

ABBYY



ABBYY Vantage

ABBYY Vantage 2.3 Release Notes

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ABBYY Vantage 2.3 Release Notes

About the Release

Purpose of the Release

This is a major Vantage release that introduces new features and bug fixes.

The [Main Features](https://vantage-eu.abbyy.com/help/English/) section describes updates to the product's functionality. User documentation is available at <https://vantage-eu.abbyy.com/help/English/> for users in Western Europe, at <https://vantage-us.abbyy.com/help/English/> for users in North America, at <https://vantage-au.abbyy.com/help/English/> for users in Australia, and also locally in on-prem Vantage installations.

The [Bug Fixes](#) section contains a detailed list of issues that have been fixed in this release.

This release has some known limitations and issues, which are described in the Limitations and Known Issues documentation section.

Component Versions

Vantage Application #	0.42.0
Advanced Designer #	0.38.0
Platform #	0.29.0
Technology Core #	1.47.0 2.21.0
Vantage Solution #	0.22.0

Main Features

Document Skills

Data Form Customization

In Vantage 2.3, the User (skill designer) can change the order of fields in the document data form to make it more convenient, e.g., to match the location of fields on the document image, as well as group related fields together. Moving fields will not lead to a loss of any training results, field settings, or business validation rules.

The default form looks similar to how it looked like in versions of Vantage prior to version 2.3: fields are lined up in a single column and aligned to the left.

The user can:

- change the order and location of the fields on the data form by moving the fields, rather than deleting and creating them again in the appropriate place, for example, put the third field between the first and second fields;
- put multiple fields on a single line, such as the amount and currency fields;

- change the size of fields while setting them to be of a fixed width;
- allow text fields to expand depending on the content to the right, as well as set a minimum and maximum size for them;
- set vertical and horizontal margins between fields.

The screenshot displays the ABBYY Vantage Skill Designer interface. On the left, a preview of an invoice document is shown. The invoice includes a header with 'Invoice' in large bold text, followed by a table with two columns: 'DATE' and 'INVOICE NO'. The table contains the values '6/09/04' and '99044'. Below the table, the text 'AND' is visible, followed by 'orge Drive' and 'e, VA 23875'. On the right, the 'Field Design' panel is open, showing a grid of fields. The 'Date' field is set to '6/09/04' and the 'Invoice Number' field is set to '99044'. Below these are 'Total' (20208.00) and 'Currency' (USD). There are also three placeholder fields labeled 'New Field 1', 'New Field 3', and 'New Field 2'. The 'Actions' panel on the far right shows a 'Field Design' section with a diagram of a field grid and instructions: 'Drag and drop fields to the right places and change their size.' Below this, the 'FIELD' section has settings for 'Indentation' (set to 'Custom'), 'Left' (8), 'Right' (8), 'Top' (6), 'Bottom' (6), 'Min width' (120), and 'Max width' (240).

Support repeating groups and tables

Text Fields and Groups can be repeated, for example, on the document you might have multiple instances of addresses, account information, children names etc. For such objects it is possible to create Text fields and enable option **Allow Multiple Items**. If the whole group of fields is repeated, then the user can create a group of fields and enable the same option for the whole group.

A repeatable group can contain nested repeatable or non-repeatable items such as groups, tables, and fields. Groups nesting is limited to 3 levels.

For more information, see:

- https://vantage-eu.abbyy.com/help/english/SkillDesigner/?topic=docskill_fields_group if you are in Western Europe,
- https://vantage-us.abbyy.com/help/english/SkillDesigner/?topic=docskill_fields_group if you are in North America,
- https://vantage-au.abbyy.com/help/english/SkillDesigner/?topic=docskill_fields_group if you are in Australia.

Table Extraction Improvements

We have improved working with long multipage tables enabling parallel processing in built-in skills and its copies. Parallel processing of tables is now enabled in skills where long tables are expected:

Invoice, Purchase Order, Remittance Advice, Commercial Invoice and Utility Bills.

We have improved working with non-standard tables, such as narrow tables with text on the side, tables split into two columns on the same page, and multiple tables on the same document. All these types of tables can now be trained using Fast Learning and then are processed correctly. The continue line items command now also works correctly for such tables.

Below is a sample narrow table with text on the left side:

ATTENTION CARRIER: PALLETIZE ON APPROVED PALLETS ONLY							
RECEIVED, subject to classifications and lawfully filed tariffs in effect on the date of the issue of this Bill of Lading	Catalog Number and Description	Qty BO	Qty Shp	UPC/SICC-14/18 Carton Number	CI Code	No. Ctns	Weight
<p>The property described here, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned and delivered as indicated here, which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under contract), agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of the said property of all or any portion of said route to destination, and to each party at any time interested in all or any of the said property, that ever serviced to be performed shall be subject to all the terms and conditions of the Uniform Domestic Freight Bill of Lading set forth (1) in Official, Southern Western and Illinois Freight Classifications in effect on the date thereof, if this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.</p> <p>*If the shipment moves between two ports by a carrier by water, the law requires that the bill of lading shall state whether it is carrier's or shipper's weight. NOTE - Where the rate is dependent on value, shippers are required to state in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be:</p> <p>not exceeding _____ per _____</p> <p>* The fiber boxes used for this shipment conform to the specifications set forth in the box maker's certification thereon, and all the other requirements of Rule 41 of the "Consolidated Freight Classification."</p> <p>* Shipper's receipt in lieu of stamp, not part of bill of lading approved by the Interstate Commerce Commission.</p> <p>Received \$ _____ to apply to prepayment of the charges on the property described herein.</p> <p>Agent or carrier _____ (The signature here acknowledges only the amount prepaid)</p> <p>Charges Advanced \$ _____</p> <p>Shipper hereby certifies that he is familiar with all of the terms and conditions of the said bill of lading, including those on the back thereof, set forth in the classification or tariff which governs transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.</p> <p>Subject to Section 7 of Conditions of applicable bill of lading, if this shipment is to be delivered to the consignee without recourse to the consignee, the consignee shall give the following statement:</p>	SS 120 F U M10		9	3 07 84231 03918 3	710768	9	7
	CE 120 D U 15 M5		33	3 07 84231 03879 7	710604	9	165
	CE 120 D U 29 M4		7	3 07 84231 06885 5	710597	4	66
	DUP 120 PTF1A01 M8		2	3 07 84231 06265 5	713898	2	4
	2DUP 120 PTF1A01 (BELL)		7	3 07 84231 82588 5	210CXN	7	14
<p>946 1536 1614 032 1 533406 27</p>							
New column	New column 2	New column 3	New column 4	New column 5	New column 6	New column 7	New column 8
1 SS 120 F U M10	9	3 07 84231 03918 3	710768	9	7		0611
2 CE 120 D U 15 M5	33	3 07 84231 03879 7	710604	9	165		0611
3 CE 120 D U 29 M4	7	3 07 84231 06885 5	710597	4	66		0611
4 PUP 120 PTF1A01 M8	2	3 07 84231 06265 5	713898	2	4		0611
5 2DUP 120 PTF1A01 (BELL)	7	3 07 84231 82588 5	210CXN	7	14		0611

Below is a sample table that is split into two columns on the same page - items on the left side are extracted first, followed by the items on the right side:

