ABBYY Vantage

Invoice UA Document Skill Guide

Table of Contents

About ABBYY Vantage

ABBYY Vantage is a comprehensive Content Intelligence platform that provides AI-powered cognitive services and pre-trained and trainable skills that can "understand" business documents and extract actionable data and insights.

This no-code / low-code platform makes today's digital worker and processes smarter and empowers the new citizen developer to accelerate digital transformation initiatives and expand automation to new processes in a fast and simple way, making an immediate impact on business results and customer experience.

Types of documents that can be processed with Vantage

Vantage is capable of processing structured, semi-structured, and unstructured documents in a variety of input formats and languages.

- **Structured documents** are documents which always include the exact type of information in the exact same locations. One example of structured documents are pre-formatted forms.
- **Semi-structured documents** are documents which generally include the same or similar information, but in each document the location, size, and number of fields may vary from document to document. Examples of semi-structured documents are bills, payment orders, and invoices.
- **Unstructured documents** are documents which consist of continuous text. Required information is usually located inside a sentence that can be on any page of the document. Examples of unstructured documents are contracts, lease agreements, and e-mail messages.

Note: Use Advanced Designer to create skills for extracting data from unstructured documents.

The Vantage platform comes with a set of built-in skills, which can extract data from certain document types out-of-the-box (i.e. invoices, purchase orders, receipts, bills of lading, delivery notes). These skills can be adjusted according to specific requirements and further trained based on customer-specific documents.

Vantage users have also the option to design and train a completely new Document skill, Classification skill, and/or Process skill based on their own document set.

Invoice UA - Document Skill

The **Invoice UA** skill extracts data from Ukrainian invoices.

The settings of the Invoice UA skill are described below.

Countries and Languages

Countries	Languages
Ukraine	• Ukrainian • English • Russian

Extracted Fields

<table>
<tr><th colspan="2">Field</th><th>Description</th></tr>
<tr><td colspan="2">Invoice Number</td><td>The number of the invoice.</td></tr>
<tr><td colspan="2">Invoice Date*</td><td>The date when the invoice was issued.</td></tr>
<tr><td colspan="2">Total*</td><td>The total cost of goods or services.</td></tr>
<tr><td colspan="2">Currency</td><td>The currency of the invoice.</td></tr>
<tr><td rowspan="8">Business Unit (BU)</td><td>Name</td><td>The name of the business unit (invoice recipient).</td></tr>
<tr><td>Tax ID</td><td>The tax payer registration number.</td></tr>
<tr><td>Address</td><td>The address of the business unit (invoice recipient). The address will be extracted into this field, if no business unit databases are used or if the business unit has not been found in a database.</td></tr>
<tr><td>Country</td><td>The country of the business unit (invoice recipient).</td></tr>
<tr><td>City</td><td rowspan="3">The address of the business unit (invoice recipient). This address format will be used if business unit databases are used and the business unit has been found in a database.</td></tr>
<tr><td>Street</td></tr>
<tr><td>Postal Code</td></tr>
<tr><td>ID</td><td>The unique identifier of the business unit in an external system. This field will only be filled in if a database of companies is used.</td></tr>
<tr><td rowspan="10">Vendor</td><td>Name</td><td>The vendor's name.</td></tr>
<tr><td>Tax ID</td><td>International TAX payer registration number.</td></tr>
<tr><td>National Tax ID</td><td>The TAX payer registration number inside the origin country.</td></tr>
<tr><td>IBAN</td><td>The vendor's international bank account number.</td></tr>
<tr><td>Bank Account</td><td>The vendor's bank account.</td></tr>
<tr><td>Bank Code</td><td>The vendor's bank code.</td></tr>
<tr><td>Address</td><td>The vendor's address. The address will be extracted into this field, if no vendor databases are used or if the vendor has not been found in a database.</td></tr>
<tr><td>Country</td><td>The vendor's country.</td></tr>
<tr><td>City</td><td rowspan="2">The vendor's address. The address will be extracted into this field, if no vendor databases are used or if the vendor has not been found in a database.</td></tr>
<tr><td>Street</td></tr>
</table>

