Ephesoft v4.1.0.0, the following batch class has been added to the default batch class list.

- BC0: **GlobalBatchClass** - Global Batch Class



Batch Class PPM Comparison	Identifier	Name	Description	Drop Folder	Version	Priority	Current User	Encryption ...	Roles
<input checked="" type="checkbox"/>	BC0	GlobalBatch...	Global Batch...	IWIN-IGPCIB...	1.0.0.0	1			
<input type="checkbox"/>	BC1	MailroomAut...	Mailroom Aut...	IWIN-IGPCIB...	1.0.0.0	1			
<input type="checkbox"/>	BC2	SearchableP...	Searchable ...	IWIN-IGPCIB...	1.0.0.0	1			
<input type="checkbox"/>	BC3	GridComput...	Grid Comput...	IWIN-IGPCIB...	1.0.0.0	1			
<input type="checkbox"/>	BC5	dc_test	dc_test	IWIN-IGPCIB...	1.0.0.0	1			
<input type="checkbox"/>	BC6	testclass1	testclass1	IWIN-IGPCIB...	1.0.0.3	1			
<input type="checkbox"/>	BC7	testclass2	testclass2	IWIN-IGPCIB...	1.0.0.5	1			
<input type="checkbox"/>	BC8	testlearning	testlearning	IWIN-IGPCIB...	1.0.0.9	1			
<input type="checkbox"/>	BCA	test4	testclass1	IWIN-IGPCIB...	1.0.0.4	1			
<input type="checkbox"/>	BCB	wrappeddata...	wrapped data	IWIN-IGPCIB...	1.0.0.13	1			
<input type="checkbox"/>	BCD	TaskHub	Task Hub	IWIN-IGPCIB...	1.0.0.2	1			

The **Global Batch Class** has the following noticeable attributes:

- This batch class is only visible to an Administrator or Super-Admin user.
- You cannot edit any fields of the **Global Batch Class**.
- You cannot assign any roles to this batch class for configuration.

- You cannot configure the Drop folder location.
- You cannot execute batches using the **Global Batch Class**.

All the documents types defined inside the **Global Batch Class** are global and can be inherited by any other batch class in the application. Any modifications to document type configurations have to be done from the **Global Batch Class** and not in the batch class using the document types inherited from the **Global Batch Class**.

All the modifications applied in the **Global Batch Class** are automatically reflected in all batch classes using the document types inherited from the **Global Batch Class**.

Any learning done in **Global Batch Class** is copied to the batch class using the inherited document types defined in **Global Batch Class**.

You can only export document types from the **Global Batch Class** and not the whole batch class. This enables you to have the flexibility to export only the desired document types. The document types exported from **Global Batch Class** are exported only as **Global Document Type**.

You can import a **Global Document Type** only inside the **Global Batch Class**. If you try to import the **Global Document Type** inside any local batch class, an error message is displayed.

When you import a **Global Document Type** from Test to Production, the import happens only as a global batch. The contents of the batch class being imported are merged to the existing **Global Batch Class** as there can be only one **Global Batch Class** in an application.

## Batch Instance Management

### Next Batch Selection

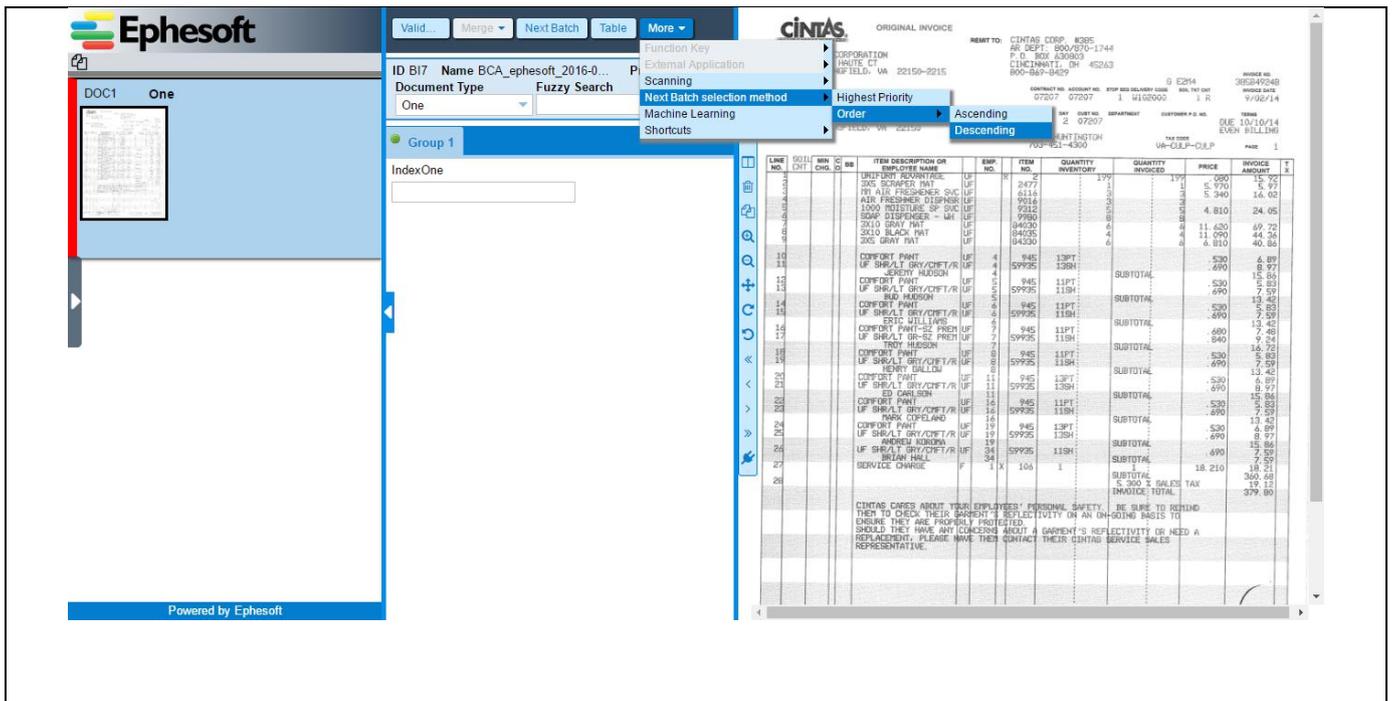
Earlier, while opening a batch from **Batch Instance Management** screen, user was shown the desired batch for review or validation. Once the user completed review/validation or clicked **Next Batch**, user was taken to the next highest priority batch.