Phone.....: 512-798-6994 CISCO PRI

Date/Time	Type	Number	Min	Location	ST	Cost	Date/Time	Type	Number	Min	Location	ST	Cost
06/01 07:16A		817-806-6942	0.6	FORT WORTH	TX	0.00	06/01 07:16A		817-806-6942	0.6	FORT WORTH	TX	0.00
06/01 07:19A		817-806-6942	0.6	FORT WORTH	TX	0.00	06/01 07:20A		817-806-6942	0.6	FORT WORTH	TX	0.00
06/01 07:21A		817-806-6942	0.6	FORT WORTH	TX	0.00	06/01 07:24A		817-806-6942	0.6	FORT WORTH	TX	0.00
06/01 07:27A		817-806-6942	0.6	FORT WORTH	TX	0.00	06/01 07:28A		817-806-6942	0.6	FORT WORTH	TX	0.00
06/01 07:32A		817-806-6942	0.6	FORT WORTH	TX	0.00	06/01 07:33A		817-806-6942	0.6	FORT WORTH	TX	0.00
06/01 07:35A		817-806-6942	0.6	FORT WORTH	TX	0.00	06/01 07:36A		817-806-6942	0.6	FORT WORTH	TX	0.00
06/01 07:37A		817-806-6942	0.6	FORT WORTH	TX	0.00	06/01 07:37A		817-806-6942	0.6	FORT WORTH	TX	0.00
06/01 07:39A		817-806-6942	0.6	FORT WORTH	TX	0.00	06/01 07:40A		817-806-6942	0.6	FORT WORTH	TX	0.00
06/01 07:42A		817-806-6942	0.6	FORT WORTH	TX	0.00	06/01 07:43A		817-806-6942	0.6	FORT WORTH	TX	0.00
06/01 07:44A		817-806-6942	0.6	FORT WORTH	TX	0.00	06/01 07:46A		817-806-6942	0.6	FORT WORTH	TX	0.00
06/01 07:54A		512-575-0254	0.6	SMITHVILLE	TX	0.00	06/01 07:56A		817-806-6942	0.5	FORT WORTH	TX	0.00
06/01 07:58A		817-806-6942	0.6	FORT WORTH	TX	0.00	06/01 08:02A		512-575-2169	7.0	SMITHVILLE	TX	0.00
06/01 08:05A		512-575-2169	2.0	SMITHVILLE	TX	0.00	06/01 08:15A		512-575-2169	1.7	SMITHVILLE	TX	0.00

3. Utility Bill (VMazharaSbS_v3) • Page 2 of 2

Customer ID: 21793 Invoice #: 154 Invoice Date: 07/01/2021 Page 3 of 26

	New column	New column 2	New column 3	New column 4	New column 5	New column 6
7	06/01 07:21A	817-806-6942	0.6	FORT WORTH	TX	0.00
8	06/01 07:27A	817-806-6942	0.6	FORT WORTH	TX	0.00
9	06/01 07:32A	817-806-6942	0.6	FORT WORTH	TX	0.00
10	06/01 07:35A	817-806-6942	0.6	FORT WORTH	TX	0.00
11	06/01 07:37A	817-806-6942	0.6	FORT WORTH	TX	0.00
12	06/01 07:39A	817-806-6942	0.6	FORT WORTH	TX	0.00

Available Document Skills

ABBYY Vantage includes multiple Document Skills in the Skill Catalog to handle different types of documents from various industries: customer onboarding, accounts payable, transportation, insurance, etc.

For more information about ABBYY Vantage skills, see:

- <https://vantage-eu.abbyy.com/help/english/SkillCatalog/?topic=abbyyskills> if you are in Western Europe,
- <https://vantage-us.abbyy.com/help/english/SkillCatalog/?topic=abbyyskills> if you are in North America,
- <https://vantage-au.abbyy.com/help/english/SkillCatalog/?topic=abbyyskills> if you are in Australia.

Built-in Skills

The following new skills are now available as part of this release:

- Form 990, Return of Organization Exempt from Income Tax
- Curriculum vitae
- Business cards (for cards from the USA and European Countries)
- W-4 forms
- Forms W8 IMY, W8 EXP, W8 ECI, W8 BEN E & W8 BEN

The quality of the following skills has been improved after training NN on more documents:

- Purchase Orders


- Certificate of Origin
- Utility bills (including Line Items with charges in simple tables)

The following changes have been made to Invoice Skills:

- Added fields: Reverse Charges, Invoice Type, Due Date
- Increased quality after training NN on more documents, including Japanese invoices
- Default Invoice Document Splitter Skill can now be downloaded from the Marketplace. This skill can separate a single PDF file containing a lot of invoices into several different documents.

The following changes have been made to Receipts Skills:

- New receipt skill with increased quality after training NN on more documents
- Support for receipts from Japan, Taiwan, China, and Korea in the standalone **Receipt CJK** skill

 **Note:** Two new skills (**Receipt** and **Receipt CJK**) will replace the old receipt processing skill. The old skill is now considered deprecated and will not be supported.

If you need to process receipts from both regions simultaneously, you can create a Process skill that uses an appropriate classifier and add these two document skills for data extraction.

Identity Document Skill

A skill for processing identity documents is available on the Marketplace. The following improvements are included in this release:

- Improved image preprocessing for better extraction and recognition results.
- Added new fields: Personal Number for personal identification numbers of document holders and MRZ lines for the entire text from the machine readable zone.
- Names are now extracted in the locale language when they are printed on the document (some names were displayed in Latin letters instead of hieroglyphics before).

ICR

Vantage 2.3 supports the following 3 languages for ICR:

- English
- German
- French

Quality of English ICR has been improved (by about 2% compared to previous versions). New: German and French.

The Handwritten option is enabled by default for document skills and disabled by default for OCR Skill.

Users may select several languages for recognition and enable the Handwritten option. Then, for each document, the system will automatically select the best approach to process it.

Additionally, starting from version 2.3, multiline handwritten fields are supported.

Note: For French, Handwritten text recognition works best if French is the only language selected in the list of recognition languages for the skill.

For more information, see:

- https://vantage-eu.abbyy.com/help/english/SkillDesigner/?topic=docskill_datacatalogs if you are in Western Europe,
- https://vantage-us.abbyy.com/help/english/SkillDesigner/?topic=docskill_datacatalogs if you are in North America,
- https://vantage-au.abbyy.com/help/english/SkillDesigner/?topic=docskill_datacatalogs if you are in Australia.

OCR Skill

Support for Larger Documents

Starting from version 2.3, OCR Skill supports processing PDF documents (up to 3 000 pages). The exact number of pages to be processed may vary depending on document structure and detected objects.

Support for Export to XML

To mitigate differences with other ABBYY products (FineReader Server, FineReader Engine, Cloud OCR SDK), XML output was introduced for OCR Skill and output activity.

This output has the same output options: Text Only / Preserve Document structure depending on the particular scenario that full-text OCR is used for. For more information, please refer to the help guide.

Adding Formatting Information to JSON Output

The JSON output format was improved by adding information about text attributes such as bold, italic, underline, strikethrough, font, subscript, and superscript.