<table>
<tr><th colspan="2">Field</th><th>Description</th></tr>
<tr><td rowspan="2"></td><td>Postal Code</td><td></td></tr>
<tr><td>ID</td><td>The vendor's unique identifier in an external system. This field will only be filled in if a database of vendors is used.</td></tr>
<tr><td colspan="2">Delivery Date</td><td>The date the goods were delivered or services performed.</td></tr>
<tr><td colspan="2">Due Date</td><td>The date by which the invoice should be paid.</td></tr>
<tr><td colspan="2">Reversed Charge</td><td>Indicates that a reverse charge is applied.</td></tr>
<tr><td rowspan="4">Taxes</td><td>Total Net Amount</td><td>The total cost of goods and services without tax.</td></tr>
<tr><td>Total Taxes</td><td>The total tax amount.</td></tr>
<tr><td>Tax Rates (repeating group)
Net Amount
Tax Amount
Tax Rate</td><td>For each tax group:
Cost of goods or services without tax
Tax charged
Tax rate</td></tr>
<tr><td>Non Taxable Amount</td><td>The amount on which no tax is payable.</td></tr>
<tr><td rowspan="2">Invoice Type</td><td>Invoice</td><td>Indicates the Invoice type of the invoice.</td></tr>
<tr><td>Credit Note</td><td>Indicates the Credit Note type of the invoice.</td></tr>
<tr><td rowspan="3">Purchase Order</td><td>Order Number</td><td>The number of the purchase order.</td></tr>
<tr><td>Total</td><td>The cost of the goods or services listed in the purchase order. This field is filled in if a database of purchase orders is used.</td></tr>
<tr><td>Order Checked</td><td>Specifies whether the order number is verified.

The value of the field can be True or False.</td></tr>
<tr><td rowspan="4">Line Items (repeating group)</td><td>Order Number</td><td>The number of the purchase order.</td></tr>
<tr><td>Is Valid</td><td>Specifies whether the order number in the Line Item group matches any checked order number in the Purchase Order group.

The value of the field can be True or False.</td></tr>
<tr><td>Order Date</td><td>The date when the purchase order was created.</td></tr>
<tr><td>Position</td><td>The number of the line item in the list.</td></tr>
</table>

Field		Description
	Article Number Vendor	The article number or code from a database of vendors or from a data set.
	Article Number BU	The article number or code from a database of business units or from a data set.
	Description	A description of the line item.
	Quantity	The number of units purchased.
	Unit of Measurement	The unit of measurement used for the goods.
	Unit Price	The price of one item of goods.
	Discount Percentage	The discount percentage on the initial line item price.
	Discount	Discount applicable to the line item.
	Net Price	The price of the line item without tax.
	Tax Rate	The tax rate for the line item.
	Tax Amount	The amount of tax payable on the line item.
	Tax Code	The code of the tax.
	Total Price	The price of the line item including tax.
	Currency	The currency of the line item.
	Order Item ID	The unique line item identifier. This field is filled in only when a purchase order items catalog is used.

*Required field or field group: values cannot be empty.