The next batch could be of the same state or different which totally depended upon the priority of batch. At times, it was noticed that the system got stuck in a cyclic loop between two high priority batches having the latest modified date.

Also, while opening a batch from the **Batch List** screen, user was shown the desired batch for review or validation. Once the user completed review/validation or clicked **Next Batch**, user was redirected to the **Batch List** screen.

With Ephesoft v4.1.0.0, once the user is done with review/validation or clicks **Next Batch**, the next batch displays irrespective of the request source.

The **Next Batch selection method** option has been added to achieve this. This option allows you to select the criteria based on which the next batch is fetched and displayed.



**Batch in Suspended Status**

Earlier, if a batch needed external inputs for review/validation and the operator was unable review/validate the batch for any reason, there was no provision to mark the batch so that the batch could be picked by another operator or the administrator for successful review/validation.

A new feature has been introduced in Ephesoft v4.1.0.0 that allows you to suspend a batch in review/validation and assign it to another operator.

Using this feature, you can:

- Send an email to the user whom the batch is assigned.
  - In case of groups, the email is sent to all users in the group.
- Add a note while suspending a batch which is part of the mail sent and is also visible on the batch list and batch instance screen.

**Installer**

**Ability to Run Ephesoft Transact as a Non-Root user**

You can now run Ephesoft Transact as a non-root user.

**Ability to Continue Installation Offline without Internet Access**

Ephesoft now supports offline installation in case you do not have internet access.

## 6. Appendix C - Bug Fixes

### Client Bugs

JIRA ID	Axosoft ID	Bug Description
EEN-2873		A feature request was made by a customer to add Batch Class ID to available columns on Batch Instance Management screen. Earlier, Batch Class Name column was there but Batch ID column was not there. This was requested because when overriding an existing Batch Class, the Batch Class Name remained the same, only the Batch Class ID changed.
EEN-4483	#EPHE-13467	Currently in Ephesoft, if user configures Batch Class Field as a drop down list and validation pattern is configured on the drop down, then the validation pattern would not get applied when user selects the value from drop down. As per new requirement, the validation pattern is also applied to drop down list.
EEN-4484	#EPHE-13454	An issue related to Batch Class Fields was reported where empty string Regular Expression was not working in Batch Class field dialog. Upon further investigation it was noticed that issue was occurring because the Regex validation rule was not being enforced for an empty string Regex. Code was optimized to fix this issue.
EEN-4514	#EPHE-13465	An issue related to Batch Class Fields Dialog Box was reported where the customer wanted to increase the size of the dialog box to show all fields. The customer wanted the operator to be able to see all Batch Class fields in one view by stretching out the size of the Batch Class field dialog box without having to scroll. Now, the default size of the Batch Class Field(s) dialog box has been maintained as is but the dialog box can be resized to view all fields without scrolling. After making changes to the size of the dialog box, the size is stored in a cookie and made available in the future.
EEN-4532	#EPHE-13508	An issue related to Force Review was reported. If multiple index fields were marked for 'Force Review' on Batch Class Management screen, then the 'ForceReview' tag was being set to 'True' only for the first field that was being marked for Force Review on the UI. The value for 'ForceReview' tag was not being set to 'True' for subsequent fields.