These attributes are written into objects they belong to: if an entire text block is bold, then the whole block will have this attribute, and if only a single symbol is subscript – only that symbol will have the subscript attribute.

This option is enabled by default in the “Preserve document structure” JSON output format.

Enabling PDF Output Together with JSON/XML Text Only Export Formats

In previous versions, export to PDF was disabled if the "Text Only" JSON format was enabled.

Starting from version 2.3, PDF export can be used together with export to XML and "Text Only" JSON.

Information about Coordinates in Source and Pre-processed Images

Text coordinates in JSON and XML output formats may be written onto either the source or the pre-processed image.

The above depends on the output formats chosen in OCR Skill/Output activity settings:

- If PDF output is enabled, the coordinates will be written on the pre-processed image.

- If there is no PDF output, the coordinates will be written on the source image.

Support for HEIC as an Input Format

Starting from Vantage 2.3 Release, the HEIC format is supported as an input file format (.heif and .heic extensions). This feature enables importing images that were created using an iPhone with iOS 11 or later.

Most common image types produced by iPhones are supported. However, specific HEIC files with codecs different to that of the iPhone may not be supported.

General OCR Technology Improvements

The following improvements have been made to core OCR technologies compared to previous versions:

- **Improved text recognition for ID documents.** This improvement implemented using additional NN training has led to a 47% decrease in errors compared to previous versions. Overall, the OCR quality for this type of document is now above 90%.
- **Improved recognition of text located near watermarks.** For scanned contract-like documents that contain watermarks, the text detection and OCR quality has been improved.
- **Japanese OCR improvements.** For various Japanese document types such as receipts, invoices, contracts, and others, the OCR quality has also been improved. In general, text recognition quality is now above 95%.
- **Italian OCR improvements.** Thanks to new NN for the Italian language, the quality of Italian OCR has been improved by about 3% and is now at 98,7%.

Document Splitter Skill

A new type of skill **Document Splitter skill** lets you split the flow of pages from files containing multiple documents into separate documents that are ready for further processing. Based on the type of each page and on the data extracted from that page, it is possible to decide whether the page is the first or a middle page of a new document, as well as determine the type of the document itself.

Such skills can be created and edited only in Advanced Designer. The published skill can be used in the Assemble activity of a Process skill in Vantage.

Use Cases for Splitting Documents

Splitting documents of the same type. Several documents may be received by an organization as a single file, for example, invoices from a vendor that has been collecting invoices for a certain period of time and has then sent them all at once to their customer. However, each invoice has its own number and page numbers printed on it. This, as well as other additional information available on documents can be used to create a Splitter skill. The skill developer can set up invoice number and page number extraction and analyze the obtained values to understand whether a specific page is the first page of a document or not.

Splitting documents and removing annexes. Documents intended for processing can be accompanied by explanatory documents that need to be stored but do not require data to be extracted from them. In this case, pages can be classified into documents of the required type and annexes. Extraction can be also used here if, for example, no valuable information is found, meaning that the

page is probably an annex page. You may place annex pages at the end of each document or place them into separate documents of their own.

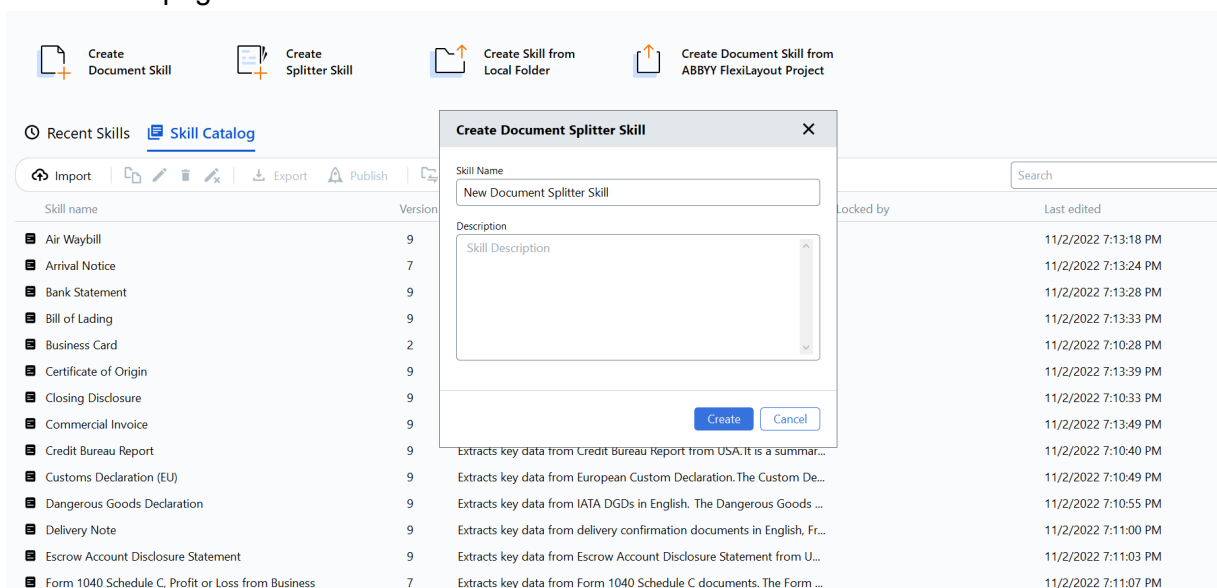
Splitting documents and determining their type. Files may also contain documents of different types, for example, a mortgage application can contain identity documents, income statements, bank statements, utility bills, and many other documents. In this case, each page can be classified, and the skill developer can create rules dictating how the documents should be separated and how their type should be determined.

Re-ordering pages, removing empty pages. The Splitter Skill may also help solve problems caused by incorrect scanning: re-ordering pages or removing empty and “garbage” pages. Of course, this is possible only when the pages contain some kind of information to indicate their correct order, for example, page numbering. You can also create a field that will extract page numbers or a field that will find any specified text and consider any page not containing such text as a “garbage” page. In that script, you will also be able to set up correct numbering for each page and place “garbage” pages into separate documents.

Creating a Splitter Skill in Advanced Designer

Splitter Skills can only be created in Advanced Designer. To create a Splitter Skill, the skill developer need to follow the steps below:

1. Open Advanced Designer. To create a new skill, you need to click Create Document Splitter Skill on the start page.



2. Use the Documents tab to upload your files. When creating a skill, you’re going to work with pages, so your multipage document will be displayed as a set of pages.