Key Fields

- Vendor/Name
- Invoice Date
- Invoice Number
- Total
- Currency

Validation Rules

Rule	Description
Total is required field	Checks whether the **Total** field is filled in. If it is not, displays a message saying that it is a required field.
Separate currency from amount in money fields	Splits the amount and the currency in fields containing currency amounts and copies the currency into the **Currency** field if it is empty.
Invoice date is required	Checks whether the **Invoice Date** field is filled in. If it is not, displays a message saying that it is a required field.
Currency is required	Checks whether the **Currency** field has been detected on the document. If not, displays a message saying that it is a required field.
Vendor Tax ID is required	Checks whether the vendor **Tax ID** field is filled in. If it is not, displays a message saying that it is a required field.
Check item amount	Checks that: • The number of units of each type (**Quantity**) multiplied by the unit price (**Unit Price**) is equal to the total amount charged before tax (**Net Price**) minus the applicable discount (**Discount**). • The total amount charged before tax (**Net Price**) multiplied by the tax rate (**Tax Rate**) is equal to the value of the **Tax Amount** field. • The sum of the values of the **Net Price** and **Tax Amount** fields is equal to the value of the **Total Price** field. For each invoice line item, suggests values for the following fields (wherever calculating them is possible): **Quantity**, **Unit Price**, **Discount**, **Net Price**, **Tax Rate**, **Tax Amount**, and **Total Price**.
Separate currency from amount in LI money fields: • Line Items/Unit Price • Line Items/Net Price • Line Items/Total Price	Splits the amount and the currency in the corresponding field and copies the currency into the **Line Items/Currency** field if it is not filled in.

<table>
<tr><th>Rule</th><th>Description</th></tr>
<tr><td>Check invoice and line items currency</td><td>Checks that the value of the Currency and Line Items/Currency fields is a supported currency. If the currency is not supported or has not been extracted, suggests currency values from the appropriate invoice region. Currency descriptions are replaced with ISO codes.</td></tr>
<tr><td>Check LI Total Prices against Total Amount</td><td>Checks the value of the Total Amount field. If it is not equal to the sum of the Line Items/Total Price fields, suggests filling in the fields with their calculated values.</td></tr>
<tr><td>Check LI Net Prices against Total Net Amount</td><td>Checks the value of the Total Net Amount field. If it is not equal to the sum of the Line Items/Net Price fields, suggests filling in the fields with their calculated values.</td></tr>
<tr><td>Check Total Tax</td><td>Checks that the sum of the Tax Amount fields across the Tax Rates repeating group is equal to the value of the Total Taxes field.
If the values are not equal, suggests filling in the fields with the calculated values.
If the Total Taxes field is not filled in, fills it in with its calculated value.
For each instance of the Tax Rates group:
Checks that (Tax Rate / 100) * Net Amount is equal to Tax Amount.
If Tax Rate, Net Amount, or Tax Amount is not filled in, suggests filling in these fields with their calculated values.
Removes the percent sign (%) from the value in the Tax Rate field.</td></tr>
<tr><td>Check Total field</td><td>Checks that the sum of the Total Net Amount and Tax Amount fields is equal to the total invoiced amount (Total). If the values are not equal or if the Total field is not filled in, suggests filling in the fields with their calculated values.</td></tr>
<tr><td>Check Net Total</td><td>Checks that the sum of the Net Amount fields across the Tax Rates repeating group is equal to the total amount charged for the goods or services before tax (Total Net Amount). If the values are</td></tr>
</table>

<table>
<tr><th>Rule</th><th>Description</th></tr>
<tr><td></td><td>not equal, suggests filling in the fields with their calculated values. If the Total Net Amount is not filled in, fills it in with its calculated value.</td></tr>
<tr><td>Set default country</td><td>If a country has not been detected on the image, specifies the default country for the invoice as follows:
<table>
<tr><th>Invoice Skill</th><th>Country by default</th></tr>
<tr><td>Invoice</td><td>Default country not set</td></tr>
<tr><td>Invoice AU-NZ</td><td>AU</td></tr>
<tr><td>Invoice CA</td><td>CA</td></tr>
<tr><td>Invoice ES</td><td>ES</td></tr>
<tr><td>Invoice UA</td><td>UA</td></tr>
<tr><td>Invoice US</td><td>US</td></tr>
<tr><td>Invoice JP</td><td>JP</td></tr>
</table></td></tr>
<tr><td>Check vendor details against database</td><td>Checks whether the appropriate entry in the Vendors catalog has been found for the vendor bank details detected on the image. If the values in the catalog are different, replaces the field values with entries from the catalog.