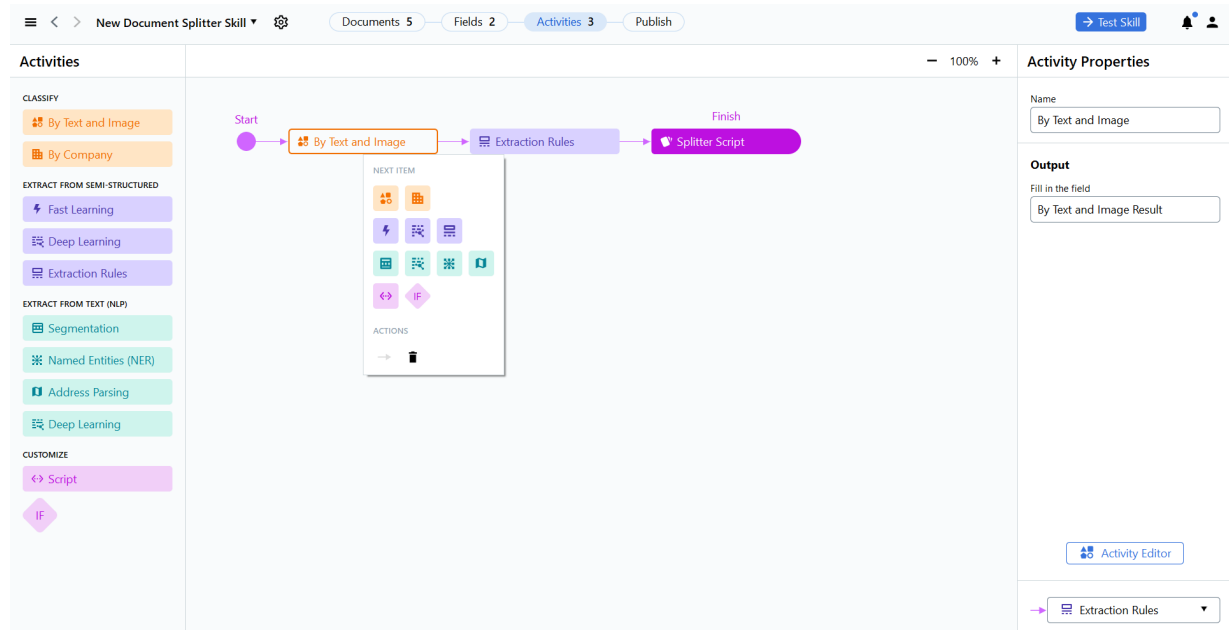
3. Configure the document processing flow.

You may need a Classify by Text and Image activity to detect each page type. You may create classes for first pages and other pages, as well as for pages from different document types, if your use case involves various types of documents.

You may also need to extract some data that will help determine whether a page is the first page, a middle page or, an annex page. For example, you can extract the Invoice Number and then check its value: a corresponding or empty value means that the pages belong to the same document, while a different value means that this is the beginning of the next document. To extract data, you may use Extraction Rules or Fast Learning, however, please note that when using Document Splitter Skill, extraction will not be trained during processing. It can only be

trained in Advanced Designer prior to using the skill.

When using a Document Splitter Skill, each activity is applied to each page, however, the script will have access to all pages.



4. The most important part of a Splitter Skill is the Script activity. The script has access to page classes and extracted fields of all document pages. Analyzing this information, the skill developer can decide which number should be assigned to each page. For more information, see https://vantage-eu.abbyy.com/help/english/AdvancedDesigner/?topic=ad_splitter_script if you are in Western Europe, https://vantage-us.abbyy.com/help/english/AdvancedDesigner/?topic=ad_splitter_script if you are in North America, and https://vantage-au.abbyy.com/help/english/AdvancedDesigner/?topic=ad_splitter_script if you are in Australia. The documentation contains object model description and script samples. Document types should be added on the activity property pane.
5. Test your skill, and once the results are good enough, publish your skill. It will become available in the Skill Catalog in Vantage.

▼ Splitter Script Sample for cases with several document types

```
var documents = [];

var currentResultClassId = null;

var currentDocument = null;

for (let i = 0; i < Context.Pages.length; i++) {

    const page = Context.Pages[i];

    const pageResultClassId = page.GetField('ResultClassId').Text;

    // Starts new document of a new class

    if (pageResultClassId !== currentResultClassId) {

        currentResultClassId = pageResultClassId;

        currentDocument = new Document(pageResultClassId);
```

```

        documents.push(currentDocument);
    }

    // Starts new documents if fields from the first page are found on the current page
    else if (page.GetField("InvoiceNumber").Text || !currentDocument) {

        currentDocument = new Document(page.ResultClassId);

        documents.push(currentDocument);
    }

    currentDocument.Pages.push(page);
}

return documents;

```

Using Splitter Skills in Vantage

Splitter skills can only be used inside the Assemble Activity of Process Skill. Create a Process Skill, add an Assemble activity to the workflow, select the new By Document Splitter Skill option, and select the appropriate skill from the list.

You may add any other activities as usual after the Assemble activity, for example, Extraction activity and Manual Review if you want to verify documents.

The screenshot displays the ABBYY Vantage Process Designer interface. On the left, a sidebar contains navigation options: Documents, Skills, Skill Catalog, Skill Monitor, Skill Designer (highlighted), Data Catalogs, REVIEW, Manual Review, and ADMIN (Users, Configuration). The main workspace shows a workflow titled 'Process Skill with Assemble Activity'. The workflow starts with an 'Input' connector, followed by an 'Assemble' activity. A 'NEXT ITEM' dropdown menu is open, showing various skill icons. The workflow continues with a 'Review' activity and ends with an 'Output' connector. On the right, the 'Actions' panel shows the 'Assemble' activity name and the 'SELECT DOCUMENT ASSEMBLY TYPE' options: 'By files' (Each file is a new document), 'One document' (All pages form one document), 'By classification' (Class starts new document), and 'By Document Splitter Skill' (Selected skill defines how documents will be split). The 'By Document Splitter Skill' option is selected, and a list of skills is shown below it, including 'InvoiceDocumentSplitter...'.

A manual review stage will also let you correct the assembly of documents if the documents were not correctly split by the Splitter skill.

Invoice Document Splitter Skill

The ready-to-use Invoice Document Splitter Skill is designed to split invoices originating from the same file. This skill can be found on the Marketplace and then used in the Assemble activity of process skills as described above.

Document Splitter Skill Limitations

1. Reference labeling and statistics are not supported yet for Document Splitter Skills.
2. Synchronization with version control systems via a folder does not work properly with Splitter Skills: documents are multiplied by page number when the skill is restored from a folder.

These limitations will be removed in future versions.

Skill Catalog

Improved speed of opening skills for editing

Previously, how fast a skill could be opened for editing depended on the number of documents in the skill's Document Set. More documents in the Document Set resulted in longer opening times, meaning that some skills became "too big" and could not be opened for editing at all.

In version 2.3 of the product, the speed at which skills from the Skill Catalog are opened for editing has been improved significantly. Now, any skill may be opened for editing regardless of the number of documents in the skill's document set.

For more information, see:

- <https://vantage-eu.abbyy.com/help/english/SkillCatalog/?topic=introduction> if you are in Western Europe,
- <https://vantage-us.abbyy.com/help/english/SkillCatalog/?topic=introduction> if you are in North America,
- <https://vantage-au.abbyy.com/help/english/SkillCatalog/?topic=introduction> if you are in Australia.

Manual Review Workflow

Segregating Access to Manual Review Steps

When processing documents, there may be several Manual Review steps required in the Process skill. For instance, there may be a step where the extracted data is checked by a low-qualified review operator to ensure that the data has been extracted correctly. Afterwards, there then may be a step where experts check only those documents that contain business rule errors, provided that the data has been extracted correctly.

For this to be possible, access to individual Manual Review activities of a particular Process Skill can now be granted to Manual Review Operators only.

A new user role has been introduced for tenants – the Manual Review Operator role. It may be granted for a specific Manual Review step of a specific Process Skill. If a user requires access to all tasks at the manual review stage for a specific Process skill, access may be provided to all current and any future Manual Review stages for this skill.

General **Roles**

Roles	Skills
<input checked="" type="checkbox"/> Manual Review Operator 1/9	Can carry out manual review at specified Process Skill stages.
<input type="checkbox"/> Skill Designer	<input type="checkbox"/> Allow all review stages for all current and further skills
<input type="checkbox"/> Skill Processing Supervisor	<input checked="" type="checkbox"/> Invoice Processing Automation
<input type="checkbox"/> Skill User 0/141	<input type="checkbox"/> All current and further stages
<input type="checkbox"/> Tenant Administrator	<input checked="" type="checkbox"/> Low-Qualified Review Version 1.0
	<input type="checkbox"/> Expert Review Version 1.0

Search skill

Users with this role will get access to the Manual Review task queue that contains only tasks at the allowed Manual Review steps. To get a task from the queue, Manual Review Operators may use the Manual Review client in Vantage.

For more information, see:

- <https://vantage-eu.abbyy.com/help/english/Runtime/?topic=manualreview> if you are in Western Europe,
- <https://vantage-us.abbyy.com/help/english/Runtime/?topic=manualreview> if you are in North America,
- <https://vantage-au.abbyy.com/help/english/Runtime/?topic=manualreview> if you are in Australia.

Actionable Monitoring of Manual Review Tasks

The Transactions view of the Skill Monitor displays a full list of transactions in Vantage tenant. To give an overview of all processing associated with the selected skill, it contains the transaction parameters, ID, creation date, current processing stage, status, and duration.

In release 2.3, users with the Tenant Administrator role have gotten new tools for the transactions list designed to monitor and manage the Manual Review process:

Improved filters. Transactions can now be additionally filtered by:

- Status. Depending on the processing step, transactions may be new (not yet started), in progress, completed, failed, or canceled.
- Stage. Transactions currently in processing may either be at the Manual Review stage, or at some of the Automatic stages (Extract, Classify, Output, etc.).
- Stage Name. This filter is useful when there are several Manual Review activities in the skill. It allows you to select only those transactions that are currently at a specific Manual Review stage.

Assigned To field has been added to the list of transactions. It displays the name of the Manual Review Operator assigned to the transaction. Filtering by this field lets you list all transactions assigned to a specific operator.

New actions with transactions:

- Opening a Manual Review task. This allows the supervisor to do the Manual Review task on their own if it needs to be done urgently. If the supervisor opens a Manual Review task that is already being worked on by a Manual Review operator, the task will be withdrawn from this operator.

- Sending a Manual Review task to another Manual Review stage. Allows the supervisor to skip some Manual Review steps for selected documents or return documents for additional review.
- Sending a Manual Review task to a specific Manual Review operator. Allows the supervisor to put the Manual Review task into the personal queue of a Manual Review operator who may be an expert in specific documents.

For more information, see:

- https://vantage-eu.abbyy.com/help/english/Runtime/?topic=skillmonitor_transactions if you are in Western Europe,
- https://vantage-us.abbyy.com/help/english/Runtime/?topic=skillmonitor_transactions if you are in North America,
- https://vantage-au.abbyy.com/help/english/Runtime/?topic=skillmonitor_transactions if you are in Australia.

Improved Logic for Returning Stuck Manual Review Tasks Back to the Queue

In previous versions, if a Manual Review operator has not rejected or finished a task before logging off, the task remained assigned to that operator for 60 minutes, and no other operator could begin working on it for the duration of that period. This resulted in longer processing times of such transactions.

Now, Manual Review tasks are assigned to operators for a maximum of 15 minutes. If a Manual Operator closes a browser tab, the whole browser, or remains idle with the task for 15 minutes, it will be automatically returned to the queue. Then, another operator will be able to begin working on that task.

For more information, see:

- <https://vantage-eu.abbyy.com/help/english/Runtime/?topic=manualreview> if you are in Western Europe,
- <https://vantage-us.abbyy.com/help/english/Runtime/?topic=manualreview> if you are in North America,
- <https://vantage-au.abbyy.com/help/english/Runtime/?topic=manualreview> if you are in Australia.

Manual Review

Breaking long field values into several lines the same way like in an original document

Vantage will preserve the appearance of field values from the original document and use line breaks even if the value doesn't have any paragraph breaks. This way, users don't have to scroll through an entire paragraph of text to verify its recognition accuracy.

Sending Manual Review task to another stage or Manual Review Operator

Vantage Manual Review client now supports sending tasks in progress to another Manual Review stage within the same Process Skill. This may be useful, for example, when a low-qualified Manual Review operator requires the help of a more experienced colleague.

Additionally, the task may be also sent to a specific operator. For example, the operator may get a specific document and forward it to a colleague who is an expert in a specific document type.

When a task is sent to another stage or Manual Review operator, all changes made by the operator are preserved. This way, the next operator is able continue the review process exactly where it was left off and not start from scratch.

Tasks assigned to a specific operator goes to the top of that operator's queue. Thus, personal Manual Review tasks are always received by operators with a higher priority.

For more information, see:

- https://vantage-eu.abbyy.com/help/english/Runtime/?topic=manualreview_verification if you are in Western Europe,
- https://vantage-us.abbyy.com/help/english/Runtime/?topic=manualreview_verification if you are in North America,
- https://vantage-au.abbyy.com/help/english/Runtime/?topic=manualreview_verification if you are in Australia.

Online Learning

Collecting documents from Manual Review without training

Vantage can be retrained using users' feedback via Online Learning. Sometimes, a skill developer may not trust all corrections that verifiers make, and therefore does not want the system to be trained automatically. At the same time, they may still want to accumulate documents from real processing in order to train their skills.

Users can enable the classification and document skill work mode in the graphical interface:

- Collect and learn
This is the default mode that saves the usual behavior of Online ML
- Collect only
In this mode, the skill accumulates documents, but does not learn from them automatically. This behavior differs from regular Online Learning behavior only in that training and testing is not carried out.

Document Skill Settings
X

General
Languages

Info

Skill name

Air Waybill (copy)

Description

Extracts key data from AWBs in English and applies basic business rules.
The Air Waybill Skill includes all main data fields in this document type. It has been trained on a set

Edited version

6.0

Referenced skill

Skill name

Air Waybill

Version

6.0 (Technology Core 2.0)