If the vendor was not detected correctly, the operator may select a different vendor from the catalog manually during Manual Review.

The Vendor Id, Name, Street, Country, and Business Unit ID fields should be filled in in the Vendors catalog.</td></tr>
<tr><td>Business unit must be found in database</td><td>Checks that the business unit details detected on the document image are the same as those in the Business Unit catalog. If some entries are different, replaces the field values with values from the catalog.

If the business unit was not detected correctly, the operator may select a different business unit from the catalog manually during Manual Review.

The Business Unit Id, Name, Street, and Country</td></tr>
</table>

Rule	Description
	fields should be filled in in the Business Unit catalog.
Check purchase order number and amount	Checks that the order number and amount detected on the document image are the same as those in the purchase order catalog. If several order numbers are detected, checks all of them and their amounts against the values in the catalog. The **Order Number** field should be filled in in the Purchase Order catalog.
Match invoice line item with order item	Checks invoice line item information against records in the Purchase Order Items catalog. If the catalog contains an entry for a particular line item, fills in the corresponding **Order Item ID** field using the value from the catalog. The **Order Item ID** and **Order Number** fields should be filled in in the Purchase Order Items catalog.
Check purchase order total amount	Checks if the value in the **Total** field equals the value of the **Total** field in the **Purchase Order** group when one purchase order is found. Checks if the value in the **Total** field equals the sum of values in **Total** fields in the **Purchase Order** group when several purchase orders are found.
Check matching of line items to unique order items	For all line items whose purchase order number is equal to the one extracted in the **Purchase Order** group, checks that the value in the **Order item ID** field in the **Line Items** group is unique for every purchase order number if the value of the **Order Checked** field is **True**.
If order is checked make line items valid	For each item in **Purchase Order** group that has the **Order Checked** field set to **True**, compares the order number to the order number in all line items of the **Line Items** group. If they match in the **Line Items** group row, the value of the **Is Valid** field in the **Line Items** group value in that row is set to **True**.
Copy order number	If there is only one value in the **Order Number** field in the **Purchase Order** group and the values in the **Order Number** field in the **Line Items** group are

Rule	Description
	empty, copies the value of the **Order Number** field in the **Purchase Order** group to the values of the **Order Number** field in the **Line Items** group.
Detect invoice type	Sets the type in the **Invoice Type** checkmark group. If the document is marked as credit note or if the value of the **Total** field is negative, sets the type to **Credit Note**. Otherwise, sets the type to **Invoice**.
Reversed Charge field is empty or completed	If the document contains references to reversed charges, checks the values of the taxes fields. If they are empty, marks the **Reversed Charge** checkmark. **Note:** Does not apply to **AU-NZ**, **CA**, **US**, and **JP** regions.

Note: To fill in a field with its calculated value, click the ◢ button in the value region of the field and select one of the suggestions from the drop-down list.

Note: When you update a copy of this skill to a derived skill, the rules will also be updated:
1. Some of the rules will get new versions. The outdated versions will receive numbered postfixes (for example, **Check item amount 1**). Review these rules and remove any unnecessary versions from the derived skill.
2. If you remove outdated **Tax Rate X**, **Tax Amount X**, and **Net Amount X** fields, the rules that checked them will become unnecessary. Remove those rules from the derived skill.

Parameters

The Invoice skills have default skill parameters that refer to data catalogs used for Vendor, Business Unit, and Purchase Order lookup. You can change the values of these parameters in Vantage or Advanced Designer to modify the field extraction process. For more information, see Skill parameters.

Parameter	Description
Vendors	The predefined data catalog used for Vendor lookup. The default value of this parameter is **Vendors**. You can change this value by choosing another available data catalog of the same type (Document Issuer Companies).
BusinessUnits	The predefined data catalog used for Business Unit lookup. The default value of the parameter is **BusinessUnits**. You can change this value by choosing another available data catalog of the same type (Document Receiver Companies).