Online learning

Mode

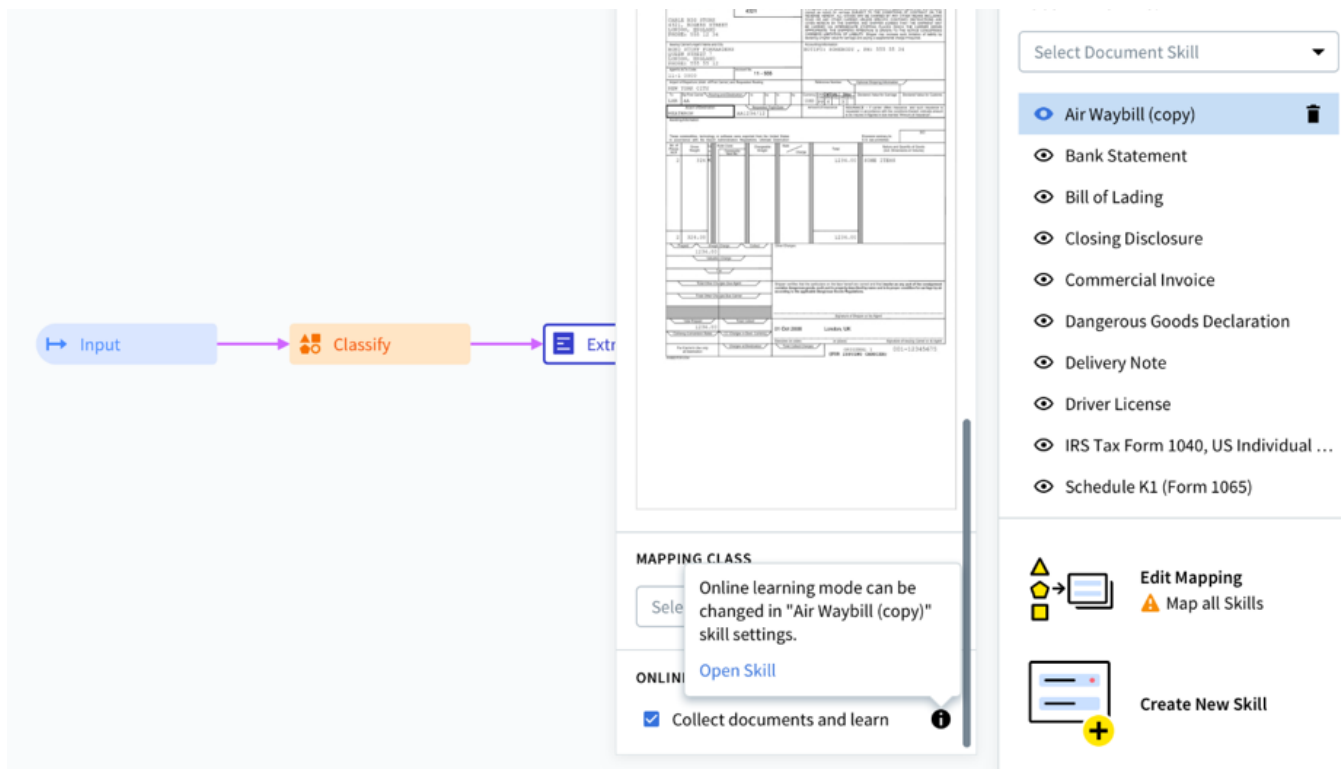
Collect and learn

Collect and learn
Collect only

Save

Cancel

If the user chooses to merely collect documents, the graphical interface in the Process Skill designer will show what exactly will happen if Online Learning is enabled.



Mobile Input

Uploading Several Documents to One Transaction

Vantage allows uploading several documents to a single transaction when uploading documents using mobile devices. This functionality is now supported in both Mobile Input options available in Vantage when opening the Mobile Input links for a transaction:

- the micro applications for iOS and Android
- the web interface

Note: In this release, when using the web interface to upload documents to a transaction from a mobile device, it is not recommended to upload more than 30 pages in total for all transaction documents.

For more information, see:

- <https://vantage-eu.abbyy.com/help/english/QuickStart/?topic=mobileupload> if you are in Western Europe,
- <https://vantage-us.abbyy.com/help/english/QuickStart/?topic=mobileupload> if you are in North America,
- <https://vantage-au.abbyy.com/help/english/QuickStart/?topic=mobileupload> if you are in Australia.

Security

Security Log

Starting from release 2.3 onwards, the Security Log will be available for Tenant Administrators. The Security Log is a set of chronological records that provides documentary evidence of the sequence of system configuration changes, user activities, and other activities not related to business transaction processing.

The Security Log contains entries about the following events:

- Actions involving skills: creation, deletion, publication
- Changes to user roles and permissions for skills
- Online Learning events: adding and deleting documents from a skill's Document Set

The Security Log can be filtered by the name of a skill, the user that initiated an event, or by when the event happened. A filtered Security Log may be exported to CSV format for further analysis.


For more information, see:

- https://vantage-eu.abbyy.com/help/english/AdminGuide/?topic=sysadmin_securitylog if you are in Western Europe,
- https://vantage-us.abbyy.com/help/english/AdminGuide/?topic=sysadmin_securitylog if you are in North America,
- https://vantage-au.abbyy.com/help/english/AdminGuide/?topic=sysadmin_securitylog if you are in Australia.

Storing Secrets in Key Vaults

Vantage Process skills may communicate with external systems using a Custom Activity and the External system option of the Output activity. When connecting to external systems, Vantage activities require user credentials and other secret information. In earlier versions of Vantage, this information could only be specified directly in an activity's configuration script.

Now, Vantage can store sensitive data in the Key Vault. To do so, users can create environment variables of type "Secret". Each environment variable is a key-value pair that is accessible from the configuration scripts of Process Skill activities. Environment variables of the "Secret" type are securely stored in the Key Vault.

 **Note:** Storing secrets in the Key Vault is only available in Vantage Cloud. Support for this feature in On-Premises Vantage installations is planned for future releases.

For more information, see:

- https://vantage-eu.abbyy.com/help/english/AdminGuide/?topic=sysadmin_envvariables if you are in Western Europe,
- https://vantage-us.abbyy.com/help/english/AdminGuide/?topic=sysadmin_envvariables if you are in North America,
- https://vantage-au.abbyy.com/help/english/AdminGuide/?topic=sysadmin_envvariables if you are in Australia.

Administration

GUI for Configuring External Identity Providers

An identity provider is a system that manages identity information for users and serves as the authentication service for Vantage. By default, Vantage uses a built-in Identity Provider that authenticates users by their username and password.

Tenant Administrators can configure Vantage to use an External Identity Provider. In this case, Vantage will reach out to them to confirm the user's identity before authenticating them in Vantage.

ABBYY Vantage supports using Active Directory and Azure Active Directory as External Identity Providers.

Starting from Vantage 2.3 onwards, users can configure External Identity Providers in the Tenant Administration tab instead of having to configure them via REST API.

For more information, see:

- https://vantage-eu.abbyy.com/help/english/AdminGuide/?topic=sysadmin_externalidentityprovider if you are in Western Europe,
- https://vantage-us.abbyy.com/help/english/AdminGuide/?topic=sysadmin_externalidentityprovider if you are in North America,
- https://vantage-au.abbyy.com/help/english/AdminGuide/?topic=sysadmin_externalidentityprovider if you are in Australia.

Displaying Tenant Names and IDs

A Tenant Administrator may need to find out the ID of the tenant they are working with because it may be required for some Vantage Public API methods. Additionally, finding out a tenant's name and ID may be required for communicating them to the ABBYY Customer Support team.

Vantage displays the tenant's name and ID in the Tenant Administration tab for Tenant Administrators.

Creating New Vantage Tenants via Public API

When working with several end-users, separate tenants for each of them may be required. To shorten the on-boarding time for such end-users, Vantage allows for creating new tenants via API.

By request, ABBYY may enable a new role for your tenant – the Fulfillment Operator role. Tenant users with the Fulfillment Operator role can add new tenants in Vantage using the Public API. To create a new tenant, Fulfillment Operators should specify a name and a description for their new tenant, the e-mail of the tenant administrator who will then receive the invitation by e-mail, and a subscription that will be used for that new tenant. There are 2 subscription options: a new tenant may either share a subscription with the original tenant or it can use a separate subscription.

For more information, see:

- https://vantage-eu.abbyy.com/help/english/AdminGuide/?topic=admin_tenant_api if you are in Western Europe,
- https://vantage-us.abbyy.com/help/english/AdminGuide/?topic=admin_tenant_api if you are in North America,
- https://vantage-au.abbyy.com/help/english/AdminGuide/?topic=admin_tenant_api if you are in Australia.

Vantage Advanced Designer

For more information, see:

- https://vantage-eu.abbyy.com/help/english/AdvancedDesigner/?topic=ad_introduction if you are in Western Europe,

- https://vantage-us.abbyy.com/help/english/AdvancedDesigner/?topic=ad_introduction if you are in North America,
- https://vantage-au.abbyy.com/help/english/AdvancedDesigner/?topic=ad_introduction if you are in Australia.

Importing training documents with labeling

Documents with labeling can be uploaded from a local folder. This allows users of ABBYY FlexiCapture to import document labeling from training batches and use it for training in Advanced Designer.

To export labeling from ABBYY FlexiCapture, users will need the FCAdminTools.exe application from FlexiCapture Release 4 Update 2 Patch 3 or later.

Use the ExportLabelling command to export labeled documents from FlexiCapture as in the sample command below:

```
FCAdminTools.exe ExportLabeling
[LabelingSource:<LayoutTraining/ClassifierTraining/WorkBatches>] [BatchName:<name of the batch>] [DocumentDefinition:<name of Document Definition>] [Project:<path to the project>]
[TargetFolder:<path to the folder where to save result>]
```

Please note that only documents with a single Document Definition section can be exported.

Labeled documents from the resulting folder can be imported in Advanced Designer using the **Import Labeling From Folder** command in the dropdown list of the Upload button on the Documents tab.

Multiple Extraction Rules Activities as One Step

Suppose that a single Document Skill has to process documents of the same type but with varying field locations (i.e., document variants), e.g. invoices from different vendors. If the location of any of the fields varies significantly, you can split up all your documents into different variants and set up different extraction rules for each one.

In the current version, Advanced Designer allows you to create a single processing flow item that contains several independent Extraction Rules activities and activity choice conditions. The choice of activity is determined by the value of the field containing data that allows to distinguish between document variants. This is typically the field containing classification results, but generally this can be any field filled by any preceding activity. You can configure the branching conditions for activities in the set by mapping the field values to the appropriate activities. You may also select an action for all field values that are not specified in the mapping table: you can either assign them an Extraction Rules activity from the set or choose to skip this processing step altogether.

To create a set of activities, add a regular Extraction Rules activity to the document processing flow. To add a second activity, click the Add activity and the branching conditions on the Activity Properties pane. On the Activities tab of the Activity Properties pane, you can add as many activities as needed by clicking **+ Add**.



To configure the branching conditions, click Conditions at the bottom of the Activity Properties pane, select the appropriate field, and map field's values to the activities.

You can split and merge multiple activities on this step by dragging and dropping to merge them and using the context command to split them. The list of fields enabled for the dropped activity will be harmonized with the list of fields enabled for the item with which it is merged. All extraction rules configured in the activities will be preserved.

For more information, see:





- https://vantage-eu.abbyy.com/help/english/AdvancedDesigner/?topic=ad_extractionrulesactivity_multi if you are in Western Europe,
- https://vantage-us.abbyy.com/help/english/AdvancedDesigner/?topic=ad_extractionrulesactivity_multi if you are in North America,
- https://vantage-au.abbyy.com/help/english/AdvancedDesigner/?topic=ad_extractionrulesactivity_multi if you are in Australia.

Updating a copy of a built-in skill

A copy of a built-in skill which has the Default activity in its document processing flow maintains a connection to the built-in skill it is based on. If a new version of that built-in skill appears, you can update the skill copy. When an update is available, you will see a  icon near the version number of the skill copy in the Skill Catalog. The appearance of the skill copy settings icon will change to . Open the skill settings and select the latest version of the reference skill.

After you have updated the skill copy, you may test it and make adjustments if necessary. Publish the skill to make the updated skill version available for use in Vantage. Please note that downgrade is not supported. However, the old version remains available for use in Vantage until you publish the updated skill.

Rotating Images

When a user uploads images, the application automatically detects and corrects the orientation of a page. If required, you can now change the page orientation manually by clicking  in the toolbar and selecting one of the following options from the drop-down list:  Rotate Left,  Rotate Right, or  Rotate 180°.

In Advanced Designer, the buttons to change the orientation of an image are available on the Documents tab, in the document viewer, and inside activity editors.

NLP Language Support

In version 2.3, Vantage now supports new languages for Advanced Designer NLP activities.

For the NLP Deep Learning activity, support for German and Japanese has been added. The Japanese language is only a preview feature for NLP, and is not yet generally available.

For the Segmentation activity, support for Japanese, Italian, and Portuguese languages has been added.

For the Named Entities (NER) activity, support for the Italian language has been added.

The above means that starting from version 2.3, Vantage fully supports NLP for:

- English,
- French,
- Spanish,
- Russian,

- German,
- Japanese (preview).

Full support means support for Segmentation, Named Entities (NER), and NLP Deep Learning activities.

Samples

Postman Collection for Vantage Public API

To simplify learning the Vantage Public API, it is now presented as a [Postman](#) collection. The collection allows:

- To get authorized in Vantage using both supported OAuth 2.0 flows: Resource Owner Password Credentials Flow and Authorization Code Flow.
- Use all Vantage Public API methods, including receiving data from the Business Process Reporting Warehouse.

The collection is published at the Marketplace.

Try Any Skill Sample Improvements: Uploading Several Documents to One Transaction, Searching for a Skill to Apply

The Try Any Skill sample is a demo web application that lets users try how a Vantage skill could be invoked by another application – the user uploads a document, selects a corresponding Vantage skill, and extracts data from it to pass on downstream. The source code of this sample application may be used by developers as a code sample when developing custom applications that interact with ABBYY Vantage.

In the new release of the sample application, the following new features have been added:

- Several files can now be uploaded to a single transaction when adding documents from both a desktop and a mobile device.
- To improve user experience.

The Try Any Skill demo application is always available as a part of Vantage deployment:

- <https://vantage-eu.abbyy.com/try-any-skill> if you are in Western Europe,
- <https://vantage-us.abbyy.com/try-any-skill> if you are in North America,
- <https://vantage-au.abbyy.com/try-any-skill> if you are in Australia.

The Try Any Skill sample source code is published at the ABBYY Marketplace here:

<https://marketplace.abbyy.com/root/sample-code-app-connect-vantage-to-business-app/>.