Parameter	Description
	Note: This parameter is not available for the **Invoice JP** skill.
PurchaseOrders	The predefined data catalog used for Purchase Order lookup. The default value of this parameter is **PurchaseOrders**. You can change this value by choosing another available data catalog having the same structure.
PurchaseOrderItems	The predefined data catalog used to check if the Purchase Order details match. The default value of this parameter is **PurchaseOrderItems**. You can change this value by choosing another available data catalog having the same structure.

Using a Skill in ABBYY Vantage

To use a skill in ABBYY Vantage, you need to import it to your **Skill Catalog**.

To import a skill, open the **Skill Catalog** and click the **Import** button in the toolbar. In the dialog box that will open, specify a path to the archive that contains the skill you are importing.

This skill will be uploaded to your **Skill Catalog** and published.

If the chosen archive is larger than 2 GB, you will see a dialog box with a link to a shared folder and its credentials.

You should open this folder and upload the archive. The skill will be imported to Vantage automatically. The archive will then be deleted from the shared folder. All files uploaded to this folder afterwards will be transferred to the exception folder. Hence you may use this folder to import only one skill. The folder remains active for 14 days.

The version of the imported skill will be 1.0. If such a skill previously existed in the tenant and was deleted, the version number of the deleted skill will be incremented and assigned to the imported skill. The version number of the imported built-in skills is always the same as at the time of export.

If the skill you are importing already exists in your **Skill Catalog**, ABBYY Vantage will display a warning message and will ask whether you want to create a new version of the existing skill or save the new skill under a different name. If you choose the latter, the new skill will be called *<Imported skill name New>*.

Note: Vantage supports the import of skills exported from Advanced Designer. However, such skills will only be trainable in Vantage if a Fast Learning activity was added to the document processing flow in Advanced Designer.

Importing a Document skill with data catalogs

Data catalogs exported with a skill are imported according to the table below:

Does a catalog with the same name exist in your tenant?		Import of the catalog	Import of the data (if data was exported)
No		The catalog is imported.	The data is imported.
Yes	The set of columns and their types are the same.	The catalog is not imported.	The data is imported. Previous data in the catalog is lost.
	The set of columns and/or their types differ.	The catalog is imported with the name <Catalog_name Skill_name>.	The data is imported.

Importing a Process skill

If you import a Process skill that was exported without referenced skills, you have to make sure that all the referenced skills exist in the **Skill Catalog**. If necessary, such skills should be imported before the Process skill, otherwise you'll get an error when importing the Process skill.

If you import a Process skill that was exported with referenced skills, they will be imported as follows:

- If such a skill exists in the Catalog, it will not be imported. The skill from the Catalog will be used, even if the skill in the import archive has a newer version.
- If a skill with the same name exists in the Catalog, the skill will be imported and renamed. The link in the Process skill will be updated.

If the imported skill has shared folder import set up, this feature needs to be enabled manually after the import.

Note: The availability of this feature depends on the user's role. For more information about roles, see Role-Based Access Control.

To publish a skill:

1. Select one by left-clicking it and then click **Publish** in the toolbar. This will open the Skill Designer's **Publish** tab, where you will have to fill out some information.
2. Click the **Publish Skill** button either at the bottom of the Skill Designer window or in the **Actions** pane.

Note: The availability of this feature depends on the user's role. For more information about roles, see Role-Based Access Control.

You can start using a skill right away or try it out on your documents first. To try out a skill, click the **Try** button in the **Skill Catalog**.

For more information on importing, publishing, or trying out skills, please refer to the ABBYY Vantage Skill Catalog Guide.

If a skill does not fully meet your processing requirements, you can edit it to suit your needs. For detailed instructions, please refer to the ABBYY Vantage Skill Designer Guide.