Bug Fixes

In Vantage 2.3, the following bugs have been fixed:

Zendesk Ticket #	Description
514804	Fields populated using scripts were empty if documents were not opened in Manual Review.
513714	Training of a skill with a document set containing documents without page image data (e.g., due to loading a password protected PDF or a document uploading error) would never be terminated.
501599	After training, the extraction quality for some fields extracted by the Purchase Order EU skill would decrease.
445378	There were data extraction and extraction training issues with documents of various layouts.
517947	An incorrect URL for downloading transaction data from the data warehouse was specified in the Public API documentation.
517400 , 511658 , 513460 , 511415	In Document Skill Editor and Manual Review, the cursor moved to the beginning of the field while the field was still being modified.
513902	In Document Skill Editor, documents uploaded to the skill document set were listed using their file IDs instead of their file names.
512407 , 521739	A Business Unit and Vendor catalog error occurred after updating the core model. DB lookup rules did not find an existing record in the data catalog.
509131 , 470585	Some pages of documents were incorrectly auto-rotated when uploaded to a Document skill.
508843	A file upload error occurred due to a classification failure when processing a document containing more than 300 pages.
507325	Some Document skills could not be trained or duplicated.
495097 , 487338 , 482831	Sometimes the "Total" field could not be trained using the standard Invoice skill.
493352 , 470144 , 465323 , 511114 , 503680 , 483365	Hidden and deleted fields in a copy of a default document skill affected the training statistics and accuracy.
490723	Classes removed from a trained Classification Skill remained in the output JSON without the "className" key of the classification result.
489966 , 502760	An error occurred when processing Remittance Advise containing 150 pages.
485709	In Document Skill Editor and Advanced Designer, the vertical scrollbar disappeared when navigating through the pages of a document.

Zendesk Ticket #	Description
480789 , 475918	Fields validated by a Data Catalog Lookup rule were not highlighted.
477027	A bad text layer was used instead of performing OCR when recognizing PDF documents.
476462	Document skill training statistics were calculated incorrectly. The accuracy result was 100% even though non-detected table fields were present.
473305	A "404 Page not found" error occurred when opening a skill in Document Skill Designer right after importing.
472193	Documents from a demo set were not re-recognized when a new version of a Document skill was published.
470287	Incorrect country extraction in the Receipt skill.
465444	In the Script Editor, the variable type could not be re-defined without re-saving the rule and re-publishing the skill.
441120	When converting a FlexiLayout with a repeating group to a Document Skill, only the first detected instance of the repeating group was returned.
362595	No fields from the "Acceptable order of components" or the "Dimension field" section were saved in the Document Skill Editor when publishing a skill.
514008	Large custom data catalogs could not be updated to tenants.
505784	A Process skill with an external system output ran an output activity for each document instead of running a single one for the whole transaction despite not being in a "For each document" loop.
501383	The Identity Documents (ID) Skill transformed names written in Chinese on an ID card to their English transliteration.
481344 , 481773 , 454464	Every instance of a repeating group nested in another repeating group contained all nested repeating group instances.
476846	It was possible to start training the Receipt skill, even though it was not intended to be trainable.
455638	The Document function description in the advanced script rule was incorrect.
508854 , 507820	Manual Review tasks were put back to the queue after 60 minutes of idle timeout.
512162	The OCR skill blurred the page images of the output PDF/A document.
494052	It was not possible to set up a field as a group summary: Vantage instead used the first field from the list of fields in a group sorted alphabetically.

Zendesk Ticket #	Description
436466	User groups and group permission definitions for using/editing only a particular specified skill have been implemented in version 2.3 based on this Zendesk ticket.
426738	Repeating groups have been implemented in version 2.3 based on this Zendesk ticket. For more information, see here .
512241	The ID Skill missed the "Personal number" field.
502399	Multiline handwritten text was recognized incorrectly.
501191	Text formatting information was not exported to full text JSON.
495977	A feature to search for skills on the Try Any Skill page has been implemented in version 2.3 based on this Zendesk ticket.
513321 , 502226	An "Unable to Continue the Line Items" error occurred when selecting the "Create Rows From This Line" option.
513251	There was an incomplete URL in the "How to Process Documents Using the REST API" article in the documentation.
511582	An error occurred when importing a Process skill that referred to several versions of a Document/Classification skill.
509152	A "The passed parameters have invalid value" error occurred when sending a transaction to the Custom Activity for the second time.
505828	Manual Review did not work properly for documents with errors when the "With rule errors and uncertain fields or unknown" option was enabled in a Process skill.
500870	A "Max activation count for step exceeded" error occurred when processing PDF documents with a Document skill.
479815	Users with the Skill Designer role could not change OCR languages in a Document skill.
521066 , 522459	A "Managed interop delegate failed" error occurred when deleting line items columns in a copy of a default skill.
520453 , 524030 , 520308 , 511034 , 511736	Users with the "Skill User" role lost permissions to a Process skill after re-publishing the skill.
495546	The "Invoice Type" and "Reversed Charge" fields were not extracted by Invoice skills.
486856	Previously, public API access tokens were valid for a period of 30 days. In version 2.3, their lifetime has been shortened to 24 hours based on this Zendesk

Zendesk Ticket #	Description
	ticket.
485054 , 470574	In the Document Skill Editor and the Manual Review windows, the scrollbar in the document image window was too narrow.
482065	A section describing the creation of new Vantage tenants via Public API has been added to the documentation based on this Zendesk ticket.
477338	Tenant name and ID visibility for tenant administrators has been implemented in version 2.3 based on this Zendesk ticket.
474425 , 435741	User experience with table columns in the Manual Review application was improved.
473994	Support for W-4 and W-8 forms has been implemented in version 2.3 based on this Zendesk ticket.
464031	A warehouse for Business Process Reporting and Quality Analytics intended to provide customers with raw data for the purpose of customer-specific performance and quality reports has been implemented in version 2.3 based on this Zendesk ticket.
504321	An internal program error occurred when trying to edit Extraction Rules in Advanced Designer.
518048	An internal program error occurred in Advanced Designer when specifying a Nearest to Element condition for the Key Value element.
513068	An internal server error occurred when saving a skill to a local folder in Advanced Designer.
512612	Technology core updates in Advanced Designer caused Extraction Rules activity mapping to be lost, resulting an internal program error.
510245	Script rules in Advanced Designer returned file IDs instead of their file names.
509589	In Advanced Designer, copies of the Invoice skill were not recognized as invoice skills and consumed Core cognitive skill license pages.
509349	An error occurred when when selecting the Chinese Traditional (Big5) character set code page of a character string element in Advanced Designer.
504153	An internal program error occurred when trying to edit the Extraction Rules activity in Advanced Designer.
503227	In Advanced Designer, an internal server error occurred in the Extraction Rules activity when entering a comment that was longer than 256 characters.
501386	In Advanced Designer, variables from the repeating group did not appear in the code editor.

Zendesk Ticket #	Description
497375	A "Given DOM is too big. Make sure it is valid and increase the limit (maxParsingLength)" error occurred when creating a skill in Advanced Designer.
502889	It was not possible to save decompressed JSON skill files from Advanced Designer for version control systems.
502229	A feature to rotate an image inside the Activity Editor has been implemented in Advanced Designer based on this Zendesk ticket. For more information, see here .
478817	Extraction Rules can now be stored in JSON format in version 2.3, which allows comparing skill versions using version control systems.
475224	Advanced mode for elements is now supported in Advanced Designer based on this Zendesk ticket.

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